DEPARTMENT OF CITY PLANNING

APPEAL RECOMMENDATION REPORT

City Planning Commission

Date: December 15, 2022

Time: After 8:30 a.m. *

Place: Due to concerns over COVID-19, the City Planning Commission meeting will be conducted entirely telephonically by Zoom [https://zoom.us/].

The meeting's telephone number and access code number will be provided no later than 72 hours before the meeting on the meeting agenda published at https://planning.lacity.org/about/commissions-boards-hearings and/or by contacting cpc@lacity.org

Public Hearing: Required
Appeal Status: Not Further Appealable to City Council
Expiration Date: December 20, 2022

Case No.: DIR-2020-7846-DB-SPR-HCA-1A
CEQA No.: ENV-2020-7847-CE
Related Case: None
Council No.: 14 – de León
Plan Area: Central City
Specific Plan: None
Certified NC: Downtown Los Angeles

GPLU: Regional Center Commercial
Zone: C2-4D

Applicant: 216 Spring St., LLC
Representative: Blaise Fremont, David Lawrence Gray Architects

Appellant 1: Aidan P. Marshall, CREED LA
Representative 1: Aidan P. Marshall; Adams, Broadwell, Joseph & Cardozo

Appellant 2: Supporters Alliance for Environmental Responsibility
Representative 2: Brian Flynn, Lozeau Drury LLP

PROJECT LOCATION: 212-220 South Spring Street

PROPOSED PROJECT: Demolition of an existing commercial building; and construction, use and maintenance of a 17-story mixed-use building containing 103,550 square feet of floor area with an 8.1:1 floor area ratio and a maximum height of 223 feet, 4 inches. The new building would include 120 dwelling units, of which 14 units will be restricted to Very Low Income Households. The project would provide 69 automobile parking spaces, 102 bicycle parking spaces and 12,692 square feet of usable open space.

REQUEST: Partial appeals of the September 21, 2022 Director of Planning's Determination, which:

1. **Determined** that based on the whole of the administrative record, that the project is exempt from the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines, Section 15332 Class 32 (Class 32 Urban In-Fill Development), and there is no substantial evidence demonstrating that an

exception to a categorical exemption pursuant to CEQA Guidelines, Section 15300.2 applies;

2. **Approved with Conditions,** pursuant to LAMC Section 12.22 A.25, a Density Bonus Affordable Housing Incentive Program to allow the following incentive for a project totaling 120 dwelling units, reserving 11 percent, or 14 units, of the base density units for Very Low Income Household occupancy for a period of 55 years:

   a. **Floor Area Ratio (FAR).** An On-Menu Incentive for a 35-percent increase in FAR to permit a maximum of 8.1:1 FAR in lieu of otherwise permitted 6:1 FAR; and

3. **Approved with Conditions**, pursuant to LAMC Section 16.05, a Site Plan Review for a development project which creates or results in an increase of 50 or more dwelling units.

RECOMMENDATION:

1. **Deny** the appeals;

2. **Determine** that based on the whole of the administrative record, that the project is exempt from the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines, Section 15332 Class 32 (Class 32 Urban In-Fill Development), and there is no substantial evidence demonstrating that an exception to a categorical exemption pursuant to CEQA Guidelines, Section 15300.2 applies;

3. **Sustain** the Director of Planning's Determination to conditionally approve a Density Bonus Affordable Housing Incentive Program to allow an On-Menu Incentive of a 35-percent increase in FAR to permit a maximum of 8.1:1 FAR in lieu of otherwise permitted 6:1 FAR for a project totaling 120 dwelling units, reserving 11 percent, or 14 units, of the base density units for Very Low Income Household occupancy for a period of 55 years, and a Site Plan Review for a development project which creates or results in an increase of 50 or more dwelling units; and

4. **Adopt** the Director of Planning's Conditions of Approval and Findings.

VINCENT P. BERTONI, AICP
Director of Planning

Jane Choi
Jane J. Choi, AICP
Principal City Planner

Jane Choi for
Nuri Cho
City Planner

ADVICE TO PUBLIC: *The exact time this report will be considered during the meeting is uncertain since there may be several other items on the agenda. Requirements for submission of materials can be found on the Department of City Planning website at https://planning.lacity.org/about/virtual-commission-instructions. If you challenge these agenda items in court, you may be limited to raising only those issues you or someone else raised at the public hearing agendized herein, or in written correspondence on these matters delivered to this agency at or prior to the public hearing. As a covered entity under Title II of the Americans with Disabilities Act, the City of Los Angeles does not discriminate on the basis of disability, and upon request, will provide reasonable accommodation to ensure equal access to its programs, services and activities. Sign language interpreters, assistive listening devices, or other auxiliary aids and/or other services may be provided upon request. To ensure availability of services, please make your request no later than seven (7) working days prior to the meeting by calling the Commission Secretariat at (213) 978-1300.

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APPEAL REPORT

APPELLATE DECISION BODY

Pursuant to Section 16.05 H of the Los Angeles Municipal Code (LAMC), appeals of a Site Plan Review are heard by the Area Planning Commission. However, LAMC Section 12.36 C.4(b) (Multiple Approval Ordinance) states that if regulations within Chapter I of the LAMC require any of the approvals of a multiple-approval project to be heard by the City Planning Commission on appeal, the City Planning Commission shall decide all appeals of decisions of the Director of Planning as initial decision maker. Given that this project involves a request for a Density Bonus Affordable Housing Incentive Program for which the City Planning Commission is the appellate decision maker, appeals of the Director of Planning for this project are heard by the City Planning Commission. The appellate decision of the City Planning Commission is not further appealable to the City Council.

BACKGROUND

Project Site

The project site is a level, rectangular-shaped parcel with an approximately 82-foot frontage along the east side of Spring Street with a uniform depth of 156 feet and a total lot area of approximately 12,784 square feet (Exhibit A). The site is currently developed with a one-story commercial building.

The site is zoned C2-4D and designated for Regional Center Commercial land uses by the Central City Community Plan. The project site is located within the Los Angeles State Enterprise Zone, Transit Priority Area, Greater Downtown Housing Incentive Area, City Center Redevelopment Project Area, and Adaptive Reuse Incentive Area. The project site is also located within the Civic Center South District of the Downtown Design Guide Area.

Surrounding Properties

The surrounding properties are zoned C2-4D, C4-4D, or [Q]C2-4D-CDO-SN with General Plan Land Use Designations of Regional Center Commercial and improved with a mix of commercial, mixed-use residential and commercial buildings, surface parking lots, and parking structures (Exhibit A). The buildings range in height from one to five stories above grade. There are a few buildings over 10 stories within 500 feet of the project site.

Proposed Project

The proposed project includes the demolition of one existing commercial building and the construction, use and maintenance of a 17-story mixed-use building containing 103,550 square feet of floor area, including 3,013 square feet of commercial space, with a maximum FAR of 8.1:1 (Exhibit B). The project includes 120 dwelling units of which 14 units will be restricted to Very Low Income Households. The building height will be 223 feet, 4 inches as measured from grade to the top of the building. The project will provide 69 vehicular parking spaces for the residential use. No parking is required for the 3,013 square feet of commercial space since the project is in the Downtown Parking District which does not require parking for commercial uses that are less than 7,500 square feet (LAMC Section 12.21 A.4(j)(3)). The project will also provide 102 bicycle parking spaces, including 13 short-term and 89 long-term. A total of 12,692 square feet of usable open space consisting of 1,209 square feet of interior common space, 5,483 square feet of exterior common space, and 6,000 square feet of balconies will be provided. There are two (2) non-protected street trees in the public right-of-way which are proposed to be removed during

construction. The street tree removal is subject to a 2:1 replacement ratio to the satisfaction of the Board of Public Works. There are no existing trees on the project site. The project also includes the planting of 30 24-inch box trees per LAMC Section 12.21 G.

Appeal of Case Number DIR-2020-7846-DB-SPR-HCA

On September 21, 2022, the Director of Planning approved an On-Menu Incentive under the Density Bonus Affordable Housing Incentive Program to allow a 35-percent increase in the floor area ratio (FAR) to permit a maximum of 8.1:1 in lieu of otherwise permitted FAR of 6:1 for a project totaling 120 dwelling units, reserving 11 percent, or 14 units, of the base density units for Very Low Income Household occupancy for a period of 55 years, and a Site Plan Review for a development project which creates or results in an increase of 50 or more dwelling units (Exhibit C). The Director of Planning also determined that the project is categorically exempt from CEQA pursuant to Class 32 (Urban In-Fill Development) (Exhibit D).

On October 5, 2022, CREED LA (Appellant 1), represented by Adams, Broadwell, Joseph & Cardozo (Representative 1) filed a partial appeal of the Director of Planning's Determination (Exhibit E). On October 6, 2022, Supporters Alliance for Environmental Responsibility (SAFER) (Appellant 2), represented by Lozeau Drury, LLP (Representative 2), filed a partial appeal of the Director of Planning's Determination (Exhibit F).

Pursuant to LAMC Section 12.22 A.25(g)(2)(i)f, only an applicant or any owner or tenant of a property abutting, across the street or alley from, or having a common corner with the subject property may appeal the Director's decision to the City Planning Commission. As neither of the appellants meet the qualification to appeal the Director's decision on the Density Bonus request, their appeals only pertain to the CEQA clearance and the Director's conditional approval of the Site Plan Review.

THE APPEAL/STAFF RESPONSES

Entire appeal applications and justifications are attached to this report in Exhibits E and F. The following are excerpts of the appeal points and staff responses to the appeal.

APPELLANT NO. 1

Appellant No. 1: CREED LA
Representative 1: Aidan P. Marshall; Adams, Broadwell, Joseph & Cardozo

CREED LA Appeal Point 1

A CEQA Exemption is inapplicable because the project may result in significant effects related to air quality and health risk. The City lacks substantial evidence to conclude that the project's health risk impacts from air emissions are less than significant.

Staff Response to CREED LA Appeal Point 1

The appellant contends that the City failed to analyze the health risk impacts of project construction and operation to workers and nearby sensitive receptors and that the project would increase health risks in the surrounding community by contributing toxic air contaminants (TACs) such as diesel particulate matter (DPM) during construction.

Contrary to the appellant's claim, the project's air quality impacts were analyzed in the environmental analysis in the record pursuant to the thresholds established by the South Coast

Air Quality Management District (SCAQMD) (Exhibit D). The Categorical Exemption analysis included a quantification of the project's air quality emissions during construction and operation using the California Emissions Estimator Model (CalEEMod) (Exhibit D). As shown in Table 11 – Estimated Peak Daily Construction Emissions and Table 14 – Proposed Project Estimated Daily Operational Emissions of the Categorical Exemption, the proposed project's construction and operational emissions would not exceed any regional significance thresholds for any of the criteria pollutants. Furthermore, as explained by Parker Environmental Consultants in their Responses to Appeal Letters for the 216 Spring Street Project [DIR-2020-7846-DB-SPR-HCA; ENV-2020-7847-CE] (Responses to Appeal Letters), dated November 21, 2022 (Exhibit G), DPM is a subset of both PM_{10} and $PM_{2.5}$. Approximately 94 percent of all DMP particles are less than 2.5 microns in diameter and the remaining 6 percent are between 2.5 microns in diameter and 10 microns in diameter, and as such, DPM is accounted for within the PM_{10} and $PM_{2.5}$ emissions thresholds. According to Parker Environmental Consultants, since PM_{10} and $PM_{2.5}$ would be substantially below SCAQMD's thresholds of significance and DPM represents a fraction of the total PM_{10} and $PM_{2.5}$ emissions generated during construction, the emissions of DPM within PM_{10} and $PM_{2.5}$ would not rise to the level of significance for PM_{10} and $PM_{2.5}$, and thus would not warrant the preparation of an HRA. Furthermore, the proposed project would be required to comply with the California Air Resources Board's (CARB) Air Toxics Control Measure that limits diesel powered equipment and vehicle idling to no more than five minutes at a location. Therefore, the proposed project would result in a less-than-significant impact related to construction TACs.

The appellant also claims that CEQA requires analysis of human health impacts, and that the Office of Environmental Health Hazard Assessment's (OEHHA) risk assessment guidelines recommend a formal health risk analysis (HRA) for development projects like this one. There is no law or regulatory guidance that requires the preparation of an HRA for the proposed project, as the proposed project is not a facility that is subject to a toxic air emissions permit.

OEHHA's 2015 Air Toxics Hot Spots Program Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments (Guidance Manual) states that "the intent in developing this Guidance Manual is to provide HRA procedures for use in the Air Toxics Hot Spots Program or for the permitting of existing, new or modified stationary sources". Stationary sources of air pollution include factories, refineries, boilers and power plants that emit a variety of air pollutants, according to the Environmental Protection Agency. The Air Toxics Hot Spots Program was established by the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588), enacted in 1987 and applies to stationary sources (facilities) if it: 1) manufactures, formulates, uses, or releases a substance subject to the Act (substance which reacts to form such a substance) and emits 10 tons or more per year of total organic gases, particulate matter, nitrogen oxides or sulfur oxides; (2) is listed in any district's existing toxics use or toxics air emission survey, inventory or report released or compiled by a district; or (3) manufactures, formulates, uses, or releases a substance subject to the Act (or substance which reacts to form such a substance) and emits less than 10 tons per year of criteria pollutants and is subject to emission inventory requirements. As such, AB 2588 applies to certain commercial and industrial operations that have the potential to generate quantities of criteria and toxic air emissions that could present health risks.

The proposed project is not part of the Air Toxics Hot Spots Program and is an infill mixed-use development that does not meet any of the criteria. As such, the 2015 OEHHA Guidance Manual does not apply. Furthermore, the Categorical Exemption was prepared in accordance with the SCAQMD guidance, which does not recommend analysis of TACs from short-term construction activities. SCAQMD recommends that HRAs be conducted only for substantial sources of diesel particulate matter. Based on this guidance, an HRA is not required as the proposed mixed-use project would not generate substantial amounts of diesel particulate matter during operation.

Lastly, the appellant asserts that because the Categorical Exemption only analyzed localized significance thresholds provided by the SCAQMD (NOx, CO, PM_{10}, and $PM_{2.5}$), the project's emission analysis excludes DPM and other TACs. As explained in Parker Environmental Consultants' Responses to Appeal Letters, this assumption is incorrect, as CARB has over 200 toxic substances identified on the California Air Toxics Program's TAC List. TACs are not classified as "criteria" air pollutants, and there is no threshold determination for a majority of these pollutants. Therefore, the Categorical Exemption is not required to analyze impacts from over 200 pollutants on the TAC list. According to Parker Environmental Consultants, the greatest potential for TAC emissions during construction is related to DPM emissions associated with heavy-duty equipment. As previously explained, DPM emissions of the project would not rise to the level of significance for PM_{10} and $PM_{2.5}$. Therefore, the proposed project would not have a significant impact on air quality. For these reasons, the Director of Planning did not err or abuse its discretion in determining that the proposed project is categorically exempt from CEQA under Class 32 Urban In-Fill Development.

CREED LA Appeal Point 2:

The project has potentially significant health risk impacts.

Staff Response to CREED LA Appeal Point 2

The appellant claims that the project's emissions of DPM would exceed applicable significance thresholds for health risk, and the project's significant impacts must be disclosed and mitigated in an EIR.

As previously explained, OEHHA's Guidance Manual for assessing health risks and hot spots are intended to address health risks from airborne contaminants released by stationary sources and not meant for a health risk evaluation of typical non-stationary source land use projects, such as the proposed mixed-use development.

Furthermore, the analysis provided by the appellant is not representative of the proposed project or any real-life scenario. The appellant does not provide any substantial evidence to support their estimated health risks. Therefore, the Director of Planning did not err or abuse its discretion in determining that the proposed project is categorically exempt from CEQA under Class 32 Urban In-Fill Development.

CREED LA Appeal Point 3

Project impacts associated with operational diesel exhaust from the backup generator may be significant.

Staff Response to CREED LA Appeal Point 3

The appellant claims that the project underestimates the operation of the backup generator, because the City's air quality analysis assumes that the backup generator will only be operated for 12 hours a year whereas SCAQMD Rules 1110.2 and 1470 allow backup generators to operate for up to 200 hours per year and maintenance can be up to 50 hours per year. The appellant further asserts that the City's analysis underestimates emissions because use of emergency generators is expected to rise due to climate change and increased instances of Public Safety Power Shutoff events and extreme heat events.

The Categorical Exemption environmental analysis prepared for the project estimated that the project's emergency generator would operate a total of 30 minutes per day for routine monthly

testing, resulting in a total of 12 hours per year. As Parker Environmental Consultants explained in their Responses to Appeal Letters, electricity blackouts, public safety power shut-off events and extreme heat events represent emergency situations and are difficult to predict. The estimated peak daily operational emissions in the Categorical Exemption represent realistic daily activities, and it would not be reasonable to assume an emergency event as the future project condition. Because the proposed project's emissions for PM_{10} and $PM_{2.5}$ are well below SCAQMD's thresholds of significance, temporarily operating a diesel-powered emergency generator during emergency events is not anticipated to significantly increase project emissions that would result in a significant impact. Therefore, the Director of Planning did not err or abuse its discretion in determining that the proposed project is categorically exempt from CEQA under Class 32 Urban In-Fill Development.

CREED LA Appeal Point 4

The Class 32 Exemption is inapplicable because the City improperly relies on noise mitigation measures.

Staff Response to CREED LA Appeal Point 4

The appellant asserts that the City incorrectly incorporates noise reductions from mitigation measures by labeling them project design features. These noise reduction measures include: (1) avoiding conducting demolition and construction activities concurrently; (2) using noise-muffled equipment; (3) implementing a sound barrier at least 8 feet tall that achieves a minimum 15 dBA noise reduction; and (4) using portable barriers during jackhammering and structural framing.

Contrary to the appellant's assertion, the project design features described in the Categorical Exemption are not considered mitigation measures, as they are steps that the Applicant has incorporated into the project to address noise related to the project and will be enforced during construction as conditions of approval. These project design features are standard best practices for typical mixed-use, commercial and residential projects in an urban area and would be implemented regardless of the noise impact to sensitive receptors as a means to reduce overall construction noise for the safety of construction workers, pedestrians and bystanders. As such, the implementation of project design features does not aim to reduce noise impacts to reduce impact levels to less than significant. Therefore, the Director of Planning did not err or abuse its discretion in determining that the proposed project is categorically exempt from CEQA under Class 32 Urban In-Fill Development.

CREED LA Appeal Point 5

The project's noise mitigation measures do not effectively mitigate potentially significant construction noise impacts.

Staff Response to CREED LA Appeal Point 5

The appellant claims that a sound barrier that is at least eight feet tall would not provide line of sight shielding for sensitive receptors on second floors and above of neighboring buildings.

As stated in the Categorical Exemption, the project would include a minimum eight-foot sound barrier along the perimeter of the project site. The Echo Barrier information sheet provided in Attachment 3 of the Categorical Exemption shows that the acoustic performance of Echo Barriers results in a reduction of 10 to 20 dB and greater when the barrier is doubled up. As such, Echo Barriers would efficiently reduce construction noise levels as required by the Noise Ordinance.

Furthermore, Parker Environmental Consultants explains in their Reponses to Appeal Letters that the Echo Barriers would reduce noise levels at sensitive receptors by breaking the direct line-of-sight between the heavy-duty construction equipment and sensitive receptors. Sound energy reaches the receiver only by bending (diffracting) over of the top of the barrier. This diffraction over the barrier reduces the sound level that reaches a sensitive receptor. Therefore, with the presence of the barrier, noise at the ground level would be absorbed by the ground and then diffused with height. Thus, noise levels for the residences above the ground floor would experience attenuated and diffused noise levels compared to noise levels received at the ground level.

Additionally, the use of heavy construction equipment would only be utilized on the ground level. Sensitive receptors in upper floor levels are located at the farther distance from the project site's ground level activities; thus, construction noise would further attenuate before reaching sensitive receptors in the upper floors. As the construction finishes the exterior facades, construction noise would be further attenuated and insulated within the walls of the new building. Therefore, construction noise would be considered less than significant for nearby sensitive receptors located above grade. Therefore, the Director of Planning did not err or abuse its discretion in determining that the proposed project is categorically exempt from CEQA under Class 32 Urban In-Fill Development.

CREED LA Appeal Point 6

The City's analysis of operational and construction noise impacts are not supported by substantial evidence.

Staff Response to CREED LA Appeal Point 6

The appellant contends that the City fails to adequately establish the baseline noise level, because the noise analysis relies on a short-term measurement of 15-minute duration during the day to describe existing conditions and does not consider evening and nighttime conditions.

The 15-minute duration is based on the "ambient noise" definition in LAMC Section 111.01:

> "Ambient noise shall be averaged over a period of **at least 15 minute**s at a location and time of day comparable to that during which the measurement is taken of the particular noise source being measured." [emphasis added **in bold**]

As detailed in the noise monitoring data sheets in Attachment 3 of the Categorical Exemption and as shown in Figure 1 – Noise Monitoring and Sensitive Receptor Location Map, three 15-minute noise measurements were taken adjacent to the surrounding multi-family residential sensitive receptors during the daytime on a weekday when all construction activities and a majority of operation would occur. As such, the baseline noise level measured in 15-minute duration is consistent with the LAMC.

The appellant also asserts that the City's analysis assumes only the two loudest pieces of equipment are used per stage of construction, measured at the center of the project site, which underestimates noise impacts which may be greater than disclosed when construction equipment is used closer to the borders of the project site.

As explained by Parker Environmental Consultants in their Responses to Appeal Letters, the Categorical Exemption utilizes the approach provided in the Federal Transit Administration's Transit Noise and Vibration Impact Assessment Manual (September 2018). This Manual provides guidance on quantitatively estimating construction noise from typical construction equipment for

a general assessment. The Manual states "only determine $L_{eq\ equip}$ for the two noisiest pieces of equipment expected to be used in each phase of construction. Then, sum the levels for each phase of construction using decibel addition." Additionally, this approach also states that the distance value assumes all equipment operates at the center of the project. The noise impact was determined to be less than significant based on analysis using this Manual's approach.

The appellant also contends that the mechanical units required for a 17-story mixed-use building will likely be larger and louder than a two-story commercial building. They also argue that the Categorical Exemption does not mention the use of pile driving during construction.

The design and placement of HVAC units and exhaust fans would be required to comply with LAMC Section 112.02, which prohibits noise from air conditioning, refrigeration, heating, pumping and filtering equipment from exceeding the ambient noise level on the premises of other occupied properties by more than five decibels. Furthermore, the roof level of the proposed building will be well above the surrounding sensitive receptor locations, and acoustic shielding provided by the edge of the roof would attenuate noise from the HVAC equipment. The appellant has not provided any resources or evidence to support their claim that the proposed project's HVAC equipment would result in significant noise levels.

Regarding the comment about pile driving during construction, a pile driver was not listed as anticipated construction equipment in Table 9 of the Categorical Exemption, because a pile driver will not be used during construction. Therefore, the Director of Planning did not err or abuse its discretion in determining that the proposed project is categorically exempt from CEQA under Class 32 Urban In-Fill Development.

CREED LA Appeal Point 7

The City's noise significance thresholds are not supported by substantial evidence.

Staff Response to CREED LA Appeal Point 7

The appellant claims that the project's operational noise significance thresholds are not supported by substantial evidence, because they do not reflect sleep disturbance impacts.

The proposed project is a mixed-use building consisting of 3,013 square feet of commercial space on the ground floor and 120 dwelling units. Based on the proposed uses, it is not expected that sleep disturbance would occur. Furthermore, as previously mentioned, the project is subject to LAMC Section 112.02 for the design and placement of HVAC units and LAMC Section 116.01, which prohibits all future users of the proposed project from willfully making or continuing any loud, unnecessary and unusual noise which disturbs the peace or quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area. As detailed in the noise impact analysis in the Categorical Exemption, the project is not expected to result in significant construction or operational noise impacts.

The appellant asserts that the project has potentially significant sleep disturbance impacts on nearby residential receptors due to its open space on the roof deck which may increase ambient noise near the project site.

As analyzed in Parker Environmental Consultants' Responses to Appeal Letters, noise levels from the rooftop deck were quantified and shown in Attachment A to the Responses to Appeal Letters (Exhibit G). The analysis is based on a conservative estimate that 60 individuals would occupy the 17th level rooftop space at one time, which is the maximum occupancy level, and up to 50 percent of the people would be talking at the same time. The noise quantification resulted

in noise levels of approximately 78.5 dBA Leq within the 17th level roof deck. However, after factoring in the distance to nearby sensitive receptors, the noise levels would be 54.1 dBA L_{eq}. Additionally, the roof deck would be surrounded with glass railing and planters that would further attenuate noise in the surrounding area. It should be noted that as Parker Environmental Consultants explained in their analysis, this noise level estimate is conservative because the proposed roof level is well above the surrounding sensitive receptor locations, and there would be acoustic shielding provided by the edge of the roof. Based on the ambient noise level (L_{eq} 61.3 dB) recorded at the nearest sensitive receptor, Higgins Building Apartments, the proposed projects roof deck that would have noise levels of 54.1 dBA L_{eq} would not increase ambient noise levels by more than 5 dBA. Therefore, the Director of Planning did not err or abuse its discretion in determining that the proposed project is categorically exempt from CEQA under Class 32 Urban In-Fill Development.

CREED LA Appeal Point 8

The Director's approval of the project's Site Plan Review was contrary to law and unsupported by substantial evidence.

Staff Response to CREED LA Appeal Point 8

The appellant claims that the purposes of Site Plan Review set forth in LAMC Section 16.05(a) have not been fulfilled, as the project's environmental document failed to adequately evaluate and mitigate significant environmental impacts. The appellant further asserts that the appropriate environmental clearance for this project is an EIR, and therefore, the Commission must vacate the Director's approval of the Project's Site Plan Review.

As detailed in the Categorical Exemption, the proposed project meets all criteria necessary to qualify for a Categorical Exemption from CEQA under Class 32 Urban In-Fill Development pursuant to CEQA Guidelines Section 15332 and none of the exceptions to an exemption identified in CEQA Guidelines Section 15300.2 applies to the proposed project. The appellant failed to provide any substantial evidence to support their assertion that the proposed project would result in any significant impacts and does not qualify for a Categorical Exemption. Therefore, the Director of Planning did not err or abuse its discretion in determining that the proposed project is categorically exempt from CEQA under Class 32 Urban In-Fill Development.

CREED LA Appeal Point 9

The Director's approval of the Density Bonus was contrary to law and unsupported by substantial evidence, because the City failed to quantify the health risk from the Project's air emissions on nearby sensitive receptors and failed to accurately analyze noise impacts.

Staff Response to CREED LA Appeal Point 9

Pursuant to LAMC Section 12.22 A.25(g)(2)(i)f, only an applicant or any owner or tenant of a property abutting, across the street or alley from, or having a common corner with the subject property may appeal the Director's decision to the City Planning Commission. As this appellant does not meet the qualification to appeal the Director's decision on the Density Bonus request, this appeal point is irrelevant. Nonetheless, as previously mentioned, the proposed project meets all criteria necessary to qualify for a Categorical Exemption from CEQA under Class 32 Urban In-Fill Development pursuant to CEQA Guidelines Section 15332 and none of the exceptions to an exemption identified in CEQA Guidelines Section 15300.2 applies to the proposed project. The appellant failed to provide any substantial evidence to support their assertion that the proposed project would result in any significant impacts and does not qualify for a Categorical Exemption.

Therefore, the Director of Planning did not err or abuse its discretion in determining that the proposed project is categorically exempt from CEQA under Class 32 Urban In-Fill Development and approving the On-Menu Incentive to increase the FAR under the Density Bonus Affordable Housing Incentive Program.

APPELLANT NO. 2

Appellant No. 2: Supporters Alliance for Environmental Responsibility (SAFER)
Representative 2: Lozeau Drury LLP

SAFER Appeal Point 1

The Site Plan Review approval was in error because the Categorical Exemption ("CE") prepared for the project (ENV-2020-7847-CE) fails to comply with the California Environmental Quality Act ("CEQA"). […] SAFER specifically appeals all findings related to the Project's Site Plan Review (DIR-2020-7846-DB-SPR-HCA). The project does not qualify for a categorical exemption pursuant to Section 15332 of the CEQA Guidelines ("Infill Exemption") because the Project does not meet the terms of the exemption. […] Members of the appellant Supporters Alliance for Environmental Responsibility ("SAFER") live and/or work in the vicinity of the proposed Project. They breathe the air, suffer traffic congestion, and will suffer other environmental impacts of the Project unless it is properly mitigated. The Director of City Planning approved the Site Plan Review and approved a Categorical Exemption for the project pursuant to Section 15332 of the CEQA Guidelines, despite a lack of substantial evidence in the record that the Project met the requirements for the Infill Exemption. Rather than exempt the Project from CEQA, the City should have prepared an initial study followed by an EIR or negative declaration in accordance with CEQA prior to consideration of approvals for the Project.

Staff Response to SAFER Appeal Point 1

The Categorical Exemption prepared for the proposed project has detailed analysis on how the Class 32 Exemption applies to the proposed project that is characterized as in-fill development and how none of the five exceptions to an exemption applies to the project. If a project qualifies for an exemption and no exception to an exemption applies to the project, the Lead Agency does not need to prepare an Initial Study. Furthermore, the appellant fails to provide any reasoning or credible evidence demonstrating why the proposed project would not qualify for an exemption under CEQA. As such, their assertion is unsubstantiated, and the Director of Planning did not err or abuse its discretion in determining that the proposed project is categorically exempt from CEQA under Class 32 Urban In-Fill Development.

STAFF RECOMMENDATION

In conclusion, appellants failed to demonstrate how the Director of Planning erred or abused its discretion in approving DIR-2020-7846-DB-SPR-HCA and determining that the proposed project is categorically exempt from CEQA. The appeals have not provided any substantial evidence to dispute the findings of the Categorical Exemption and the Letter of Determination for the DIR Case. Therefore, in consideration of all the facts, Planning staff recommends that the City Planning Commission deny the appeal; determine that the project is categorically exempt from CEQA under Class 32 and none of the exceptions to an exemption apply; sustain the Director of Planning's Determination to conditionally approve a Density Bonus Affordable Housing Incentive Program and a Site Plan Review for the project; and adopt the Director of Planning's Conditions of Approval and Findings.

Exhibit A

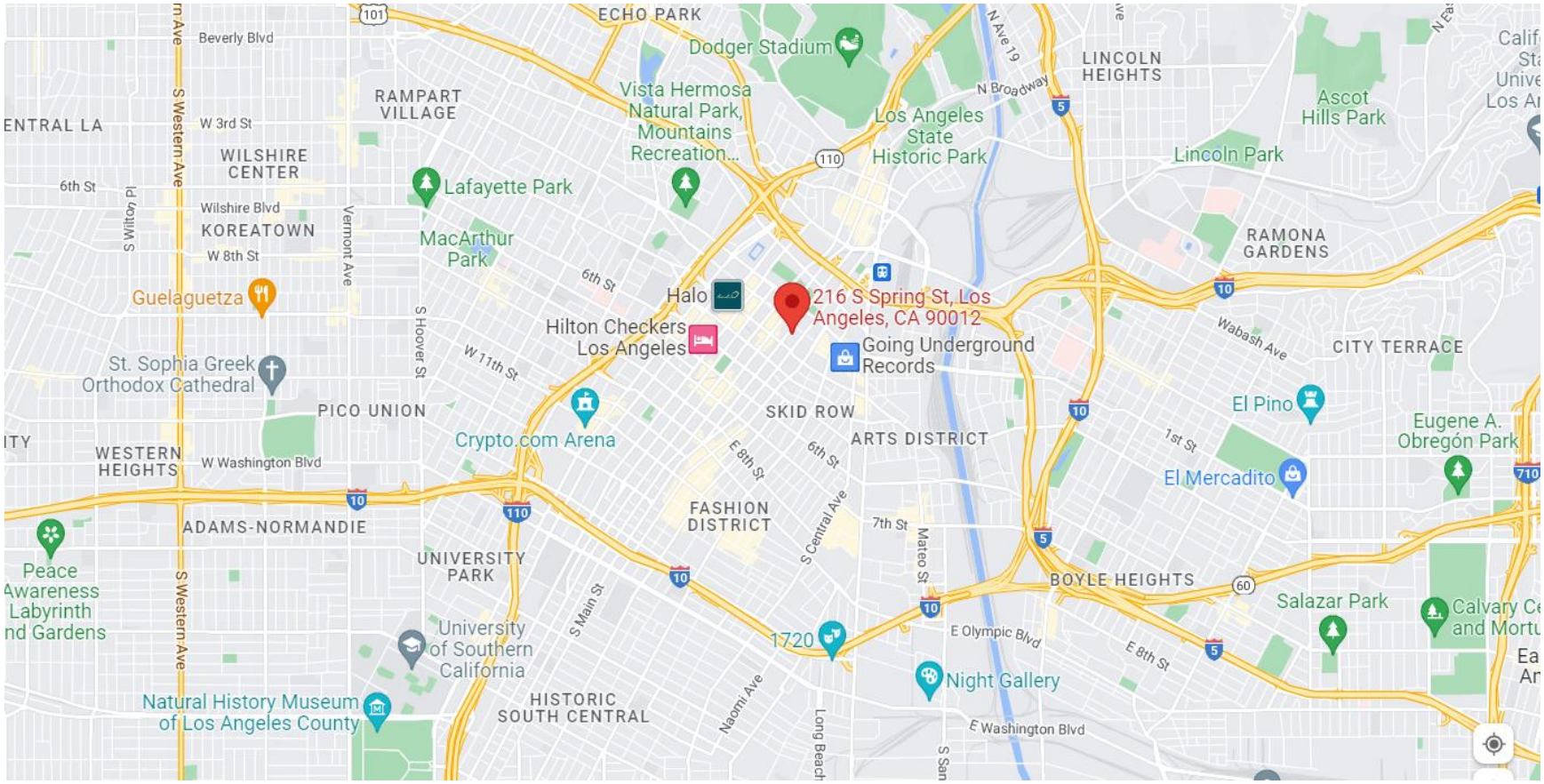
ZIMAS, Vicinity and Radius Maps

DIR-2020-7846-DB-SPR-HCA-1A

ZIMAS Map

HILL ST
3RD ST
BROADWAY
SPRING ST
MAIN ST
1ST ST
NORTH MAIN ST
2ND ST
LOS ANGELES ST
4TH ST
HARLEM PL
R5-4D
C2-4D
[Q]C2-4D-CDO-SN
C2-4D-SN
PF-4D
[Q]C4-4D
C4-4D
C2-4D-CDO
[Q]C4-4D-CDO
HWY DED
Generalized Zoning
Terms & Conditions
0.04 Miles
200 Feet

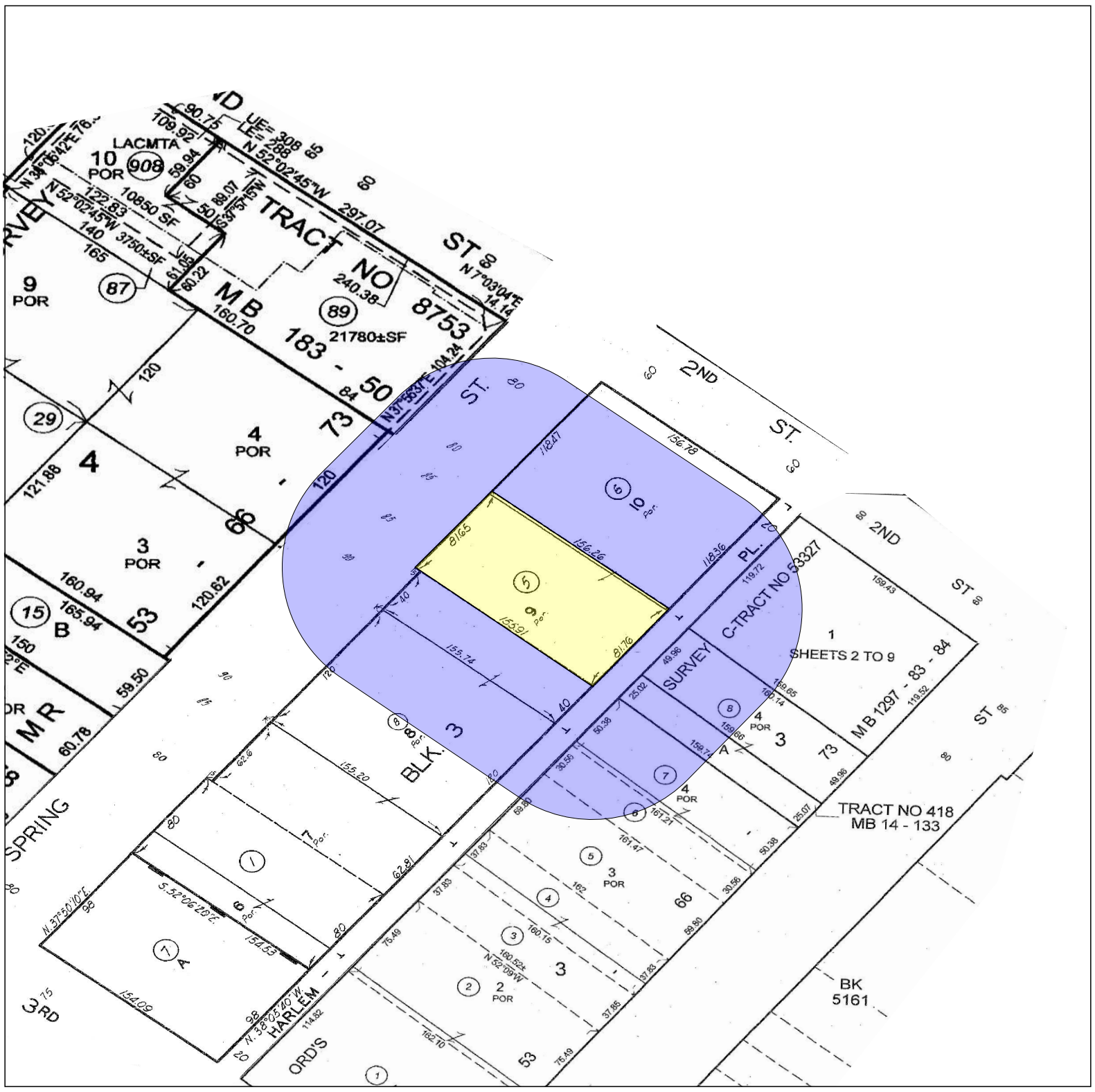
Vicinity Map



Scale 1 inch = 100 Feet

0 100 200

APN: 5149-007-005



©2021
Fidelity National Title Company

100 FOOT RADIUS MAP

Drawing Date: June 26, 2021 - FT

APN - 5149-007-005

This map/plat is being furnished as an aid in locating the herein described Land in relation to adjoining streets, natural boundaries and other land, and is not a survey of the land depicted. Except to the extent a policy of title insurance is expressly modified by endorsement, if any, the Company does not insure dimensions, distances, location of easements, acreage or other matters shown thereon.

Sheet 1 of 1

Archive #

Exhibit B

Approved Project Plans Exhibit “A”

DIR-2020-7846-DB-SPR-HCA-1A

EXHIBIT "A"
Page No. 1 of 25
Case No. DIR-2020-7846-DB-SPR-HCA

216 SPRING

OWNER: 216 SPRING ST LLC
APN: 5149007005
ADDRESS: 353 S. BROADWAY STE 200
LOS ANGELES, CA

02/28/2022 PLANNING SET

DAVID
LAWRENCE
GRAY
ARCHITECTS
AIA

353 S. BROADWAY
SUITE 200
LOS ANGELES
CALIFORNIA 90013
213 243 5787
davidgrayarchitects.com

BUILDING DATA:

PROPERTY ADDRESS: 216 S SPRING ST.
LOT AREA: 12,784 SF PER SURVEY
ZONING: C2-4D

PROJECT DESCRIPTION: 120 UNIT APARTMENT:
-89 ONE-BEDROOMS - 699 SF
-16 SINGLES - 343 SF
-13 TWO-BEDROOMS - 1074 SF
-2 THREE BEDROOMS - 2630
-AVERAGE UNIT SIZE - 724 SF
RESTAURANT: 1981 SF
RETAIL:1032 SF

BUILDING HEIGHT: 17 STORIES, 3 BASEMENT LEVELS, 223'-4" TALL

TYPE OF CONSTRUCTION: TYPE I
OCCUPANCY: R-2 OVER A/B
MAX BLDG HEIGHT: UNLIMITED
DENSITY: UNLIMITED Per Greater Downtown Housing Incentive Area ZI no. 2385

FAR ALLOWED: 6:1 per Central City Community Plan
-Increase by 35% to 8.1:1 per Density Bonus per LAMC Sec. 12.22.A.25 with incentives on the menu.

BUILDABLE AREA: Total Lot Area X FAR = 12,784sf X 8.1
=103,550sf

PARKING REQUIRED:
-RESIDENTIAL: -0.5 spaces per bedroom required per AB 744
-137 bedrooms provided (68 standard parking spaces required).
-Residential Accessible Assigned Parking spaces must be provided at a rate of at least 2% of the assigned parking spaces provided. 2 spaces
-COMMERCIAL -No parking required for business less than 7,500 sf per Downtown Parking District

PARKING PROVIDED:
LEVEL 1: -2 ACCESSIBLE (INCLUDES 1 VAN)
-1 STANDARD
LEVEL B1: -7 EV STANDARD
-15 STANDARD
LEVEL B2 -7 EV STANDARD
-15 STANDARD
LEVEL B3 -7 EV STANDARD
-15 STANDARD
TOTAL: -69 STANDARD

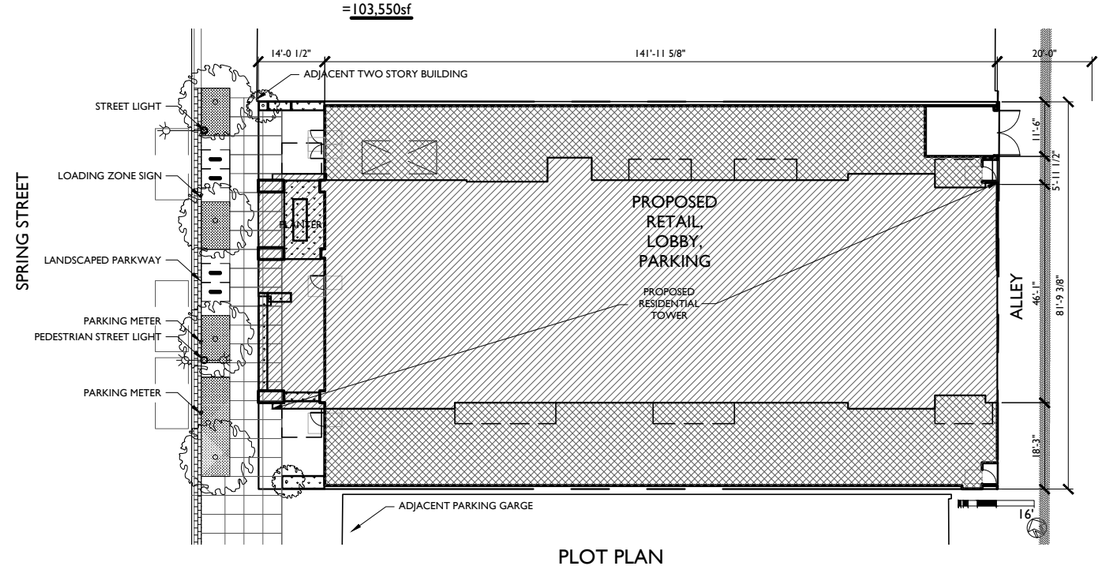
BICYCLE PARKING:
-RESIDENTIAL: -85 Long Term (see sheet G-002)
-9 Short Term (see sheet G-002)
-RESTAURANT: -2 Long Term (see sheet G-002)
-2 Short Term Residential (see sheet G-002)
-RETAIL: -2 Long Term (see sheet G-002)
-2 Short Term Residential (see sheet G-002)
TOTAL: 89 Long Term, 13 Short Term

OPEN SPACE: Percentages of private and common open space eliminated per Greater Downtown Housing Incentive Area ZI NO. 2385. See sheet G-101A, G-101B for calculations
-Total Open space required per 12.21G of the LAMC = 12,475 sf
-Private open space (balconies, patios) provided = 6,000 sf.
-Common open space provided =6,692 sf
-Recreation Room = 1209 sf
-Rooftop deck = 4237 sf, Landscape = 1067 sf
-Patio = (763 sf + 483 sf) = 1246 sf, Landscape = (782 sf + 202 sf) = 380 sf
-Landscape % = 26.4%
-Total Open Space Provided=12,692 sf

25% of common open spaces shall be vegetated
One 24-inch box tree per four dwelling units = 30 per 12.21G of the LAMC.
-30 24-inch box trees provided
-2 trees in the public right of way to be removed and replaced with 4 trees

AFFORDABLE UNITS: 11% of units to be Very Low per Density Bonus per LAMC Sec. 12.22.A.25 with incentives on the menu.
-11% of units = 14 units.

SEATING: -Restaurant: -Indoor: 56 -Roof Deck: 85
-Outdoor: 24



PLOT PLAN

SHEET INDEX:

G-001	COVER
G-002	DATA
G-003	DTDG JUSTIFICATION
G-004	DTDG JUSTIFICATION
G-101A	ZONING CODE AREA
G-101B	ZONING CODE AREA
G-102	BUILDING CODE AREA
G-103	SCHOOL DISTRICT FEE
A-100B	BASEMENT PLAN
A-101	FLOOR PLAN, LEVEL 1
A-102	FLOOR PLAN, LEVEL 2
A-103	FLOOR PLAN LEVEL 3-15
A-116	FLOOR PLAN, LEVEL 16
A-117	FLOOR PLAN, LEVEL 17
A-118	ROOF PLAN
A-201	ELEVATIONS
A-202	ELEVATIONS
A-203	ENLARGED ELEVATIONS
A-204	ENLARGED ELEVATIONS
A-301	SECTION
G-901	RENDER
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G-903	RENDER
L-101	LANDSCAPE LEVEL 1
L-102	LANDSCAPE LEVEL 2
L-103	LANDSCAPE ROOF
L-104	LANDSCAPE DETAILS

EXHIBIT "A"
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Case No. DIR-2020-7846-DB-SPR-HCA

Allowed FAR: 6:1 per Central City Community Plan - Increase by 35% to 8.1:1 per State Density Bonus
Buildable Area: Total Lot Area X FAR = 12,784sf X 8.1=
Total SF Allowed **103,550**

216 SPRING

OWNER: 216 SPRING ST LLC
APN: 5149007005
ADDRESS: 353 S. BROADWAY STE 200
LOS ANGELES, CA

02/28/2022 PLANNING SET

DAVID
LAWRENCE
GRAY
ARCHITECTS
AIA

353 S. BROADWAY
SUITE 200
LOS ANGELES
CALIFORNIA 90013
213 249 5787
davidgrayarchitects.com

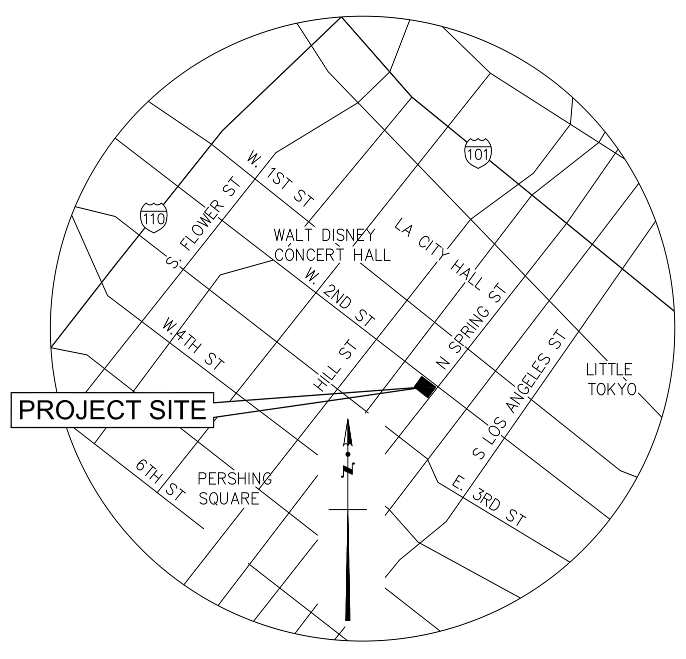
Parking Summary	
Stall type	Provided
Standard	46
EV Standard	21
EV ADA	1
Van	1
Total	69
Loading Area	1

Parking						
	Unit count or SF	Ratio per LAMC	Req'd per LAMC	Ratio per AB 744	Req'd per AB 744	Provided
Residential						
Studio (Market)	14	1.00	14	0.5	7	
Studio (ELI)	2			0.5	1	
1 Bed (Market)	79	1.50	118.5	0.5	39.5	
1 Bed (ELI)	10			0.5	5	
2 Bed (Market)	11	2.00	22	1	11	
2 Bed (ELI)	2			1	2	
3 Bed	2	2.00	4	1.5	3	
Restaurant	1981	0.010	19.8			
Retail	1032	0.00	2.58			
Total			178.3		68.5	69

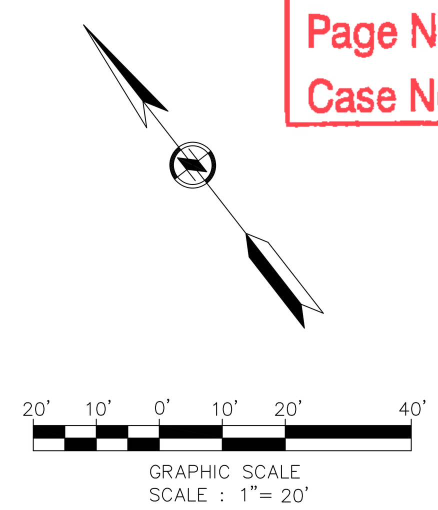
Bicycle Parking				
Residential Units	Ratio (short term)	Required	Ratio (long term)	Required
1 through 25	1/10	2.5	1/1	25
26-100	1/15	5	1/1.5	50
101-120	1/20	1	1/2	10
Restaurant	1/2,000 sf min. 2	2	1/2,000 sf min. 2	2
Retail	1/2,000 sf min. 2	2	1/2,000 sf min. 2	2
Total Required		**12.5**		**89**
Total Provided		**13**		**89**

DATA - I

G-002



VICINITY MAP
NTS



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Page No. 3 of 25
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COMMENTS:

BOUNDARY LINES. . . . . . . WERE ESTABLISHED FROM RECOVERED CITY, COUNTY AND/OR PRIVATE SURVEY MONUMENTS WHOSE CHARACTER AND SOURCE ARE SO NOTED ON THE SURVEY.

LEGAL DESCRIPTION . . . . . THE PROPERTY DESCRIBED HERON IS THE SAME PROPERTY DESCRIBED IN FIRST AMERICAN TITLE INSURANCE COMPANY COMMITMENT FOR TITLE INSURANCE REPORT NO. NCS 990271-SA1 WITH AN EFFECTIVE DATE OCTOBER 31, 2019 AT 8:00 A.M. AND THAT ALL EASEMENTS, COVENANTS AND RESTRICTIONS REFERENCED IN SAID TITLE REPORT APPARENT FROM A PHYSICAL INSPECTION OF THE SITE OR OTHERWISE KNOWN TO ME HAVE BEEN PLOTTED HEREON OR OTHERWISE NOTED AS TO THEIR EFFECT ON THE SUBJECT PROPERTY.

⬡ = INDICATES PLOTTED EXCEPTION ITEM NO.

BASIS OF BEARINGS. . . . . . THE BEARING N 52°06'20" W ALONG THE CENTERLINE OF THIRD STREET AS SHOWN ON THE PROPERTY OF T. D. STIMSON IN BOOK 66, PAGE 29, OF M.R.

BENCHMARK . . . . CITY OF LOS ANGELES BENCHMARK NO. 12-06212
SPK S. CURB 2ND ST; 7.3 FT W OF BCR W OF MAIN ST; E END CB
ELEVATION = 282.308' FEET (NAVD88 – 2000 ADJUSTMENT)

ASSESSOR PARCEL NO. . . . APN 5149-007-005

PROPERTY ADDRESS. . . . . . 216 SPRING ST LOS ANGELES AC 90012

AREA. . . . . BASED UPON MEASURED BEARINGS AND DISTANCES AS SHOWN HEREON, THE AREA IS:

12,784 SQ. FT. OR 0.293 ACRES

PARKING COUNT. . . . . THERE IS NO VISIBLE PARKING STRIPING

FLOOD ZONE . . . . SUBJECT PROPERTY LIES WITHIN FLOOD ZONE X (UNSHADED), AREAS OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, AS SHOWN ON FLOOD INSURANCE RATE MAP NUMBER 06037C1636G, COMMUNITY PANEL NO. 1636 WITH AN EFFECTIVE DATE OF DECEMBER 21, 2018 PUBLISHED BY THE FEDERAL EMERGENCY MANAGEMENT

UTILITIES . . . . SURFACE UTILITIES ARE PLOTTED BASED ON OBSERVED EVIDENCE ONLY. THIS SURVEY DOES NOT SHOW THE LOCATION OF UNDERGROUND UTILITIES BASED ON PLANS PROVIDED BY UTILITY COMPANIES AND OTHER APPROPRIATE SOURCES.

ZONING/BUILDING SETBACK . ZONING AND BUILDING SETBACK DATA SHOWN BELOW HAVE BEEN OBTAINED FROM THE CITY OF LOS ANGELES ZONE INFORMATION & MAP ACCESS SYSTEM (ZIMAS), AT ZIMAS.LACITY.ORG. NO REPRESENTATION IS MADE AS TO THE ACCURACY OR COMPLETENESS OF SAID INFORMATION AND ANY USER OF THIS INFORMATION SHOULD CONTACT THE CITY OF LOS ANGELES PLANNING DEPT. DIRECTLY AT CITYPLANNING.LACITY.ORG OR (213) 482-7077.

ZONE C2-4D
REGIONAL CENTER COMMERCIAL

FRONT YARD:	NONE
REAR YARD:	NONE FOR COMMERCIAL USES[1]
SIDE YARD:	NONE FOR COMMERCIAL USES[1]
BUILDING HEIGHT:	NO LIMIT
FLOOR AREA RATIO:	6:1

[1] SAME AS R4 ZONE FOR RESIDENTIAL USES AT LOWEST RESIDENTIAL STORY

PROPERTY FURTHER QUALIFIED BY AND SUBJECT TO THE FOLLOWING:
DEVELOPMENT LIMITATION WHICH RESTRICTS HEIGHTS, FLOOR AREA RATIO, PERCENT OF LOT COVERAGE, BUILDING SETBACKS
ZI-2374 LOS ANGELES ENTERPRISE ZONE
ZI-2452 TRANSIT PRIORITY AREA IN THE CITY OF LOS ANGELES
ZI-2385 GREATER DOWNTOWN HOUSING INCENTIVE AREA
ZI-2488 CITY CENTER

STREET DEDICATION . . . . . STREET DEDICATIONS SHOWN HEREON ARE FOR INFORMATION ONLY, HAVING BEEN OBTAINED FROM THE CITY OF LOS ANGELES STREET CENTERLINES REPORT, NAVIGATELA, AT NAVIGATELA.LACITY.ORG. NO REPRESENTATION IS MADE AS TO THE ACCURACY OR COMPLETENESS OF SAID INFORMATION AND ANY USER OF THIS INFORMATION SHOULD CONTACT THE CITY OF LOS ANGELES BUREAU OF ENGINEERING AT ENG.LACITY.ORG/INDEX.CFM OR (213) 482-7030.

SPRING STREET:
MODIFIED AVENUE II
RIGHT OF WAY WIDTH: 80 FT
ROADWAY WIDTH: 52 FT

HARLEM PLACE
ALLEY
RIGHT OF WAY WIDTH: 20FT

LINEWORK LEGEND:

- CENTERLINE
- PROPERTY LINE
- LOT LINE
- RIGHT-OF-WAY
- EASEMENT LINE
- BUILDING LINE
- BUILDING LINE
- CHAINLINK FENCE
- WROUGHT IRON FENCE
- WALL
- OHP — OVERHEAD POWER
- E — ELECTRIC SERVICE LINE
- TEL — TELECOMMUNICATION LINE
- CATV — CABLE/TV LINE
- G — NATURAL GAS LINE
- G(A) — ABANDONED NATURAL GAS
- LAGE — LOS ANGELES GAS & ELECTRIC
- LAG ABND — ABANDONED LOS ANGELES GAS & ELECTRIC
- BPL — BUREAU OF POWER & LIGHT
- DWPPS — DEPARTMENT OF WATER & POWER-POWER SYSTEM

LEGEND:

- CURB DRAIN
- AL — AREA LIGHT
- GAS VALVE
- STORM DRAIN MANHOLE
- ELECTRICAL MANHOLE
- SEWER MANHOLE
- TELEPHONE MANHOLE
- MONITOR WELL
- SL — STREET LIGHT PULL BOX
- TS — TRAFFIC SIGNAL PULL BOX
- PARKING METER
- VEHICULAR INGRESS & EGRESS
- RD — ROOF DRAIN
- STREET SIGN
- WM — WATER METER
- WATER VALVE
- 12" — TREE WITH TRUNK DIAMETER
- NOT TO SCALE
- TILE PATTERN
- CONCRETE SURFACE

LEGAL DESCRIPTION:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF LOS ANGELES, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

THAT PORTION OF LOT 9 AND LOT 10 IN BLOCK 3 OF ORD'S SURVEY, IN THE CITY OF LOS ANGELES, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 53, PAGES 66 THROUGH 73 INCLUSIVE, OF MISCELLANEOUS RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHWEST CORNER OF SAID LOT 9; THENCE ALONG THE WESTERLY LINE OF SAID LOT 9, SOUTH 37° 50' 44" WEST 80.24 FEET TO THE NORTHEASTERLY LINE OF THAT CERTAIN DEED RECORDED MARCH 28, 1946, IN BOOK 22888, PAGE 349, OFFICIAL RECORDS OF SAID COUNTY: THENCE ALONG SAID NORTHEASTERLY LINE SOUTH 52° 09' 16" EAST 156.01 FEET TO THE INTERSECTION WITH THE WESTERLY LINE OF HARLEM PLACE 20.00 FEET WIDE, (FORMERLY CENTER PLACE) CONVEYED TO THE CITY OF LOS ANGELES; THENCE ALONG SAID WESTERLY LINE, NORTH 38° 06' 20" EAST 81.78 FEET TO THE INTERSECTION WITH THE EASTERLY PROLONGATION OF THE SOUTHERLY FACE OF THAT CERTAIN ONE STORY BRICK AND STUCCO BUILDING KNOWN AS 206 SPRING STREET; THENCE ALONG SAID EASTERLY PROLONGATION AND SOUTHERLY FACE OF SAID BUILDING, NORTH 52° 06' 21" WEST 156.38 FEET TO THE INTERSECTION WITH THE WESTERLY LINE OF SAID LOT 10; THENCE ALONG SAID WESTERLY LINE SOUTH 37° 50' 44" WEST 1.67 FEET TO THE POINT OF BEGINNING.

TITLE DIGEST - EXCEPTIONS TO COVERAGE

THIS SUMMARY OF ITEMS IN THE POLICY IS PREPARED FOR THE CONVENIENCE OF THOSE PERSONS USING THIS SURVEY. FOR FULL DETAILS OF TITLE ITEMS, REFER TO THE COMPLETE REPORT AND TO THOSE DOCUMENTS REFERRED TO THEREIN.

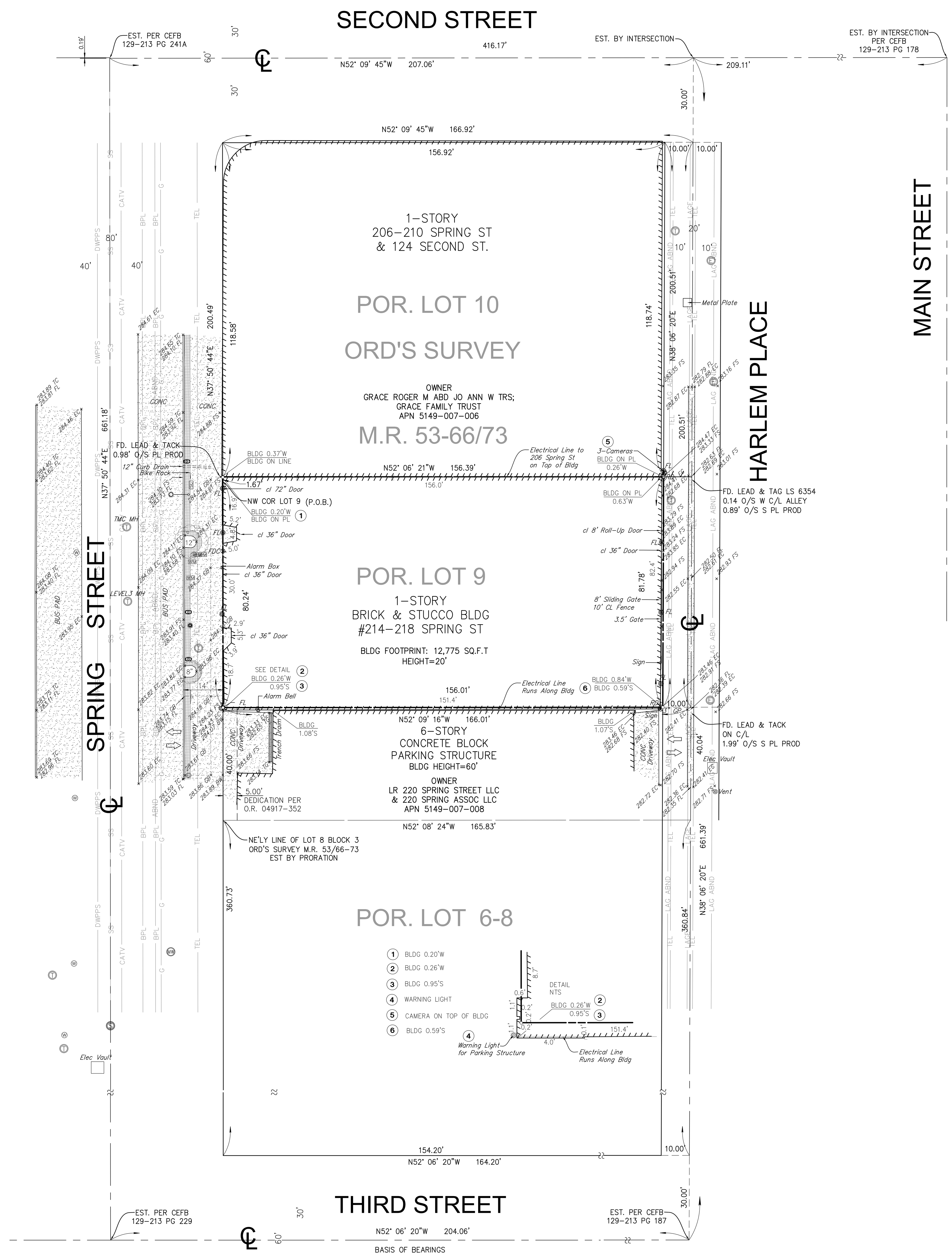
ITEM NO. DESCRIPTION

1. ANY DEFECT, LIEN, ENCUMBRANCE, ADVERSE CLAIM, OR OTHER MATTER THAT APPEARS FOR THE FIRST TIME IN THE PUBLIC RECORDS OR IS CREATED, ATTACHES, OR IS DISCLOSED BETWEEN THE COMMITMENT DATE AND THE DATE ON WHICH ALL OF THE SCHEDULE B, PART I-REQUIREMENTS ARE MET.
2. (A) TAXES* OR ASSESSMENTS THAT ARE NOT SHOWN AS EXISTING LIENS BY THE RECORDS OF ANY TAXING AUTHORITY THAT LEVIES TAXES OR ASSESSMENTS ON REAL PROPERTY OR BY THE PUBLIC RECORDS; (B) PROCEEDINGS BY A PUBLIC AGENCY THAT MAY RESULT IN TAXES OR ASSESSMENTS, OR NOTICES OF SUCH PROCEEDINGS, WHETHER OR NOT SHOWN BY THE RECORDS OF SUCH AGENCY OR BY THE PUBLIC RECORDS.
3. ANY FACTS*, RIGHTS, INTERESTS, OR CLAIMS THAT ARE NOT SHOWN BY THE PUBLIC RECORDS BUT THAT COULD BE ASCERTAINED BY AN INSPECTION OF THE LAND OR THAT MAY BE ASSERTED BY PERSONS IN POSSESSION OF THE LAND.
4. EASEMENTS*, LIENS OR ENCUMBRANCES, OR CLAIMS THEREOF, NOT SHOWN BY THE PUBLIC RECORDS.
5. ANY ENCROACHMENT*, ENCUMBRANCE, VIOLATION, VARIATION, OR ADVERSE CIRCUMSTANCE AFFECTING THE TITLE THAT WOULD BE DISCLOSED BY AN ACCURATE AND COMPLETE LAND SURVEY OF THE LAND AND NOT SHOWN BY THE PUBLIC RECORDS.
6. (A) UNPATENTED* MINING CLAIMS; (B) RESERVATIONS OR EXCEPTIONS IN PATENTS OR IN ACTS AUTHORIZING THE ISSUANCE THEREOF; (C) WATER RIGHTS, CLAIMS OR TITLE TO WATER, WHETHER OR NOT THE MATTERS EXCEPTED UNDER (A), (B), OR (C) ARE SHOWN BY THE PUBLIC RECORDS.
7. GENERAL* AND SPECIAL TAXES AND ASSESSMENTS FOR THE FISCAL YEAR 2019-2020.
8. A NOTICE* OF ASSESSMENT RECORDED JULY 06, 1977 AS INSTRUMENT NO. 77-724736 OF OFFICIAL RECORDS, EXECUTED BY CITY OF LOS ANGELES.
9. A NOTICE* OF ASSESSMENT RECORDED MAY 21, 1982 AS INSTRUMENT NO. 82-527099 OF OFFICIAL RECORDS, EXECUTED BY CITY OF LOS ANGELES.
10. A NOTICE* OF ASSESSMENT RECORDED OCTOBER 16, 1984 AS INSTRUMENT NO. 84-1239903 OF OFFICIAL RECORDS, EXECUTED BY CITY OF LOS ANGELES.
11. A NOTICE* OF ASSESSMENT RECORDED JUNE 04, 1985 AS INSTRUMENT NO. 85-627446 OF OFFICIAL RECORDS, EXECUTED BY CITY OF LOS ANGELES.
12. A NOTICE* OF ASSESSMENT RECORDED MAY 14, 1986 AS INSTRUMENT NO. 86-599059 OF OFFICIAL RECORDS, EXECUTED BY CITY OF LOS ANGELES.
13. A NOTICE* OF ASSESSMENT RECORDED JUNE 30, 1987 AS INSTRUMENT NO. 87-10405?4 OF OFFICIAL RECORDS, EXECUTED BY CITY OF LOS ANGELES.
14. A NOTICE* OF ASSESSMENT RECORDED JULY 18, 1988 AS INSTRUMENT NO. 88-1126750 OF OFFICIAL RECORDS, EXECUTED BY CITY OF LOS ANGELES.
15. A NOTICE* OF ASSESSMENT RECORDED AUGUST 09, 1989 AS INSTRUMENT NO. 9 1PZN OF OFFICIAL RECORDS, EXECUTED BY CITY OF LOS ANGELES.
16. A NOTICE* OF ASSESSMENT RECORDED AUGUST 31, 1990 AS INSTRUMENT NO. 90-11_? 6? OF OFFICIAL RECORDS, EXECUTED BY CITY OF LOS ANGELES.
17. A NOTICE* OF ASSESSMENT RECORDED SEPTEMBER 11, 1991 AS INSTRUMENT NO. 91-1425812 OF OFFICIAL RECORDS, EXECUTED BY CITY OF LOS ANGELES.
18. A NOTICE* OF ASSESSMENT RECORDED NOVEMBER 12, 1992 AS INSTRUMENT NO. 92-2102178 OF OFFICIAL RECORDS, EXECUTED BY CITY OF LOS ANGELES.
19. A NOTICE* OF ASSESSMENT RECORDED DECEMBER 27, 1993 AS INSTRUMENT NO. 93-2512342 OF OFFICIAL RECORDS, EXECUTED BY CITY OF LOS ANGELES.
20. A NOTICE* OF ASSESSMENT RECORDED DECEMBER 02, 1994 AS INSTRUMENT NO. 94-2158801 OF OFFICIAL RECORDS, EXECUTED BY CITY OF LOS ANGELES.
21. A NOTICE* OF ASSESSMENT RECORDED APRIL 14, 1997 AS INSTRUMENT NO. 97-559?Q() OF OFFICIAL RECORDS, EXECUTED BY CITY OF LOS ANGELES.
22. A NOTICE* OF ASSESSMENT RECORDED APRIL 14, 1997 AS INSTRUMENT NO. 975 7_0? OF OFFICIAL RECORDS, EXECUTED BY CITY OF LOS ANGELES.
23. THE LIEN* OF SPECIAL TAX ASSESSED PURSUANT TO CHAPTER 2.5 COMMENCING WITH SECTION 53311 OF THE CALIFORNIA GOVERNMENT CODE FOR COMMUNITY FACILITIES DISTRICT NO. 9 (DOWNTOWN STREETCAR), AS DISCLOSED BY NOTICE OF SPECIAL TAX LIEN RECORDED JANUARY 29, 2013 AS INSTRUMENT NO. 2013-143515 OF OFFICIAL RECORDS.
24. THE LIEN* OF SUPPLEMENTAL TAXES, IF ANY, ASSESSED PURSUANT TO CHAPTER 3.5 COMMENCING WITH SECTION 75 OF THE CALIFORNIA REVENUE AND TAXATION CODE.
25. A WAIVER* OF ANY CLAIMS FOR DAMAGES BY REASON OF THE LOCATION, CONSTRUCTION, LANDSCAPING OR MAINTENANCE OF A CONTIGUOUS FREEWAY, HIGHWAY, ROADWAY OR TRANSIT FACILITY AS CONTAINED IN THE DOCUMENT RECORDED APRIL 28, 1972 AS INSTRUMENT NO. 4288 OF OFFICIAL RECORDS.
26. THE FACT* THAT THE LAND LIES WITHIN THE BOUNDARIES OF THE CENTRAL BUSINESS DISTRICT REDEVELOPMENT PROJECT AREA, AS DISCLOSED BY THE DOCUMENT RECORDED JULY 22, 1975 AS INSTRUMENT NO. 3675 OF OFFICIAL RECORDS.
27. A DEED*OF TRUST TO SECURE AN ORIGINAL INDEBTEDNESS OF $2,500,000.00 RECORDED DECEMBER 31, 2008 AS INSTRUMENT NO. 2008-2277104 OF OFFICIAL RECORDS.
DATED: DECEMBER 18, 2008
TRUSTOR: ROGER M. GRACE AND JO-ANN W. GRACE, HUSBAND AND WIFE AS COMMUNITY PROPERTY
TRUSTEE: FIDELITY NATIONAL TITLE COMPANY
BENEFICIARY: CALIFORNIA BANK & TRUST
AFFECTS: THE LAND AND OTHER PROPERTY.
28. AN OPTION* IN FAVOR OF 216 SPRING ST., LLC, A CALIFORNIA LIMITED LIABILITY COMPANY AS CONTAINED IN OR DISCLOSED BY A DOCUMENT RECORDED FEBRUARY 19, 2016 AS INSTRUMENT NO. 2016-184581OF OFFICIAL RECORDS.
29. ADDITIONAL MATTERS, IF ANY, FOLLOWING REVIEW BY THE COMPANY'S WATERWAYS AND BOUNDARIES UNDERWRITERS.
30. RIGHTS OF PARTIES IN POSSESSION.

* NOT A SURVEY MATTER

ABBREVIATIONS:

APN	ASSESSOR PARCEL NUMBER
BLDG	BUILDING
BW	BACK OF WALK
C.E.	CITY ENGINEER
CEFB	CITY ENGINEER FIELD BOOK
C/L	CENTERLINE
CL	CHAIN LINK
CO	CLEAN OUT
CONC	CONCRETE
EC	ENGE OF CONCRETE
EG	EDGE OF GUTTER
ELEC	ELECTRICAL
ESMT	EASEMENT
FB	FIELD BOOK
FD	FOUND
FDC	FIRE DEPT. CONNECTION (STANDPIPE)
FF	FINISH FLOOR
FH	FIRE HYDRANT
FL	FLOW LINE
FS	FINISH SURFACE
GB	GRADE BREAK
GM	GAS METER
GND	GROUND
GP	GUARD POST
INST.	INSTRUMENT
LS	LICENSED SURVEYOR
O/CL	OFF CENTER LINE
O/PL	OFF PROPERTY LINE
O.R.	OFFICIAL RECORDS
O/S	OFFSET
PG	PAGE
PL	PROPERTY LINE
P.O.B.	POINT OF BEGINNING
PROD	PRODUCED
PROP	PROPERTY
PTR	PRELIMINARY TITLE REPORT
RD	ROOF DRAIN
R/W	RIGHT OF WAY
SQ.FT.	SQUARE FEET
TC	TOP OF CURB
TG	TOP OF GRATE
TW	TOP OF WALL
TYP	TYPICAL
WI	WROUGHT IRON
WM	WATER METER
WV	WATER VALVE OR VAULT



SURVEYOR'S NOTES:

1. THIS SURVEY DOES NOT INCLUDE EASEMENTS EXCEPT THOSE SPECIFICALLY DELINEATED HEREON, NOR DOES IT SHOW THE LOCATION OF, OR ENCROACHMENTS BY SUBSURFACE FOOTINGS AND/OR FOUNDATIONS OF BUILDINGS SHOWN ON THIS MAP.
2. INFORMATION PERTAINING TO UNDERGROUND PUBLIC UTILITIES, FLOOD ZONE DATA, ZONING AND SETBACK DATA, IF SHOWN HEREIN, HAVE BEEN OBTAINED FROM RELIABLE AND RESPONSIBLE SOURCES NOT CONNECTED WITH THIS COMPANY. NO GUARANTY, WARRANTY OR REPRESENTATION, EITHER EXPRESS OR IMPLIED, IS MADE AS TO THE ACCURACY OR THOROUGHNESS OF SUCH INFORMATION. USERS OF SAID INFORMATION IS URGED TO CONTACT THE UTILITY OR LOCAL AGENCY DIRECTLY.
3. ALL STREETS SHOWN HEREON ARE PUBLIC STREETS UNLESS OTHERWISE NOTED.
4. THE SUBJECT PROPERTY HAS NO DIRECT VEHICULAR ACCESS TO SPRING STREET OR HARLEM PLACE, DEDICATED PUBLIC STREETS
5. THERE IS NO OBSERVABLE EVIDENCE OF EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS OR RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS ON THE SUBJECT PROPERTY.
6. THERE IS NO OBSERVABLE EVIDENCE OF SITE USE AS A SOLID WASTE DUMP, SUMP OR SANITARY LANDFILL,
7. THERE IS NO OBSERVABLE EVIDENCE OF WETLAND AREAS ON THE SUBJECT PROPERTY.

SURVEYOR'S CERTIFICATE:

TO 216 SPRING ST LLC, THEIR SUCCESSORS AND/OR ASSIGNS,
FIRST AMERICAN TITLE INSURANCE COMPANY:

THIS IS TO CERTIFY, THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 6(A), 6(B), 7(A), 7(B)(1), 7(C), 8, 9, 11, 13, 14, 16, 17, 18, 19 AND 20 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON APRIL 15 2020.

GREGORY D. HINDSON, P.L.S. 5670
GHINDSON@MOLLENHAUERGROUP.COM

04/28/2020
DATE

LICENSED LAND SURVEYOR — GREGORY D. HINDSON — No. 5670 — STATE OF CALIFORNIA

NOTE: SECTION 8770.6 OF THE CALIFORNIA BUSINESS AND PROFESSIONS CODE STATES THAT THE USE OF THE WORD CERTIFY OR CERTIFICATE BY A LICENSED SURVEYOR IN THE PRACTICE OF LAND SURVEYING OR THE PREPARATION OF MAPS, PLATS REPORTS, DESCRIPTIONS OR OTHER SURVEYING DOCUMENTS, ONLY CONSTITUTES AN EXPRESSION OF PROFESSIONAL OPINION REGARDING THOSE FACTS OR FINDINGS WHICH ARE SUBJECT OF THE CERTIFICATION AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE, EITHER EXPRESSED OR IMPLIED.

MOLLENHAUER GROUP
CIVIL ENGINEERING
SURVEYING+MAPPING
LAND DEVELOPMENT
213 624 2661 TEL
818 937 9899 TEL
919 W. GLENOAKS BLVD 2ND FL
GLENDALE CALIFORNIA 91202
WWW.MOLLENHAUERGROUP.COM

BY | REVISION | DATE

ALTA/NSPS LAND TITLE SURVEY
SHOWING
PORTION OF LOTS 9 AND 10 OF ORD'S SURVEY AS PER MAP FILED IN BOOK 53, PAGES 66 TO 73 INCLUSIVE, OF M.R.
CITY OF LOS ANGELES, COUNTY OF LOS ANGELES
STATE OF CALIFORNIA

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ALL RIGHTS RESERVED

SCALE: 1" = 20' | CAD FILE: LA21241.dwg
DRAFTED: MK | CHECKED: GDH

SURVEY PREPARED FOR:
216 SPRING ST LLC
216 SPRING ST
LOS ANGELES CA 90012

PROJECT ADDRESS:
216 SPRING ST
LOS ANGELES CA 90012

SHEET NO. 1 OF 1 SHEETS
FIELD WORK DATE: APRIL 15, 2020 | JOB NO. LA21241

G:\Projects\Survey\LA21200-LA21299\LA21241_216 S Spring Street_Gray\Acad Drawings\LA21241.dwg

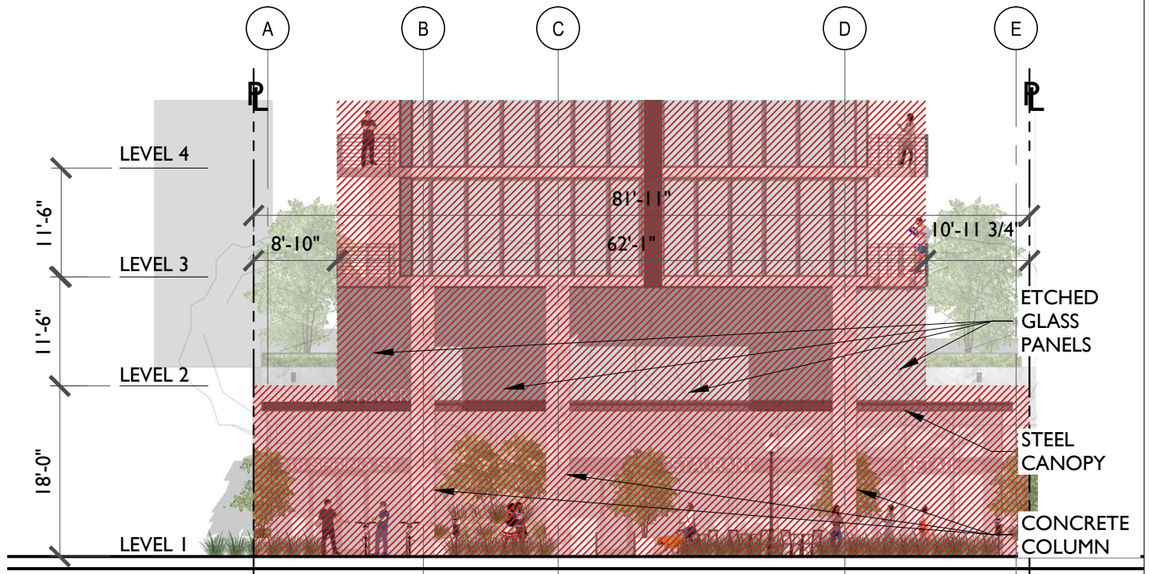
EXHIBIT "A"
Page No. 4 of 25
Case No. DIR-2020-7846-DB-SPR-HCA

216 SPRING

OWNER: 216 SPRING ST LLC
APN: 5149007005
ADDRESS: 353 S. BROADWAY STE 200
LOS ANGELES, CA

06/07/2021 PLANNING SET

DAVID LAWRENCE GRAY ARCHITECTS AIA
332 S. BROADWAY
SUITE 202
LOS ANGELES
CALIFORNIA 90013
213 243 5727
davidgrayarchitects.com

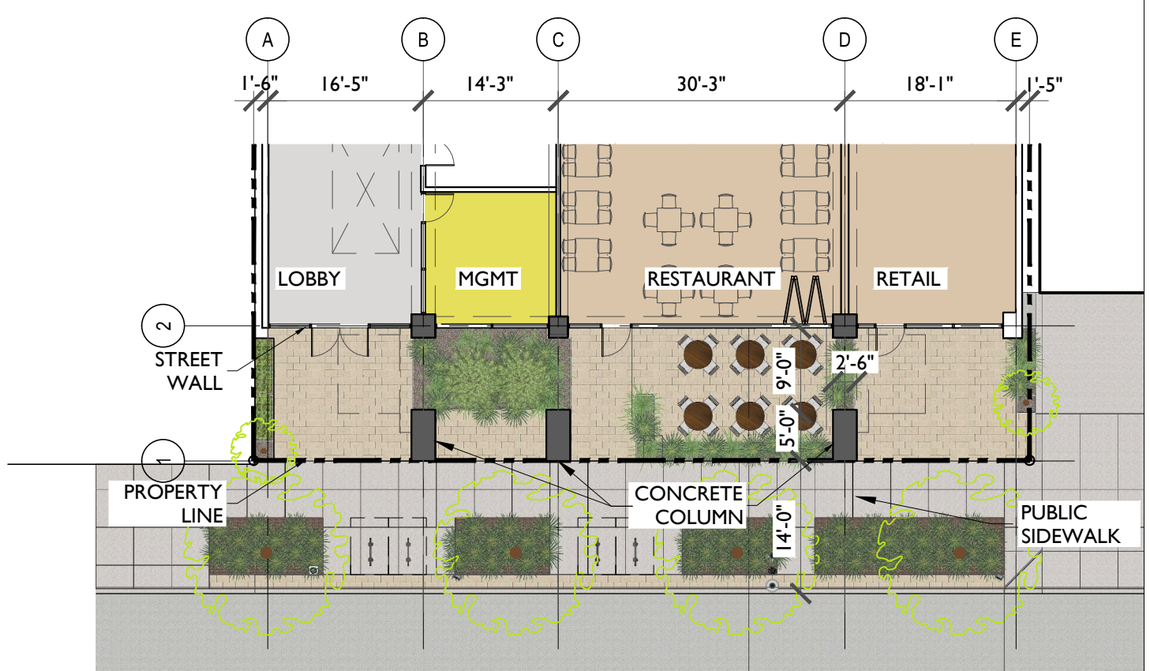


REQUIRED STREET WALL ABOVE 1ST FLOOR = 70%
PROVIDED WALL ABOVE 1ST FLOOR = 62'-1"/81'-11" = 75.8%

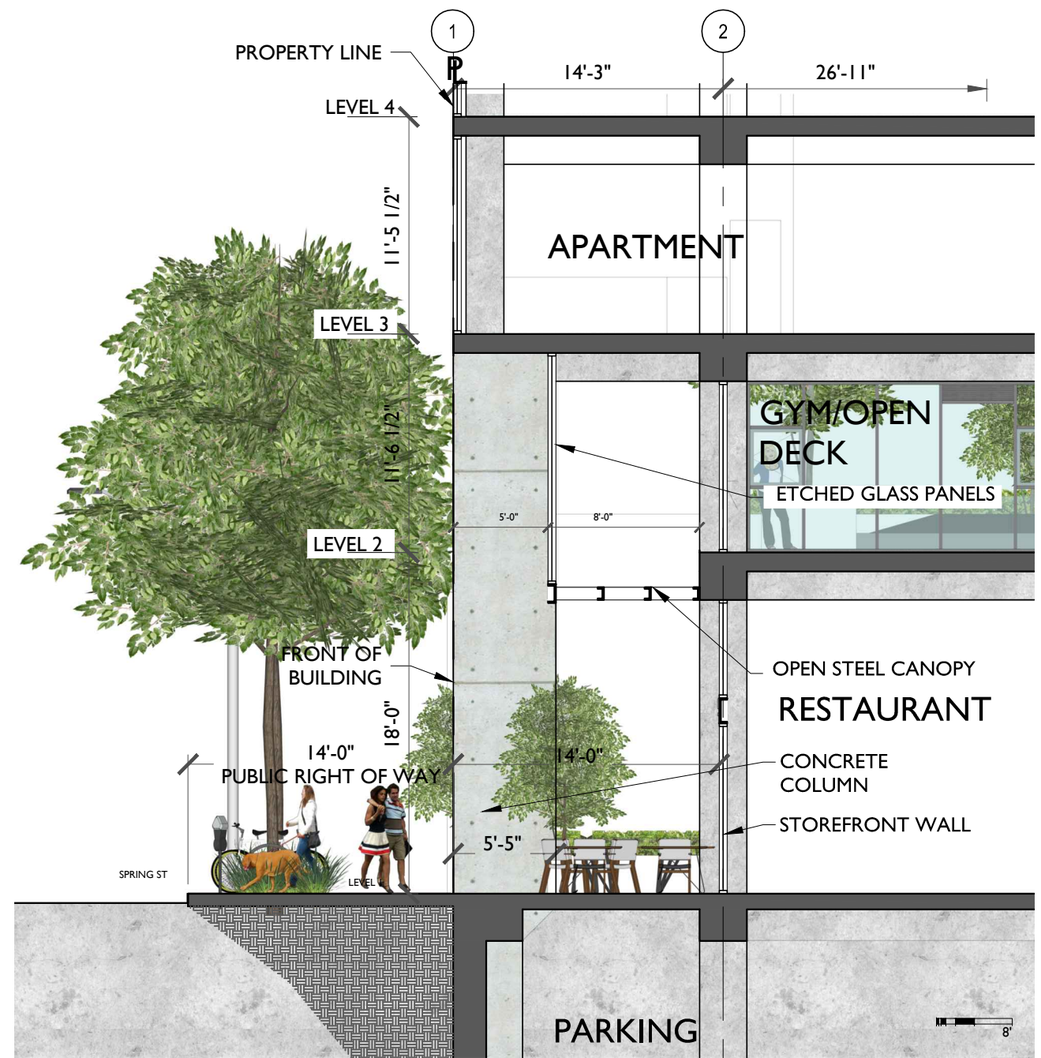
REQUIRED STREET WALL (PRIMARY ENTRIES AND DISPLAY WINDOWS) MAY SET BACK BEYOND THE COLUMNS AT 1ST FLOOR.
PROVIDED STREET WALL AT 1ST FLOOR = 100%

STREET WALL

FRONT ENLARGED ELEVATION 1/8" = 1'-0" 3



FRONT FLOOR PLAN 1/8" = 1'-0" 2



WALL SECTION 1/8" = 1'-0" 1

DOWNTOWN DESIGN GUIDE JUSTIFICATION: STREET WALL G-003

EXHIBIT "A"
Page No. 5 of 25
Case No. DIR-2020-7846-DB-SPR-HCA

216 SPRING

OWNER: 216 SPRING ST LLC
APN: 5149007005
ADDRESS: 353 S. BROADWAY STE 200
LOS ANGELES, CA

02/28/2022 PLANNING SET

DAVID
LAWRENCE
GRAY
ARCHITECTS
AIA

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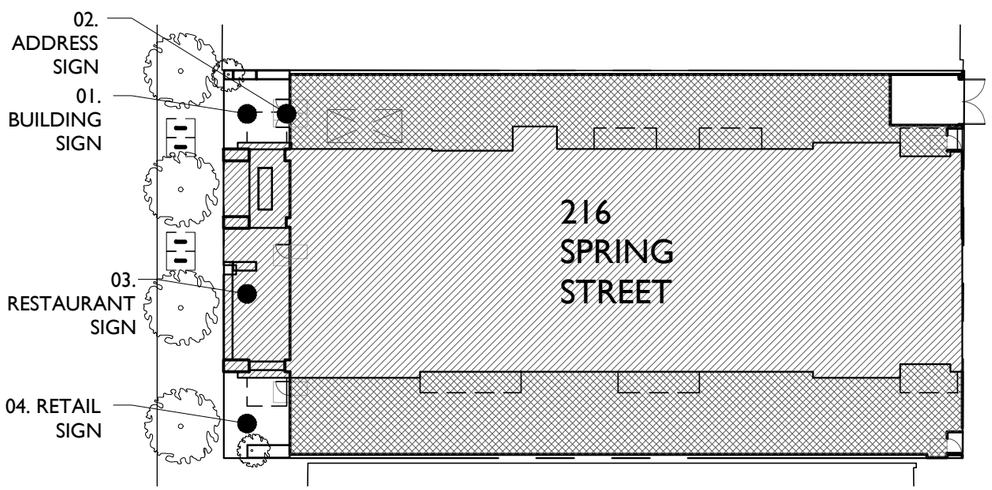
213 243 5787
david@grayarchitects.com



SITE PLAN

SIGN SCHEDULE

#	LOCATION	TYPE	TEXT	HEIGHT	WIDTH	ILLUMINATION
1	LOBBY	1	216 S. SPRING ST	13	12'-6"	BACKLIT
2	LOBBY	2	SPRING ST TOWER	16	15'-0"	BACKLIT
3	RESTAURANT	1	TBD	16	TBD	BACKLIT
4	RETAIL	1	TBD	16	TBD	BACKLIT

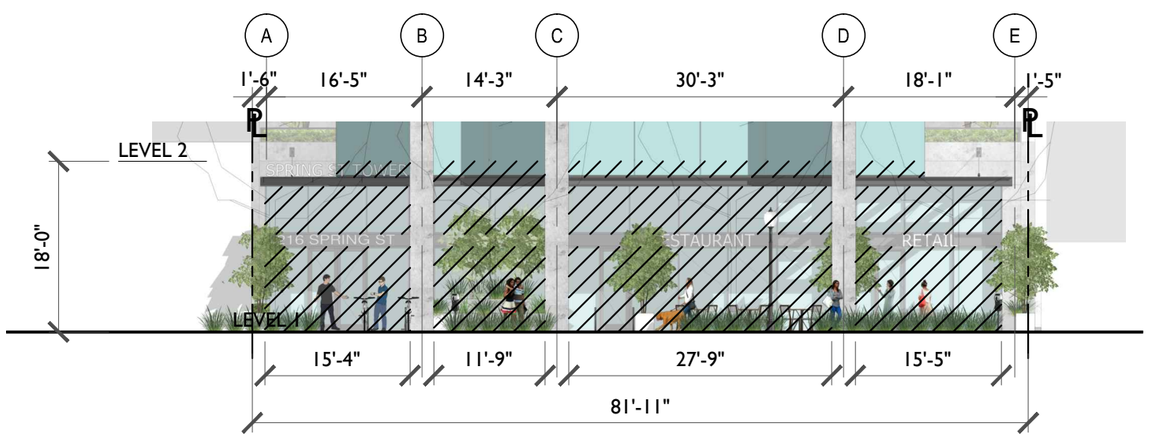
SIGN TYPES

SIGN TYPE 1
- FACE MOUNTED
- METAL EXTRUDED TEXT
- TAHOMA FONT

SIGN TYPE 2
- FREESTANDING
- METAL EXTRUDED TEXT
- TAHOMA FONT

SEE A-203 FOR ELEVATION

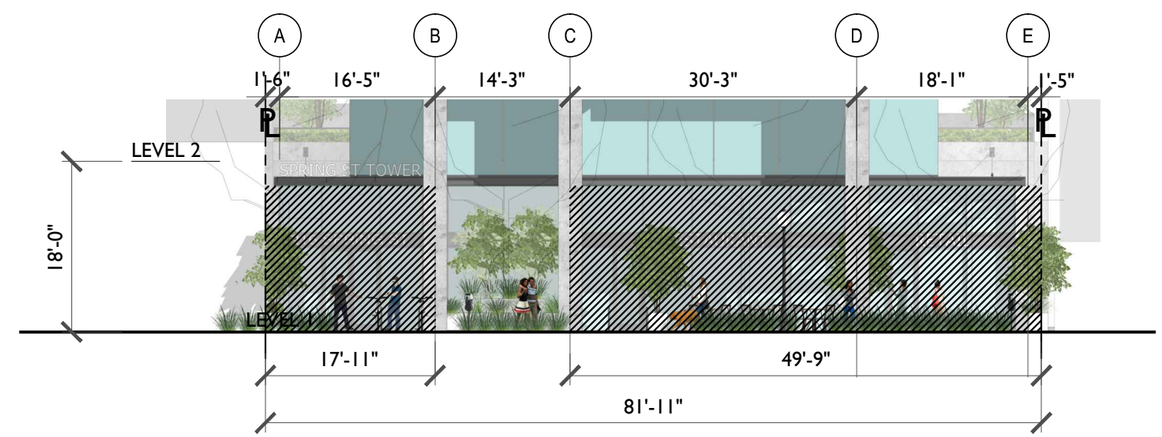
CONCEPTUAL SIGN PLAN 1/32" = 1'-0" 3



GROUND FLOOR FRONTAGE AREA = (18'-0" X 81'-11") = 1,475 SF
GROUND FLOOR FRONTAGE OPENING AREA = 1,086 SF
REQUIRED GROUND FLOOR WALL OPENINGS = 50%
PROVIDED GROUND FLOOR WALL OPENINGS = 1,086 SF/1,475 SF = 73%

WALL OPENING

GROUND FLOOR WALL OPENINGS DIAGRAM 1/16" = 1'-0" 2



REQUIRED GROUND FLOOR ACTIVE USE = 75%
PROVIDED GROUND FLOOR ACTIVE USE = (17'-11" + 49'-9")/81'-11" = 82.6%

ACTIVE USE

8'

GROUND FLOOR ACTIVE USE DIAGRAM 1/16" = 1'-0" 1

DOWNTOWN DESIGN GUIDE JUSTIFICATION

G-004

EXHIBIT "A"
Page No. 6 of 25
Case No. DIR-2020-7846-DB-SPR-HCA

ZONING CODE AREA

DEFINITION:
THE AREA IN SQUARE FEET CONFINED WITHIN THE EXTERIOR WALLS OF A BUILDING, BUT NOT INCLUDING THE AREA OF THE FOLLOWING: EXTERIOR WALLS, STAIRWAYS, SHAFTS, ROOMS HOUSING BUILDING-OPERATING EQUIPMENT OR MACHINERY, PARKING AREAS WITH ASSOCIATED DRIVEWAYS AND RAMPS, SPACE DEDICATED TO BICYCLE PARKING, SPACE FOR THE LANDING AND STORAGE OF HELICOPTERS, AND BASEMENT STORAGE AREAS

- FLOOR AREA
- PVT OPEN
- OPEN EXT. HARDSCAPE
- OPEN EXT. LANDSCAPE
- OPEN INT.

216 SPRING

OWNER: 216 SPRING ST LLC
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ADDRESS: 353 S. BROADWAY STE 200
LOS ANGELES, CA

06/07/2021 PLANNING SET

DAVID LAWRENCE GRAY ARCHITECTS AIA

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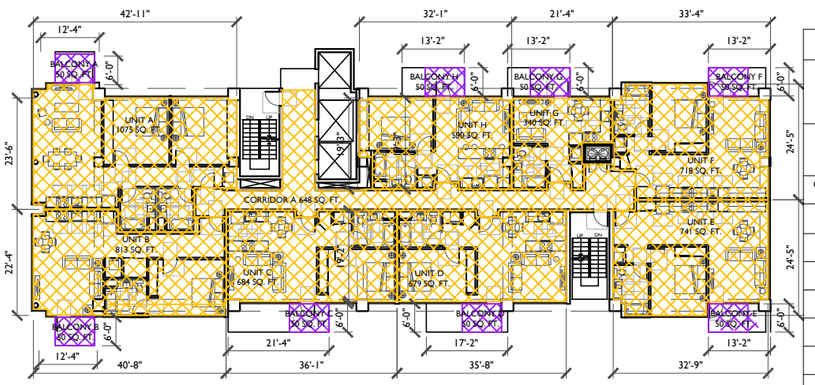
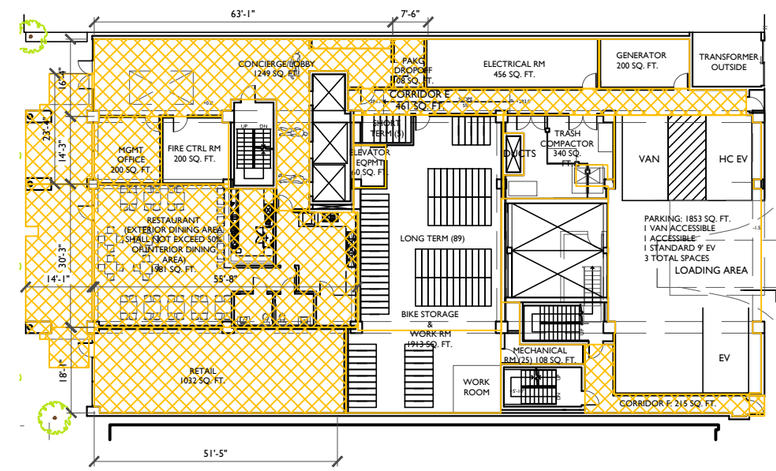


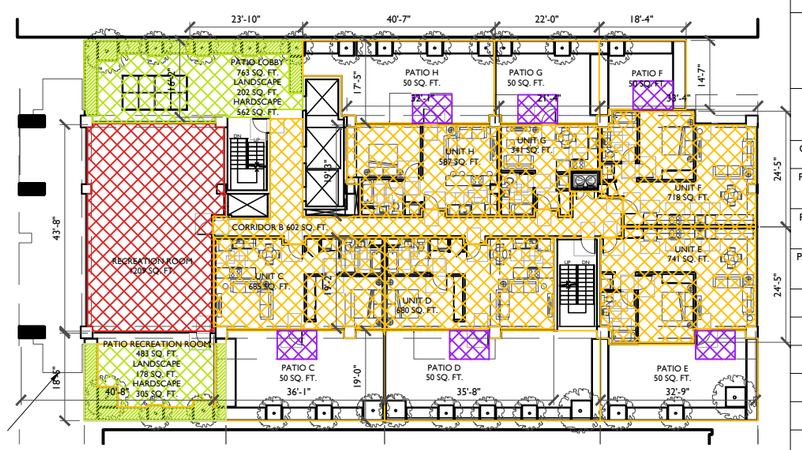
LEVEL 3-15					
	FLOOR AREA (FAR)	PRIVATE OPEN SPACE	PUBLIC INTERIOR OPEN SPACE	PUBLIC EXTERIOR OPEN SPACE	
				HARD-SCAPE	LAND-SCAPE
CORRIDOR A	648 SQ. FT.				
UNIT A	1075 SQ. FT.	50 SQ. FT.			
UNIT B	813 SQ. FT.	50 SQ. FT.			
UNIT C	685 SQ. FT.	50 SQ. FT.			
UNIT D	680 SQ. FT.	50 SQ. FT.			
UNIT E	741 SQ. FT.	50 SQ. FT.			
UNIT F	718 SQ. FT.	50 SQ. FT.			
UNIT G	341 SQ. FT.	50 SQ. FT.			
UNIT H	590 SQ. FT.	50 SQ. FT.			
TOTAL	6290 SQ. FT.	399.998 SQ. FT.			

PLAN - LEVEL 3-15 | 1/16" = 1'-0" | 4



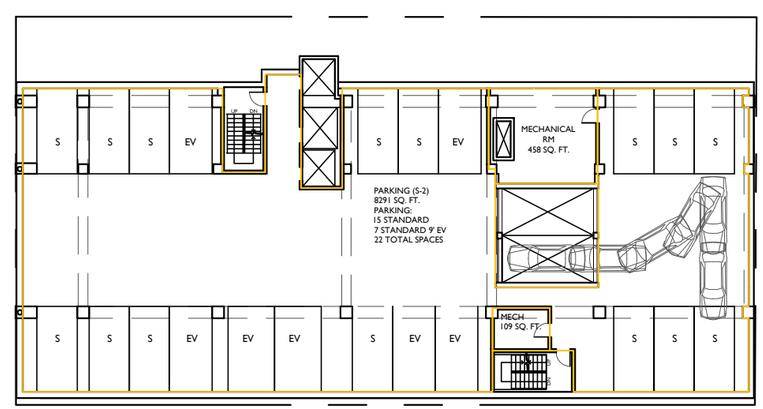
LEVEL 1					
	FLOOR AREA (FAR)	PRIVATE OPEN SPACE	PUBLIC INTERIOR OPEN SPACE	PUBLIC EXTERIOR OPEN SPACE	
				HARD-SCAPE	LAND-SCAPE
RETAIL	1032 SQ. FT.				
RESTAURANT	1981 SQ. FT.				
MGMT OFFICE	200 SQ. FT.				
CONCIERGE/LOBBY	1249 SQ. FT.				
PAKG DROPOFF	108 SQ. FT.				
CORRIDOR E	461 SQ. FT.				
CORRIDOR F	215 SQ. FT.				
TOTAL	5246 SQ. FT.				

PLAN - LEVEL 1 | 1/16" = 1'-0" | 2



LEVEL 2					
	FLOOR AREA (FAR)	PRIVATE OPEN SPACE	PUBLIC INTERIOR OPEN SPACE	PUBLIC EXTERIOR OPEN SPACE	
				HARD SCAPE	LAND-SCAPE
CORRIDOR B	602 SQ. FT.				
PATIO LOBBY				562 SQ. FT.	202 SQ. FT.
RECREATION RM	1209 SQ. FT.		1209 SQ. FT.		
PATIO REC RM				305 SQ. FT.	178 SQ. FT.
UNIT C	685 SQ. FT.	50 SQ. FT.			
UNIT D	680 SQ. FT.	50 SQ. FT.			
UNIT E	741 SQ. FT.	50 SQ. FT.			
UNIT F	718 SQ. FT.	50 SQ. FT.			
UNIT G	341 SQ. FT.	50 SQ. FT.			
UNIT H	590 SQ. FT.	50 SQ. FT.			
TOTAL	5566 SQ. FT.	300.000 SQ. FT.	1208.718 SQ. FT.	867 SQ. FT.	381 SQ. FT.

PLAN - LEVEL 2 | 1/16" = 1'-0" | 3



PLAN - BASEMENT 1-3 | 1/16" = 1'-0" | 1

ZONING CODE AREA (FAR) G-101A

EXHIBIT "A"
Page No. 7 of 25
Case No. DIR-2020-7846-DB-SPR-HCA

ZONING CODE AREA

DEFINITION:
THE AREA IN SQUARE FEET CONFINED WITHIN THE EXTERIOR WALLS OF A BUILDING, BUT NOT INCLUDING THE AREA OF THE FOLLOWING: EXTERIOR WALLS, STAIRWAYS, SHAFTS, ROOMS HOUSING BUILDING-OPERATING EQUIPMENT OR MACHINERY, PARKING AREAS WITH ASSOCIATED DRIVEWAYS AND RAMPS, SPACE DEDICATED TO BICYCLE PARKING, SPACE FOR THE LANDING AND STORAGE OF HELICOPTERS, AND BASEMENT STORAGE AREAS

- FLOOR AREA
- PVT OPEN
- OPEN EXT. HARDSCAPE
- OPEN EXT. LANDSCAPE
- OPEN INT.

216 SPRING

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06/07/2021 PLANNING SET

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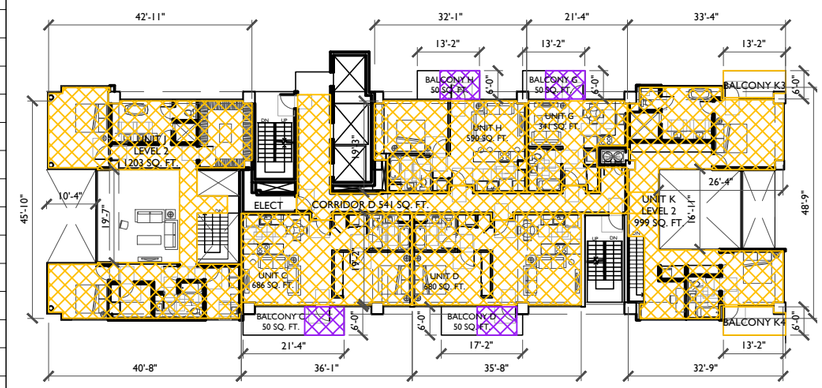
TOTALS				
	OPEN SPACE			
ALLOWED/ REQUIRED	12475			
PROVIDED	12454 SQ. FT.			
	PRIVATE	PUBLIC		
ALLOWED/ REQUIRED	ANY %	ANY %		
PROVIDED	5999.977 SQ. FT.	6454 SQ. FT.		
		INTERIOR	EXTERIOR	
ALLOWED/ REQUIRED		25% O ALL OPEN SPACE		
PROVIDED		1208.718 SQ. FT.	5245.674 SQ. FT.	
			HARDSCAPE	LANDSCAPE
ALLOWED/ REQUIRED			75%	25%
PROVIDED			1209 SQ. FT.	4037 SQ. FT.

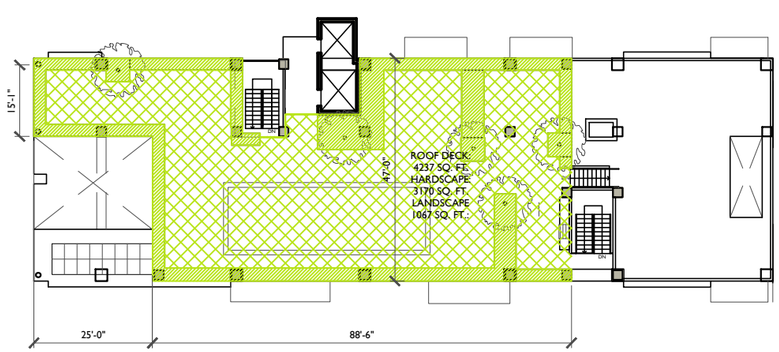
	FLOOR AREA (FAR)	PRIVATE OPEN SPACE	PUBLIC OPEN SPACE		
			INTERIOR	EXTERIOR	
				HARDSCAPE	LANDSCAPE
BASEMENT 3	0				
BASEMENT 2	0				
BASEMENT 1	0				
1ST FLR	5246 SQ. FT.				
2ND FLR	5566 SQ. FT.	300.000 SQ. FT.	1208.718 SQ. FT.	867 SQ. FT.	381 SQ. FT.
3RD FLR	6290 SQ. FT.	400 SQ. FT.			
4TH FLR	6290 SQ. FT.	399.998 SQ. FT.			
5TH FLR	6290 SQ. FT.	399.998 SQ. FT.			
6TH FLR	6290 SQ. FT.	399.998 SQ. FT.			
7TH FLR	6290 SQ. FT.	399.998 SQ. FT.			
8TH FLR	6290 SQ. FT.	399.998 SQ. FT.			
9TH FLR	6290 SQ. FT.	399.998 SQ. FT.			
10TH FLR	6290 SQ. FT.	399.998 SQ. FT.			
11TH FLR	6290 SQ. FT.	399.998 SQ. FT.			
12TH FLR	6290 SQ. FT.	399.998 SQ. FT.			
13TH FLR	6290 SQ. FT.	399.998 SQ. FT.			
14TH FLR	6290 SQ. FT.	399.998 SQ. FT.			
15TH FLR	6290 SQ. FT.	399.998 SQ. FT.			
16TH FLR	5925 SQ. FT.	300.000 SQ. FT.			
17TH FLR	5039 SQ. FT.	200 SQ. FT.			
ROOF	0			3170 SQ. FT.	1067 SQ. FT.
TOTALS	103550 SQ. FT.	5999.977 SQ. FT.	1208.718 SQ. FT.	4037 SQ. FT.	1448 SQ. FT.

TOTALS N/A 4



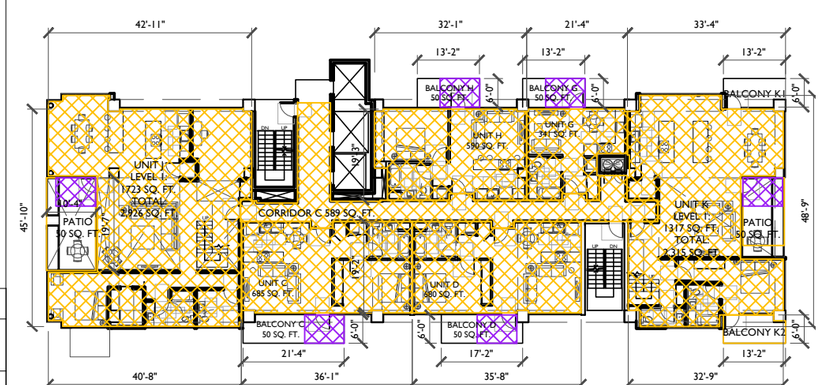
LEVEL 17					
	FLOOR AREA (FAR)	PRIVATE OPEN SPACE	PUBLIC INTERIOR OPEN SPACE	PUBLIC EXTERIOR OPEN SPACE	
				HARD-SCAPE	LAND-SCAPE
CORRIDOR D	541 SQ. FT.				
UNIT J LEVEL 2	1203 SQ. FT.				
UNIT C	685 SQ. FT.	50 SQ. FT.			
UNIT D	680 SQ. FT.	50 SQ. FT.			
UNIT K LEVEL 2	999 SQ. FT.				
UNIT G	341 SQ. FT.	50 SQ. FT.			
UNIT H	590 SQ. FT.	50 SQ. FT.			
TOTAL	5039 SQ. FT.	200.000 SQ. FT.			

PLAN - LEVEL 17 1/16" = 1'-0" 2



ROOF					
	FLOOR AREA (FAR)	PRIVATE OPEN SPACE	PUBLIC INTERIOR OPEN SPACE	PUBLIC EXTERIOR OPEN SPACE	
				HARD-SCAPE	LAND-SCAPE
ROOF DECK				3170 SQ. FT.	1067.104 SQ. FT.
TOTAL				4237 SQ. FT.	

PLAN - ROOF 1/16" = 1'-0" 3



LEVEL 16					
	FLOOR AREA (FAR)	PRIVATE OPEN SPACE	PUBLIC INTERIOR OPEN SPACE	PUBLIC EXTERIOR OPEN SPACE	
				HARD-SCAPE	LAND-SCAPE
CORRIDOR C	589 SQ. FT.				
UNIT J	1723 SQ. FT.	50 SQ. FT.			
UNIT C	685 SQ. FT.	50 SQ. FT.			
UNIT D	680 SQ. FT.	50 SQ. FT.			
UNIT K	1317 SQ. FT.	50 SQ. FT.			
UNIT G	341 SQ. FT.	50 SQ. FT.			
UNIT H	590 SQ. FT.	50 SQ. FT.			
TOTAL	5925 SQ. FT.	300.000 SQ. FT.			

PLAN - LEVEL 16 1/16" = 1'-0" 1

ZONING CODE AREA (FAR) G-101B

EXHIBIT "A"
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	FLOOR AREA GROSS				
SUMMARY	S-2	R-2	M	A	TOTAL
BASEMENT 3	9867 SQ. FT.				9867 SQ. FT.
BASEMENT 2	9867 SQ. FT.				9867 SQ. FT.
BASEMENT 1	9867 SQ. FT.				9867 SQ. FT.
1ST FLR	5868 SQ. FT.	2541 SQ. FT.	924 SQ. FT.	1570 SQ. FT.	10904 SQ. FT.
2ND FLR		6216 SQ. FT.			6216 SQ. FT.
3RD FLR		6949 SQ. FT.			6949.083 SQ. FT.
4TH FLR		6944 SQ. FT.			6943.968 SQ. FT.
5TH FLR		6944 SQ. FT.			6943.968 SQ. FT.
6TH FLR		6944 SQ. FT.			6943.968 SQ. FT.
7TH FLR		6944 SQ. FT.			6943.968 SQ. FT.
8TH FLR		6944 SQ. FT.			6943.968 SQ. FT.
9TH FLR		6944 SQ. FT.			6943.968 SQ. FT.
10TH FLR		6944 SQ. FT.			6943.968 SQ. FT.
11TH FLR		6944 SQ. FT.			6943.968 SQ. FT.
12TH FLR		6944 SQ. FT.			6943.968 SQ. FT.
13TH FLR		6944 SQ. FT.			6943.968 SQ. FT.
14TH FLR		6944 SQ. FT.			6943.968 SQ. FT.
15TH FLR		6944 SQ. FT.			6943.968 SQ. FT.
16TH FLR		6564 SQ. FT.			6564.410 SQ. FT.
17TH FLR		6038 SQ. FT.			6038 SQ. FT.
ROOF		6877 SQ. FT.			6877 SQ. FT.
TOTALS	35469 SQ. FT.	118512.691 SQ. FT.	924.395 SQ. FT.	1570 SQ. FT.	156476 SQ. FT.

BUILDING CODE AREA

DEFINITION:
THE FLOOR AREA WITHIN THE INSIDE PERIMETER OF THE EXTERIOR WALLS OF THE BUILDING UNDER CONSIDERATION, EXCLUSIVE OF VENT SHAFTS AND COURTS, WITHOUT DEDUCTION FOR CORRIDORS, STAIRWAYS, CLOSETS, THE THICKNESS OF INTERIOR WALLS, COLUMNS AND OTHER FEATURES. THE FLOOR AREA OF A BUILDING OR PORTION THEREOF, NOT PROVIDED WITH SURROUNDING EXTERIOR WALLS, SHALL BE USABLE FLOOR AREA UNDER THE HORIZONTAL PROJECTION OF ROOF OR FLOOR ABOVE

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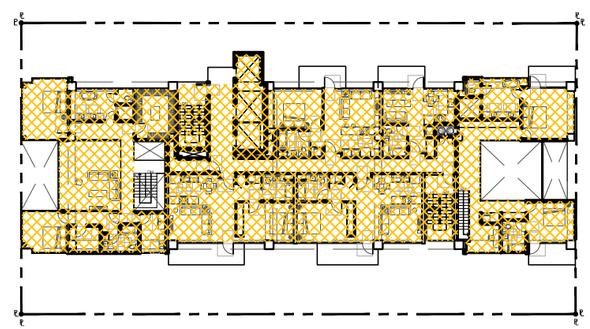
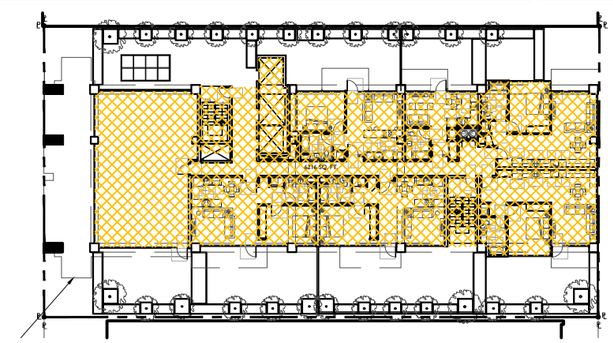
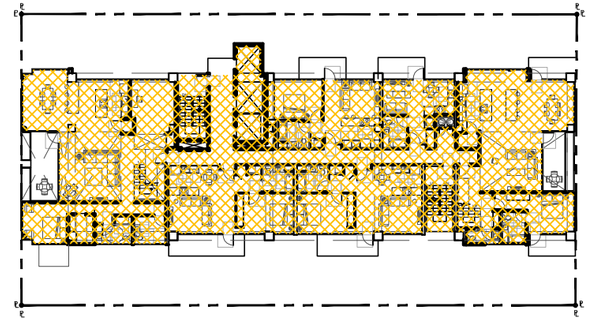


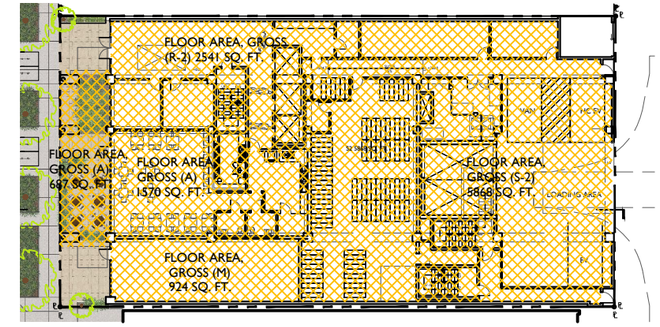
PLAN - LEVEL 17 | 3/64" = 1'-0" | 6



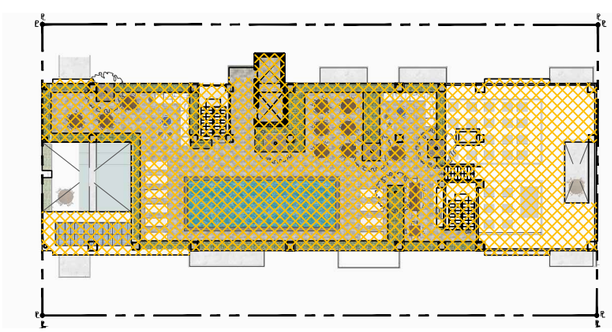
PLAN - LEVEL 2 | 3/64" = 1'-0" | 3



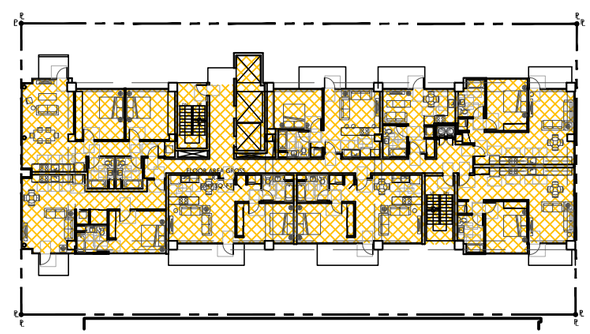
PLAN - LEVEL 16 | 3/64" = 1'-0" | 5



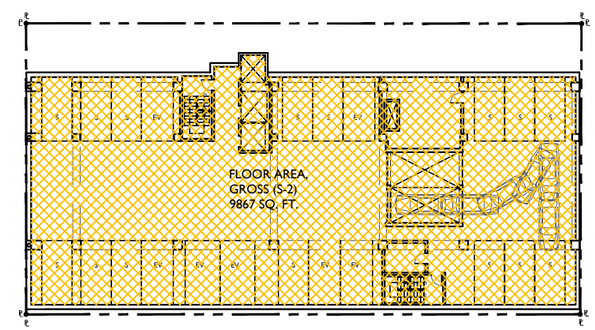
PLAN - LEVEL 1 | 3/64" = 1'-0" | 2



PLAN - ROOF | 3/64" = 1'-0" | 8



PLAN - LEVEL 3-15 | 3/64" = 1'-0" | 4



PLAN - BASEMENT 1-3 | 3/64" = 1'-0" | 1

BUILDING CODE AREA (FLOOR AREA, GROSS) G-102

EXHIBIT "A"
Page No. 9 of 25
Case No. DIR-2020-7846-DB-SPR-HCA

SUMMARY	SCHOOL FLOOR AREA		
	ASSESSABLE SPACE	CHARGABLE SPACE	TOTAL
BASEMENT 3	0	0	0
BASEMENT 2	0	0	0
BASEMENT 1	0	0	0
1ST FLR	2375 SQ. FT.	2547 SQ. FT.	4923 SQ. FT.
2ND FLR	6501 SQ. FT.	0	6501 SQ. FT.
3RD FLR	7233 SQ. FT.	0	7232.721 SQ. FT.
4TH FLR	7216 SQ. FT.	0	7215.542 SQ. FT.
5TH FLR	7216 SQ. FT.	0	7215.542 SQ. FT.
6TH FLR	7216 SQ. FT.	0	7215.542 SQ. FT.
7TH FLR	7216 SQ. FT.	0	7215.542 SQ. FT.
8TH FLR	7216 SQ. FT.	0	7215.542 SQ. FT.
9TH FLR	7216 SQ. FT.	0	7215.542 SQ. FT.
10TH FLR	7216 SQ. FT.	0	7215.542 SQ. FT.
11TH FLR	7216 SQ. FT.	0	7215.542 SQ. FT.
12TH FLR	7216 SQ. FT.	0	7215.542 SQ. FT.
13TH FLR	7216 SQ. FT.	0	7215.542 SQ. FT.
14TH FLR	7216 SQ. FT.	0	7215.542 SQ. FT.
15TH FLR	7216 SQ. FT.	0	7215.542 SQ. FT.
16TH FLR	6879 SQ. FT.	0	6879.292 SQ. FT.
17TH FLR	6046 SQ. FT.	0	6046 SQ. FT.
ROOF	0	0	0 SQ. FT.
TOTALS	115620 SQ. FT.	2547.282 SQ. FT.	118167 SQ. FT.

SCHOOL DISTRICT FEE AREA

DEFINITION:
ASSESSABLE SPACE: SQUARE FOOTAGE WITHIN THE PERIMETER OF R OCCUPANCY OF STRUCTURE, NOT INCLUDING ANY CARPORT, WALKWAY, GARAGE, OVERHANG, PATIO, ENCLOSED PATIO, DETACHED ACCESSORY STRUCTURE OR SIMILAR AREA.

CHARGABLE SPACE: IS SPACE WITHIN THE PERIMETER OF A COMMERCIAL STRUCTURE, NOT INCLUDING ANY STORAGE AREAS INCIDENTAL TO THE PRINCIPAL USE OF THE DEVELOPMENT, GARAGE, PARKING STRUCTURE, UNENCLOSED WALKWAY, UTILITY OR DISPOSAL AREA.

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06/07/2021 PLANNING SET

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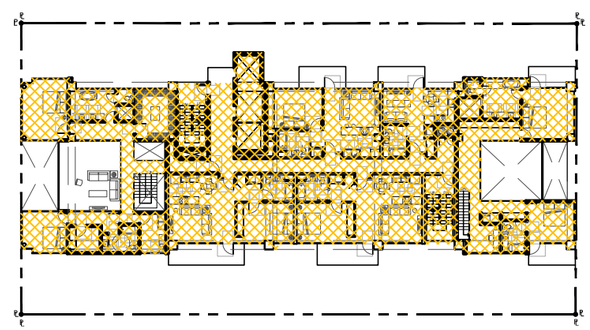
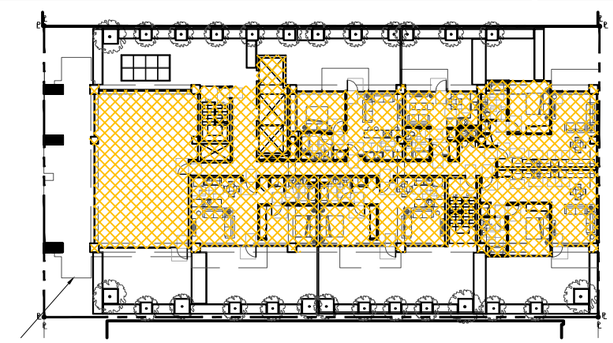
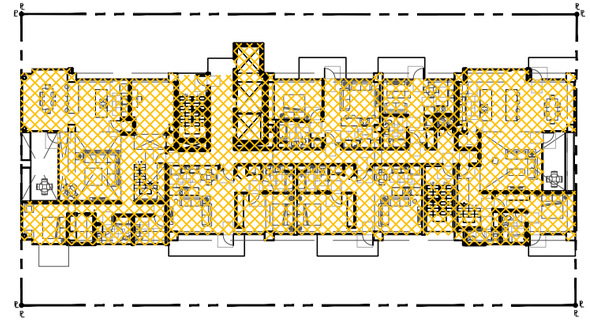


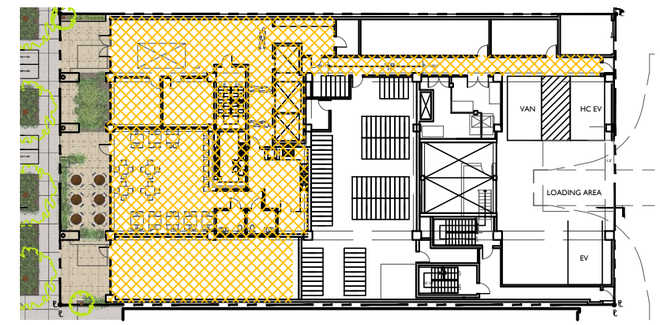
PLAN - LEVEL 17 | 3/64" = 1'-0" | 7



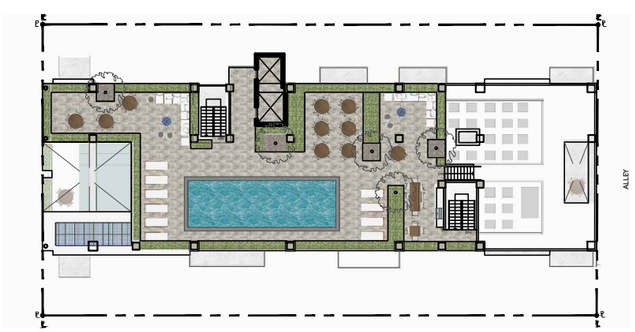
PLAN - LEVEL 2 | 3/64" = 1'-0" | 3



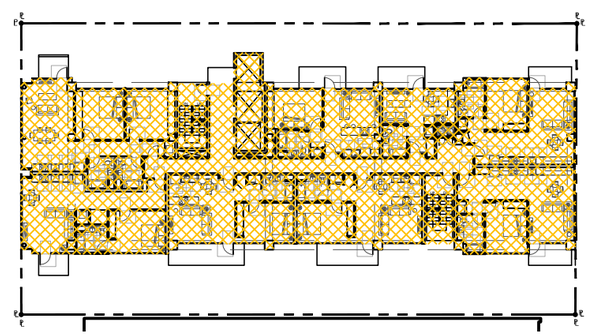
PLAN - LEVEL 16 | 3/64" = 1'-0" | 6



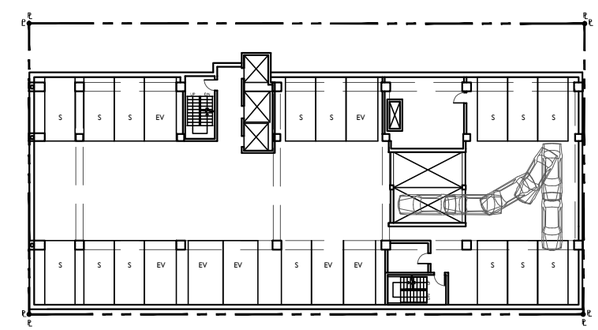
PLAN - LEVEL 1 | 3/64" = 1'-0" | 2



PLAN - ROOF | 3/64" = 1'-0" | 8



PLAN - LEVEL 3 | 3/64" = 1'-0" | 4



PLAN - BASEMENT 1-3 | 3/64" = 1'-0" | 1

SCHOOL DISTRICT FEE G-103

49. 36" MIN. BOX TREE
50. GATE, LOUVERED MTL
51. 14'-0" CLEAR MIN.
52. ETCHED GLASS
53. ALUMINUM PANELS, ANNODIZED
54. PAINTED BREAKMETAL

24. PERMEABLE PAVERS
25. ALUM. SIDING, POWDER COAT YELLOW
26. EXIT DOOR/ SERVICE DOOR
27. CONCRETE BALCONY
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46. CAR ELEVATOR - BUILDING MAINTENANCE AFFIDAVIT REQ'D
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48. ANODIZED ALUM. SIDING W/STRIP LIGHT

KEYNOTES

1. EXISTING PARKING STRUCTURE ON NEIGHBORING LOT
2. EXISTING TWO-STORY BUILDING ON NEIGHBORING LOT
3. PARKING METER
4. EXISTING STREET LIGHT
5. CONCRETE SIDEWALK
6. GRANITE PAVERS
7. 6" CONCRETE CURB
8. 12" GRANITE PAVERS EDGE BAND
9. PARKWAY
10. BICYCLE RACK
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19. ALUM STOREFRONT, ANOD. SILVER.
20. ALUM WDO, DOOR SYSTEM, ANODIZED SILVER.
21. ALUM CURTAIN WALL/ SLOPED GLAZING, ANOD. SILVER.
22. NON-GLARE INSULATED CLR GLAZING.
23. ALUM RETRACTABLE FOLDING DOORS

DRAWING KEY

- Property Line
- Above
- Existing Bldg to remain
- Demo
- Fenestration
- Plantings

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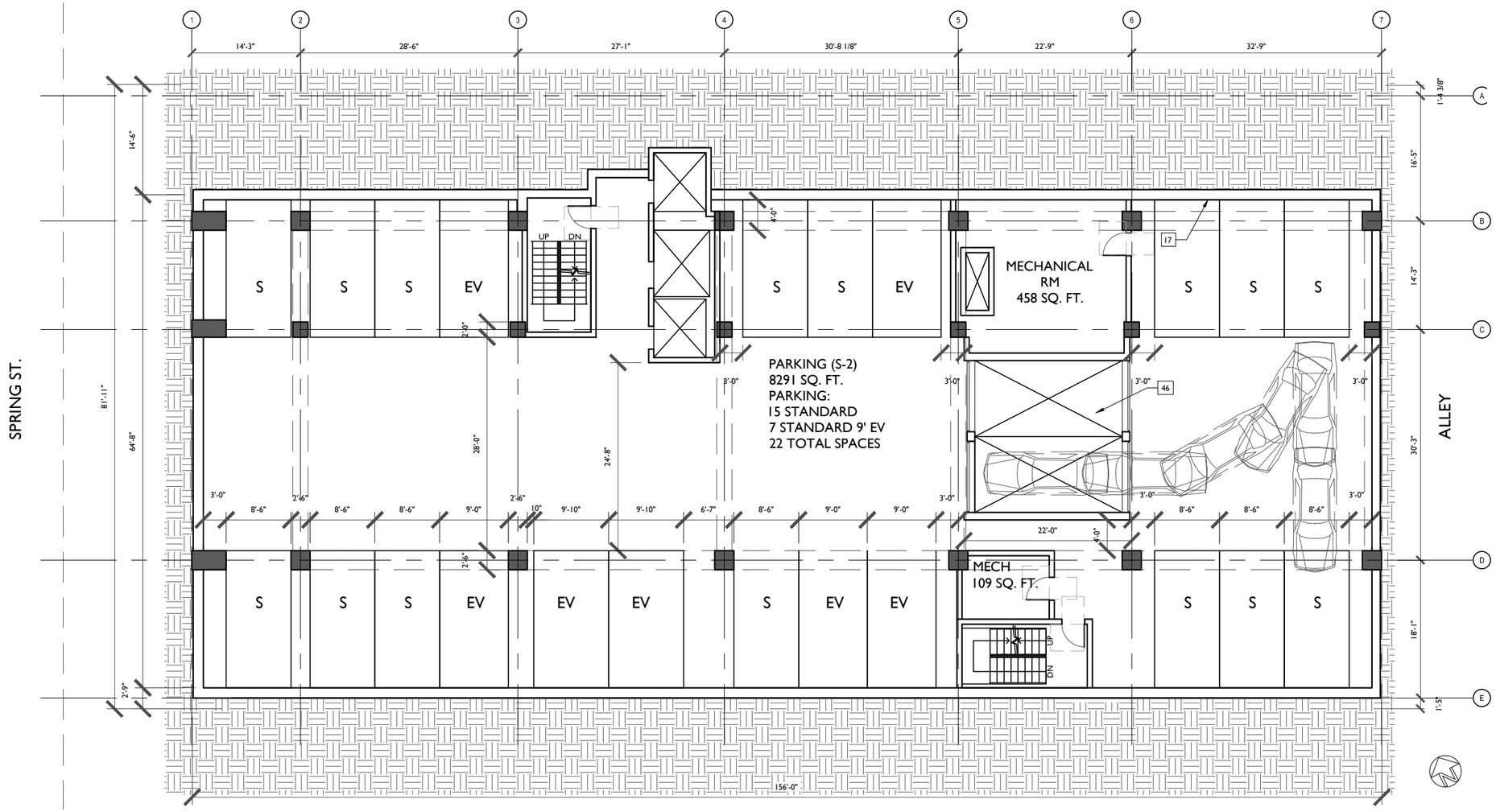

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8'

PLAN - BASEMENT LEVELS 1-3 | 1/8" = 1'-0" | 1

SEE PARKING ANALYSIS ATTACHED A-100B

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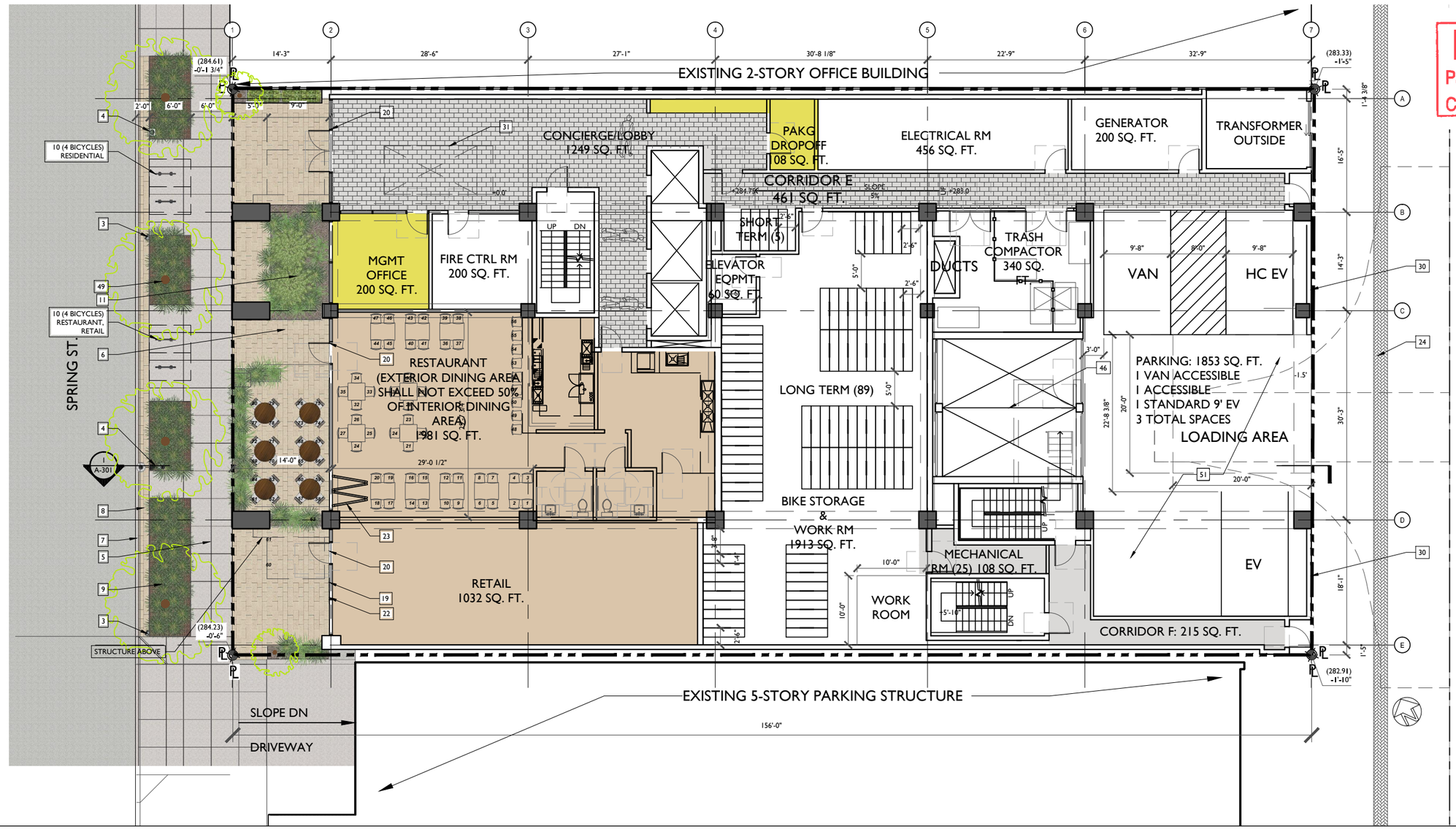

PLAN - LEVEL 1 | 1/8" = 1'-0" | 1

A-101

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50. GATE, LOUVERED MTL
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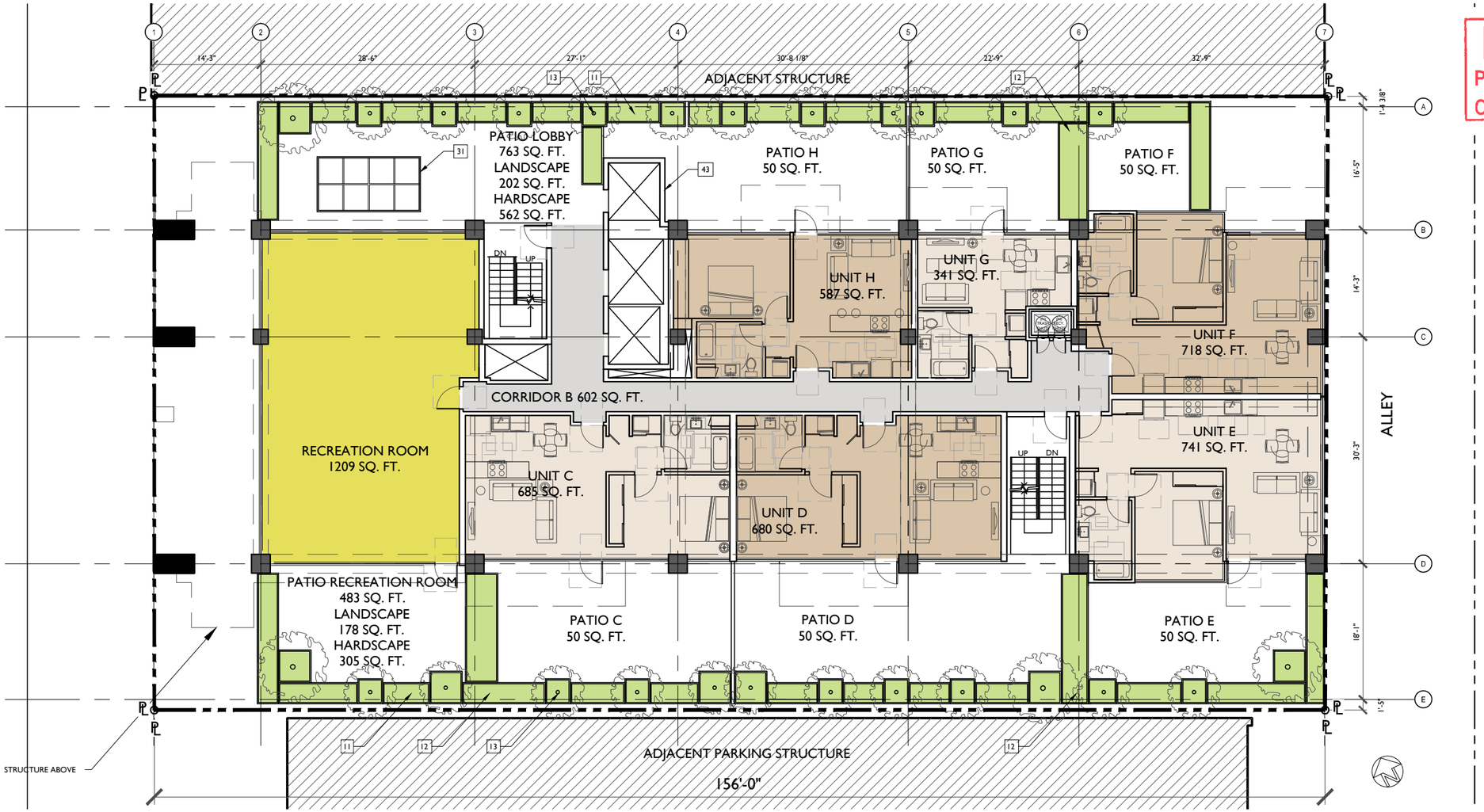

8'

PLAN - LEVEL 2 | 1/8" = 1'-0" | 1

A-102

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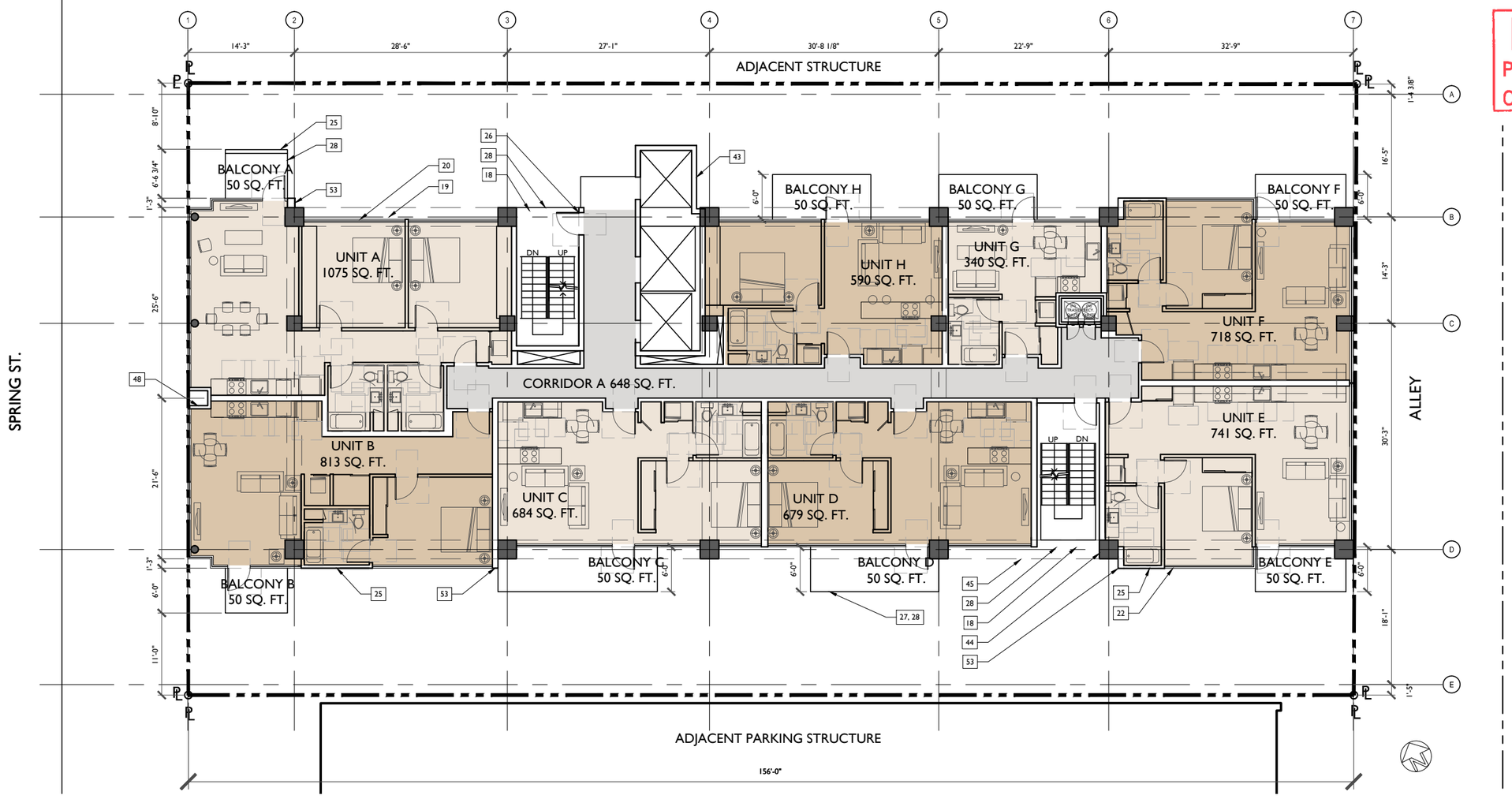

PLAN - LEVEL 3-15 | 1/8" = 1'-0" | 1

A-103

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LOS ANGELES
CALIFORNIA 90013
213 243 5707
davidgrayarchitects.com

EXHIBIT "A"
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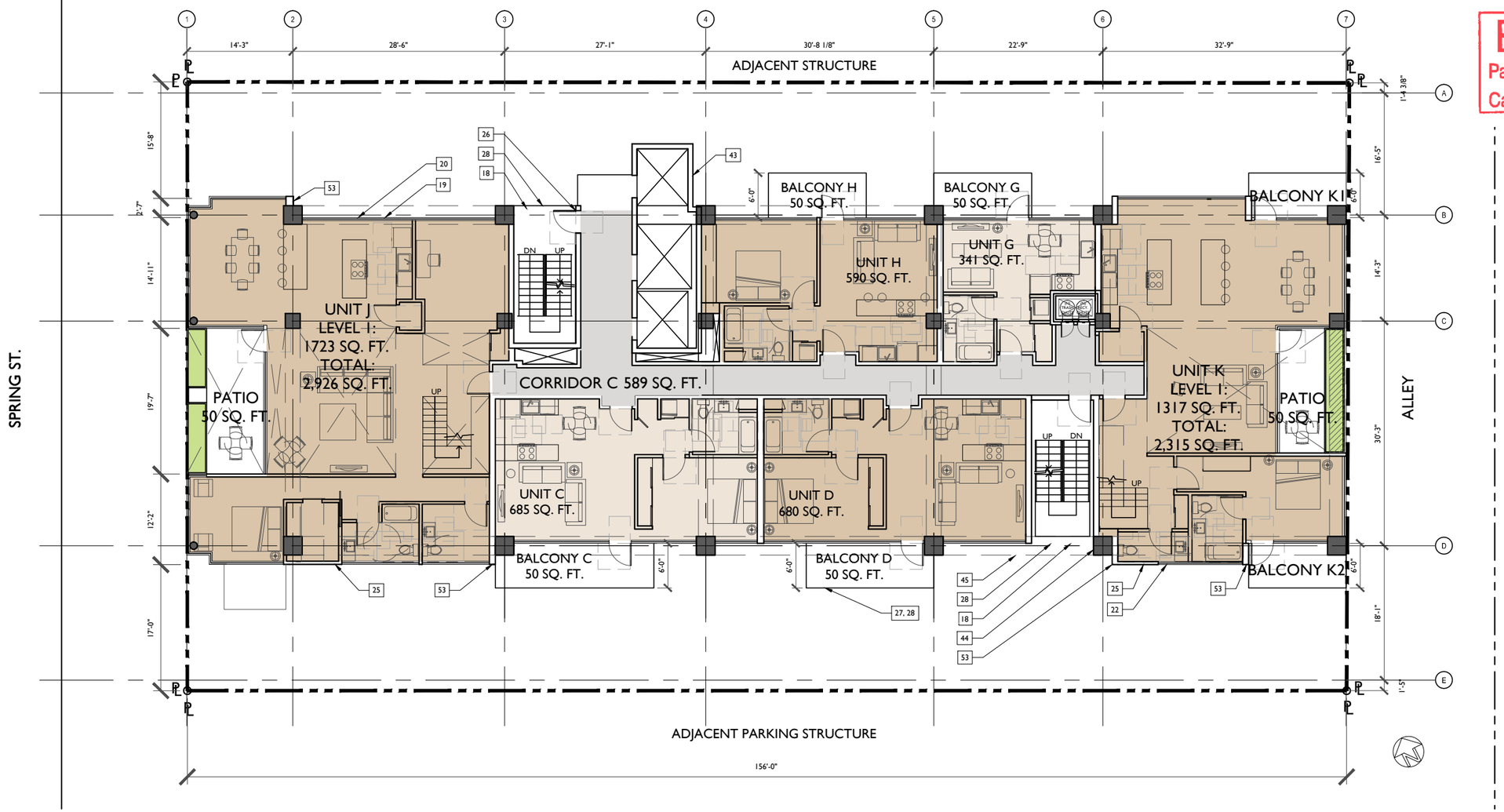
Case No. DIR-2020-7846-DB-SPR-HCA



8'

PLAN - LEVEL 16 | 1/8" = 1'-0" | 1

A-116

49. 36" MIN. BOX TREE
50. GATE, LOUVERED MTL
51. 14'-0" CLEAR MIN.
52. ETCHED GLASS
53. ALUMINUM PANELS, ANNODIZED
54. PAINTED BREAKMETAL

24. PERMEABLE PAVERS
25. ALUM. SIDING, POWDER COAT YELLOW
26. EXIT DOOR/ SERVICE DOOR
27. CONCRETE BALCONY
28. METAL GUARDRAIL
29. SCONCE LIGHT @ BALCONY.
30. SCREEN, CORRUGATED METAL
31. WALKABLE SKYLIGHT, ANNODIZED ALUM.
32. ROOFTOP PEDESTAL PAVERS, PRECAST CONCRETE, LT GRAY
33. CONCRETE CANOPY
34. CONCRETE PARAPET
35. MECHANICAL EQUIPMENT
36. POOL
37. GAS GRILL AND PREP STATION.
38. FIRE PIT
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40. ROOFTOP EQUIPMENT AREA.
41. PHOTOVOLTAIC CANOPY
42. PHOTOVOLTAICS
43. CONCRETE WALL
44. CONCRETE COLUMN
45. CONCRETE BEAM
46. CAR ELEVATOR - BUILDING MAINTENANCE AFFIDAVIT REQ'D
47. LOUVERED VENT
48. ANODIZED ALUM. SIDING W/STRIP LIGHT

KEYNOTES

1. EXISTING PARKING STRUCTURE ON NEIGHBORING LOT
2. EXISTING TWO-STORY BUILDING ON NEIGHBORING LOT
3. PARKING METER
4. EXISTING STREET LIGHT
5. CONCRETE SIDEWALK
6. GRANITE PAVERS
7. 6" CONCRETE CURB
8. 12" GRANITE PAVERS EDGE BAND
9. PARKWAY
10. BICYCLE RACK
11. PLANTER SEE LANDSCAPE
12. LID PLANTER
13. 24" MIN. BOX TREE
14. METAL CANOPY
15. METAL SIGN, BACKLIT
16. STL ROLL-UP VEHICULAR GATE.
17. RETAINING WALL, CONCRETE.
18. EXTERIOR STAIRS
19. ALUM STOREFRONT, ANOD. SILVER.
20. ALUM WDO, DOOR SYSTEM, ANODIZED SILVER.
21. ALUM CURTAIN WALL/ SLOPED GLAZING, ANOD. SILVER.
22. NON-GLARE INSULATED CLR GLAZING.
23. ALUM RETRACTABLE FOLDING DOORS

DRAWING KEY

- Property Line
- Above
- Existing Bldg to remain
- Demo
- Fenestration
- Plantings

216 SPRING

OWNER: 216 SPRING ST LLC
APN: 5149007005
ADDRESS: 353 S. BROADWAY STE 200
LOS ANGELES, CA

06/07/2021 PLANNING SET

DAVID
LAWRENCE
GRAY
ARCHITECTS
AIA

353 S. BROADWAY
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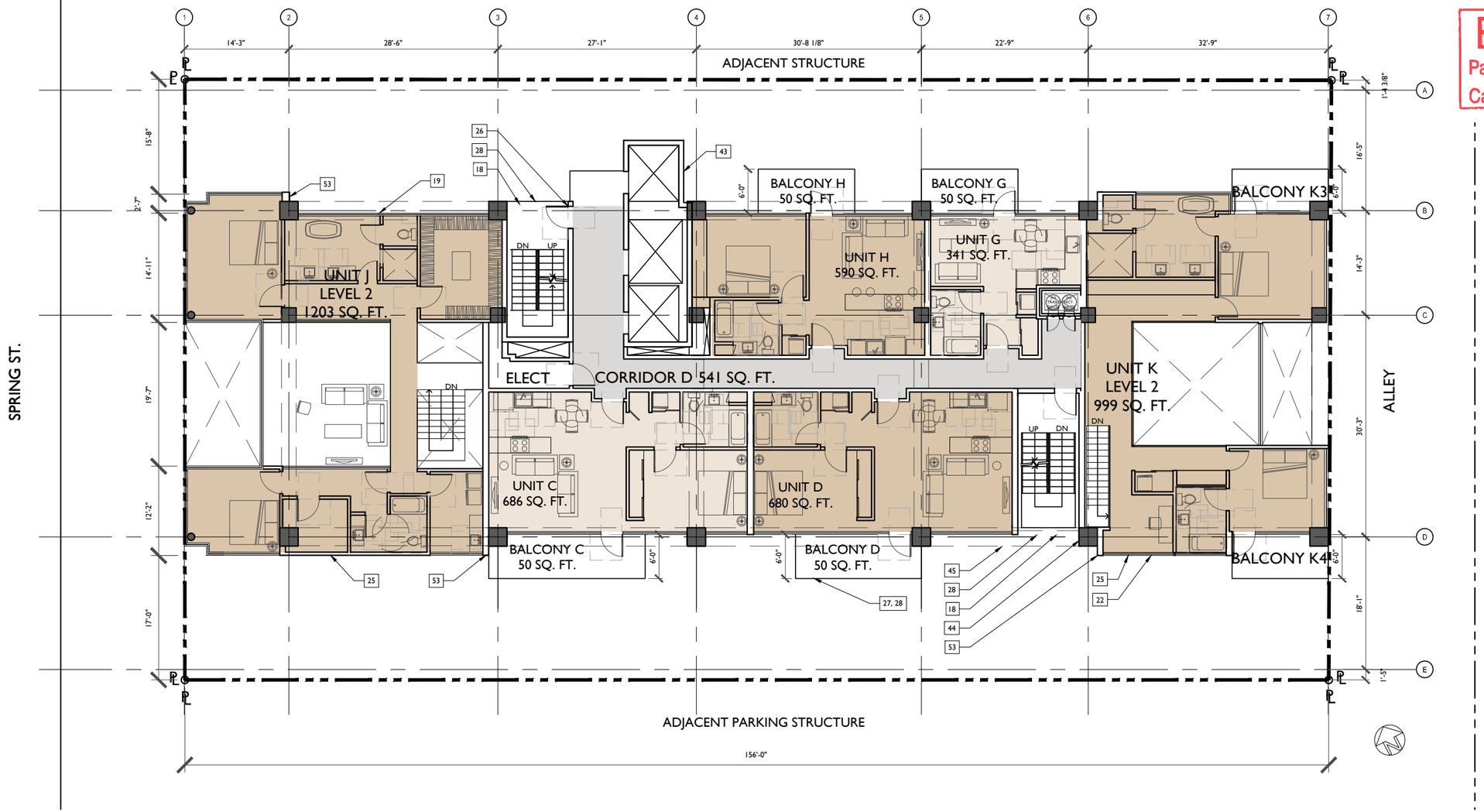

8'

PLAN - LEVEL 17 | 1/8" = 1'-0" | 1

A-117

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06/07/2021 PLANNING SET

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AIA

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SEATING REQUIRED:
1/50SF OF ROOF TERRACE = 85
SEATING PROVIDED: 85

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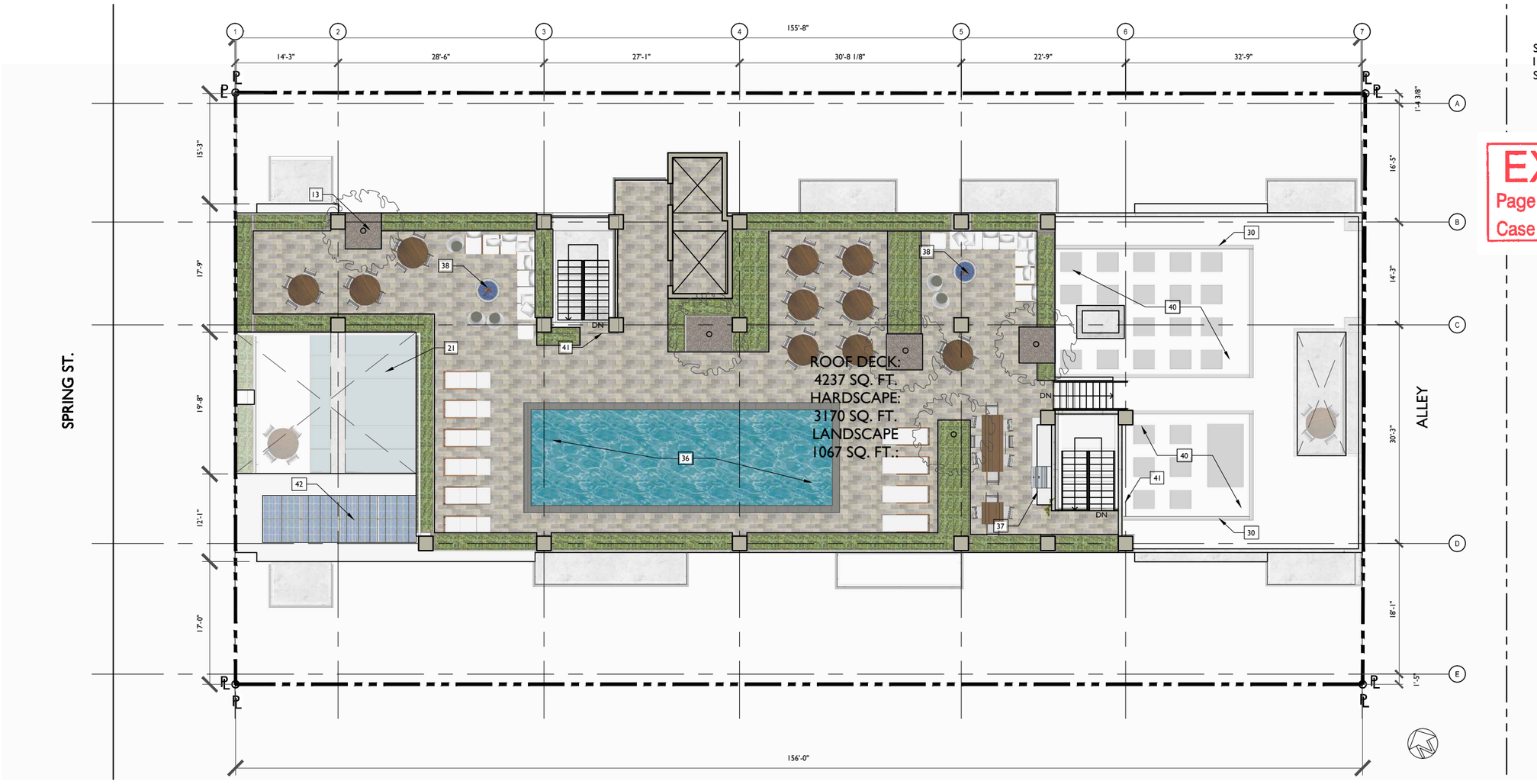

8'

PLAN - ROOF 1/8" = 1'-0" 1

A-118

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- Plantings

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LOS ANGELES, CA

06/07/2021 PLANNING SET

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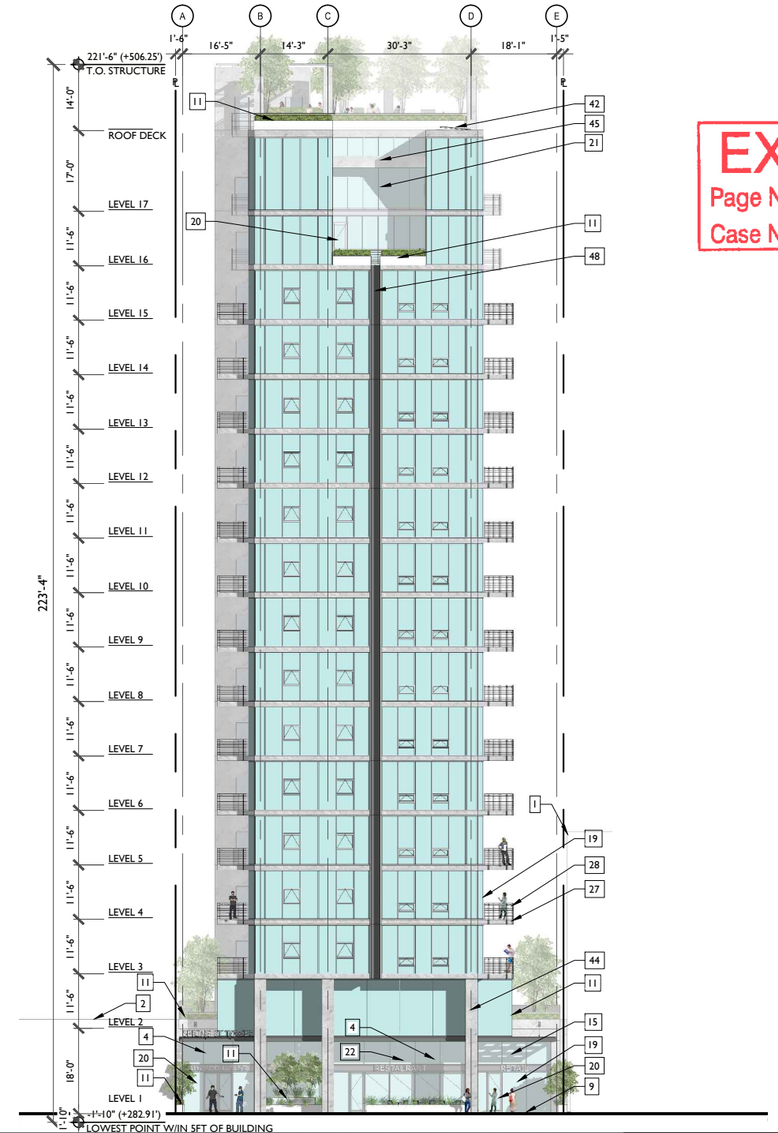
ELEVATION - SOUTH 1/16" = 1'-0" 2



ELEVATION - WEST 1/16" = 1'-0" 1

A-201

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DRAWING KEY

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- Demo
- Fenestration
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216 SPRING

OWNER: 216 SPRING ST LLC
APN: 5149007005
ADDRESS: 353 S. BROADWAY STE 200
LOS ANGELES, CA

06/07/2021 PLANNING SET

DAVID
LAWRENCE
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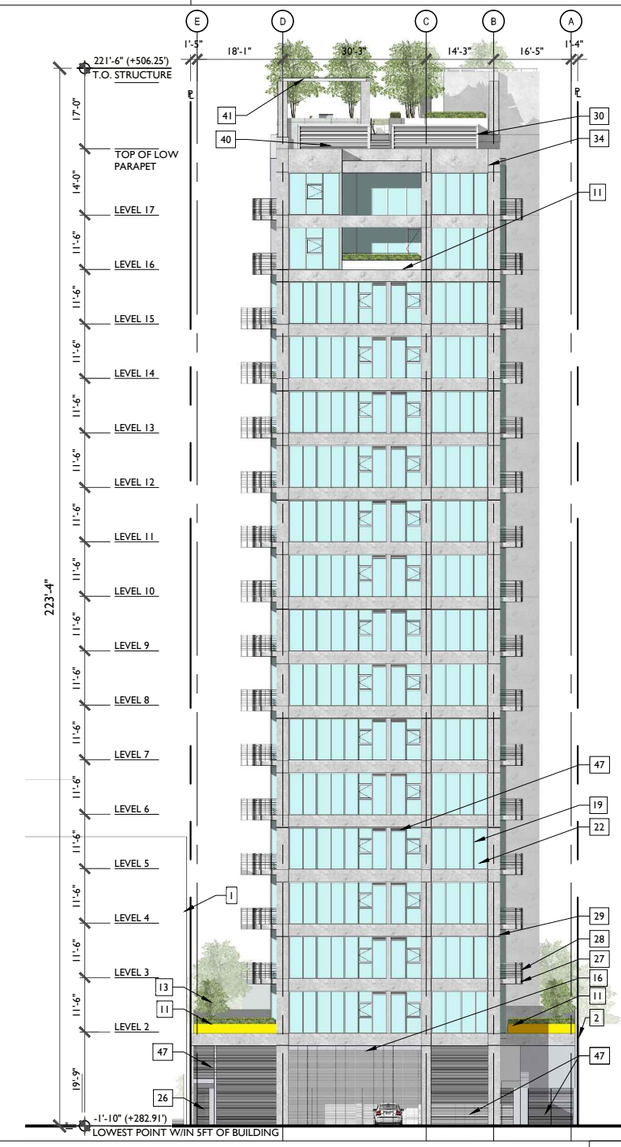
213 243 5727
davidgrayarchitects.com

EXHIBIT "A"
Page No. 18 of 25
Case No. DIR-2020-7846-DB-SPR-HCA

ELEVATION - NORTH 1/16" = 1'-0" 2



16'

ELEVATION - EAST 1/16" = 1'-0" 1

A-202

216 SPRING

OWNER: 216 SPRING ST LLC
APN: 5149007005
ADDRESS: 353 S. BROADWAY STE 200
LOS ANGELES, CA

06/07/2021 PLANNING SET

DAVID
LAWRENCE
GRAY
ARCHITECTS
AIA

332 S. BROADWAY
SUITE 200
LOS ANGELES
CALIFORNIA 90013
213 243 5727
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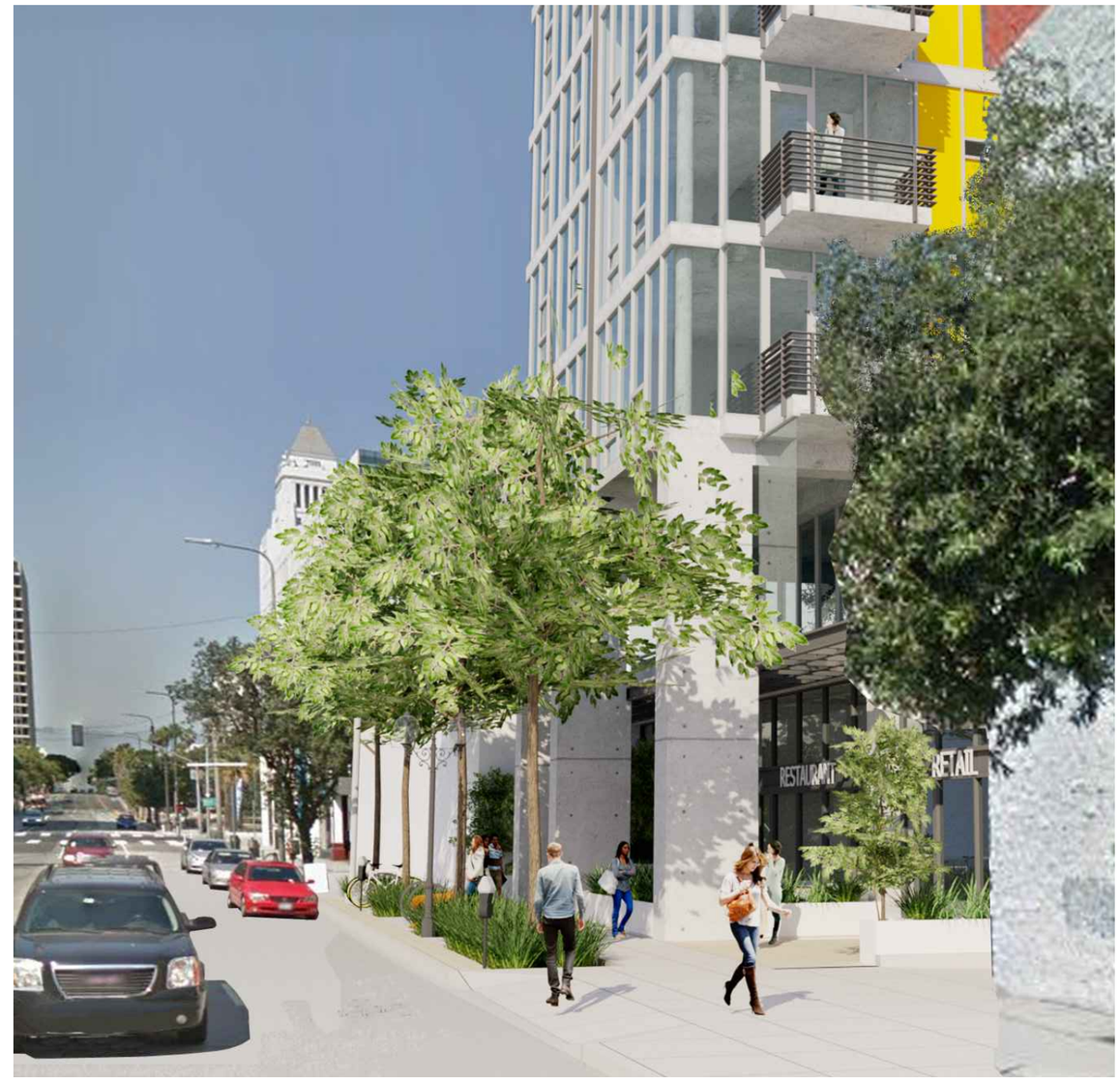

PERSPECTIVE - WEST | NTS | 1

G-901

216 SPRING

OWNER: 216 SPRING ST LLC
APN: 5149007005
ADDRESS: 353 S. BROADWAY STE 200
LOS ANGELES, CA

06/07/2021 PLANNING SET

DAVID
LAWRENCE
GRAY
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AIA

353 S. BROADWAY
SUITE 200
LOS ANGELES
CALIFORNIA 90013
213 243 5727
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RENDER - ROOF DECK | NTS | 1

G-902

216 SPRING

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ADDRESS: 353 S. BROADWAY STE 200
LOS ANGELES, CA

06/07/2021 PLANNING SET

DAVID
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332 S. BROADWAY
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RENDER - ROOF DECK | NTS | 1

G-903

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DRAWING KEY

- Property Line
- Above
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216 SPRING

OWNER: 216 SPRING ST LLC
APN: 5149007005
ADDRESS: 353 S. BROADWAY STE 200
LOS ANGELES, CA

02/28/2022 PLANNING SET

DAVID
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353 S. BROADWAY
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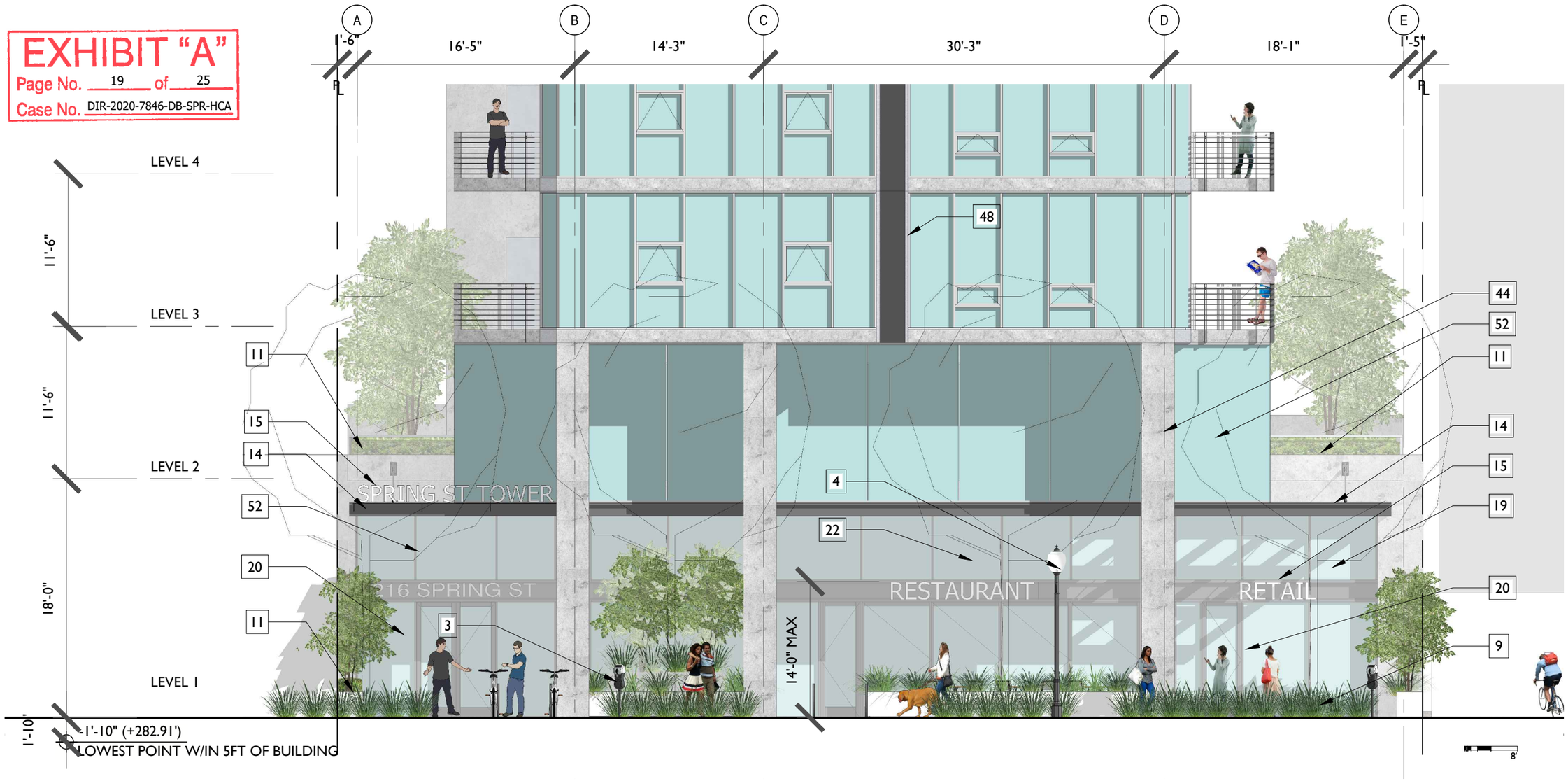

ENLARGED ELEVATION - WEST | 1/8" = 1'-0" | 1

A-203

49. 36" MIN. BOX TREE
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216 SPRING

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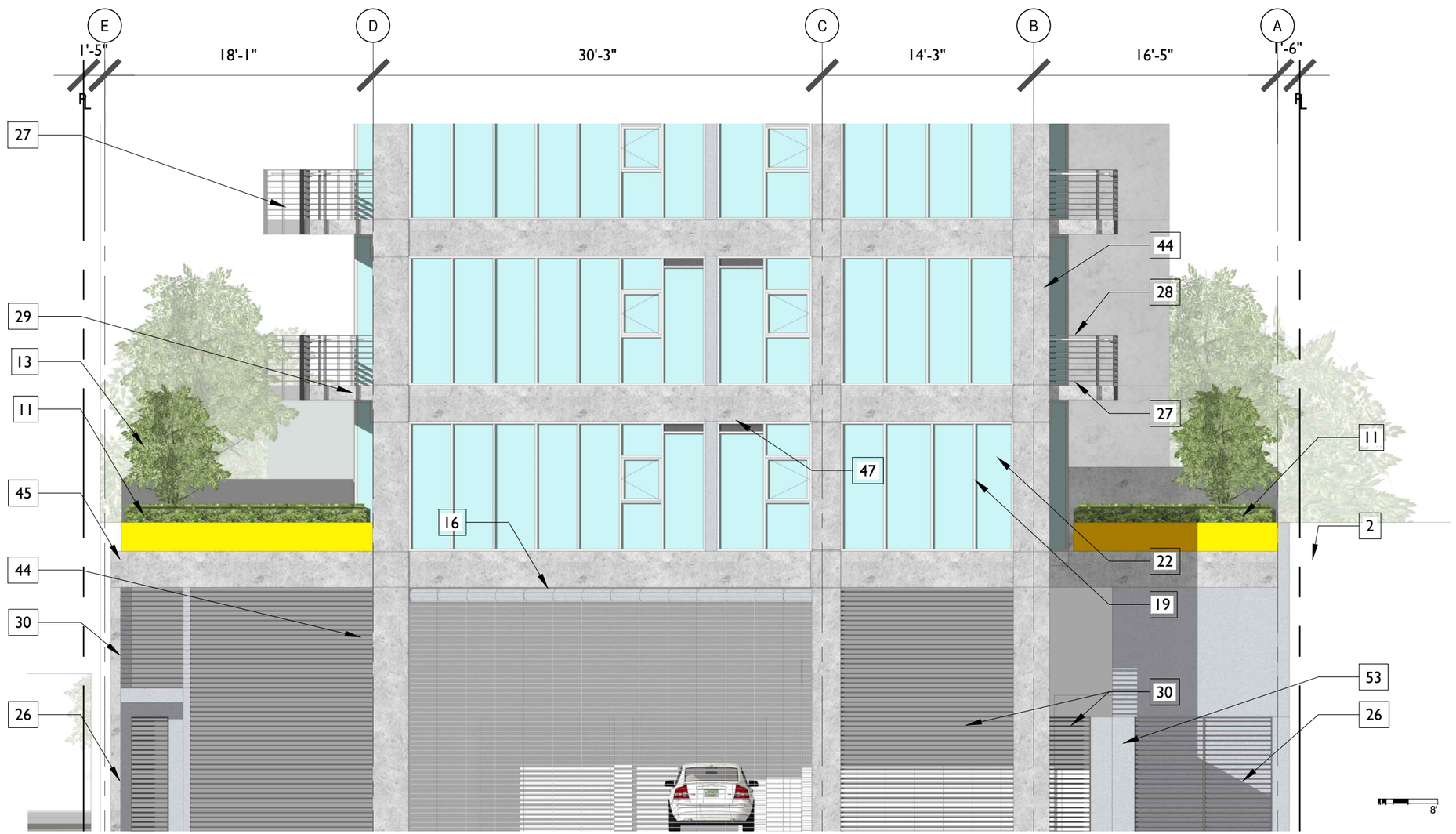

ENLARGED ELEVATION - EAST | 1/8" = 1'-0" | 1

A-204

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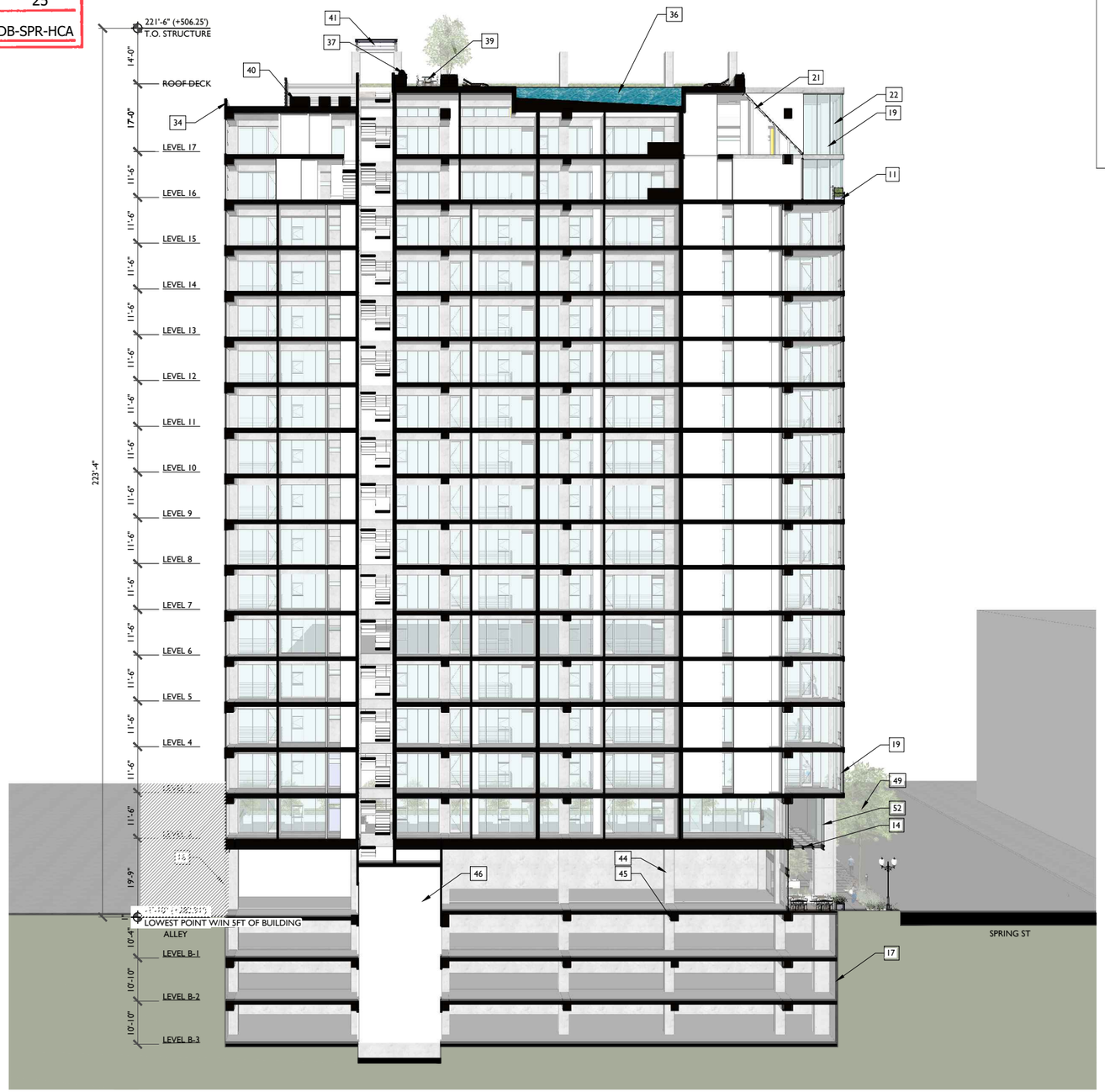

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19. ALUM STOREFRONT, ANOD. SILVER.
20. ALUM WDO, DOOR SYSTEM, ANODIZED SILVER.
21. ALUM CURTAIN WALL/ SLOPED GLAZING, ANOD. SILVER.
22. NON-GLARE INSULATED CLR GLAZING.
23. ALUM RETRACTABLE FOLDING DOORS
24. PERMEABLE PAVERS
25. ALUM. SIDING, POWDER COAT YELLOW
26. EXIT DOOR/ SERVICE DOOR
27. CONCRETE BALCONY
28. METAL GUARDRAIL
29. SCONCE LIGHT @ BALCONY.
30. SCREEN, CORRUGATED METAL
31. WALKABLE SKYLIGHT, ANNODIZED ALUM.
32. ROOFTOP PEDESTAL PAVERS, PRECAST CONCRETE, LT GRAY
33. CONCRETE CANOPY
34. CONCRETE PARAPET
35. MECHANICAL EQUIPMENT
36. POOL
37. GAS GRILL AND PREP STATION.
38. FIRE PIT
39. SEATING
40. ROOFTOP EQUIPMENT AREA.
41. PHOTOVOLTAIC CANOPY
42. PHOTOVOLTAICS
43. CONCRETE WALL
44. CONCRETE COLUMN
45. CONCRETE BEAM
46. CAR ELEVATOR - BUILDING MAINTENANCE AFFIDAVIT REQ'D
47. LOUVERED VENT
48. ANODIZED ALUM. SIDING W/STRIP LIGHT
49. ~~TRL 30' FROM PROP. LINE~~
50. GATE, LOUVERED MTL
51. 14'-0" CLEAR MIN.
52. ETCHED GLASS
53. ALUMINUM PANELS, ANNODIZED
54. PAINTED BREAKMETAL

SECTION 1/16" = 1'-0" 1

A-301

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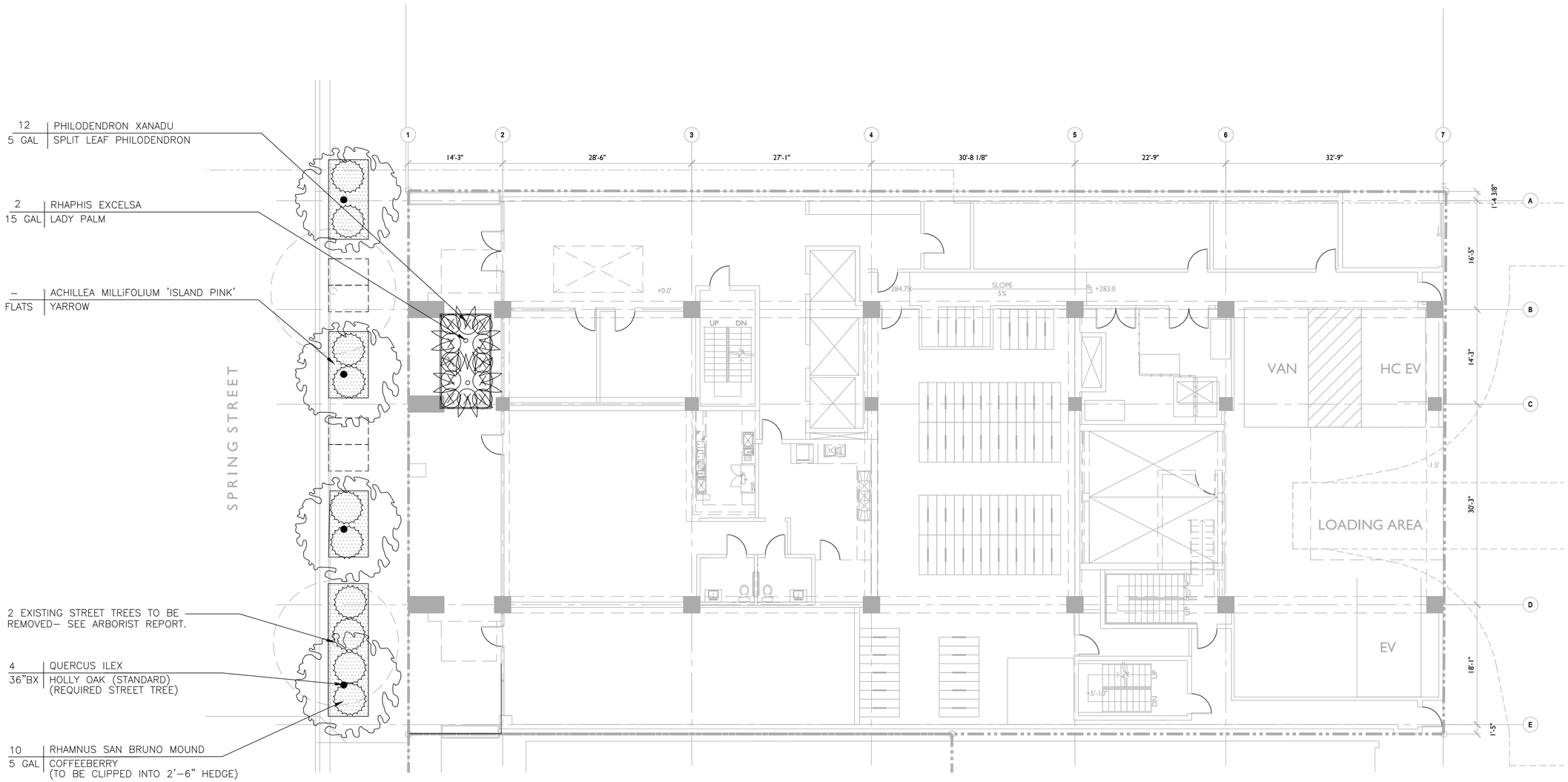

1 LANDSCAPE - LEVEL 1
SCALE: 1/8"=1'–0"

NORTH

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LANDSCAPE ARCHITECT
STEVEN ANTAL ORMENYI
NO. 1733
REGISTERED 06-05-22
STATE OF CALIFORNIA

216 S. Spring St.
Los Angeles, CA 90012

Date: 12 /06/ 2021

LANDSCAPE PLAN- LEVEL 1

EXHIBIT "A"
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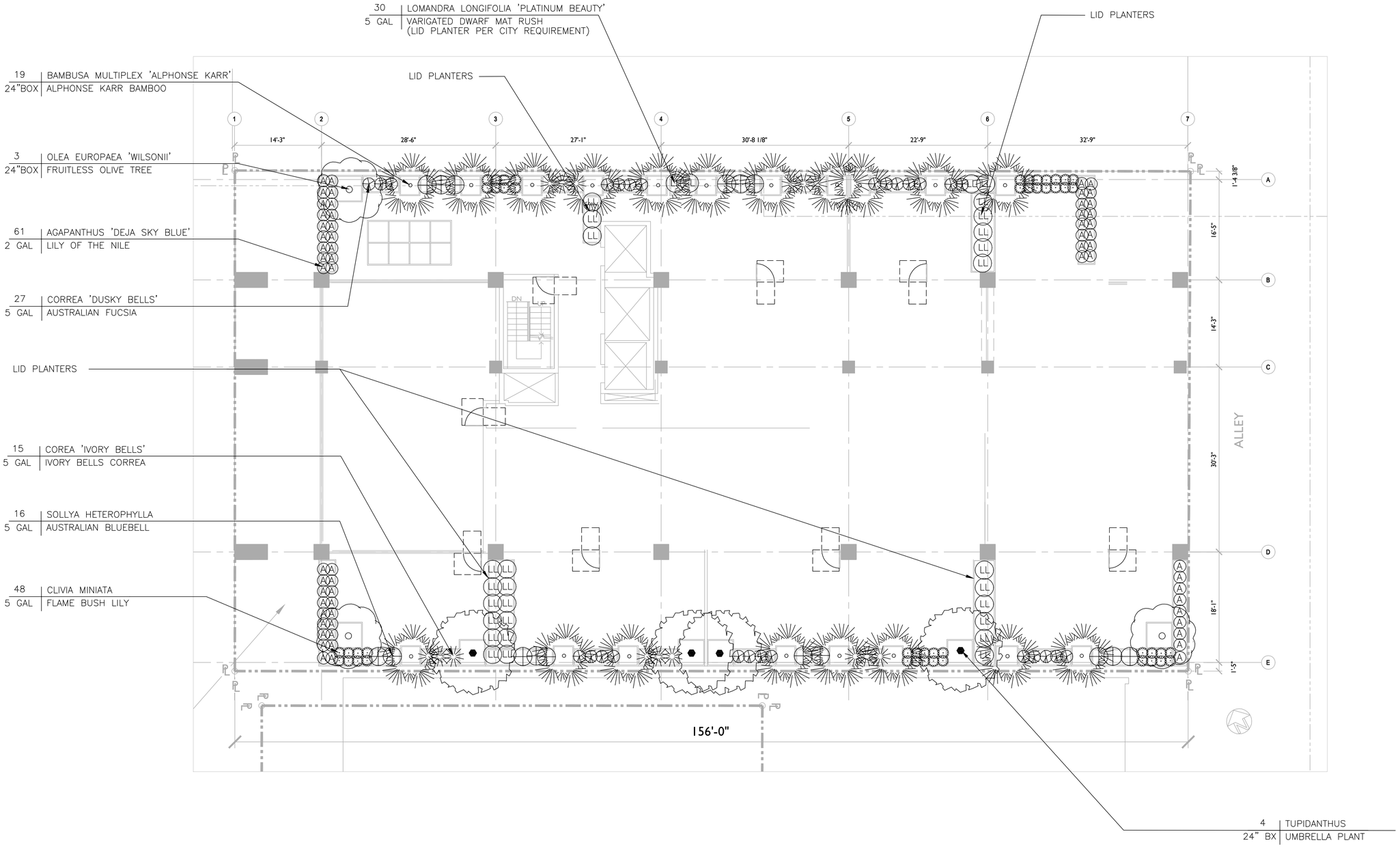
Case No. DIR-2020-7846-DB-SPR-HCA



1 LANDSCAPE - LEVEL 2
SCALE: 1/8"=1'-0"

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Date: 12 /06/ 2021

LANDSCAPE PLAN- LEVEL 2

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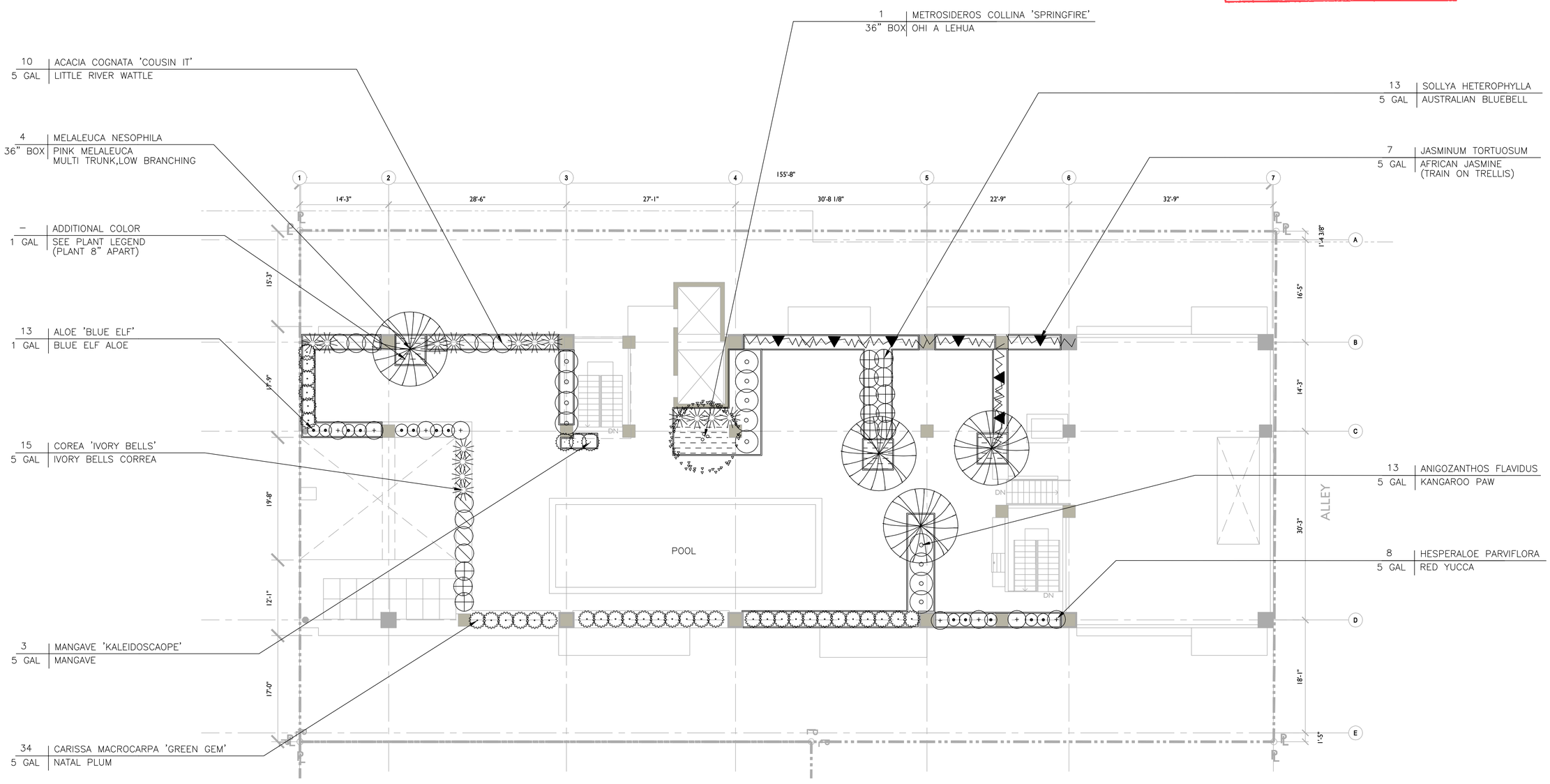

1 LANDSCAPE - ROOF LEVEL
SCALE: 1/8"=1'-0"

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Date: 12 /06/ 2021

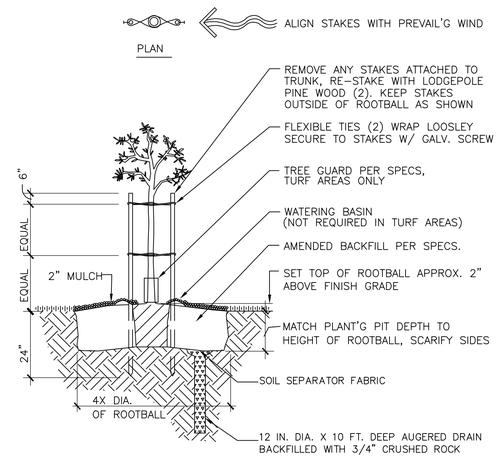
LANDSCAPE PLAN- ROOF LEVEL

TREE PLANTING LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	WUCOL	SUNSET REF.PG. NUMBERS	SIZE @ INSTALLATION HEIGHT	SIZE @ INSTALLATION WIDTH	SIZE @ INSTALLATION CALIPER	ULTIMATE SIZE HEIGHT	ULTIMATE SIZE WIDTH	YEAR TO MATURITY	REMARKS
	BAMBUSA MULTIPLEX 'ALPHONSE KARR'	ALPHONSE KARR BAMBOO	19	24" BOX	MED	–	10'–0"	–	–	30' TALL	–	30'	
	MELALEUCA NESOPHILA	PINK MELALEUCA	4	36" BOX	LOW	–	–	–	–	–	–	–	MULTI TRUINK, LOW BRANCHING
	METROSIDEROS COLLINA 'SPRINGFIRE'	OHI A LEHUA	1	36" BOX	LOW	–	–	–	–	–	–	–	
	OLEA EUROPAEA 'WILSONII'	FRUITLESS OLIVE TREE	3	24" BOX	LOW	–	–	–	–	25–30'	25–30'	–	
	QUERCUS ILEX	HOLLY OAK	4	36" BOX	LOW	–	–	–	–	30'	10'	–	REQUIRED STREET TREE (STANDARD)
	RHAPHIS EXCELSA	LADY PALM	2	15 GAL	MED	–	–	–	–	–	–	–	
	TUPIDANTHUS	UMBRELLA PLANT	4	24" BOX	MED	–	–	–	–	–	–	–	

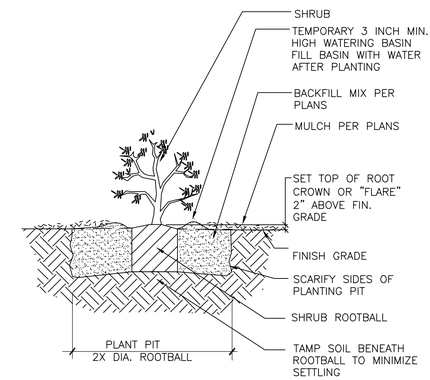
SHRUB/GROUNDCOVER PLANTING LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	WUCOL	SUNSET REF.PG. NUMBERS	SIZE @ INSTALLATION HEIGHT	SIZE @ INSTALLATION WIDTH	SIZE @ INSTALLATION CALIPER	ULTIMATE SIZE HEIGHT	ULTIMATE SIZE WIDTH	YEAR TO MATURITY	REMARKS
	ACACIA COGNATA 'COUSIN IT'	LITTLE RIVER WATTLE	10	5 GAL	LOW	–	–	–	–	–	–	–	
	AGAPANTHUS 'DEJA SKY BLUE'	LILY OF THE NILE	61	2 GAL	LOW	–	–	–	–	–	–	–	
	ALOE 'BLUE ELF'	BLUE ELF ALOE	13	1 GAL	LOW	–	1'	1–2'	–	–	–	3–4YRS	
	ANIGOZANTHOS FLAVIDUS	KANGAROO PAW	13	5 GAL	LOW	–	–	–	–	–	–	–	
	CARISSA MACROCARPA 'GREEN GEM'	NATAL PLUM	34	5 GAL	LOW	–	–	–	–	–	–	–	
	CLIVIA MINIATA	FLAME BUSH LILY	48	5 GAL	LOW	–	–	–	–	–	–	–	
	CORREA 'DUSKY BELLS'	AUSTRALIAN FUCHSIA	27	5 GAL	LOW	–	–	–	–	–	–	–	
	CORREA 'IVORY BELLS'	IVORY BELLS CORREA	15	5 GAL	LOW	–	–	–	–	–	–	–	
	HESPERALOE PARVIFLORA	RED YUCCA	8	5 GAL	LOW	–	–	–	–	–	–	–	
	LOMANDRA LONGIFOLIA 'PLATINUM BEAUTY'	VARIGATED DWARF MAT RUSH	30	5 GAL	LOW	–	–	–	–	–	–	–	
	MANGAVE 'KALEIDOSCOPE'	MANGAVE	3	5 GAL.	LOW	–	–	–	–	–	–	–	
	PHILODENDRON XANADU	SPLIT LEAF PHILODENDRON	12	5 GAL	MED	–	–	–	–	–	–	–	
	RHAMNUS CALIF. MOUND SAN BRUNO	SAN BRUNO COFFEEBERRY	10	5 GAL	LOW	2'	2'	–	4'	4–6'	5	–	TO BE CLIPPED TO 2'–6" HEDGE
	SOLLYA HETEROPHYLLA	AUSTRALIAN BLUEBELL	29	5 GAL	LOW	–	–	–	–	2–3'	12–18"	–	
	JASMINUM TORTUOSUM	AFRICAN JASMIN	7	5 GAL	MED								TRAIN ONTO TRELLIS
	ACHILLEA MILLIFOLIUM 'ISLAND PINK'	YARROW		FLATS	LOW								
	ADDITIONAL COLOR: (EQUAL MIX)												
	AEONIUM KIWI	KIWI AEONIUM		1 GAL	LOW	–	–	–	–	–			PLANT 8" APART
	ALYSSUM MARITIMUM	SWEET ALYSSUM (WHITE)		1 GAL	LOW	–	–	–	–	–			PLANT 8" APART
	ECHEVERIA IMBRICATA BLUE ROSE	BLUE ROSE HEN & CHICKS		1 GAL	LOW	–	–	–	–	–			PLANT 8" APART
	OTHONNA CAPENSIS	LITTLE PICKLES		1 GAL	LOW	–	–	–	–	–			PLANT 8" APART
	SEDUM R. 'AURORA'	PINK JELLY BEAN		1 GAL	LOW	–	–	–	–	–			PLANT 8" APART



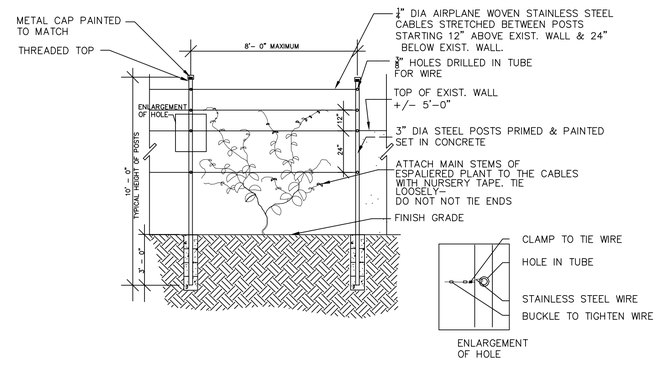
1 TREE PLANTING

NOT TO SCALE Plant–Details.dwg



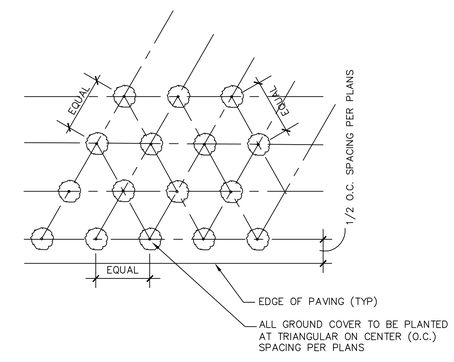
2 SHRUB PLANTING

NOT TO SCALE Plant–Details.dwg



3 SUPPORTS FOR VINE PLANTING

NOT TO SCALE Plant–Details.dwg



4 GROUNDCOVER PLANTING

NOT TO SCALE Plant–Details.dwg

EXHIBIT "A"
Page No. 25 of 25
Case No. DIR-2020-7846-DB-SPR-HCA

1 PLANT LEGEND & DETAILS

NO SCALE

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LANDSCAPE ARCHITECT STEVEN ANTAL ORMENYI NO. 1733 RENEWED 06-03-22 STATE OF CALIFORNIA

216 S. Spring St.
Los Angeles, CA 90012

Date: 12 /06/ 2021

PLANT LEGEND & DETAILS

Exhibit C

Director of Planning's Determination Letter

DIR-2020-7846-DB-SPR-HCA-1A

DEPARTMENT OF
CITY PLANNING

COMMISSION OFFICE
(213) 978-1300

CITY PLANNING COMMISSION

SAMANTHA MILLMAN
PRESIDENT

CAROLINE CHOE
VICE-PRESIDENT

HELEN CAMPBELL
JENNA HORNSTOCK
HELEN LEUNG
YVETTE LOPEZ-LEDESMA
KAREN MACK
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RENEE DAKE WILSON

CITY OF LOS ANGELES
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ERIC GARCETTI
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DIRECTOR

SHANA M.M. BONSTIN
DEPUTY DIRECTOR

ARTHI L. VARMA, AICP
DEPUTY DIRECTOR

LISA M. WEBBER, AICP
DEPUTY DIRECTOR

DIRECTOR'S DETERMINATION
DENSITY BONUS AFFORDABLE HOUSING INCENTIVE PROGRAM
AND SITE PLAN REVIEW

September 21, 2022

Applicant / Property Owner
216 Spring St., LLC
353 S. Broadway, Unit 200
Los Angeles, CA 90013

Representative
Blaise Fremont
David Lawrence Gray Architects
353 S. Broadway, Unit 200
Los Angeles, CA 90013

Case No. DIR-2020-7846-DB-SPR-HCA
CEQA: ENV-2020-7847-CE
Location: 212-220 S. Spring Street
Council District: 14 - de León
Neighborhood Council: Downtown Los Angeles
Community Plan Area: Central City
Land Use Designation: Regional Center Commercial
Zone: C2-4D
Legal Description: Lot FR 9, Block 3, ORD's Survey Tract

Last Day to File an Appeal: October 6, 2022

DETERMINATION – Density Bonus Affordable Housing Incentive Program and Site Plan Review

Pursuant to the Los Angeles Municipal Code (LAMC) Sections 12.22 A.25 and 16.05, I have reviewed the proposed project and as the designee of the Director of Planning, I hereby:

1. **Determine** that based on the whole of the administrative record, that the project is exempt from the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines, Section 15332 Class 32 (Class 32 Urban In-Fill Development), and there is no substantial evidence demonstrating that an exception to a categorical exemption pursuant to CEQA Guidelines, Section 15300.2 applies.

2. **Approve with Conditions,** pursuant to LAMC Section 12.22 A.25, a Density Bonus Affordable Housing Incentive Program to allow the following incentive for a project totaling 120 dwelling units, reserving 11 percent, or 14 units, of the base density units for Very Low Income Household occupancy for a period of 55 years:

   Floor Area Ratio (FAR). A 35-percent increase in FAR to permit a maximum of 8.1:1 in lieu of otherwise permitted FAR of 6:1.

3. **Approve with Conditions**, pursuant to LAMC Section 16.05, a Site Plan Review for a development project which creates or results in an increase of 50 or more dwelling units; and

4. **Adopt** the attached Findings and Conditions of Approval.

CONDITIONS OF APPROVAL

1. **Site Development.** Except as modified herein, the project shall be in substantial conformance with the plans and materials submitted by the applicant, stamped Exhibit "A," and attached to the subject case file. No change to the plans will be made without prior review by the Department of City Planning, Central Project Planning Division, and written approval by the Director of Planning. Each change shall be identified and justified in writing. Minor deviations may be allowed in order to comply with the provisions of the Los Angeles Municipal Code or the project conditions.

2. **Residential Density**. The project shall be limited to a maximum density of 120 residential units including Density Bonus Units.

3. **Affordable Units.** A minimum of 14 units, that is 11 percent of the base 120 dwelling units, shall be reserved as affordable units, as defined by the State Density Bonus Law 65915 (C)(2).

4. **Changes in On-Site Restricted Units**. Deviations that increase the number of restricted affordable units or that change the composition of units or change parking numbers shall be consistent with LAMC Section 12.22 A.25 (a-j).

5. **Housing Requirements.** Prior to issuance of a building permit, the owner shall execute a covenant to the satisfaction of the Los Angeles Housing Department (LAHD) to make 14 units available to Very Low Income Households, for rental as determined to be affordable to such households by LAHD for a period of 55 years. Enforcement of the terms of said covenant shall be the responsibility of LAHD. The applicant shall present a copy of the recorded covenant to the Department of City Planning for inclusion in this file. The project shall comply with any monitoring requirements established by the LAHD. Refer to the Density Bonus Legislation Background section of this determination.

6. **Floor Area Ratio (FAR).** The project shall be permitted a maximum FAR of 8.1:1 in lieu of the otherwise permitted FAR of 6:1.

7. **Open Space**. The project shall provide a minimum of 12,692 square feet of usable open space.

8. **Automobile Parking.** Based upon the number and type of dwelling units proposed, a minimum of 69 automobile parking spaces shall be provided for the residential uses of the project, pursuant to Assembly Bill (AB) 744. The project includes 105 one-bedroom units, which require 53 parking spaces, and 13 two-bedroom units, which require 13 parking spaces, and two (2) three-bedroom units, which require 3 parking spaces at a ratio of 0.5 parking spaces per bedroom for mixed income projects within one-half mile of a major transit stop to which the project has unobstructed access.

9. **Bicycle Parking**. Bicycle parking shall be provided consistent with LAMC Section 12.21 A.16.

10. **Adjustment of Parking**. In the event that the number of Restricted Affordable Units should increase, or the composition of such units should change (i.e. the number of bedrooms, or the number of units made available to Senior Citizens and / or Disabled Persons), or the applicant selects another Parking Option (including Bicycle Parking Ordinance) and no other Condition of Approval or incentive is affected, then no modification of this determination shall be necessary, and the number of parking spaces shall be re-calculated by the Department of Building and Safety based upon the ratios set forth above.

11. **Materials.** A variety of high-quality exterior building materials, consistent with the approved Exhibit "A" shall be used. Substitutes of an equal quality may be permitted to the satisfaction of the Department of City Planning.

12. **Landscaping.**

    a. All open areas not used for buildings, driveways, parking areas, recreational facilities or pedestrian pathways shall be attractively landscaped, including an automatic irrigation system, and maintained in accordance with a landscape plan prepared by a licensed landscape architect or licensed architect and submitted for approval to the Department of City Planning.

    b. All planters containing trees shall have a minimum depth of 48 inches.

13. **Street Trees**. Street trees shall be provided to the satisfaction of the Urban Forestry Division. Street trees may be used to satisfy on-site tree requirements pursuant to LAMC Article Section 12.21.G.2 (Chapter 1, Open Space Requirement for Six or More Residential Units). Per Exhibit A and 12.21.G.2, four (4) street trees shall be provided.

14. **Trees.** Required Trees per 12.21 G.2. As conditioned herein, a final submitted landscape plan shall be reviewed to be in substantial conformance with Exhibit "A." There shall be a minimum of 30 24-inch box, or larger, trees on site pursuant to LAMC Section 12.21 G.2. Any required trees pursuant to LAMC Section 12.21 G.2 shown in the public right of way in Exhibit "A" shall be preliminarily reviewed and approved by the Urban Forestry Division prior to building permit issuance. In-lieu fees pursuant to LAMC Section 62.177 shall be paid if placement of required trees in the public right of way is proven to be infeasible due to City determined physical constraints.

15. **Driveway.** All vehicle access shall be via the alley (Harlem Place).

16. **Sidewalk Access.**

    a. Applicant shall maintain pedestrian access if the sidewalk is temporarily closed during construction;

    b. Scaffolding Lighting. Applicant shall ensure any temporary walkways covered due to construction (e.g., scaffolding) are well-lit at all hours.

17. **Electric Vehicle Parking.** All electric vehicle charging spaces (EV Spaces) and electric vehicle charging stations (EVCS) shall comply with the regulations outlined in Sections 99.04.106 and 99.05.106 of Article 9, Chapter IX of the LAMC, to the satisfaction of the Department of Building and Safety.

18. **Solar Ready.** The project shall comply with the Los Angeles Municipal Green Building Code, Section 99.05.211, to the satisfaction of the Department of Building and Safety.

19. **Solar and Electric Generator.** Generators used during the construction process shall be electric or solar powered, where feasible. Solar generator and electric generator equipment shall be located as far away from sensitive uses as feasible.

20. **Trash Storage.** Trash storage and collection shall be enclosed and not visible from the public right-of-way. Trash collection shall not interfere with traffic on any public street.

21. **Mechanical Equipment.** All mechanical equipment on the roof shall be screened from view. All surface or ground mounted mechanical equipment shall be screened from public view and treated to match the materials and colors of the building which they serve.

22. **Lighting.** All outdoor and parking lighting shall be shielded and down-cast within the site in a manner that prevents the illumination of adjacent public rights-of-way, adjacent properties and the night sky unless otherwise required by the Federal Aviation Administration (FAA) or for other public safety purposes.

23. **Maintenance.** The project site (including all trash storage areas, associated parking facilities, sidewalks, yard areas, parkways, and exterior walls along the property lines) shall be maintained in an attractive condition and shall be kept free of trash and debris.

24. **Downtown Design Guide.** The project shall comply with the following Downtown Design Guide (DDG) Standards:

    a. **Sidewalk.** The project shall provide a minimum six-foot walkway zone and a minimum seven-foot parkway zone, as defined in the DDG, for sidewalk along Spring Street.

    b. **Ground Floor Treatment.**

        i. Electrical transformers, mechanical equipment, other equipment, enclosed stairs, storage spaces, blank walls, and other elements shall not be located along Spring Street.

        ii. At least 75 percent of the street frontage along Spring Street shall be designed to accommodate active uses. Active uses may include retail, professional office, live-work uses, building lobbies, recreation rooms, common areas, gathering or assembly spaces, cultural facilities, and courtyards with direct access to each of these uses from the sidewalk or other walkway.

        iii. Wall openings, such as windows and doors, shall comprise at least 50 percent of the building's street level façade along Spring Street.

    c. **Architectural Detail.**

        i. The project shall provide well-marked entrances to cue access and use.

        ii. Exterior lighting shall be shielded to reduce glare and eliminate light being cast into the night sky.

        iii. The project shall integrate security lighting into the architectural and landscape lighting system. Security lighting shall not be distinguishable from the project's overall lighting system.

    d. **Roof Terrace.** Roof terrace shall provide seating at a ratio of one (1) seat per 50 square feet and 25 percent of the space shall be landscaped.

    e. **Streetscape Improvements.**

        i. Street trees shall be spaced not more than an average of 30 feet on center and shall comply with Downtown Design Guide Section 9.F. At least 50 percent of the provided trees shall be canopy trees in conformance with Downtown Design Guide Section 7.

ii. The developer shall install streetlights to the satisfaction of the Bureau of Street Lighting.

iii. The applicant shall execute a Maintenance Agreement with the City by which the develop or Lead Public Agency agrees to maintain the streetscape improvements and accepts liability for them.

f. **Signage.** Prior to the issuance of a building permit or a signage permit, whichever is first, a detailed final master sign plan shall be submitted to the Department of City Planning, Central Project Planning Division, for review with compliance with the Downtown Design Guide.

Environmental Conditions

25. **Project Design Features.**

a. Demolition and construction activities shall be scheduled so as to avoid operating several pieces of equipment simultaneously, which causes high noise levels.

b. The project contractor shall use power construction equipment with noise shielding and muffling devices.

c. The project contractor shall erect a temporary noise-attenuating sound barrier along the perimeter of the project site. The sound wall will be a minimum of 8 feet in height to block the line-of-sight of construction equipment and off-site receptors at the ground level. The sound barrier shall include sound absorbing material capable of achieving a minimum of 15-dBA reduction in sound level.

d. During any jackhammering and structural framing, the project contractor shall utilize temporary portable acoustic barriers, partitions, or acoustic blankets to effectively block the line-of-sight between noise producing equipment and the adjacent residential land uses for purposes of ensuring noise levels at the adjacent residential land uses does not exceed 75 dBA L_{eq} over the ambient noise levels.

Administrative Conditions

26. **Final Plans.** Prior to the issuance of any building permits for the project by the Department of Building and Safety, the applicant shall submit all final construction plans that are awaiting issuance of a building permit by the Department of Building and Safety for final review and approval by the Department of City Planning. All plans that are awaiting issuance of a building permit by the Department of Building and Safety shall be stamped by Department of City Planning staff “Final Plans”. A copy of the Final Plans, supplied by the applicant, shall be retained in the subject case file.

27. **Notations on Plans.** Plans submitted to the Department of Building and Safety, for the purpose of processing a building permit application shall include all of the Conditions of Approval herein attached as a cover sheet, and shall include any modifications or notations required herein.

28. **Approval, Verification and Submittals.** Copies of any approvals, guarantees or verification of consultations, review of approval, plans, etc., as may be required by the subject conditions, shall be provided to the Department of City Planning prior to clearance of any building permits, for placement in the subject file.

29. **Code Compliance.** Use, area, height, and yard regulations of the zone classification of the Subject Property shall be complied with, except where granted conditions differ herein.

30. **Department of Building and Safety**. The granting of this determination by the Director of Planning does not in any way indicate full compliance with applicable provisions of the Los Angeles Municipal Code Chapter IX (Building Code). Any corrections and / or modifications to plans made subsequent to this determination by a Department of Building and Safety Plan Check Engineer that affect any part of the exterior design or appearance of the project as approved by the Director, and which are deemed necessary by the Department of Building and Safety for Building Code compliance, shall require a referral of the revised plans back to the Department of City Planning for additional review and sign-off prior to the issuance of any permit in connection with those plans.

31. **Department of Water and Power.** Satisfactory arrangements shall be made with the Los Angeles Department of Water and Power (LADWP) for compliance with LADWP's Rules Governing Water and Electric Service. Any corrections and/or modifications to plans made subsequent to this determination in order to accommodate changes to the project due to the under-grounding of utility lines, that are outside of substantial compliance or that affect any part of the exterior design or appearance of the project as approved by the Director, shall require a referral of the revised plans back to the Department of City Planning for additional review and sign-off prior to the issuance of any permit in connection with those plans.

32. **Enforcement.** Compliance with and the intent of these conditions shall be to the satisfaction of the Department of City Planning.

33. **Expiration.** In the event that this grant is not utilized within three years of its effective date (the day following the last day that an appeal may be filed), the grant shall be considered null and void. Issuance of a building permit, and the initiation of, and diligent continuation of, construction activity shall constitute utilization for the purposes of this grant.

34. **Covenant.** Prior to the issuance of any permits relative to this matter, an agreement concerning all the information contained in these conditions shall be recorded in the County Recorder's Office. The agreement shall run with the land and shall be binding on any subsequent property owners, heirs or assign. The agreement must be submitted to the Department of City Planning for approval before being recorded. After recordation, a copy bearing the Recorder's number and date shall be provided to the Department of City Planning for attachment to the file.

35. **Indemnification and Reimbursement of Litigation Costs**

    Applicant shall do all of the following:

    (i) Defend, indemnify and hold harmless the City from any and all actions against the City relating to or arising out of, in whole or in part, the City's processing and approval of this entitlement, including <u>but not limited to</u>, an action to attack, challenge, set aside, void, or otherwise modify or annul the approval of the entitlement, the environmental review of the entitlement, or the approval of subsequent permit decisions, or to claim personal property damage, including from inverse condemnation or any other constitutional claim.

    (ii) Reimburse the City for any and all costs incurred in defense of an action related to or arising out of, in whole or in part, the City's processing and approval of the entitlement, including but not limited to payment of all court costs and attorney's fees, costs of any judgments or awards against the City (including an award of attorney's fees), damages, and/or settlement costs.

(iii) Submit an initial deposit for the City's litigation costs to the City within 10 days' notice of the City tendering defense to the applicant and requesting a deposit. The initial deposit shall be in an amount set by the City Attorney's Office, in its sole discretion, based on the nature and scope of action, but in no event shall the initial deposit be less than $50,000. The City's failure to notice or collect the deposit does not relieve the applicant from responsibility to reimburse the City pursuant to the requirement in paragraph (ii).

(iv) Submit supplemental deposits upon notice by the City. Supplemental deposits may be required in an increased amount from the initial deposit if found necessary by the City to protect the City's interests. The City's failure to notice or collect the deposit does not relieve the applicant from responsibility to reimburse the City pursuant to the requirement in paragraph (ii).

(v) If the City determines it necessary to protect the City's interest, execute an indemnity and reimbursement agreement with the City under terms consistent with the requirements of this condition.

The City shall notify the applicant within a reasonable period of time of its receipt of any action and the City shall cooperate in the defense. If the City fails to notify the applicant of any claim, action, or proceeding in a reasonable time, or if the City fails to reasonably cooperate in the defense, the applicant shall not thereafter be responsible to defend, indemnify or hold harmless the City.

The City shall have the sole right to choose its counsel, including the City Attorney's office or outside counsel. At its sole discretion, the City may participate at its own expense in the defense of any action, but such participation shall not relieve the applicant of any obligation imposed by this condition. In the event the applicant fails to comply with this condition, in whole or in part, the City may withdraw its defense of the action, void its approval of the entitlement, or take any other action. The City retains the right to make all decisions with respect to its representations in any legal proceeding, including its inherent right to abandon or settle litigation.

For purposes of this condition, the following definitions apply:

"City" shall be defined to include the City, its agents, officers, boards, commissions, committees, employees, and volunteers.

"Action" shall be defined to include suits, proceedings (including those held under alternative dispute resolution procedures), claims, or lawsuits. Actions includes actions, as defined herein, alleging failure to comply with <u>any</u> federal, state or local law.

Nothing in the definitions included in this paragraph are intended to limit the rights of the City or the obligations of the applicant otherwise created by this condition.

PROJECT BACKGROUND

The project site is a level, rectangular-shaped parcel with an approximately 82-foot frontage along the east side of Spring Street with a uniform depth of 156 feet and a total lot area of approximately 12,784 square feet. The site is currently developed with a one-story commercial building.

The site is zoned C2-4D within the Central City Community Plan area with a General Plan Land Use designation of Regional Center Commercial. The project site is located within 1,500 feet of a Metro Rail Station and several Metro and LADOT bus lines and is considered a Transit Priority Area in the City of Los Angeles (ZI-2452). Further, the site is within the City Center Redevelopment Project Area, the Greater Downtown Housing Incentive Area, the Adaptive Reuse Incentive Area, Los Angeles State Enterprise Zone and Metropolitan Transportation Authority Right-of-Way Project Area. The site is in a liquefaction zone and it is located approximately 1.56 kilometers from the Upper Elysian Park Fault Zone.

The project site is also located within the Civic Center South District of the Downtown Design Guide Map (Figure 1-1). Since the project is requesting discretionary entitlements, Density Bonus and Site Plan Review within the boundaries of the DDG map, it is required to comply with the Downtown Design Guide.

The surrounding properties are zoned C2-4D, C4-4D, or [Q]C2-4D-CDO-SN with General Plan land use designations of Regional Center Commercial. The properties surrounding the project site include a mix of commercial land uses, mixed-use residential and commercial buildings, surface parking, and parking structures. The building height ranges from one- to five-stories above grade. There are a few buildings over 10 stories within 500 feet of the project site.

The proposed project includes the demolition of one existing commercial building and the construction, use and maintenance of a 17-story mixed-use building containing 103,550 square feet of floor area, including 3,013 square feet of commercial space, with a maximum floor area ratio (FAR) of 8.1:1. The project includes 120 dwelling units, of which 14 units will be restricted to Very Low Income Households. The building height is 223 feet and four (4) inches as measured from grade to the top of the structure. The project will provide 69 auto parking for the residential spaces. No parking is required for the 3,013 square feet of commercial space since the project is located in the Downtown Parking District which does not require parking for commercial space which is less than 7,500 square feet (LAMC 12.21 A.4.(j).(3)). The project will also provide 102 bicycle parking spaces, including 13 short-term and 89 long-term parking spaces. A total of 12,692 square feet of usable open space, consisting of 1,209 square feet of interior common space, 5,483 square feet of exterior common space, and 6,000 square feet of balconies will be provided. There are two (2) non-protective street trees in the public right-of-way which will be removed during construction. The street tree removal is subject to a 2:1 replacement ratio to the satisfaction of the Board of Public Works. There are no existing trees on the project site. The project also includes the planting of 30 24-inch box trees per LAMC Section 12.21 G.

In accordance with California State Law, the applicant is proposing to utilize LAMC Section 12.22 A.25 (Density Bonus), which permits a density bonus of up to 35 percent increase in FAR. For this project, the applicant requests a 35-percent increase in FAR to allow for 8.1:1 FAR in lieu of the otherwise maximum FAR limit of 6:1. A density bonus is automatically granted in exchange for the applicant setting aside 11 percent, or 14 dwelling units, of the 120 base units for habitation by Very Low Income Households for a period of 55 years. Consistent with the Density Bonus Ordinance, the applicant is also automatically granted a reduction in required parking. The applicant selected to utilize a parking reduction offered under AB 744 which requires 0.5 parking space per bedroom. Based on the project consisting of a mixed-income project within one-half mile of a major transit stop

to which the project has unobstructed access, the proposed project is required to provide a minimum 69 vehicle parking spaces for the residential use.

On January 26, 2022, the Urban Design Studio (UDS) provided feedback on the design features of the project. The UDS's feedback focuses on ways a project can be improved to comply more fully with the three (3) Citywide design approaches which are: 1) Pedestrian First Design, 2) 360 Degree Design, and 3) Climate Adaptive Design. The comments were related to glazing and energy conservation, soil depth for above grade planters and solar requirement. Based on these comments, the project team updated their plans to address those comments to the extent feasible: windows with low solar heat gain coefficient rate would be utilized to mitigate heat gain and loss, roller shades will be provided on all residential windows for energy savings; sufficient soil depth will be provided in the above grade planters and solar panels will be incorporated in the roof area. The project team's response to the UDS comments is included in the case file.

Housing Replacement (Senate Bill 330 Determination) Background

On October 9, 2019, Governor Gavin Newsom signed into law the Housing Crisis Act of 2019 (SB 330). SB330 requires projects that meet the criteria per California Government Code Section 65589.5(h)(2)(B) filed as of January 1, 2020, to demonstrate compliance with the housing replacement provisions which require replacement of dwelling units that either exist at the time of application of a project or have been vacated or demolished in the ten-year period preceding the application of the project. This applies to all pre-existing units that have been subject to a recorded covenant, ordinance, or law that restricts rents to levels affordable to persons and families of lower or very low income; subject to any other form of rent or price control; or occupied by Low or Very Low Income Households. On September 16, 2021, the Governor signed SB 8, which updated several provisions of the Housing Crisis Act of 2019, into law.

Pursuant to the SB 330 Determination letter prepared by the Los Angeles Housing and Community Investment Department (HCIDLA), now City of Los Angeles Housing Department (LAHD), dated May 7, 2020, the existing property has been used for commercial purpose since April 2015, therefore, no SB 330 replacement affordable units are required. The updated regulations for the Housing Crisis Act created through SB 8 do not alter the replacement requirements already described.

LAMC Criteria for Density Bonus Projects

As permitted by LAMC Section 12.22 A.25, the applicant is requesting one (1) on-menu incentive that will facilitate the provision of affordable housing at the site: A 35-percent increase in FAR to permit a maximum of 8.1:1 in lieu of otherwise permitted FAR of 6:1.

Pursuant to LAMC Section 12.22 A.25(e)(2), in order to be eligible for any on-menu incentives, a Housing Development Project (other than an Adaptive Reuse Project) shall comply with the following criteria, <u>which it does:</u>

a. *The façade of any portion of a building that abuts a street shall be articulated with a change of material or a break in plane, so that the façade is not a flat surface.*

   The project site is a level, rectangular-shaped parcel with an approximate 82-foot frontage along the west side of Spring Street. As evident in Exhibit "A", the street facing façade along Spring Street will be articulated in the form of vertical and horizontal breaks in plane with building design. The front façade facing Spring Street is articulated with a plane break at the beginning of the 3rd story where the building juts out five feet and a new window pattern is established. Furthermore, a metal canopy delineates the ground floor from above. Starting at the 3rd floor a vertical metal slot cuts the building into two distinct tower

forms. The project also incorporates a variation of building materials: the building walls will be composed of concrete, glass, and powder coated aluminum siding, the balconies will be protected with steel guardrails, and the storefront doors and windows will be framed with anodized aluminum. By using various building materials and architectural elements, the project creates sufficient breaks in the plane and articulation of the building's façades.

b. *All buildings must be oriented to the street by providing entrances, windows, architectural features and / or balconies on the front and along any street facing elevation.*

The proposed multi-family residential development abuts Spring Street to the west. As evident in Exhibit "A", the main residential entrance and lobby is located at Spring Street and the vehicular access to the subterranean parking garage would be provided via a full-access driveway along the alleyway, Harlem Place. The building is oriented towards Spring Street with the lobby entry and storefronts all facing the street. Residential units facing Spring Street all have large windows facing the street. Balconies are provided along the Spring Street façade on either side of the building. As such, the building is oriented to the street by providing entrance, windows and architectural features and balconies on the front and along the street facing elevation.

c. *The Housing Development Project shall not involve a contributing structure in a designated Historic Preservation Overlay Zone (HPOZ) and shall not involve a structure that is a City of Los Angeles designated Historic-Cultural Monument (HCM).*

The proposed project is not located within a designated Historic Preservation Overlay Zone, nor does it involve a property that is designated as a City Historic-Cultural Monument.

d. *The Housing Development Project shall not be located on a substandard street in a Hillside Area or in a Very High Fire Hazard Severity Zone as established in Section 57.25.01 of the LAMC.*

The project is not located in a Hillside Area, nor is it located in a Very High Fire Hazard Severity Zone.

FINDINGS

DENSITY BONUS / AFFORDABLE HOUSING INCENTIVES COMPLIANCE FINDINGS

1. **Pursuant to Section 12.22 A.25(c) of the LAMC, the Director <u>shall approve</u> a density bonus and requested incentive(s) unless the director finds that:**

   a. *The incentives are not required to provide for affordable housing costs as defined in California Health and Safety Code Section 50052.5 or Section 50053 for rents for the affordable units.*

   The record does not contain substantial evidence that would allow the Director to make a finding that the requested incentives are not necessary to provide for affordable housing costs per State Law. The California Health & Safety Code Sections 50052.5 and 50053 define formulas for calculating affordable housing costs for Very Low, Low, and Moderate Income Households. Section 50052.5 addresses owner-occupied housing and Section 50053 addresses rental households. Affordable housing costs are a calculation of residential rent or ownership pricing not to exceed 25 percent gross income based on area

median income thresholds dependent on affordability levels.

The list of on-menu incentives in LAMC Section 12.22 A.25 was pre-evaluated at the time the Density Bonus Ordinance was adopted to include types of relief that minimize restrictions on the size of the project. As such, the Director will always arrive at the conclusion that the density bonus on-menu incentives are required to provide for affordable housing costs because the incentives by their nature increase the scale of the project.

Based on the set-aside of 11 percent of the proposed density for Very Low Income households, the applicant is entitled to two On-Menu Density Bonus Incentives under both Government Code Section 65915 and the LAMC. The project is requesting one On-Menu Incentive, a 35-percent increase in FAR. Based on the set asides and the project's proximate location within one-half mile of a major transit stop, the project will also utilize a residential parking ratio of 0.5 spaces per bedroom, in accordance with AB 744.

The requested incentive, an increase in FAR, is expressed in the Menu of Incentives per LAMC 12.22 A.25(f) and, as such, permit exceptions to zoning requirements that result in building design or construction efficiencies that provide for affordable housing costs. The requested incentives allow the developer to expand the building envelope so the additional units can be constructed, and the overall space dedicated to residential uses is increased. The increased building envelope also ensures that all dwelling units are of a habitable size while providing a variety of unit types. This incentive supports the applicant's decision to set aside 14 Very Low Income dwelling unit for 55 years.

Floor Area Ratio (FAR) Increase: The project site is zoned C2-4D with Height District 4D which allows for unlimited building height and up to 6:1 FAR. The FAR incentive permits a percentage increase in the allowable FAR equal to the percentage of Density Bonus for which the housing development project is eligible, not to exceed 35 percent. The proposed project requested a 35-percent increase in FAR which would provide a maximum floor area of 103,550 or at 8.1:1 FAR. The FAR increase allows the project to build additional 26,846 square feet and set aside a minimum of 14 units for Very Low Income Households for 55 years.

FAR By-Right	Buildable Lot Area (sq.ft.)	Total Floor Area (sq.ft.)
6:1	12,784	76,704

FAR proposed	Buildable Lot Area (sq.ft.)	Total Floor Area (sq.ft.)	Additional Floor Area (sq.ft.)
8.1:1	12,784	103,550	26,846

b. *The Incentive will have specific adverse impact upon public health and safety or the physical environment, or on any real property that is listed in the California Register of Historical Resources and for which there is no feasible method to satisfactorily mitigate or avoid the specific adverse Impact without rendering the development unaffordable to Very Low, Low and Moderate Income households. Inconsistency with the zoning ordinance or the general plan land use designation shall not constitute a specific, adverse impact upon the public health or safety.*

There is no evidence in the record that the proposed incentive will have a specific adverse impact. A "specific adverse impact" is defined as, "a significant, quantifiable, direct and unavoidable impact, based on objective, identified written public health or safety

standards, policies, or conditions as they existed on the date the application was deemed complete" (LAMC Section 12.22 A.25(b)). The finding that there is no evidence in the record that the proposed incentives will have a specific adverse impact is further supported by the CEQA findings. The findings to deny an incentive under Density Bonus Law are not equivalent to the findings for determining the existence of a significant unavoidable impact under CEQA. However, under a number of CEQA impact thresholds, the City is required to analyze whether any environmental changes caused by the project have the possibility to result in health and safety impacts. For example, CEQA Guidelines Section 15065(a)(4), provides that the City is required to find a project will have a significant impact on the environment and require an EIR if the environmental effects of a project will cause a substantial adverse effect on human beings.

The proposed project and potential impacts were analyzed in accordance with the CEQA Guidelines. The project was evaluated against the exceptions to the use of Categorical Exemptions pursuant to Section 15300.2 of the CEQA Guidelines. The Director of Planning determined that none of the exceptions apply to the proposed project and the project is Categorically Exempt from CEQA pursuant to Class 32 of the CEQA Guidelines. Therefore, there is no substantial evidence that the proposed project will have a specific adverse impact upon public health and safety or the environment, or on any real property that is listed in the California Register of Historical Resources.

c. *The Incentive(s) are contrary to state of federal law.*

There is no substantial evidence in the record that the proposed incentives are contrary to State or Federal law.

SITE PLAN REVIEW FINDINGS

The following is a delineation of the findings related to the applicant's request for Site Plan Review for a proposed project resulting in an increase of 50 or more dwelling units pursuant to Section 16.05 of the Los Angeles Municipal Code.

2. **That the project is in substantial conformance with the purposes, intent and provisions of the General Plan, applicable community plan and any applicable specific plan.**

The General Plan sets forth goals, objectives, and programs that serve as the foundation for all land use decisions. The City of Los Angeles' General Plan consists of the Framework Element, seven (7) State-mandated Elements including, Land Use, Mobility, Housing, Conservation, Noise, Safety, and Open Space, and optional elements including Air Quality and Public Facilities & Services and Infrastructure Systems. The Land Use Element is comprised of 35 Community Plans that establish parameters for land use decision within those subareas of the City.

The project site is located within the Central City Community Plan, which is one of the 35 Community Plans which together form the land use element of the General Plan. The Central City Community Plan designates the project site for Regional Center Commercial land use corresponding to the CR, C1.5, C2, C4, C5, R3, R4, R5, RAS3 and RAS4 Zones. The site is zoned C2-4D which is consistent with the land use designation. The site is located within the State Enterprise Zone, Transit Priority Area, Greater Downtown Housing Inventive Area, and City Center Redevelopment project area. The site is not located within any specific plan, community design overlay, or interim control ordinance.

The proposed project includes the demolition of one existing commercial building and the construction, use and maintenance of a 17-story mixed-use building containing 103,550

square feet of floor area, including 3,013 square feet of commercial space, with a maximum floor area ratio (FAR) of 8.1:1. The project includes 120 dwelling units, of which 14 units will be restricted to Very Low Income Households. The building height is 223 feet and four (4) inches as measured from grade to the top of the structure. The project will provide 69 auto parking, 102 bicycle parking spaces and total of 12,692 square feet of usable open space. There are two (2) non-protective street trees in the public right-of-way which will be removed during construction. The project also includes the planting of 30 24-inch box trees.

With the exception of the requests herein, which allow for the creation of affordable housing units, the proposed project is otherwise consistent with the requirements of the underlying zone. The project includes a mixed-use residential and commercial development on a site designated for such uses. The requested Incentive is permissible by the provisions of Density Bonus law, and the project will comply with all other applicable provisions of the zoning code.

The project is also consistent with the following objectives of the Community Plan:

> Objective 1-2**:** *To increase the range of housing choices available to Downtown employees and residents.*
>
> Objective 1-3: *To foster residential development which can accommodate a full range of incomes.*
>
> Objective 2-1: *To improve Central City's competitiveness as a location for offices, business, retail, and industry.*
>
> *Policy 2-1.2: To maintain a safe, clean, attractive, and lively environment.*

Consistent with these objectives, the project would further the development of Central City as a major center of population and retail services by replacing and activating the existing one-story commercial building with a high-quality mixed-use development that includes 120 residential units and approximately 3,000 square feet of neighborhood-serving commercial spaces. The provision of 120 new residential units of varying sizes and types, including 14 units affordable to Very Low Income households, would provide for the housing required to satisfy the needs of various economic segments of the community. By providing a range of housing opportunities, the project accommodates an adequate supply of housing units by type and cost.

The project is further consistent with other elements of the General Plan, including the Framework Element, the Housing Element, and the Mobility Element. The Framework Element was adopted by the City of Los Angeles in December 1996 and re-adopted in August 2001. The Framework Element provides guidance regarding policy issues for the entire City of Los Angeles, including the project site. The Framework Element also sets forth a Citywide comprehensive long-range growth strategy and defines Citywide polices regarding such issues as land use, housing, urban form, neighborhood design, open space, economic development, transportation, infrastructure, and public services. The project supports the following goal and objective of the Framework Element:

GOAL 4A: AN EQUITABLE DISTRUBTION OF HOUSING OPPORTUNITIES BY TYPE AND COST ACCESSIBLE TO ALL RESIDENTS OF THE CITY.

> Objective 4.1: *Plan the capacity for and develop incentives to encourage production of an adequate supply of housing units of various types within each City sub-region to meet the projected housing needs by income level of the future population...*

The project is a new mixed-use development that will provide much-needed housing, including

affordable housing, and neighborhood-serving commercial uses. Accordingly, the project fulfills the Community Plan, Framework Element, and Housing Element goals and objectives of providing quality housing for all persons in the community, including those at all income levels.

The latest Housing Element (2021-2029) of the General Plan provides land use policies and programs that encourage development of affordable housing across the City. The project also supports the following goals and objectives of the Housing Element:

GOAL 1: A City where housing production results in an ample supply of housing to create more equitable and affordable options that meet existing and projected needs.

Objective 1.2: *Facilitate the production of housing, especially projects that include Affordable Housing and/or meet Citywide Housing Priorities.*

GOAL 2: A City that preserves and enhances the quality of housing and provides greater housing stability for households of all income levels.

GOAL 3: A City in which housing creates healthy, livable, sustainable, and resilient communities that improve the lives of all Angelenos.

Objective 3.1: *Use design to create a sense of place, promote health, foster community belonging, and promote racially and socially inclusive neighborhoods.*

Objective 2.5: *Promote environmentally sustainable buildings and land use patterns that support a mix of uses, housing for various income levels and provide access to jobs, amenities, services and transportation options.*

The project utilizes development incentives to provide a higher number of residential units than would otherwise be permitted, thereby facilitating the creation of a higher number of affordable units and addressing the need for affordable housing in the City.

The Mobility Element of the General Plan, also known as Mobility Plan 2035, provides policies with the ultimate goal of developing a balanced transportation network for all users. The project supports the following policies of the Mobility Element:

Policy 3.3: "Promote equitable land use decisions that result in fewer vehicle trips by providing greater proximity and access to jobs, destinations, and other neighborhood services."

Policy 5.2: "Support ways to reduce vehicle miles traveled (VMT) per capita."

Policy 5.4: "Continue to encourage the adoption of low and zero emission fuel sources, new mobility technologies, and supporting infrastructure."

Additionally, the project is a Density Bonus development located in close proximity to the Civic Center/Grand Park Metro Station and is well-served by other public transportation. Thus, by locating a higher-density development along major transit corridors and by providing commercial services and jobs in close proximity to residences, the project will contribute towards the creation of sustainable neighborhoods and a reduction in vehicle trips and VMT (vehicle miles traveled). The project will further promote mobility and sustainable environments by providing active and transparent building facades, and incorporating landscaping, all of which will significantly improve pedestrian movement and the quality of the streetscape in the area. The proposed improvements represent a significant improvement over the existing site conditions. In addition, the project has been conditioned to include automobile parking spaces both ready for immediate use by electric vehicles (e.g. with electric vehicle chargers installed) and capable of supporting electric vehicles in the future. The project has also been conditioned to provide solar infrastructure. Together, these conditions further support applicable policies in the Health and Wellness Element, Air Quality Element, and Mobility Element of the General Plan by reducing the level of pollution/greenhouse gas

emissions, ensuring new development is compatible with alternative fuel vehicles, and encouraging the adoption of low emission fuel sources and supporting infrastructure. These conditions also support good planning practice by promoting overall sustainability and providing additional benefits and conveniences for residents, workers, and visitors.

Therefore, the project substantially conforms with the purpose, intent, and provisions of the General Plan and the applicable Community Plan.

3. **The project consists of an arrangement of buildings and structures (including height, bulk and setbacks), off-street parking facilities, loading areas, lighting, landscaping, trash collection, and other such pertinent improvements, that is or will be compatible with existing and future development on adjacent properties and neighboring properties.**

The project site is a level, rectangular-shaped parcel with an approximately 82-foot frontage along the east side of Spring Street with a uniform depth of 156 feet and a total lot area of approximately 12,784 square feet. The site is currently developed with a one-story commercial building.

The project includes the demolition of the existing commercial building and the construction, use and maintenance of a 17-story 120-unit mixed-use building containing 103,550 square feet of floor area, including 3,013 square feet of commercial space on the ground floor. The project includes 120 dwelling units, of which 14 units will be restricted to Very Low Income Households. The building height is 223 feet and four (4) inches as measured from grade to the top of the structure. The project will provide 69 auto parking for the residential spaces. The project will also provide 102 bicycle parking spaces, including 13 short-term and 89 long-term. A total of 12,694 square feet of usable open space, consisting of 1,209 square feet of interior common space, 5,483 square feet of exterior common space, and 6,000 square feet of balconies will be provided. There are two (2) non-protective street trees in the public right-of-way which will be removed during construction. The street tree removal is subject to a 2:1 replacement ratio to the satisfaction of the Board of Public Works, Urban Forestry Division. There are no existing trees on the project site. The project also includes the planting of 30 24-inch box trees per LAMC Section 12.21 G.

The project also includes three (3) subterranean levels of vehicular parking. Vehicular access to the subterranean parking garage would be provided via a full-access driveway along the alleyway, Harlem Place. The project and all of its pertinent improvements will be compatible with neighboring properties. The project is a desirable mixed-use residential and commercial development in a location and neighborhood zoned and designated for such uses. The project site is located in an urbanized and centrally located area developed with a variety of other similar/compatible uses, including high-rise office buildings as well as mixed-use multi-family residences. The project will not preclude any future development on the project property or on any adjacent property. The project has been conditioned to maintain pedestrian access during construction, pet waste stations, security, and to maintain transparency for the retail storefronts. Accordingly, the project has been designed and conditioned such that its significant features and improvements will be compatible with the surrounding area, as follows:

<u>Height, Bulk, Setbacks</u>

As depicted in Exhibit “A”, the building will encompass a total of 103,550 square feet of total floor area and with a building height of 223 feet and four (4) inches as measured from grade to the top of the structure.

The City’s zoning regulations, specifically those that govern building height, mass, and location on a property, are intended to ensure that a development is compatible with its surroundings and is appropriate for its location. Surrounding properties varies in height. The project’s proposed height is compatible with the two buildings to the north which are 10 and 11 stories in height, one government building to the south which is 16 stories in height, and

one mixed-use building to the west which is 13 stories in height. The project's ground level consists of the retail and restaurant space. This will facilitate a pedestrian-oriented streetscape and activate the public realm. No setbacks are required within the Greater Downtown Housing Incentive Area (GDHIA) and the building will be consistent with surrounding development which also observe zero setbacks and a continuous street frontage.

The proposed building height, mass, and setbacks are all consistent/permissible with all applicable zoning regulations and State and City Density Bonus law, and as a result will be compatible with adjacent properties. Therefore, the project's height, mass, and setbacks will be compatible with adjacent properties.

Site Layout – Parking, Trash Collection, Landscaping, and Lighting

At the ground floor, the project includes approximately 3,013 square feet of commercial space fronting Spring Street, with parking located in the subterranean level which is accessed from the alley (Harlem Place) where the loading space is also proposed. At the corner of this level is the residential lobby with entrance from Spring Street.

The proposed site layout will minimize any potential impacts to the project's surroundings. Commercial uses are concentrated along Spring Street. The project has been designed and conditioned to provide extensive transparency and glazing along the primary street frontages, which will enhance the project's surroundings and encourage pedestrian activity along the streetscapes.

Short-term bicycle parking is located in the public right-of-way along Spring Street and on the ground floor close to the elevators. Long-term bicycle parking is also located on the ground floor close to the elevators. The proposed trash collection at the ground level is easily accessible from the alleyway and it is shielded from view by adjacent properties.

The project includes several distinct outdoor open space areas at the second floor, the rooftop level and along the streetscape. Thirty (30) 24-inch box trees will be provided onsite and in the public right-of-way in compliance with the LAMC and Urban Forestry's policies. All of the proposed recreation spaces and landscaping will enhance both the project and the greater neighborhood as a whole, and as a result the project will be cohesive and integrate well with the surrounding community.

Furthermore, appropriate lighting will be provided for pedestrians at the street level and is integrated with the building façade to accentuate architectural elements and enhance the design. The project has been designed to provide adequate lighting for operation and safety and to meet all regulations while limiting potential impacts.

Therefore, for all of these reasons, the project will significantly improve the physical appearance of the property and will be compatible with existing and future development on surrounding properties.

4. **Any residential project provides recreation and service amenities to improve habitability for its residents and minimizes the impacts on neighborhood properties.**

The project will provide a wide array of recreational and service amenities for residents. There will be retail and restaurant space on the ground floor. The project will provide a total of 12,692 square feet of open space which consists of 1,209 square feet of common indoor open space, 5,483 square feet of common outdoor space and 6,000 square feet of private open space in the form of residential balconies.

Recreation and amenity spaces are proposed on level two and the rooftop. This includes a recreation room, common area and patio, a rooftop level pool, BBQ and lounge area, and private balconies for the residential units.

In addition, all of the common outdoor spaces will be landscaped and planted with a variety of trees and other plants, which will provide shade and greenery for residents and patrons of the

project, enhance the physical environment, and reduce potential impacts on adjacent properties. Therefore, the project provides many different recreational and service amenities which will improve habitability for residents and the community alike and will minimize impacts on neighboring properties.

ADDITIONAL MANDATORY FINDINGS

5. The National Flood Insurance Program rate maps, which are a part of the Flood Hazard Management Specific Plan adopted by the City Council by Ordinance No. 172,081, have been reviewed and it has been determined that this project is located outside of a flood zone.

DENSITY BONUS LEGISLATION BACKGROUND

The California State Legislature has declared that "[t]he availability of housing is of vital statewide importance," and has determined that state and local governments have a responsibility to "make adequate provision for the housing needs of all economic segments of the community." Section §65580, subds. (a), (d). Section 65915 further provides that an applicant must agree to, and the municipality must ensure, the "continued affordability of all low and very low income units that qualified the applicant" for the density bonus.

With Senate Bill 1818 (2004), state law created a requirement that local jurisdictions approve a density bonus and up to three "concessions or incentives" for projects that include defined levels of affordable housing in their projects. In response to this requirement, the City created an ordinance that includes a menu of incentives (referred to as "on-menu" incentives) comprised of eight zoning adjustments that meet the definition of concessions or incentives in state law (California Government Code Section 65915). The eight on-menu incentives allow for: 1) reducing setbacks; 2) reducing lot coverage; 3) reducing lot width, 4) increasing floor area ratio (FAR); 5) increasing height; 6) reducing required open space; 7) allowing for an alternative density calculation that includes streets/alley dedications; and 8) allowing for "averaging" of FAR, density, parking or open space. In order to grant approval of an on-menu incentive, the City utilizes the same findings contained in state law for the approval of incentives or concessions.

Under Government Code Section § 65915(a), § 65915(d)(2)(C) and § 65915(d)(3) the City of Los Angeles complies with the State Density Bonus law by adopting density bonus regulations and procedures as codified in Section 12.22 A.25 of the Los Angeles Municipal Code. Section 12.22 A.25 creates a procedure to waive or modify zoning code standards which may prevent, preclude or interfere with the effect of the density bonus by which the incentive or concession is granted, including legislative body review. The Ordinance must apply equally to all new residential development.

In exchange for setting aside a defined number of affordable dwelling units within a development, applicants may request up to three incentives in addition to the density bonus and parking relief which are permitted by right. The incentives are deviations from the City's development standards, thus providing greater relief from regulatory constraints. Utilization of the Density Bonus/Affordable Housing Incentives Program supersedes requirements of the Los Angeles Municipal Code and underlying ordinances relative to density, number of units, parking, and other requirements relative to incentives, if requested.

For the purpose of clarifying the Covenant Subordination Agreement between the City of Los Angeles and the United States Department of Housing and Urban Development (HUD) note that the covenant required in the Conditions of Approval herein shall prevail unless pre-empted by State or Federal law.

TIME LIMIT – OBSERVANCE OF CONDITIONS

All terms and conditions of the Director's Determination shall be fulfilled before the use may be established. Pursuant to LAMC Section 12.25 A.2, the instant authorization is further conditional upon the privileges being utilized within **three years** after the effective date of this determination and, if such privileges are not utilized, building permits are not issued, or substantial physical construction work is not begun within said time and carried on diligently so that building permits do not lapse, the authorization shall terminate and become void.

TRANSFERABILITY

This determination runs with the land. In the event the property is to be sold, leased, rented or occupied by any person or corporation other than yourself, it is incumbent that you advise them regarding the conditions of this grant. If any portion of this approval is utilized, then all other conditions and requirements set forth herein become immediately operative and must be strictly observed.

VIOLATIONS OF THESE CONDITIONS, A MISDEMEANOR

The applicant's attention is called to the fact that this grant is not a permit or license and that any permits and licenses required by law must be obtained from the proper public agency. Furthermore, if any condition of this grant is violated or not complied with, then the applicant or his successor in interest may be prosecuted for violating these conditions the same as for any violation of the requirements contained in the Municipal Code, or the approval may be revoked.

Section 11.00 of the LAMC states in part (m): "It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of this Code. Any person violating any of the provisions or failing to comply with any of the mandatory requirements of this Code shall be guilty of a misdemeanor unless that violation or failure is declared in that section to be an infraction. An infraction shall be tried and be punishable as provided in Section 19.6 of the Penal Code and the provisions of this section. Any violation of this Code that is designated as a misdemeanor may be charged by the City Attorney as either a misdemeanor or an infraction.

Every violation of this determination is punishable as a misdemeanor unless provision is otherwise made, and shall be punishable by a fine of not more than $1,000 or by imprisonment in the County Jail for a period of not more than six months, or by both a fine and imprisonment."

APPEAL PERIOD - EFFECTIVE DATE

The Determination in this matter will become effective and final fifteen (15) days after the date of mailing of the Notice of Director's Determination unless an appeal there from is filed with the City Planning Department. It is strongly advised that appeals be filed early during the appeal period and in person so that imperfections/incompleteness may be corrected before the appeal period expires. Any appeal must be filed on the prescribed forms, accompanied by the required fee, a copy of this Determination, and received and receipted at a public office of the Department of City Planning on or before the above date or the appeal will not be accepted. Forms are available on-line at http://planning.lacity.org.

Planning Department public offices are located at:

Downtown Office	Valley Office	West Los Angeles Office
Figueroa Plaza 201 North Figueroa Street, 4th Floor Los Angeles, CA 90012 (213) 482-7077	Marvin Braude Constituent Service Center 6262 Van Nuys Boulevard, Suite 251 Van Nuys, CA 91401 (818) 374-5050	Development Services Center 1828 Sawtelle Boulevard, 2nd Floor Los Angeles, CA 90025 (310) 231-2901

Only an applicant or any owner or tenant of a property abutting, across the street or alley from, or having a common corner with the subject property can appeal this Density Bonus Compliance Review Determination. Per the Density Bonus Provision of State Law (Government Code Section §65915) the Density Bonus increase in units above the base density zone limits and the appurtenant parking reductions are not a discretionary action and therefore cannot be appealed. Only the requested incentives are appealable. Per Section 12.22 A.25 of the LAMC, appeals of Density Bonus Compliance Review cases are heard by the City Planning Commission.

Verification of condition compliance with building plans and/or building permit applications are done at the Development Services Center of the Department of City Planning at Figueroa Plaza in Downtown Los Angeles, Marvin Braude Constituent Service Center in the Valley, or in West Los Angeles. In order to assure that you receive service with a minimum amount of waiting, applicants are encouraged to schedule an appointment with the Development Services Center either through the Department of City Planning website at http://planning.lacity.org or by calling (213) 482-7077, (818) 374-5050, or (310) 231-2901. The applicant is further advised to notify any consultant representing you of this requirement as well.

The time in which a party may seek judicial review of this determination is governed by California Code of Civil Procedures Section 1094.6. Under that provision, a petitioner may seek judicial review of any decision of the City pursuant to California Code of Civil Procedure Section 1094.5, only if the petition for writ of mandate pursuant to that section is filed no later than the 90th day following the date on which the City's decision becomes final.

VINCENT P. BERTONI, AICP
Director of Planning

Approved by:

Eric Claros

Eric Claros, Senior Planner

Reviewed by:

Chi Dang, City Planner

Prepared by:

Yi Lu, AICP, City Planner
Yi.Lu@lacity.org

Exhibit D

Categorical Exemption and Appendices

DIR-2020-7846-DB-SPR-HCA-1A

CITY OF LOS ANGELES
DEPARTMENT OF CITY PLANNING
CITY HALL 200 NORTH SPRING STREET LOS ANGELES CA 90012

JUSTIFICATION TO SUPPORT A CATEGORICAL EXEMPTION

216 Spring Street Project
ENV-2020-7847-CE

Project Addresses: 212, 214, 216, 218, and 220 S. Spring Street, Los Angeles, CA 90012

Community Plan Area: Central City

Council District: 14 – Kevin de León

Project Description: The Project Site occupies approximately 12,784 square feet of lot area (0.29 acres) and is currently developed with a one-story commercial building. The Applicant proposes the demolition of the existing structure for the construction of a 17-story mixed-use building with 120 multi-family dwelling units, 1,032 square feet of retail, and a 1,981 square-foot restaurant. The proposed development would reach a maximum height of 223 feet and 4 inches above grade. The unit mix would include 16 studio units, 89 one-bedroom units, 13 two-bedroom units, and two three-bedroom units. Of the 120 dwelling units, 11 percent of the units (14 units) would be reserved at the "very low income" level. The building would include approximately 12,692 square feet of open space, including an outdoor rooftop deck, common recreation areas, and private balconies. The Proposed Project would include a total of 103,550 square feet of floor area, resulting in an approximate 8.1:1 FAR. The Proposed Project would provide 69 vehicle parking spaces on-site, pursuant to AB 744, in a three-level subterranean parking garage and 102 bicycle parking spaces. There are two non-protective street trees in the public right-of-way which would be removed. The street tree removal is subject to a 2:1 replacement ratio to the satisfaction of the Board of Public Works. There are no existing trees on the Project Site. The Project also proposes to plant 30 24-inch box trees on-site, pursuant to the Los Angeles Municipal Code (LAMC).

PREPARED FOR:	**PREPARED BY:**	**APPLICANT:**
The City of Los Angeles Department of City Planning	Parker Environmental Consultants	216 Spring St, LLC

August 2022

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Attachment 2 ..... Transportation Assessment
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Attachment 4 ..... Air Quality Modeling Worksheets
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Section 1. Introduction

PROJECT INFORMATION

Project Title: 216 Spring Street Project
Project Location: 212, 214, 216, 218, and 220 S. Spring Street
Los Angeles, CA 90012

Project Applicant: 216 Spring St, LLC
C/O David Gray
353 S. Broadway, Suite 200
Los Angeles CA 90013

Lead Agency: City of Los Angeles
Department of City Planning
200 N. Spring Street, Room 763
Los Angeles, CA 90012

An application for the proposed 216 Spring Street Project (Proposed Project) has been submitted to the City of Los Angeles Department of City Planning (DCP) for discretionary review.

The following information is being submitted in support of the determination that the proposed mixed-use residential and commercial development, located at 212, 214, 216, 218, and 220 S. Spring Street (Proposed Project), qualifies for a Categorical Exemption pursuant to the criteria set forth in Section 15332 (Class 32 Infill Development Projects) under the California Environmental Quality Act (CEQA) (P.R.C. 21000-21189.2), and the State CEQA Guidelines (C.C.R. Title 14, Division 6, Chapter 3, 15000-15387).

As presented in the enclosed materials, the Proposed Project meets all of the criteria necessary to qualify for a CEQA Exemption as a Class 32 (Infill Development Project) pursuant to CEQA Guideline Sections 15332. Application of these exemptions, as with all Categorical Exemptions, are limited by certain exceptions to the exemptions identified in Section 15300.2 of the CEQA Guidelines. As discussed in further detail below, no exceptions apply to the Proposed Project. Therefore, no further environmental analysis is warranted.

Section 2. Project Description

A. Project Summary

216 Spring St, LLC, (the "Applicant") proposes the demolition of an existing one-story commercial office structure for the construction of a 17-story mixed-use building with 120 multi-family dwelling units, 1,032 square feet of retail, and a 1,981 square-foot restaurant. The proposed development would reach a maximum height of 223 feet and 4 inches above grade. The unit mix would include 16 studio units, 89 one-bedroom units, 13 two-bedroom units, and two three-bedroom units. Of the 120 dwelling units, 11 percent of the units (14 units) would be reserved at the "Very Low Income" level. The building would include approximately 12,692 square feet of open space, including a rooftop deck, podium, and private balconies. The Proposed Project would include a total of 103,550 square feet of developed floor area, resulting in an approximate 8.1:1 FAR. The Proposed Project would provide 69 vehicle parking spaces on-site per AB 744, in a three-level subterranean parking garage, and 102 bicycle parking spaces. There are two non-protective street trees in the public right-of-way which would be removed. The street tree removal is subject to a 2:1 replacement ratio to the satisfaction of the Board of Public Works. There are no existing trees on the Project Site. The Project also proposes to plant 30 24-inch box trees on-site pursuant to the Los Angeles Municipal Code (LAMC).

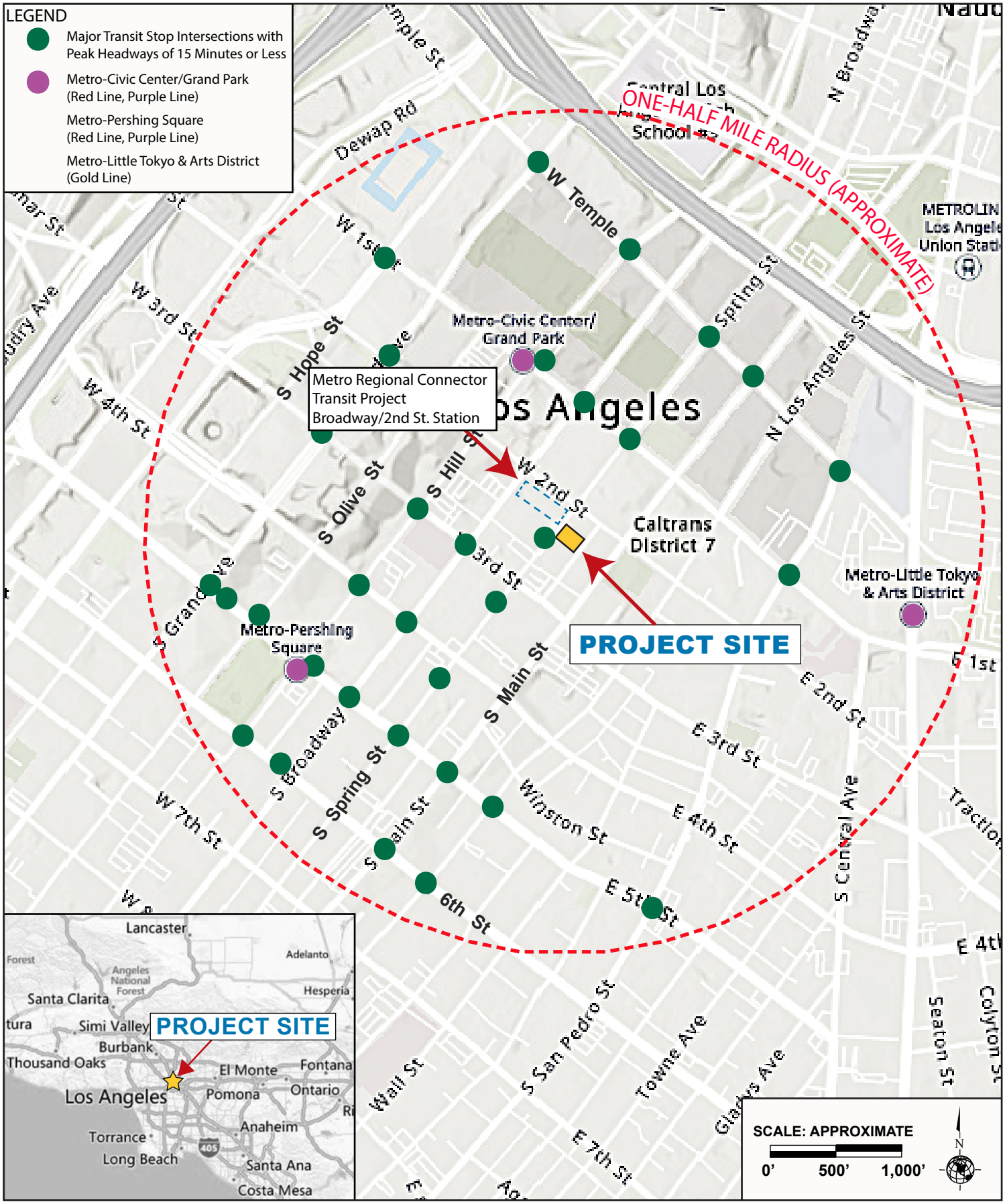
The Applicant is requesting the following discretionary approvals: (1) Pursuant to LAMC Section 12.22 A.25, a Density Bonus Compliance Review to permit a mixed-use residential and commercial development with 120 units and 3,013 square feet of commercial space, and with the following Density Bonus Incentives: (a) a 35% increase in FAR from 6:1 to a maximum of 8.1:1; (b) Pursuant to AB 744, to utilize the vehicle parking space requirement of 0.5 space per bedroom to allow 69 vehicle parking spaces on-site; (2) Pursuant to LAMC Section 16.05, Site Plan Review for a proposed mixed-use building creating more than 50 net dwelling units; and (3) Pursuant to LAMC Section 12.22 A.26, Downtown Design Guide Review for the proposed building.

In addition, pursuant to various sections of the LAMC, the Applicant will also request various ministerial administrative approvals and permits from the Los Angeles Department of Building and Safety and other municipal agencies for Project construction actions, including but not limited to the following: demolition, shoring, grading, foundation, building, haul route, street tree removal, and tenant improvements.

B. Environmental Setting

1. Project Location

The Project Site's address includes 212, 214, 216, 218, and 220 S. Spring Street, Los Angeles, CA 90012, with Assessor Parcel Number: 5149-007-005. The Project Site is located in the Central City Community Plan area within the City of Los Angeles. The Project Site's location within the City of Los Angeles and the greater Los Angeles region is depicted in Figure 1, Project Location Map.



Source: ArcGIS, 2021.

Figure 1
Project Location Map

The Project Site encompasses one parcel along the east side of S. Spring Street, between 2nd Street and 3rd Street, and includes approximately 12,784 square feet of lot area (0.29 acres). The Project Site is generally bounded by Spring Street to the west, Harlem Place (alleyway) and a surface parking lot to the east, a parking structure to the south, and a one-story commercial building to the north.

Regional access to the Project Site is provided by the Hollywood Freeway (US-101), located approximately 0.4 mile northeast of the Project Site; the Harbor Freeway (SR-110), located approximately 0.6 mile to the northwest of the Project Site; and the Santa Monica Freeway (I-10), located approximately 1.6 miles south of the Project Site. The US-101 and the SR-110 meet approximately 0.7 mile north of the Project Site.

Local street access is provided by the grid roadway system surrounding the Project Site. South Spring Street, which borders the Project Site to the west, is a one-way street providing two travel lanes southbound. Spring Street is classified as a Modified Avenue II roadway in the City's Mobility Plan. Other major arterial roadways providing access to the Project Site is W. 2nd Street, which is located approximately 120 feet north of the Project Site, and Main Street, which is approximately 180 feet east of the Project Site. Second Street is designated as an Avenue III roadway in the City's Mobility Plan. Main Street is designated as an Avenue II roadway in the City's Mobility Plan.

Transit Priority Area

In 2013, the State of California enacted Senate Bill 743 (SB 743), which provides that "aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment." P.R.C. Section 21099 defines a "transit priority area" as an area within one-half mile of a major transit stop that is "existing or planned, if the planned stop is scheduled to be completed within the planning horizon included in a Transportation Improvement Program adopted pursuant to Section 450.216 or 450.322 of Title 23 of the Code of Federal Regulations." Public Resources Code Section 21064.3 defines "Major Transit Stop" as "a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods." Public Resources Code Section 21061.3 defines an "Infill Site" as a lot located within an urban area that has been previously developed, or on a vacant site where at least 75 percent of the perimeter of the site adjoins or is separated only by an improved public right-of-way from parcels that are developed with qualified urban uses.

The Project Site is an infill site within a Transit Priority Area as defined by CEQA.[1] The Los Angeles Metropolitan Transportation Authority (Metro) and Los Angeles Department of Transportation (LADOT) operate multiple bus lines with multiple bus stops within walking distance from the Project Site. In the vicinity of the Project Site, bus stops are primarily located along Spring Street, Main Street, 3rd Street, and 4th Street. Bus lines that operate in the Project Site area include, but are not

[1] *Public Resources Code Sections 21061.3 and 21099. See also City of Los Angeles, Department of City Planning, City of Los Angeles Zoning Information and Map Access System (ZIMAS), Parcel Profile Report, website: www.zimas.lacity.org, accessed June 2021.*

limited to: Metro lines 2, 4, 30, 33, 35, 40, 45, 68, 83, 84, 92, 302, 330; Metro Rapid Lines 728, 733, 745; and LADOT DASH Line D.

Additionally, the closest Metro Station to the Project Site is the Civic Center/Grand Park Metro Rail Station, located approximately 0.3 mile (walking distance) north of the Project Site; and the Pershing Square Metro Rail Station, located 0.4 mile (walking distance) southwest from the Project Site. The Civic Center/Grand Park and Pershing Square Metro Stations are serviced by the Metro Purple Line and Red Line. The Metro Purple Line provides service between downtown Los Angeles and the Koreatown district. The Metro Red Line provides service between downtown Los Angeles and North Hollywood. The Metro Purple Line and Red Line provide access to other subway lines that connect to other parts of the City and to the greater Los Angeles metropolitan area. The Project Site is also located immediately east of the Regional Connector Transit Project. This project includes three new underground rail stations and extends from the Gold Line in Little Tokyo and Arts District communities to the Blue Line and Expo Lines at 7th Street/Metro Center Station. Currently, the Historic Broadway Station, located at 2nd Street and Broadway is currently under construction, approximately 80 feet west of the Project Site. It is anticipated that construction for this station and Metro transit project would be operational in 2022.[2] The Project Site is also situated within easy walking distance to retail, restaurants, entertainment, and other commercial businesses located in the Los Angeles Downtown area.

2. Existing Conditions

2.1 Zoning and Land Use Designations

Figure 2, Zoning and General Plan Land Use Designations, shows the existing zoning and General Plan land use designations on the Project Site and in the surrounding area. The Project Site is situated within the Central City Community Plan area and the City Center Redevelopment Plan ("Redevelopment Plan") area of the City of Los Angeles. The LAMC defines the zoning across the Project Site as "C2-4D" with a General Plan land use designation of "Regional Center Commercial." The Project Site is located in Height District No. 4, which allows for unlimited height, but limits development to a floor area ratio (FAR) of 13:1. Ordinance No. 164,307 establishes the "D" limitation on the Project Site, which further limits FAR on the Project Site. The "D" Classification further limits FAR to a maximum of 6:1 and states that additional FAR may be obtained through Transfer of Floor Area. Footnote 3 of the Central City Community Plan Map permits a maximum 13:1 FAR on the Project Site through a Transfer of Floor Area. The density, lot area, and setback requirements for the Project Site are superseded by the Greater Downtown Housing Incentive Area (Ordinance 179,076, effective September 2007). The Project Site is also located within a Transit Priority Area in the City of Los Angeles (ZI-2452), a Greater Downtown Housing Incentive Area (ZI-2385), a Metropolitan Transportation Authority right-of-way (Metro ROW) Project area (ZI-1117), and the Los Angeles State Enterprise Zone (ZI-2374).

[2] *Metro Projects, Regional Connector Transit Project, website: https://www.metro.net/projects/connector-2/, accessed November 2021.*

Source: ZIMAS, City of Los Angeles, Department of City Planning, 2021.

Figure 2
Zoning and General Plan Land Use Designations

2.1.1 Central City Community Plan

The Project Site is located within the Central City Community Plan ("Community Plan") area of the City of Los Angeles. The Community Plan promotes an arrangement of land uses, infrastructure, and services intended to enhance the economic, social, and physical health, safety, welfare, and convenience of the people who live, work and invest in the community. By serving to guide development, the Community Plan encourages progress and change within the community to meet anticipated needs and circumstances, promotes balanced growth, builds on economic strengths and opportunities while protecting the physical, economic, and social investments in the community to the extent reasonable and feasible. The Community Plan area contains a substantial amount of commercial development. More specifically, the Project Site is located in the Civic Center District area, which includes Federal, State, County and local government offices. Civic Center has the second largest concentration of civic buildings in the country, located primarily along the Civic Center Mall north of First Street, and generally from the Harbor Freeway to Alameda Street and dominated by the historic City Hall.

2.1.2 City Center Redevelopment Plan

The Project Site is located within the Redevelopment Plan for the City Center Redevelopment Project ("Redevelopment Plan"). Development in the Redevelopment Project Area is governed by the Redevelopment Plan that was adopted in May 2002 by the former Community Redevelopment Agency of the City of Los Angeles (CRA/LA) and remains effective until May 2032. Pursuant to Ordinance 183,325 (effective November 11, 2019), the authority or responsibility to perform actions and related land use functions regarding any Redevelopment Plan Amendment or land use approval or entitlement pursuant to Section 11.5.14 and applicable provisions of the Code was transferred to the Department of City Planning. Specific design considerations from the Redevelopment Plan include: height, development densities, building setbacks, signage, open space and privacy, utilities, parking, and loading facilities. The Redevelopment Plan identifies overall objectives and development standards to guide the development, redevelopment, and rehabilitation of properties within the City Center area.

The City Center area encompasses much of Historic Downtown, City Markets, and South Park. The Proposed Project is located within the Historic Downtown neighborhood of the City Center Redevelopment Project area, which was established by the CRA/LA. The Redevelopment Plan's objective for the Historic Downtown Development area is to achieve a mixed use residential, commercial, office, cultural, recreational, entertainment and institutional area primarily through the adaptive re-use of the large stock of structures of architectural and historic merit. Rehabilitation of this area is in part dependent on addressing the social, medical and economic problems of the Central City population. The area includes two national register historic districts encompassing substantial portions of Broadway and Spring Streets. The predominant uses shall include both private and governmental office uses, residential uses, theaters, restaurants, local and regional serving commercial and entertainment uses, and other uses compatible with a medium to high density mixed use urban core environment.

2.2 Existing Site Conditions

Figure 3, Aerial Photograph of the Project Site and Surrounding Land Uses, shows an aerial view of the Project Site and identifies the photograph locations for the Project Site and surrounding land use photographs shown in Figure 4, Photographs of the Project Site.

The Project Site consists of one parcel currently improved with a one-story commercial office building with approximately 14,000 square feet of office space. No vehicular driveways or access are provided on the Project Site from Spring Street or the adjacent alleyway, Harlem Place. Two street trees (Holly Oak) are located in the public right-of-way adjacent to the Project Site along Spring Street.

3. Surrounding Land Uses

As shown in Figure 2, the Project Site is in a commercially zoned "C2-4D" area, and properties immediately bordering the Project Site are either zoned C2-4D, C4-4D, or [Q]C2-4D-CDO-SN with General Plan land use designations of Regional Center Commercial. The properties surrounding the Project Site include a mix of commercial land uses, mixed-use residential and commercial buildings, surface parking, and parking structures. These land uses range in height from one- to ten-stories above grade. Figure 3 shows an aerial photograph of the land uses surrounding the Project Site. Photographs of the land uses immediately surrounding the Project Site are provided in Figure 5, Photographs of the Surrounding Land Uses. Below is description of the existing conditions in the surrounding area.

North: The Project Site is immediately bordered by a one-story commercial building to the north. This property is currently zoned C2-4D with a General Plan land use designation of Regional Center Commercial. Immediately north of this property is W. 2nd Street. The Los Angeles Police Department headquarters and park is located north of W. 2nd Street. This property is zoned PF-4D with a General Plan land use designation of Public Facilities. Refer to Figure 5, Views 8 and 9.

West: The Project Site is immediately bordered by Spring Street to the west. Further west, is a six-story parking structure, located at 213 S. Spring Street, and a construction site for a new mixed-use residential and commercial building above the Metro Regional Connector Historic Broadway Rail Station (Case No. CPC-2016-3808-VZC-CDO-DD-SPR). This project was approved in April 2020, and would involve demolishing the six-story parking structure. These properties are zoned [Q]C2-4D-CDO-SN with General Plan land use designations of Regional Center Commercial. Refer to Figure 5, Views 11 and 12.

East: The Project Site is immediately bordered by Harlem Place, an alleyway, to the east. Further east, across the alleyway, is a surface parking lot and 10-story mixed-use residential and commercial property. These properties are zoned C4-4D with General Plan land use designations of Regional Center Commercial. Refer to Figure 5, View 10.

South: The Project Site is immediately bordered by a six-story parking structure to the south. This property is currently zoned C2-4D with General Plan land use designation of Regional Center Commercial. Further south is a surface parking lot, which is currently zoned [Q]C4-4D with a General Plan land use designation of Regional Center Commercial. Refer to Figure 5, View 7.

Source: Google Earth, Aerial View, 2020.

Figure 3
Aerial Photograph of the Project Site and Surrounding Land Uses

View 1: On the northern side of S. Spring Street, looking south at the Project Site.

View 2: On the northern side of S. Spring Street, looking southeast at the Project Site.

View 3: On the northern side of S. Spring Street, looking northeast at the Project Site.

View 4: On the southern side of Harlem Place, looking north at the Project Site.

View 5: On the southern side of Harlem Place, looking southwest at the Project Site.

View 6: On the northern side of Harlem Place, looking southwest at the Project Site.

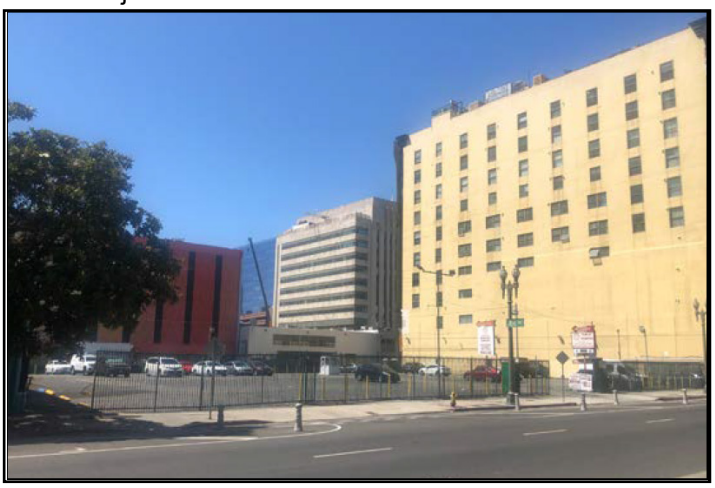
Source: Parker Environmental Consultants, June 11, 2021.

Figure 4
Photographs of the Project Site
Views 1-6

View 7: On the west side of S. Spring Street, looking south and southeast at properties south of the Project Site.

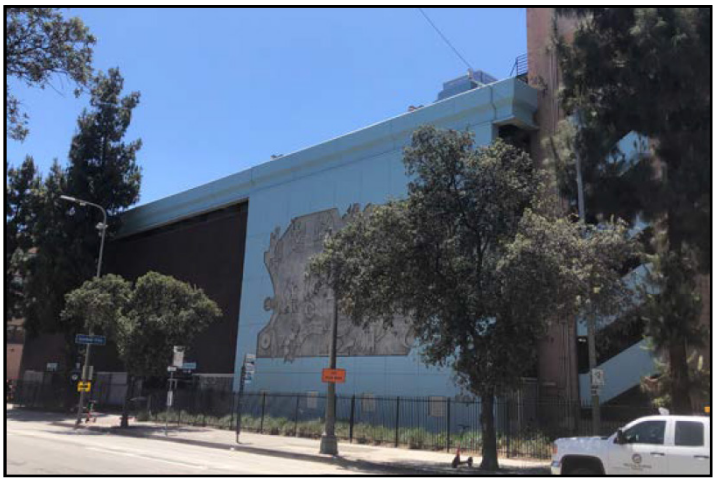
View 8: On the southwest corner of S. Spring Street and W. 2nd Street, looking south at properties north and northeast of the Project Site.

View 9: On the east side of Harlem Place, looking northeast at properties northeast of the Project Site.



View 10: On the east side of S. Main Street, looking northwest at properties east and southeast of the Project Site.

View 11: On the east side of S. Spring Street, looking northwest at properties north of the Project Site.



View 12: On the east side of S. Spring Street, looking west at properties west of the Project Site.

Source: Parker Environmental Consultants, June 11, 2021.

Figure 5
Photographs of the Surrounding Land Uses
Views 7-12

C. Description of Project

1. Project Overview

The Project would require demolition and site clearing of the existing commercial office building for the construction, use, and maintenance of a 17-story mixed-use multi-family residential and commercial building with a total of 120 residential dwelling units, and 3,013 square feet of commercial space ("Proposed Project"). Eleven percent of the proposed dwelling units (14 units) would be reserved for families with "very low" income. The building would be a maximum height of 223 feet and 4 inches above grade at the top of the parapet. The Proposed Project includes a total floor area of 103,550 square feet, resulting in a FAR of 8.1:1. The Proposed Project would provide 69 vehicle parking spaces in a three-level subterranean parking garage. A summary of the Proposed Project is provided in Table 1, Proposed Development Program, below. The plan layout of the Proposed Project is depicted in Figure 6, Plot Plan, and floor plans are illustrated in Figures 7 through 11.

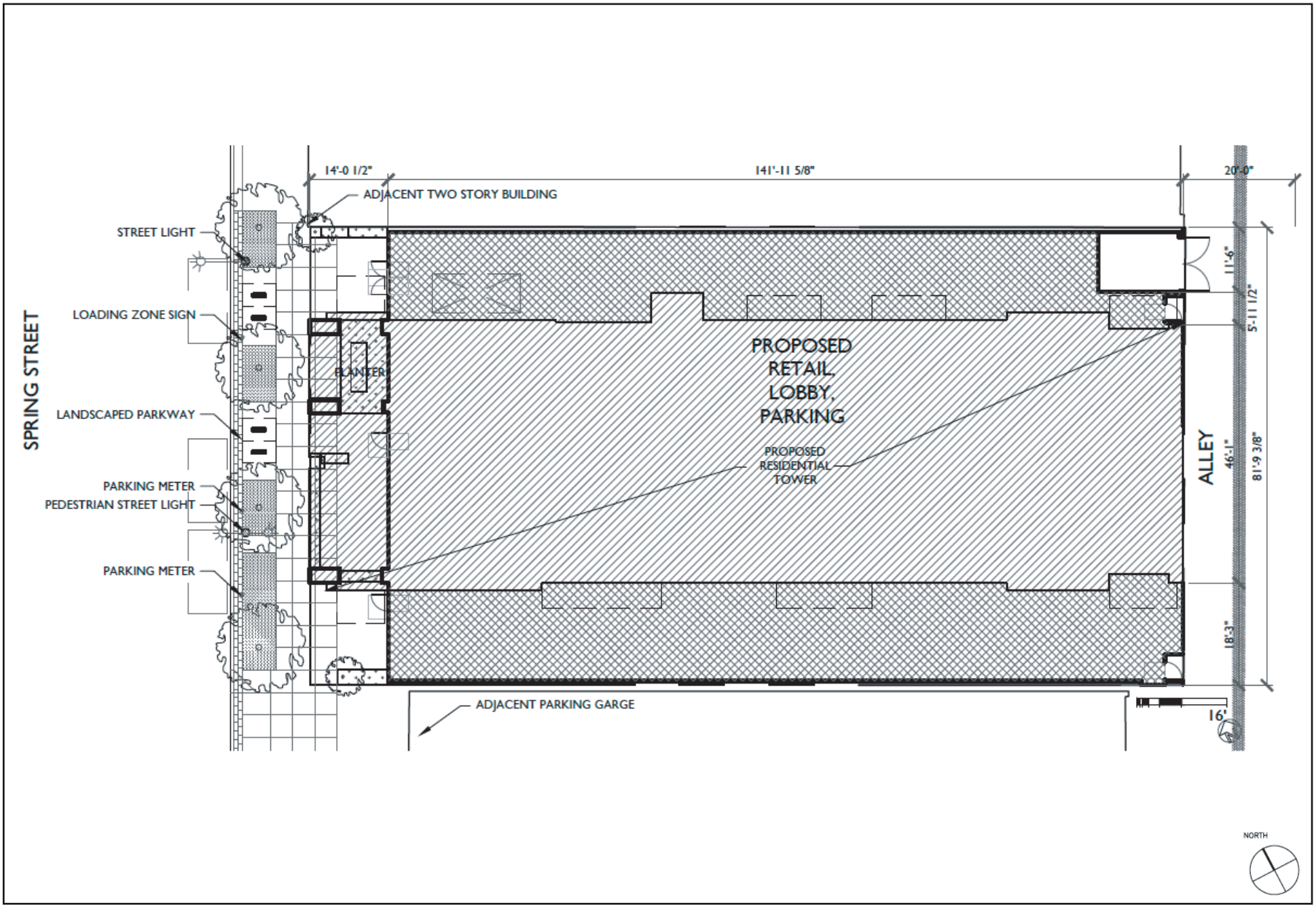
Table 1
Proposed Development Program

Land Uses	Quantity	Proposed Floor Area (square feet)
Proposed Project		
Residential (120 dwelling units)		
Studio	16 du	100,537 sf [a]
One-Bedroom	89 du	
Two-Bedroom	13 du	
Three-Bedroom	2 du	
Total Units	120 du	
Commercial (3,013 sf)		
Restaurant	--	1,981 sf
Retail	--	1,032 sf
	TOTAL:	**103,550 sf (8.1:1 FAR)**

Notes: du = dwelling unit; sf = square feet
[a] *Includes residential support areas such as amenities, lobby, and open space areas.*
Source: David Lawrence Gray Architects, February 28, 2022.

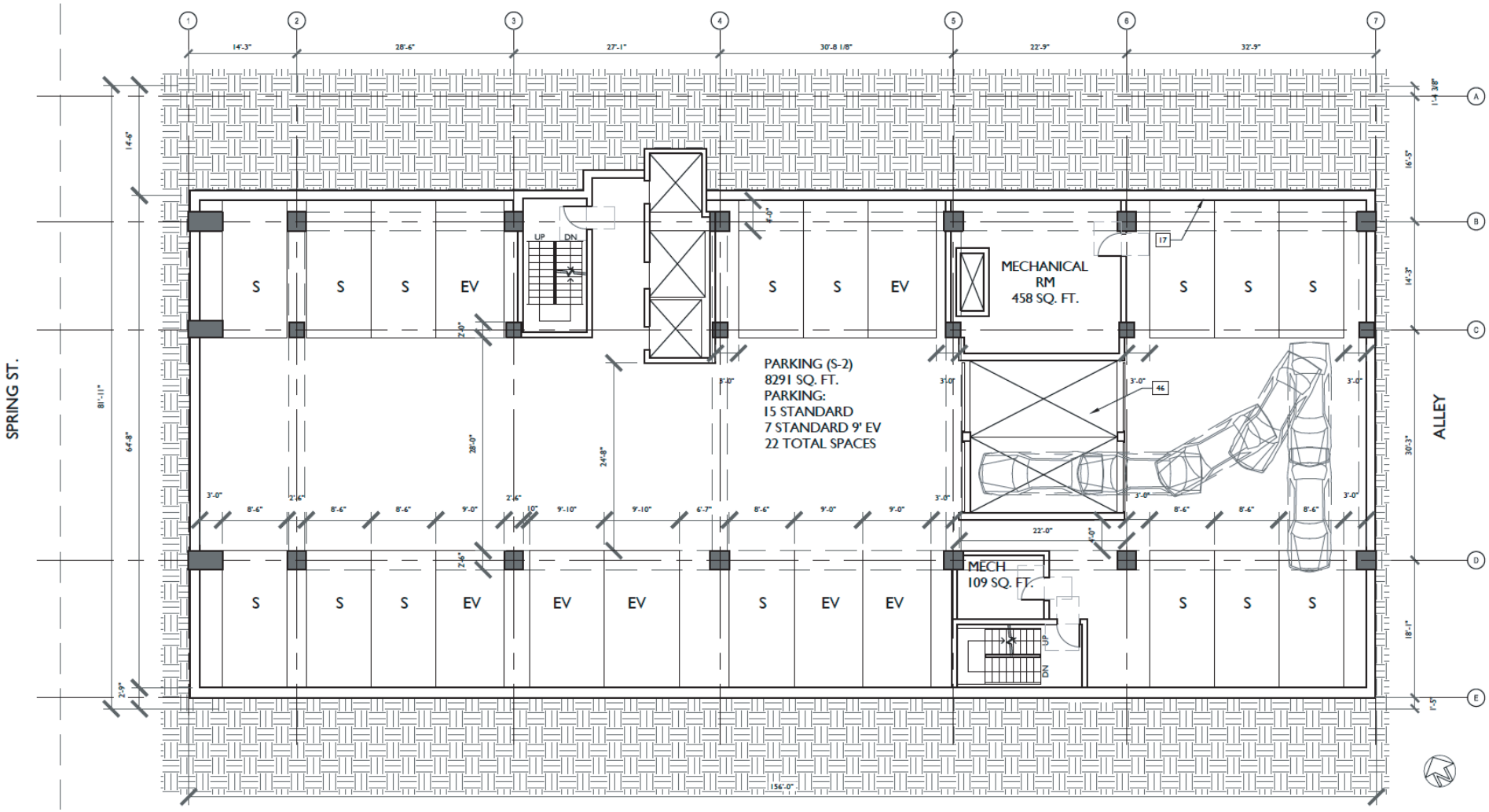
Residential Uses

As shown in Table 1, above, the Proposed Project would include a maximum of 120 residential units. The unit mix would include 16 studio units, 89 one-bedroom units, 13 two-bedroom units, and two three-bedroom units. Eleven percent of the proposed density units (14 units) would be reserved for families with "very low" income. The proposed building would include a residential lobby located on the ground floor. Additional residential amenity space would be located on the ground floor, second floor, and the roof deck. The total residential floor area totals approximately 100,526 square feet.



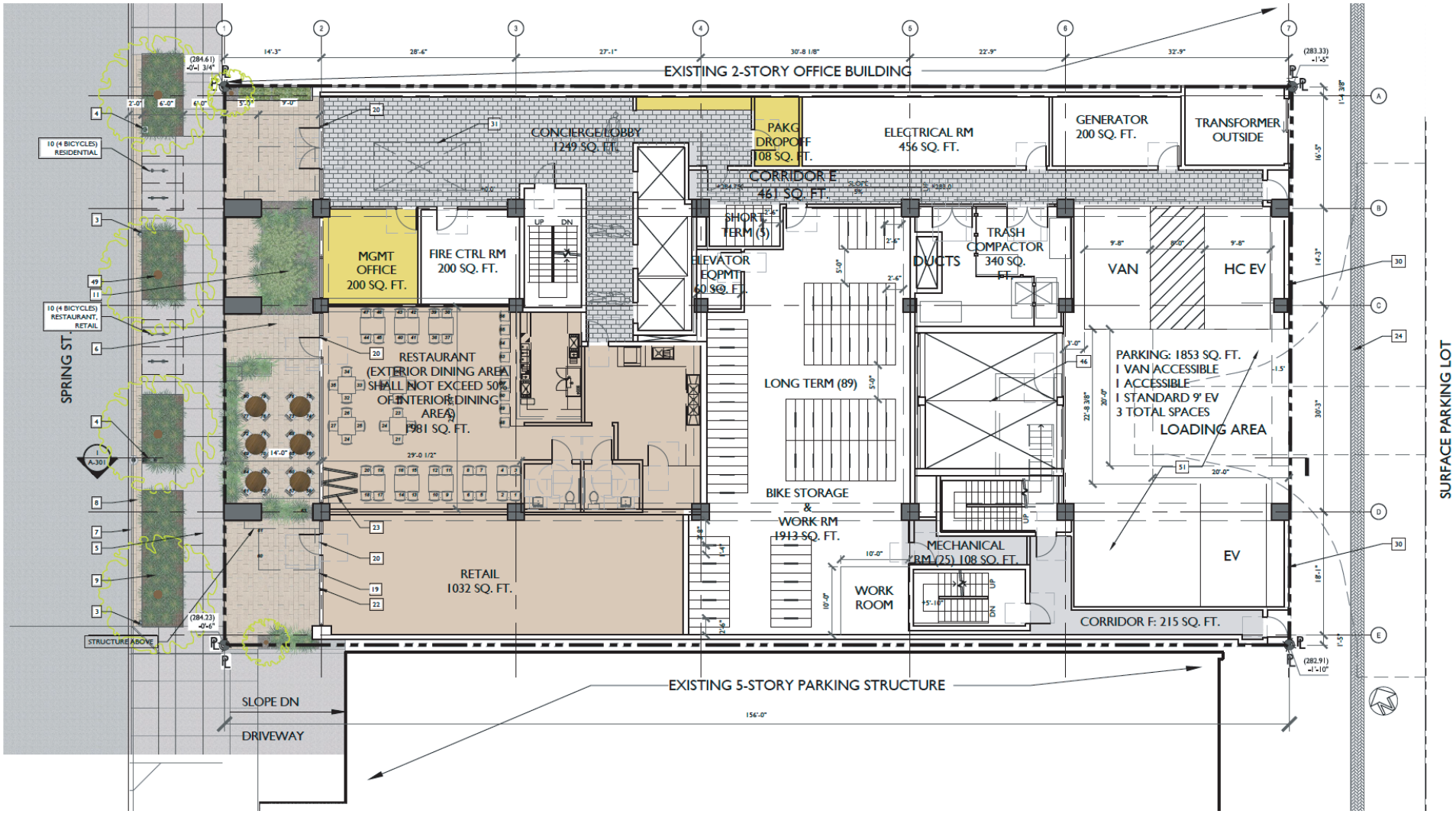
Source: David Lawrence Gray Architects AIA, June 7, 2021.

Figure 6
Plot Plan



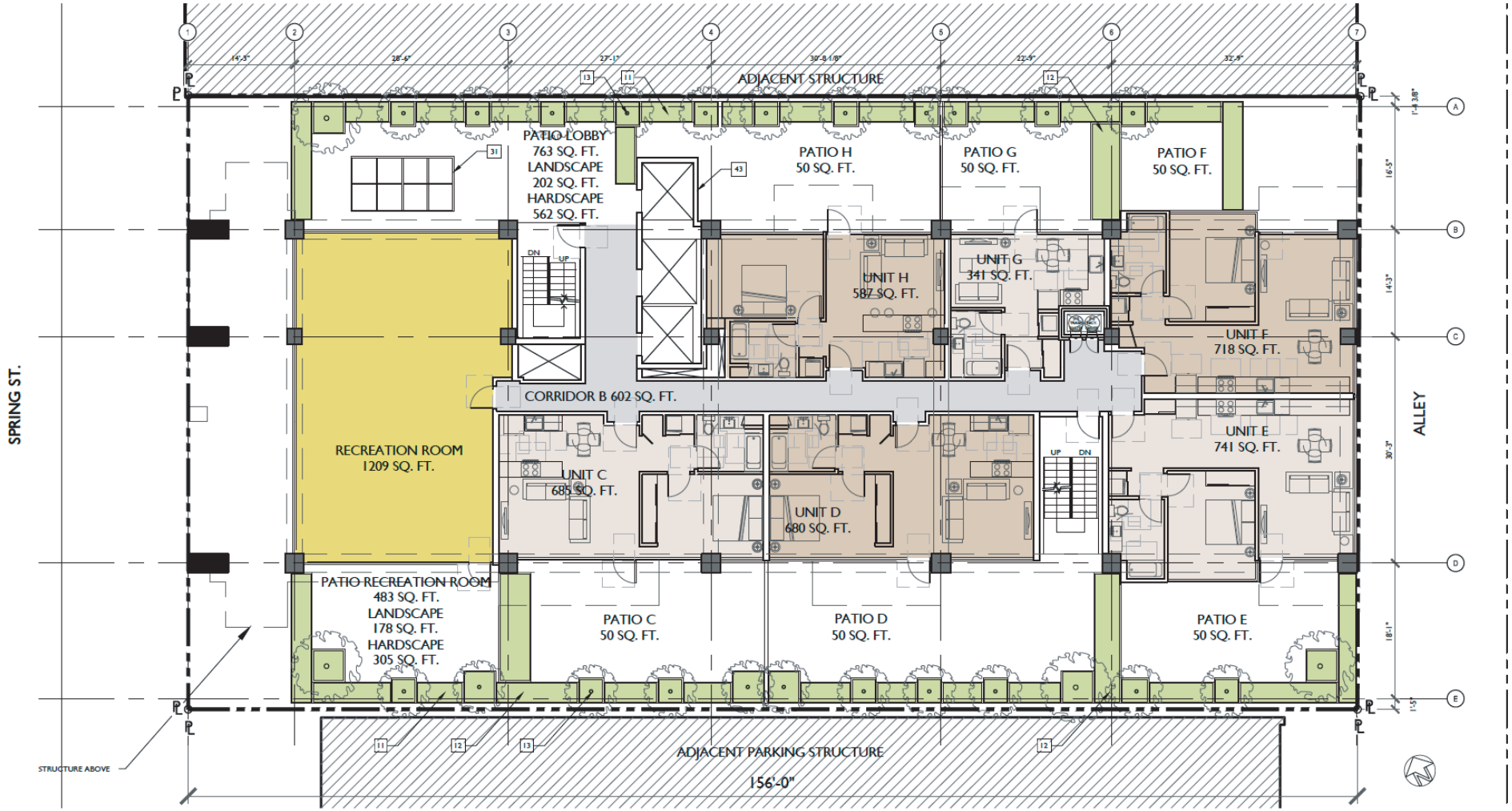
Source: David Lawrence Gray Architects AIA, June 7, 2021.

Figure 7
Parking Floor Plan



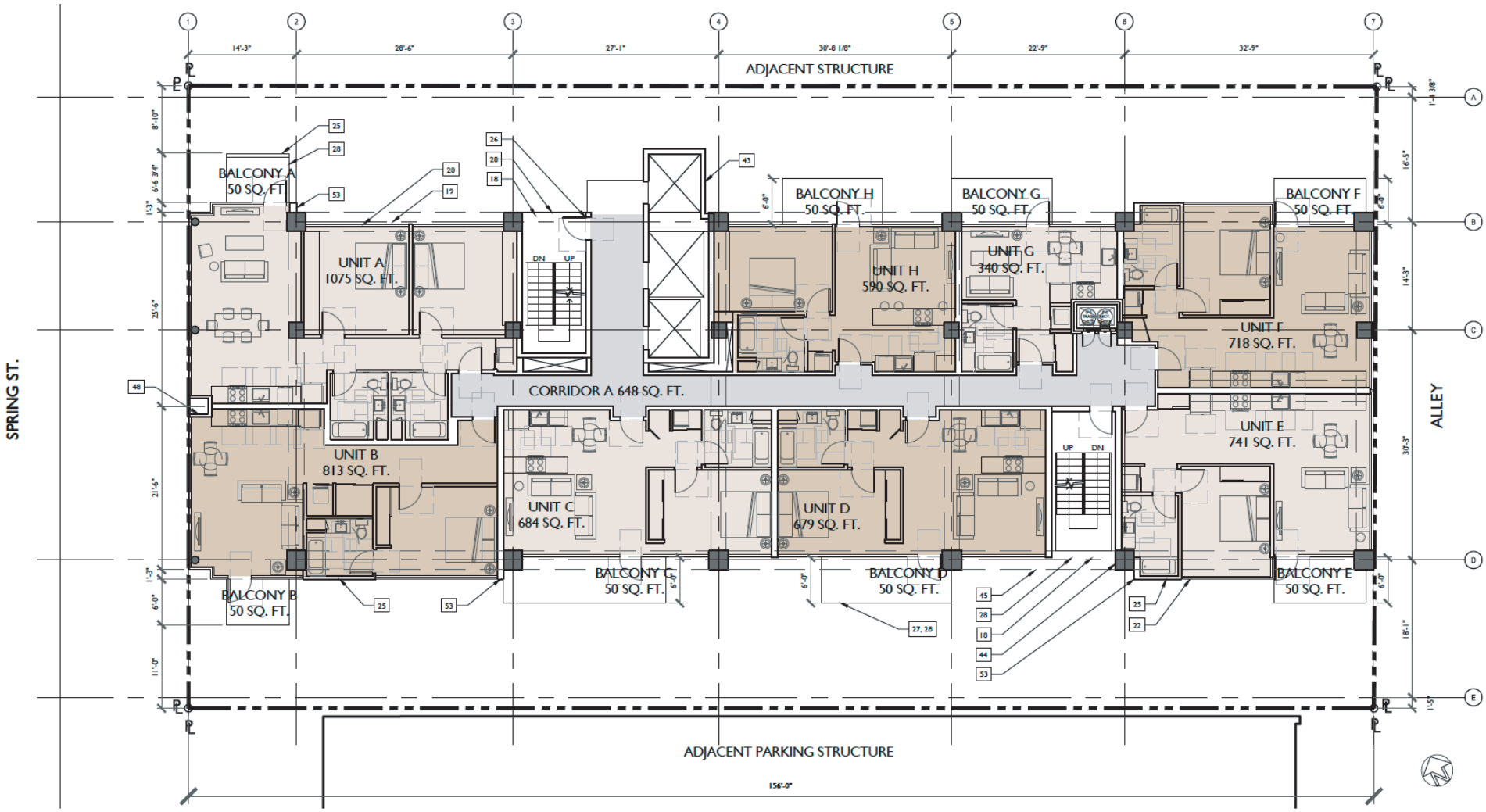
Source: David Lawrence Gray Architects AIA, June 7, 2021.

Figure 8
Level 1 Floor Plan



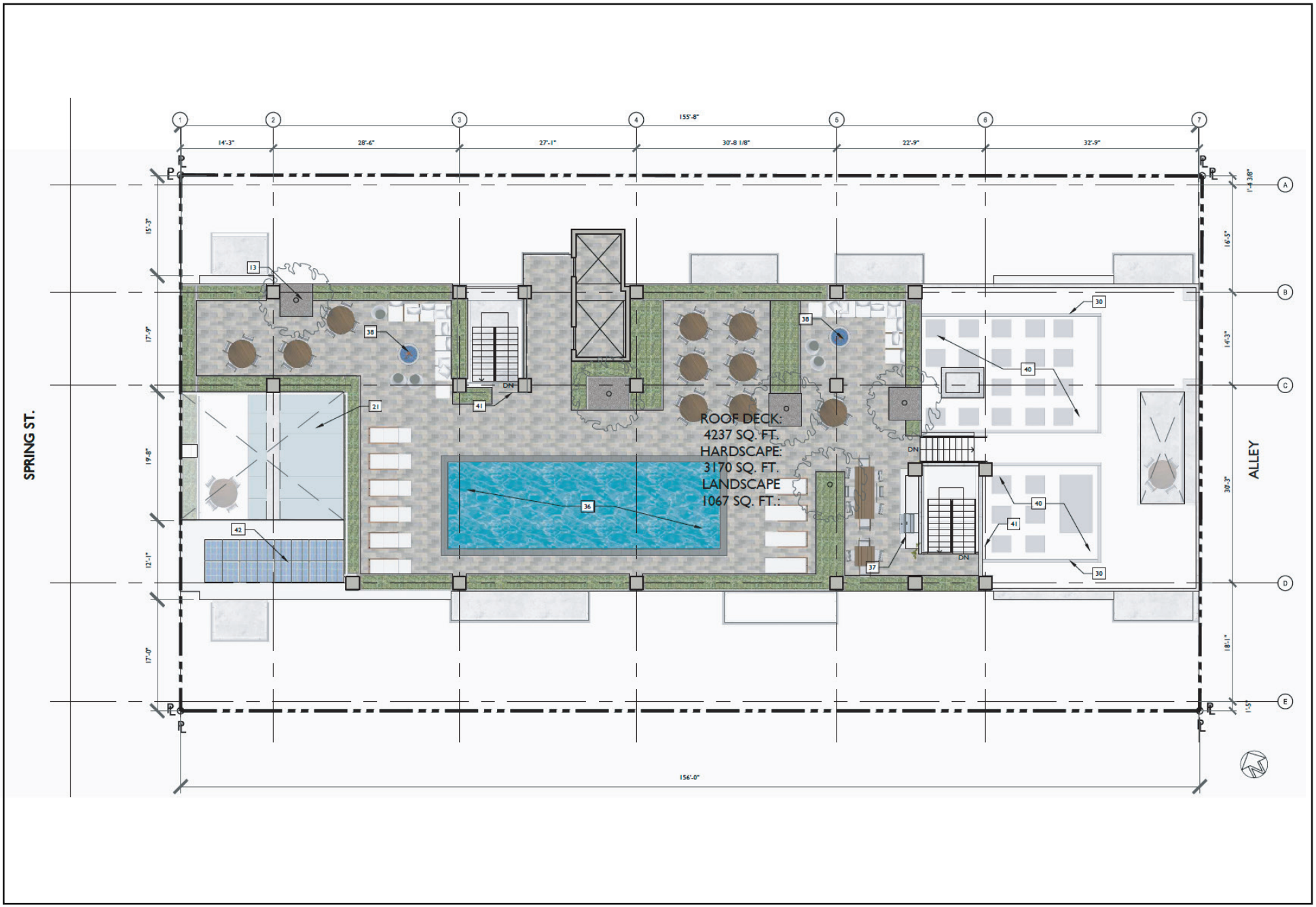
Source: David Lawrence Gray Architects AIA, June 7, 2021.

Figure 9
Level 2 Floor Plan



Source: David Lawrence Gray Architects AIA, June 7, 2021.

Figure 10
Typical Residential Floor Plan



Source: David Lawrence Gray Architects AIA, June 7, 2021.

Figure 11
Roof Plan

Commercial Uses

As shown in Table 1, above, the Proposed Project would include approximately 3,013 square feet of ground floor commercial space, including 1,032 square feet of retail space and a 1,981 square-foot restaurant. The commercial spaces would directly front Spring Street. The locations of the commercial/retail spaces are illustrated in Figure 8, Level 1 Floor Plan.

2. Floor Area

The Project Site includes a net lot area of 12,784 square feet. The Project Site is located in Height District No. 4, which has unlimited height, but limits development to a FAR of 13:1. The Redevelopment Plan and 'D' limitation further limits the total floor area of the Project Site to a ratio of 6:1 FAR or approximately 76,704 square feet based on lot area. Pursuant to LAMC Section 12.22 A.25(g)(3), in exchange for setting aside 11 percent of the base density as very low-income housing units, the Proposed Project is eligible to receive development incentives, including an on-menu incentive to increase the allowable FAR by 35 percent to a maximum of 8.1:1, resulting in an allowable floor area of 103,550 square feet. The Proposed Project includes approximately 103,550 square feet of floor area, resulting in a FAR of 8.1:1.

3. Building Height

The Project Site is located in Height District No. 4, which has unlimited height. The proposed 17-story building would reach a maximum height of 223 feet and 4 inches as measured from the Grade to the top of the parapet. Figures 12 through 14 illustrate the building elevations and building sections of the Proposed Project.

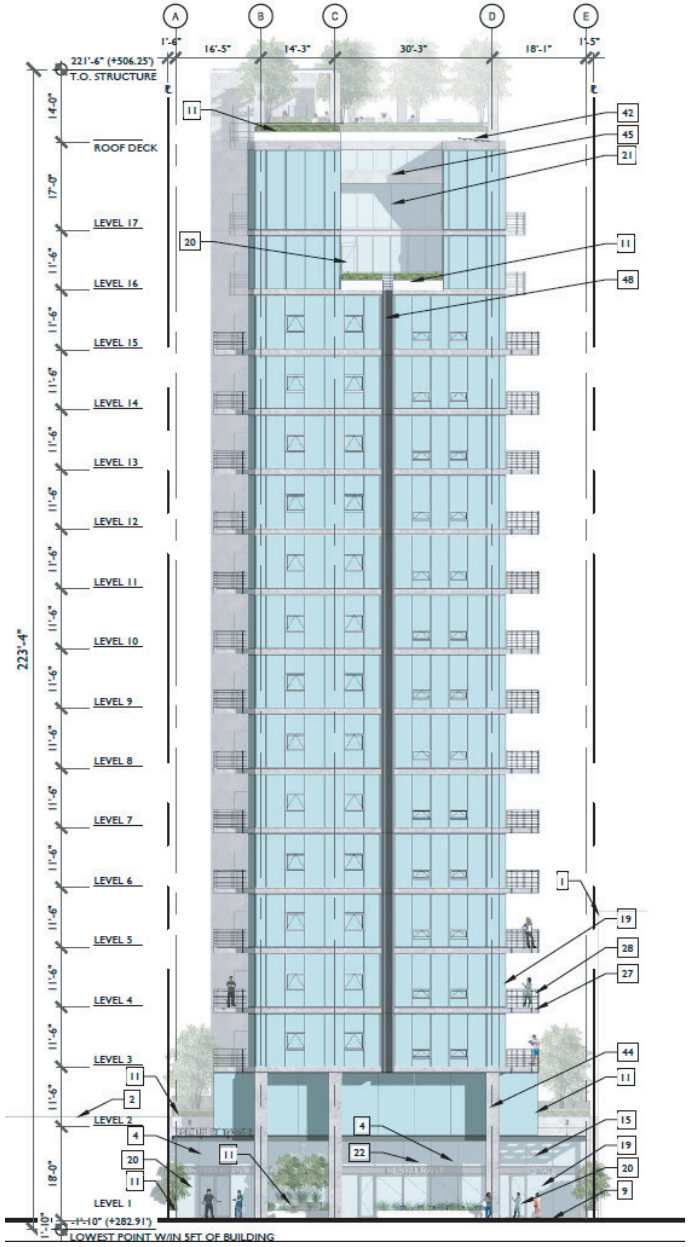
4. Design and Architecture

The Proposed Project is a 17-story mixed-use multi-family residential and commercial building designed with modern architectural materials including rooftop solar zones and rooftop open space. The Proposed Project would be designed to meet all building standards and requirements of the LAMC, including the L.A. Green Building Code. See Figure 15 for the architectural renderings of the Proposed Project.

5. Setbacks

Per the Greater Downtown Housing Incentive Area, LAMC Section 12.22 C.3(a), no yard requirements apply to lots in the C2 Zone that are located in the Greater Downtown Housing Incentive Area, except as required by the Downtown Design Guidelines. The Downtown Design Guidelines may require additional sidewalk easement for downtown streets to enhance pedestrian network, but sidewalk easement was not required along the Project Site.

South Elevation



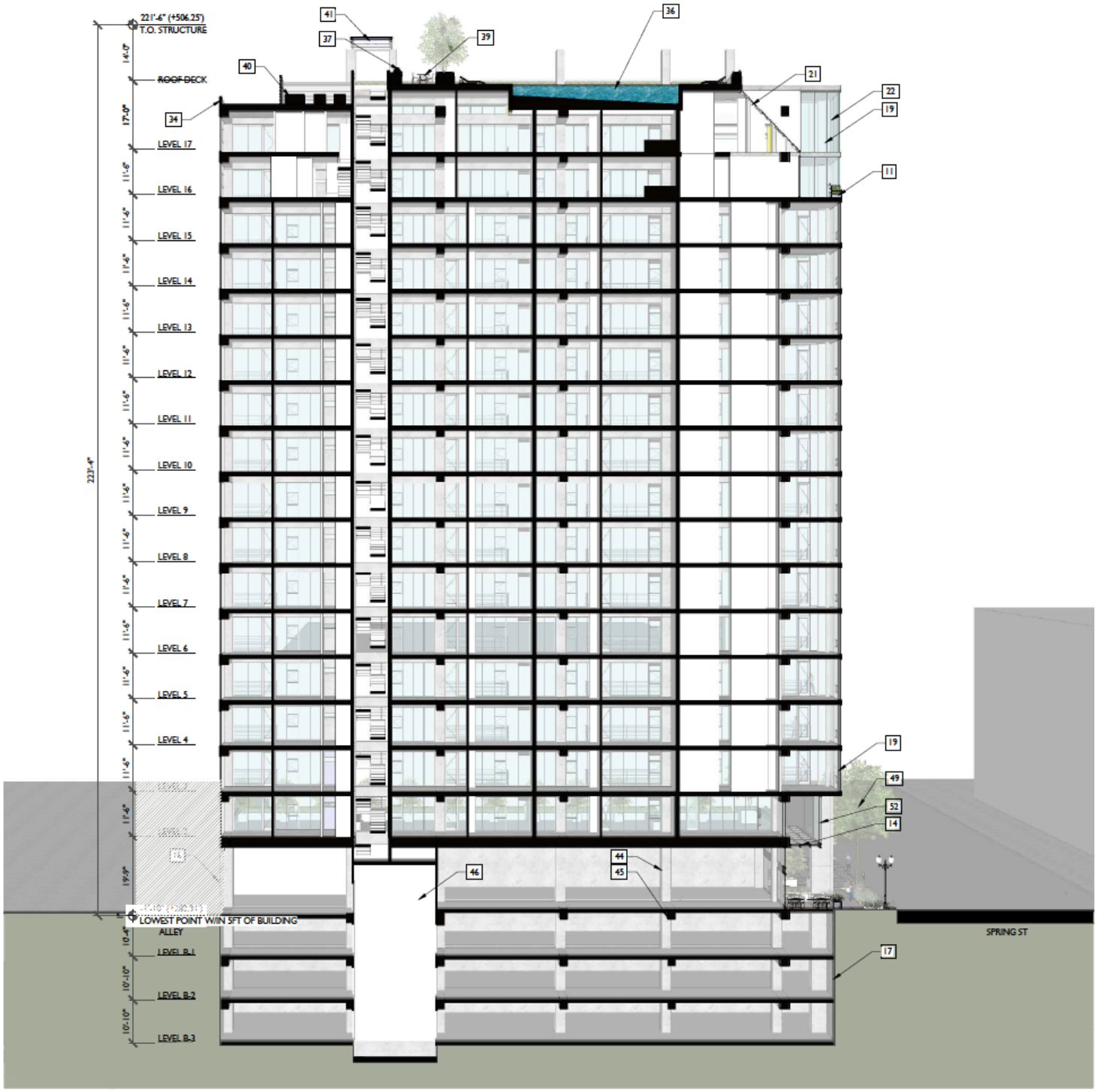
West Elevation

Source: David Lawrence Gray Architects AIA, June 7, 2021.

Figure 12
South and West Elevations

Source: David Lawrence Gray Architects AIA, June 7, 2021.

Figure 13
North and East Elevations

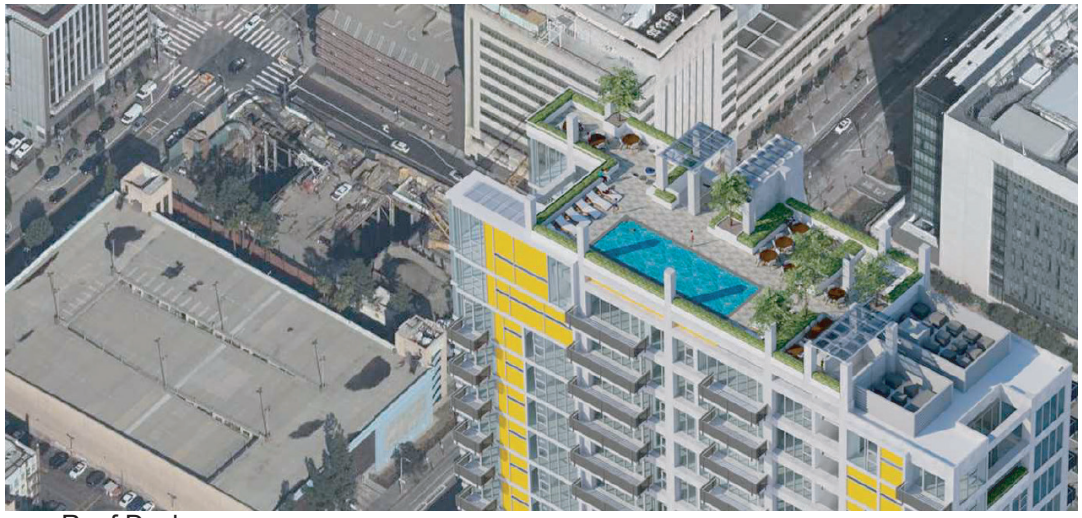


Source: David Lawrence Gray Architects AIA, June 7, 2021.

Figure 14
Building Section

View from Spring Street

West Perspective



Roof Deck

Source: David Lawrence Gray Architects AIA, June 7, 2021.

Figure 15
Architectural Renderings

6. Open Space and Landscaping

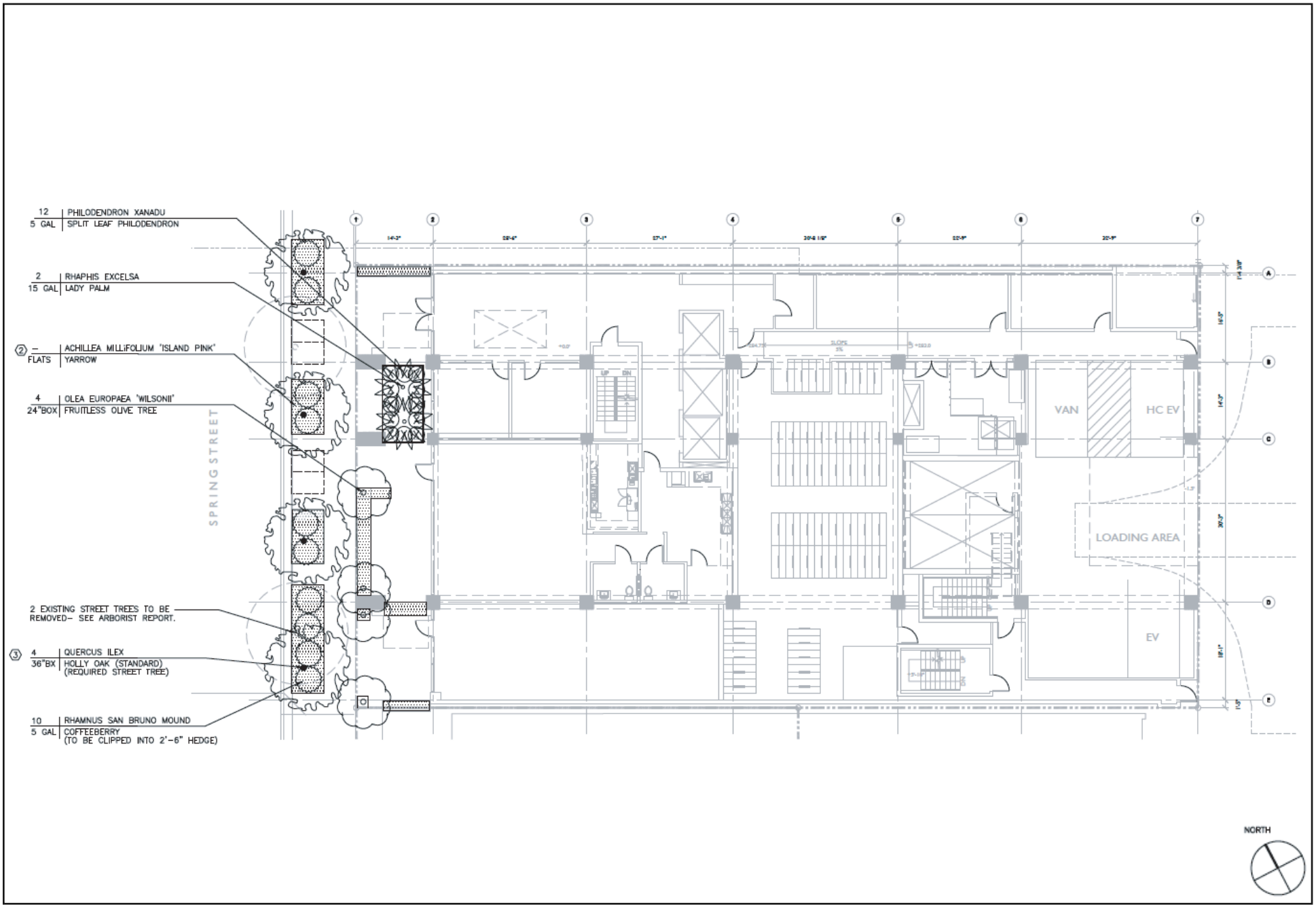
The open space requirements and amount of open space proposed for the Proposed Project are summarized in Table 2, Summary of Required and Proposed Open Space Areas, below. Pursuant to the LAMC, the Proposed Project would be required to provide 100 square feet of open space for each residential dwelling unit with less than three habitable rooms (studio units and one-bedroom units); 125 square feet for each dwelling unit with three habitable rooms (two-bedroom units); and 175 square feet for each dwelling unit with more than three habitable rooms (three-bedroom units). Based on the proposed unit count, the total amount of open space required by the LAMC is 12,475 square feet. The Proposed Project would include 12,692 square feet of open space on the ground level, second level, the roof level, and as private balconies. As part of the open space requirements, the residential component of the Proposed Project includes planting trees at a rate of one tree for every four dwelling units for a total of 30 24-inch box trees. The Proposed Project would provide a minimum of 30 trees on-site to be consistent with the LAMC. The proposed open space areas are shown in Figures 8, 9, and 11, above; and landscape floor plans are shown in Figures 16 to 18, below.

To facilitate construction of the Proposed Project, two street trees (Holly oak trees) fronting the Project Site along Spring Street would be removed and replaced. Street trees would be replaced at a ratio of 2:1 along the public right-of way fronting Spring Street. The removal and replacement of any public trees within the public right-of ways would require review and approval by the City of Los Angeles Board of Public Works, Urban Forestry Division.

Table 2
Summary of Required and Proposed Open Space Areas

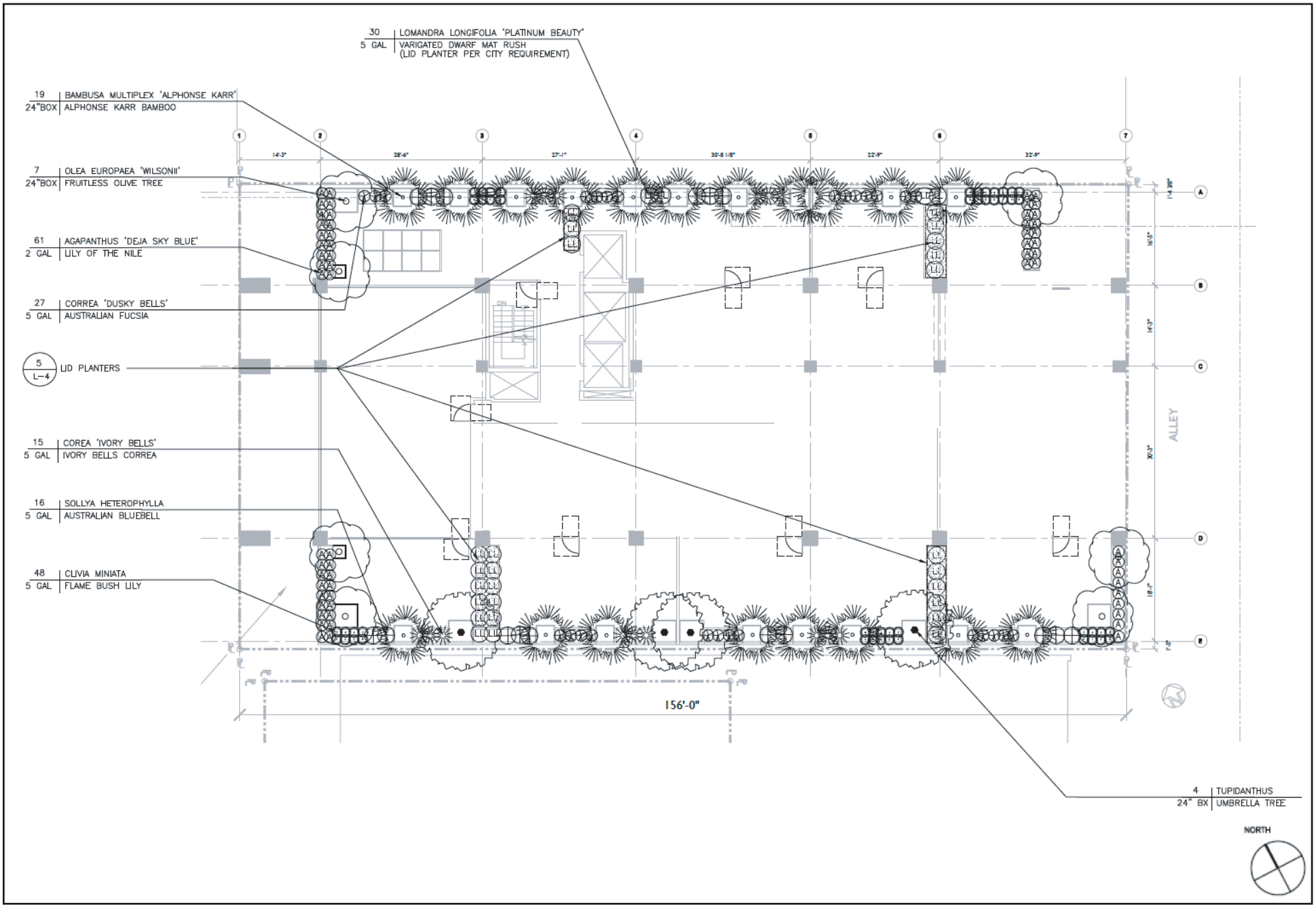
LAMC Open Space Requirements	Dwelling Units	Open Space (square feet)
Less than 3 Habitable Rooms (100 sf/du)	105	10,500
Equal to 3 Habitable Rooms (125 sf/du)	13	1,625
More than 3 Habitable Rooms (175 sf/du)	2	350
	Total Required:	**12,475**
Proposed Open Space	**Open Space (square feet)**	
Recreation Room	1,209	
Patio Lobby	763	
Patio Recreation Room	483	
Roof Deck	4,237	
Private Balconies	6,000	
Total Provided:	**12,692**	

Notes: du = dwelling unit; sf = square feet
Source: David Lawrence Gray Architects, June 7, 2021.



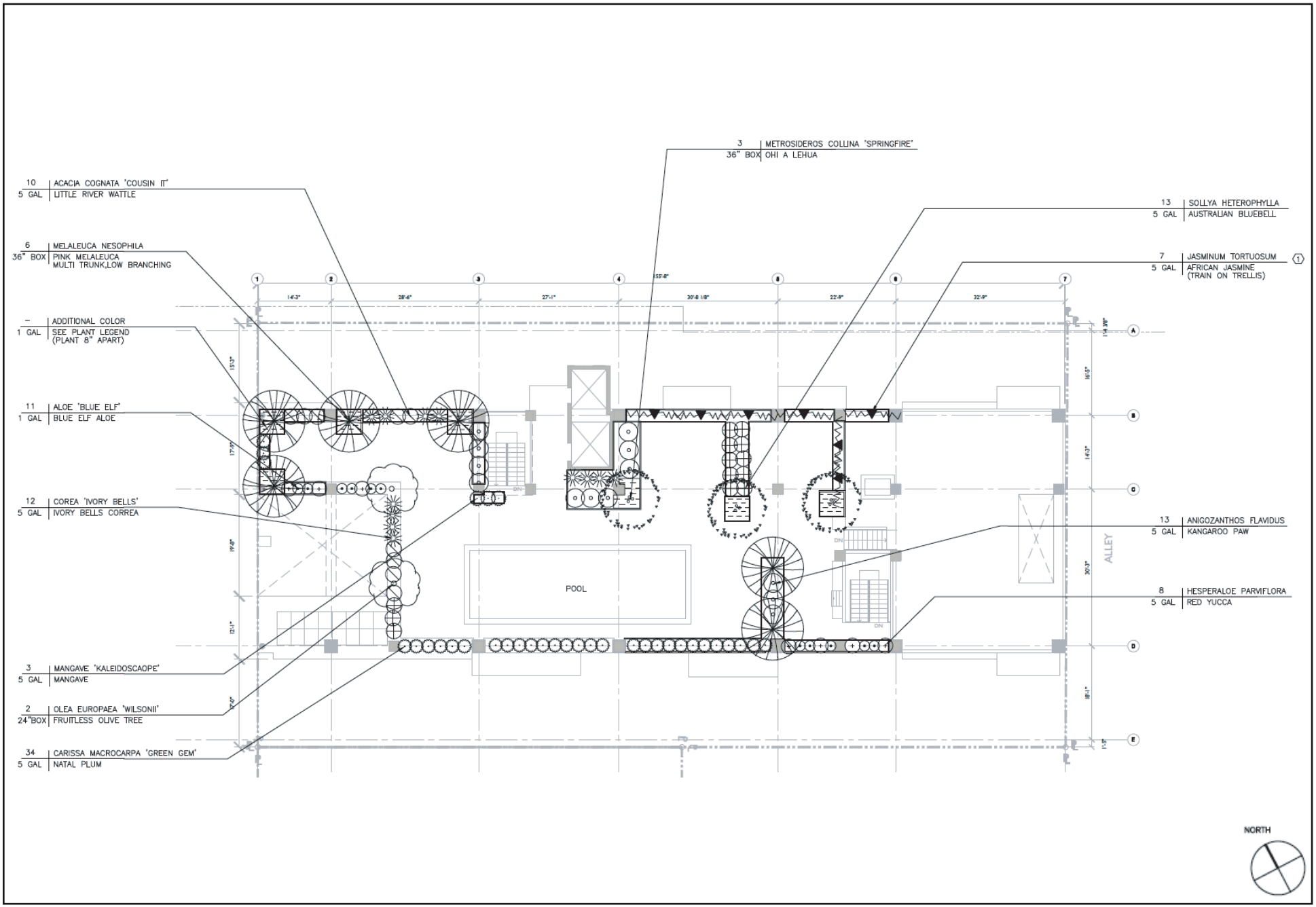
Source: Steven A. Ormenyi & Associates, March 2, 2022.

Figure 16
Level 1 Landscape Plan



Source: Steven A. Ormenyi & Associates, March 2, 2022.

Figure 17
Level 2 Landscape Plan



Source: Steven A. Ormenyi & Associates, March 2, 2022.

Figure 18
Roof Level Landscape Plan

7. Access, Circulation, and Parking

Vehicle Parking

Parking for the proposed residential uses on-site would be provided within three levels of subterranean parking. Vehicular access to the subterranean parking garage would be provided via a full-access driveway along the alleyway, Harlem Place. Pursuant to AB 744 and a Density Bonus Parking Incentive, the Proposed Project would require 0.5 parking spaces per bedroom for each unit. This would result in one-half (0.5) required parking space for each studio and one-bedroom unit, one (1) parking space for each two-bedroom unit, and 1.5 parking spaces for each three-bedroom unit. The Proposed Project would be required to provide 69 residential parking spaces. The Proposed Project would include 69 residential parking spaces.

Pursuant to LAMC Section 12.21 A.4(i)(3), the Proposed Project is not required to provide commercial parking for developments with less than 7,500 square feet of commercial space. Therefore, the Proposed Project would not be required to provide commercial parking spaces. As summarized in Table 3, the Proposed Project would be consistent with the applicable parking requirements with approval of the requested entitlements.

Table 3
Summary of Required and Proposed Vehicle Parking Spaces

Description	Quantity	Parking Required [a, b]		Parking Provided
		Rate	Spaces	
Residential (108 dwelling units)				
0-1 bedroom	105 du	0.5 per du	53	
2 bedrooms	13 du	1 per du	13	
3 bedrooms	2 du	1.5 per du	3	
		Subtotal Residential:	***69***	***69***
Commercial				
Restaurant/Retail	3,013 sf	0 for <7,500 sf	0	
		Subtotal Commercial:	***0***	***0***
		TOTAL:	**69**	**69**

Notes: du = dwelling unit; sf = square feet
[a] *The Applicant requests a Density Bonus Parking Incentive, pursuant to AB 744, to allow 0.5 parking space per bedroom.*
[b] *Pursuant to LAMC 12.21 A.4 (i)(3), developments within the Downtown Parking District do not need to provide parking for commercial space less than 7,500 square feet.*
Source: David Lawrence Gray Architects, June 7, 2021.

Bicycle Parking

The Proposed Project provides on-site bicycle parking for short-term and long-term bike storage. As summarized in Table 4, below, the Proposed Project would be consistent with the applicable parking requirements of the LAMC (as amended by Ordinance No. 185,480 adopted on March 27, 2018, for bicycle parking spaces) and would provide 13 short-term and 89 long-term bicycle parking spaces, for a total of 102 bicycle parking spaces.

Table 4
Summary of Required and Proposed Bicycle Parking Spaces

Description	Quantity	Parking Required [a]		Total Spaces Required	Total Spaces Provided
		Short Term	Long Term		
Residential [b,c]					
Units 1-25	25 du	2	25	27	
Units 26-100	75 du	5	50	55	
Units 101-120	20 du	1	10	11	
Commercial [d]					
Restaurant	1,981 sf	2	2	4	
Retail	1,032 sf	2	2	4	
	TOTAL:	**12**	**89**	**101**	**102**

Notes: du = dwelling unit; sf = square feet
[a] *LAMC 12.21 A.16. Bicycle Parking and Shower Facilities, revised May 9, 2018.*
[b] *Short-term bicycle rates for residential uses are as follows: 1 space per 10 units for first 25 units; 1 space per 15 units for units 26-100, and 1 space per 20 units for units 101-120.*
[c] *Long-term bicycle rates for residential units are as follows: 1 space per unit for first 25 units; 1 space per 1.5 units for units 26-100, and 1 space per 2 units for units 101-120.*
[d] *Commercial uses shall provide both short- and long-term parking at a rate of one space per 2,000 sf, with a minimum of two spaces.*
Source: David Lawrence Gray Architects, June 7, 2021.

8. Lighting and Signage

Exterior lighting features within the Proposed Project would consist of low-level illuminated pedestrian walkways and lighting within common open space areas and outdoor courtyards. On-site signage would include site identity and wayfinding signs in accordance with the LAMC Sign Regulations and the Downtown Design Guide. The Proposed Project would be required to submit a conceptual sign plan, which shall identify all sign types that can be viewed from the street, sidewalk, or public right-of-way. The intent of the conceptual sign plan is to ensure a cohesive, integrated sign program so that all individual tenant signs will attribute to and create strong project identity. The conceptual sign plan will be for information purposes only, and should show general placement on the façade and size.

9. Site Security

Security for the Proposed Project would be provided via site planning and secured access points of entry. The plans for the Proposed Project would incorporate security design measures for semi-public and private spaces, which may include but not be limited to access control to the building, secured parking facilities, walls/fences with key systems, well-illuminated public and semi-public space designed with a minimum of dead space to eliminate areas of concealment, location of building entrances in high-foot traffic areas.

10. Sustainability Features

The Proposed Project would also be required to comply with the L.A. Green Building Code. The L.A. Green Building Code, effective January 1, 2020, requires the use of numerous conservation measures, beyond those required by Title 24 of the California Administrative Code. The L.A. Green

Building Code contains both mandatory and voluntary green building measures to conserve energy. Among many requirements, the L.A. Green Building Code requires projects to achieve a 20 percent reduction in wastewater generation, provide rooftop solar zones, and provide a specific number of electric vehicle (EV)-ready and EV-charging stations. Therefore, compliance with Title 24 of the California Administrative Code and the L.A. Green Building Code would reduce the Proposed Project's energy consumption.

11. Anticipated Construction Schedule

For purposes of analyzing impacts associated with air quality, this analysis assumes a Project construction schedule of approximately 24 months, with final buildout occurring in 2024. Construction activities associated with the Proposed Project would be undertaken in four phases: (1) demolition/site clearing; (2) grading/excavation; (3) building construction; and (4) finishing and architectural coatings. All construction activities would be performed in accordance with all applicable state and federal laws and City Codes and policies with respect to building construction and activities. As provided in Section 41.40 of LAMC, the permissible hours of construction within the City are 7:00 A.M. to 9:00 P.M. Monday through Friday, and between 8:00 A.M. and 6:00 P.M. on any Saturday or national holiday. No construction activities are permitted on Sundays. The Proposed Project would comply with these restrictions.

Demolition/Site Clearing Phase

This phase would include the demolition/site clearing of the commercial building on the Project Site. In addition, this phase may include the removal of trees, walls, and associated debris to construct the 17-story mixed-use building. The demolition and site clearing phase would be completed in approximately one month.

Grading, Excavation, and Foundation Phase

After the completion of the demolition/site clearing phase, the grading and excavation phase for the Proposed Project would occur for approximately three months and would involve excavation and grading for the three-level subterranean garage to ensure the proper base and slope for the building foundations. The Project proposes to export and haul up to 15,000 cubic yards of soil off site.

Building Construction Phase

The building construction phase is expected to occur for approximately 16 months. The building construction phase includes the construction of the proposed 17-story building, connection of utilities to the building, building foundations, laying irrigation for landscaping, and landscaping the Project Site. 9,

Finishing/Architectural Coating Phase

The finishing/architectural coating phase is expected to occur over approximately four months. During this phase, interior cabinets and lighting fixtures would be installed, interior and exterior wall finishing's and paint would be applied, and the installation of windows, doors, cabinetry, and appliances within the residential units and commercial space.

Temporary Right-of-Way Encroachment

Most construction activities for the Proposed Project are anticipated to be contained within the Project Site. However, the construction activities may encroach into the parking/buffer lane along Spring Street. This construction activity would not require the closure of travel lanes along Spring Street, but may require the temporary closure of the alleyway adjacent to the Project Site (Harlem Place). Additionally, Proposed Project construction activities may require the short-term closure of the sidewalk along Spring Street in front of the Project Site. Although the sidewalk closure would block pedestrian access routes along the east side of Spring Street, the presence of a sidewalk on the other side of the street and the presence of crosswalks across Spring Street at 2nd Street and 3rd Street would continue to ensure pedestrian connectivity around the Project Site. Additionally, construction activities would not interfere with transit circulation.

As discussed further in Criteria Question (d), the Proposed Project would prepare a Construction Staging and Traffic Management Plan, to be approved by the LADOT in connection with the Proposed Project's plan check and permitting process. This plan will detail the measures during construction related to designated haul routes and staging areas, traffic control procedures, emergency access provisions, and construction crew parking. The Proposed Project shall obtain prior LADOT approval for any lane closures, detours, on-street staging areas, or other temporary changes in traffic control due to construction activities and will enact appropriate temporary traffic control procedures. Haul routes for Project construction will be coordinated with the City of Los Angeles Department of Building and Safety (LADBS), as needed, to minimize the impact of construction traffic to congested roadways and residential streets.

Unless stated otherwise, all construction activities would be performed in accordance with all applicable state and federal laws and City Codes and policies with respect to building construction and activities. As provided in Section 41.40 of LAMC, the permissible hours of construction within the City are 7:00 A.M. to 9:00 P.M. Monday through Friday, and between 8:00 A.M. and 6:00 P.M. on any Saturday or national holiday. The Department of City Planning further restricts the hours of construction in residential areas to 6:00 P.M. on weekdays. No construction activities are permitted on Sundays. The Proposed Project would comply with these restrictions.

Haul Route

The Proposed Project would not require a haul route application, since the Project Site is not located within a special grading area by the Los Angeles Bureau of Engineering. All construction and demolition debris would be recycled to the maximum extent feasible. Demolition debris and soil materials from the Project Site that cannot be recycled or diverted would be hauled to the Sunshine Canyon Landfill, which accepts construction and demolition debris and inert waste from areas within the City of Los Angeles. The Sunshine Canyon Landfill is approximately 27 miles north of the Project Site (approximately 54 miles round trip). For recycling efforts, Downtown Diversion (operated by Waste Management, Inc.) accepts construction and demolition waste for recycling and is located approximately 3 miles southeast of the Project Site (approximately 6 miles round trip).[3] Construction debris generated during the building construction phase would be hauled

[3] *Construction and Demolition Debris Recycling Facilities in Los Angeles County, website: https://dpw.lacounty.gov/epd/CD/cd_attachments/Recycling_Facilities.pdf, accessed June 2021.*

to the Downtown Diversion station for processing, recycling, and reclamation. Any waste materials not suitable for diversion would likely be disposed of at the Sunshine Canyon Landfill facility.

D. Requested Permits and Approvals

The list below includes the anticipated requests for approval of the Proposed Project. The discretionary entitlements, reviews, permits and approvals required to implement the Proposed Project include, but are not necessarily limited to, the following:

1. Pursuant to LAMC Section 12.22 A.25, a Density Bonus Compliance Review to permit a mixed-use residential and commercial development with 120 units and 3,013 square feet of commercial space, of which 14 units will be set aside for Very Low Income Households, and the following two Incentives:
    a. On-menu 35% increase in FAR from 6:1 to a maximum of 8.1:1; and
    b. Pursuant to AB 744, a base incentive to utilize the vehicle parking space requirement of 0.5 space per bedroom to allow 69 vehicle parking spaces on-site;
2. Pursuant to LAMC Section 16.05, Site Plan Review for a proposed mixed-use building creating more than 50 net dwelling units;
3. Pursuant to LAMC Section 12.22 A.26, Downtown Design Guide Review for the proposed development.

Pursuant to various sections of the LAMC, the Applicant will request administrative approvals and permits from the Building and Safety Department and other municipal agencies for Project construction actions, including but not limited to the following: demolition, site clearing, shoring, grading, foundation, building, haul route, street tree removal, and tenant improvements.

Section 3. Evaluation of Class 32 Criteria

Every discretionary action requires environmental review pursuant to CEQA. However, the CEQA Guidelines (Sections 15300 to 15332) include a list of classes of projects, which have been determined to not have a significant effect on the environment, known as Categorical Exemptions. If a project falls within one of these classes, it is exempt from the provisions of CEQA, and no further environmental review is required. The Class 32 "Infill" Categorical Exemption (CEQA Guideline Section 15332), hereafter referred to as the Class 32 Exemption, exempts infill development within urbanized areas if it meets certain criteria. The class consists of infill projects that are consistent with the local General Plan and Zoning requirements. This class is not intended for projects that would result in any significant traffic, noise, air quality, or water quality impacts. It may apply to residential, commercial, industrial, and/or mixed-use projects. As supported by the information presented herein, the Proposed Project falls under the Class 32 Exemption since it is an in-fill development.

A Class 32 Exemption applies to a project characterized as in-fill development meeting the conditions described below:

a) The project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations.

b) The proposed development occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses.

c) The project site has no value as habitat for endangered, rare or threatened species.

d) Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality.

e) The site can be adequately served by all required utilities and public services.

As presented herein, the Proposed Project qualifies for a Class 32 Infill Development Project under the P.R.C. 21000-21189.2 (CEQA), and the State CEQA Guidelines (C.C.R. Title 14, Division 6, Chapter 3, 15000-15387). The Proposed Project meets all of the criteria necessary to qualify for a CEQA Exemption as a Class 32 (Infill Development Project) pursuant to CEQA Guideline Section 15332, respectively, and no significant environmental impacts would result from any unusual circumstances. Therefore, no further environmental analysis is warranted.

Section 4. Supporting Analysis for a Class 32 Categorical Exemption

Consistent with the State CEQA Guidelines and the Department of City Planning's policies for implementing CEQA, the following assessment provides substantial evidence to support the determination that the Proposed Project meets the above criteria, pursuant to the Class 32 (Infill Development) requirements as set forth in Section 15332 of the State CEQA Guidelines.

a) The Proposed Project is consistent with the applicable General Plan designation and all applicable General Plan policies as well as with applicable zoning designation and regulations.

The Project Site is subject to the zoning codes and design regulations of the LAMC. The Project Site is located within the Central City Community Plan area, the City Center Redevelopment Project Plan area, a Transit Priority Area in the City of Los Angeles (ZI-2452), the Los Angeles State Enterprise Zone (ZI-2374), a Greater Downtown Housing Incentive Area (ZI-2385), and a Metropolitan Transportation Authority Right-of-Way (Metro ROW) Project area (ZI-1117).

Zoning Designations and Regulations

Land Use

The Proposed Project includes the construction of a 17-story mixed-use residential and commercial building with 120 multi-family dwelling units and 3,013 square feet of commercial space (1,032 square feet of retail and 1,981 square-foot restaurant). Of the proposed dwelling units, 11 percent of the units (14 units) would be reserved as restricted affordable dwelling units. The Project Site is zoned C2-4D with a General Plan land use designation of Regional Center Commercial. Pursuant to LAMC Section 12.14.1, the Proposed Project's mixed-use residential and commercial development is allowed on a C2 zone. As such, the Proposed Project is consistent with the C2 zone, and the corresponding General Plan land use designations, which allow for the proposed high-density multi-family residential and commercial development. The Proposed Project is appropriate in this location to promote new housing, and provide the City with much needed affordable housing. Therefore, the Proposed Project would conform to the allowable land uses pursuant to the LAMC.

Floor Area Ratio / Height

The Project Site is located in Height District No. 4, which has unlimited height, but limits development to a FAR of 13:1. Ordinance No. 164,307 establishes the "D" limitation on the Project Site, which further limits FAR on the Project Site to a maximum of 6:1. Based on buildable lot area of 12,784 square feet and FAR limitation of 6:1, the Proposed Project is allowed a floor area of 76,704 square feet. Pursuant to LAMC Section 12.22 A.25(g)(3), in exchange for setting aside 11

percent of the base density (14 units) as very low-income housing units, the Proposed Project is eligible to receive development incentives, including an on-menu incentive to increase the allowable FAR by 35 percent to a maximum of 8.1:1, resulting in an allowable floor area of 103,550 square feet. The Proposed Project includes approximately 103,550 square feet of floor area, resulting in a FAR of 8.1:1. With approval of the discretionary requests, the Proposed Project would be consistent with the FAR provisions of the LAMC.

Density

Pursuant to LAMC Section 12.22 C.3, Incentives to Produce Housing in the Greater Downtown Housing Incentive Area, residential density on the Project Site is not limited by the lot area of the C2 Zone. The Proposed Project proposes a maximum of 120 dwelling units. Therefore, the Proposed Project would be consistent with the allowed density on the Project Site.

Setbacks

Per the Greater Downtown Housing Incentive Area, LAMC Section 12.22 C.3(a), no yard requirements apply to lots in the C2 Zone that are located in the Greater Downtown Housing Incentive Area, except as required by the Downtown Design Guidelines. The Downtown Design Guidelines may require additional sidewalk easement for downtown streets to enhance pedestrian network, but sidewalk easement was not required along the Project Site. As such, the Proposed Project would not be required to provide any setbacks.

Parking

Vehicle Parking

Because the Proposed Project is an infill project in a Transit Priority Area, the Proposed Project's potential parking impacts shall not be considered significant impacts on the environment pursuant to P.R.C. Section 21099. As such, the following parking consistency analysis is provided for informational purposes.

Parking for the proposed residential uses on-site would be provided within three levels of subterranean parking. Vehicular access to the subterranean parking garage would be provided via a full-access driveway along the adjacent alleyway. Pursuant to AB 744 and Density Bonus Parking Incentive, the Proposed project would require 0.5 parking spaces per bedroom for each unit. This would result in 0.5 required parking space for each studio and one-bedroom unit, one parking space for each two-bedroom units, and 1.5 parking spaces for each three-bedroom unit. The Proposed Project would be required to provide 69 residential parking spaces. Therefore, the Proposed Project would include 69 residential parking spaces. Pursuant to LAMC Section 12.21 A.4(i)(3), the Proposed Project is not required to provide commercial parking for developments with less than 7,500 square feet of commercial space. Therefore, the Proposed Project would not be required to provide commercial parking spaces. Thus, the Proposed Project would be consistent with the applicable parking requirements with approval of the requested entitlements.

Bicycle Parking

The Proposed Project would be required to provide 89 long-term and 12 short-term bicycle parking spaces, for a total of 101 bicycle parking spaces. The Proposed Project would provide 102 bicycle parking spaces throughout the ground level and in the proposed parking areas. Therefore, the Proposed Project would be consistent with the required bicycle parking spaces pursuant to the LAMC.

Open Space

Pursuant to the LAMC, the Proposed Project would be required to provide 100 square feet of open space for each residential dwelling unit with less than three habitable rooms (studio units and one-bedroom units); 125 square feet for each dwelling unit equal to three habitable rooms (two-bedroom units); and 175 square feet for each dwelling unit with more than three habitable rooms (three-bedroom units). Based on the proposed unit count, the total amount of open space required by the LAMC is 12,475 square feet. The Proposed Project would include 12,692 square feet of open space on the ground level, second level, the roof level, and private balconies. As part of the open space requirements, the residential component of the Proposed Project includes planting trees at a rate of one tree for every four dwelling units for a total of 30 required trees. The Proposed Project would provide a minimum of 30 trees on-site to be consistent with the LAMC. Thus, the Proposed Project would be consistent with the open space requirements of the LAMC.

Central City Community Plan

The Project Site is located in the Central City Community Plan area ("Community Plan"). The Community Plan sets forth goals and objectives to maintain the community's distinctive character by: preserving and enhancing the positive characteristics of existing residential neighborhoods while providing a variety of compatible housing opportunities; improving the function, design and economic vitality of commercial and industrial areas; preserving and enhancing the positive characteristics of existing uses which provide the foundation for community identity, such as scale, height, bulk, setbacks and appearance; maximizing development opportunities around future transit systems while minimizing any adverse impacts; and preserving and strengthening commercial and industrial developments to provide a diverse job-producing economic base; and through design guidelines and physical improvements, enhance the appearance of these areas.

The Proposed Project would provide a 17-story mixed-use residential and commercial development with 120 dwelling units and 3,013 square feet of ground-floor commercial space, which would conform to the objectives and policies identified in the Community Plan. A detailed analysis of the consistency of the Proposed Project with the applicable objectives of the Central City Community Plan is presented in Table 5, below.

Table 5
Project Consistency with Applicable Objectives and Policies of the Central City Community Plan Land Use Element for Residential and Commercial Land Uses

Objective / Policy	Project Consistency Analysis
Residential	
Policy 1-1.1: Maintain zoning standards that clearly promote housing and limit ancillary commercial to that which meets the needs of neighborhood residents or is compatible with residential uses.	**No Conflict.** The Proposed Project aims to promote residential land uses in South Park. The Project Site is zoned C2-4D with a land use designation of Regional Center Commercial. The Proposed Project would maintain and be developed in accordance with the current zoning and land use designation. The Proposed Project would add multi-family residential units reserved at market and affordable rates to provide needed housing to residents in the City of Los Angeles. Thus, the Proposed Project would not conflict with this policy.
Objective 1-2: To increase the range of housing choices available to Downtown employees and residents.	**No Conflict.** The Proposed Project would increase the housing stock in Downtown Los Angeles with safe, attractive, and centrally located apartment units. The units would be available to existing Downtown employees and residents. The dwelling units would also be available at market and affordable rates. Thus, the Proposed Project would contribute to the range of housing choices available to Downtown employees and residents.
Policy 1-2.1: Promote the development of neighborhood work/live housing.	**No Conflict.** The Proposed Project would include approximately 120 multi-family dwelling units fronting Spring Street. Additionally, the Project Site is located near numerous employment opportunities in the Downtown Los Angeles area. Therefore, the Proposed Project would locate residential dwelling units near a major employment center allowing the future residents to live and work in the neighborhood. Therefore, the Proposed Project does not hinder the intent of this policy.
Objective 1-3: To foster residential development which can accommodate a full range of incomes.	**No Conflict.** The Proposed Project's units would range from studio units to three-bedroom units and be of different sizes and configurations. The proposed dwelling units would be available at range of market and affordable rates. The Proposed Project would increase the housing choices available in Downtown Los Angeles. The additional units will increase supply and help reduce upward pressure on housing costs. Thus, the Proposed Project supports this objective.
Policy 1-3.1: Encourage a cluster neighborhood design comprised of housing and services.	**No Conflict.** The Project Site is located in a Transit Priority Area and in a highly urbanized area of Downtown Los Angeles. The Proposed Project would be within walking distance to numerous services, retail, and employment opportunities. Additionally, the Project Site is in close proximity to many public transportation options, including bus and subway lines. Therefore, the Proposed Project supports the cluster neighborhood design concept of including residents near neighborhood facilities. Thus, the Proposed Project would not conflict with this policy.
Commercial	
Objective 2-1: To improve Central City's	**No Conflict.** The Proposed Project includes 3,013

competitiveness as a location for offices, business, retail, and industry.	square feet of ground-floor commercial/retail uses that would front Spring Street. The Proposed Project would provide new opportunities for new businesses or the expansion or relocation of existing businesses; thus, increasing business opportunities Downtown. The Proposed Project would be compatible with the character of these districts and foster new business and employment opportunities and potential customers, which helps improve the competitiveness of the Downtown commercial area. Thus, the Proposed Project would not conflict with this objective.
Policy 2-1.2: To maintain a safe, clean, attractive, and lively environment.	**No Conflict.** Compliance with all applicable building code requirements would ensure that the building maintains a safe, clean, attractive and lively environment during the Project's construction and operation. Thus, the Proposed Project would not conflict with this policy.
Objective 2-2: To retain the existing retail base in Central City.	**No Conflict.** The Project Site is currently developed with a commercial building. The Proposed Project would develop 3,013 square feet of ground-floor commercial/retail fronting Spring Street, which would provide new opportunities for new businesses or the expansion or relocation of existing businesses. Additionally, the Proposed Project would add approximately new residents to the Central City area. These new residents would likely be new customers that would support nearby local businesses. Thus, the Proposed Project would not conflict with this objective.
Policy 2-2.1: Focus on attracting businesses and retail uses that build on existing strengths of the area in terms of both the labor force and businesses.	**No Conflict.** The Proposed Project includes ground-floor commercial space fronting Spring Street. As such, the Proposed Project provides new space and opportunities that can attract businesses Downtown. Therefore, the Proposed Project would not conflict with this policy.
Policy 2-2.2: To encourage pedestrian-oriented and visitor serving uses during the evening hours especially along Grand Avenue cultural corridor between the Hollywood Freeway (US 101) and Fifth Street, the Figueroa Street corridor between the Santa Monica Freeway (I-10) and Fifth Street and Broadway between Third Street and Ninth Street.	**No Conflict.** The Proposed Project would introduce new permanent residents and provide ground-floor commercial/retail. The Project Site is in walking distance from many services, employment opportunities, and retail spaces in the Downtown Los Angeles area. Thus, the Proposed Project would encourage a pedestrian-oriented development that would support activities and uses into the evening hour. Although the Proposed Project is not located on Grand Avenue, Figueroa Street, Fifth Street or Broadway, the Proposed Project would support the intent of this policy.
Policy 2-2.3: Support the growth of neighborhoods with small, local retail services.	**No Conflict.** The Proposed Project would include 3,013 square feet of neighborhood serving ground-floor commercial/retail spaces fronting Spring Street. Thus, the Proposed Project would add local retail services to support and the growth of the Civic Center neighborhood. Therefore, the Proposed Project would not conflict with this policy.
Objective 2-3: To promote land uses in Central City that will address the needs of all the visitors to Downtown for business, conventions, trade shows, and tourism.	**No Conflict.** The Proposed Project would be consistent with the surrounding neighborhood by adding a mixed-use development to an area that is characterized by mixed-use development. The building's design and ground-floor commercial/retail spaces would enhance

	pedestrian activity in the area, especially within the Downtown area. The ground-floor commercial/retail space will address the needs of visitors to Downtown who are traveling for business, conventions, trade shows, and tourism. Thus, the Proposed Project would support this objective.
Objective 2-4: To encourage a mix of uses which creates an active, 24-hour downtown environment for current residents and which would also foster increased tourism.	**No Conflict.** The proposed mixed-use development would contribute and support this objective by adding new residents and ground-floor commercial/retail spaces. The Proposed Project would be designed to enhance pedestrian activity with the retail stores' main entrances fronting the public right-of-way and providing night-time lighting for enhanced security. These features, among others, would contribute to an active, 24-hour downtown environment. Thus, the Proposed Project would not conflict with this objective.
Policy 2-4.1: Promote nightlife activity by encouraging restaurants, pubs, night clubs, small theaters, and other specialty uses to reinforce existing pockets of activity.	**No Conflict.** The Proposed Project includes ground-floor commercial/retail spaces fronting Spring Street. The commercial and retail uses would create an existing pocket of activity, which would support and promote nightlife activities. The Proposed Project would be designed to enhance pedestrian activity with the commercial and retail stores' main entrances fronting the public right-of-way and providing night-time lighting for enhanced security. The Proposed Project would reinforce and add to the attraction of these pockets of activity by adding new residents to the area. Thus, the Proposed Project is consistent with this policy.
Objective 2-5: To increase specialty and ethnic markets in order to foster a diverse range of retail and commercial uses in Central City.	**No Conflict.** The Proposed Project provides new ground-floor commercial/retail space, which would be made available to all market types including specialty and ethnic stores. Thus, the Proposed Project would support this objective.
Source: City of Los Angeles, Central City Community Plan, Land Use and Planning Element. *Parker Environmental Consultants, 2021.*	

The Proposed Project would thus be consistent with the applicable objectives and policies of the Community Plan. As such, impacts related to the consistency with the applicable land use and planning policies in the Central City Community Plan would be less than significant.

Redevelopment Plan for the City Center Redevelopment Plan

Development on the Project Site is further defined by the Redevelopment Plan for the City Center Redevelopment Project ("Redevelopment Plan"). Development in the Redevelopment Project Area is governed by the Redevelopment Plan that was adopted in May 2002 by the CRA/LA and remains effective until May 2032. Due to State legislation, the Community Redevelopment Agency of the City of Los Angeles (CRA/LA) has since been disbanded and there is a successor agency to the CRA/LA. Pursuant to Ordinance 183,325 (effective November 11, 2019), the authority or responsibility to perform actions and related land use functions regarding any Redevelopment Plan Amendment or land use approval or entitlement pursuant to Section 11.5.14 and applicable provisions of the Code was transferred to the Department of City Planning. Specific design considerations from the Redevelopment Plan include: height, development densities, building

setbacks, signage, open space and privacy, utilities, parking, and loading facilities. The Redevelopment Plan identifies overall objectives and development standards to guide the development, redevelopment, and rehabilitation of properties within the City Center area. The City Center area encompasses much of Historic Downtown, City Markets, and South Park.

The Proposed Project is located within the Historic Downtown neighborhood of the City Center Redevelopment Project area. The Redevelopment Plan's objective for the Historic Downtown Development area is to achieve a mixed use residential, commercial, office, cultural, recreational, entertainment and institutional area primarily through the adaptive re-use of the large stock of structures of architectural and historic merit. Rehabilitation of this area is in part dependent on addressing the social, medical and economic problems of the Central City population. The area includes two national register historic districts encompassing substantial portions of Broadway and Spring Streets. The predominant uses shall include both private and governmental office uses, residential uses, theaters, restaurants, local and regional serving commercial and entertainment uses, and other uses compatible with a medium to high density mixed use urban core environment. Specifically, Section 508.1 calls for the following uses on private land: "Regional Center Commerce and Parking, including but not limited to service establishments, retail stores, corporate headquarters, business offices, professional offices, other centers of financial trade, jewelry, manufacturing, wholesaling and sales, recreational enterprises including theaters, clubs and movie houses, hotel and motel uses, and other compatible and related uses; high and medium density housing where compatible with existing and proposed development; adaptive use of loft conversions of existing underused commercial buildings, open space and parking."

The Proposed Project is compatible with other existing and approved mixed-use high-density buildings located within the Downtown area. Table 6, below, provides a detailed analysis of the consistency of the Proposed Project with the applicable objectives of the Redevelopment Plan. The Project is also subject to Section 501 of the Redevelopment Plan (General Controls and Limitations), which requires that all structures comply with Federal, State, and Los Angeles City laws in effect, including the City building codes and ordinances. (Redevelopment Plan, p 16.) The Proposed Project's consistency with the objectives in the Redevelopment Plan is further analyzed in Table 6, below.

Table 6
Project Consistency with Applicable Objectives of the City Center Redevelopment Plan

Objective	Project Consistency Analysis
• To eliminate and prevent the spread of blight and deterioration and to rehabilitate and redevelop the Project Area in accordance with this Plan.	**No Conflict.** The Proposed Project would redevelop an underutilized site that is currently developed with a commercial building. The Proposed Project would be designed and landscaped in accordance with the design guidelines of the Downtown Design Guide. Compliance with all applicable building code requirements would further ensure that the building maintains a safe, clean, and attractive environment during the Proposed Project's construction and operation. As such, the Proposed Project would prevent the spread of blight and deterioration by redeveloping an underutilized site in accordance with the Plan. Thus, the Proposed Project would not conflict with this objective.
• To further the development of Downtown as the major center of the Los Angeles metropolitan region, within the context of the Los Angeles General Plan as envisioned by the General Plan Framework, Concept Plan, City-wide Plan portions, the Central City Community Plan, and the Downtown Strategic Plan.	**No Conflict.** The Proposed Project would be designed and developed with the guidance of City Planning Staff and the applicable plans. Therefore, the Proposed Project would further the goals of the Los Angeles General Plan, Framework Element, the Central City Community Plan, and the Downtown Strategic Plan. Thus, the Proposed Project would not conflict with this objective.
• To create an environment that will prepare, and allow, the Central City to accept that share of regional growth and development which is appropriate, and which is economically and functionally attracted to it.	**No Conflict.** The Proposed Project would replace a commercial building and introduce new multi-family dwelling units in the area, which would accommodate an increase of population and housing. Nevertheless, the Proposed Project housing and population generation is consistent with SCAG's growth projections for the City of Los Angeles Subarea. Additionally, the Proposed Project would not conflict with the City's goals of increasing housing in transit-rich areas near services, retail, and employment opportunities to reduce vehicle-miles traveled; increasing safe and healthy housing options downtown; and increasing the diversity of the housing stock. Therefore, the Proposed Project is consistent with Central City development goals and growth projections and would not hinder the implementation of this objective.
• To guide growth and development, reinforce viable functions, and facilitate the redevelopment, revitalization or rehabilitation of deteriorated and underutilized areas.	**No Conflict.** The Proposed Project would not conflict with this objective since it proposes the development of an underutilized site that is currently developed with a commercial building. The Proposed Project would be designed with the guidance of applicable plans and design guidelines. Therefore, the Proposed Project would not conflict with this objective.
• To create a modern, efficient and balanced urban environment for people, including a full range of around-the-clock activities and uses, such as recreation, sports, entertainment and housing.	**No Conflict.** The Proposed Project would provide new residential units to the Downtown Los Angeles area. Additionally, the Proposed Project would be designed to promote pedestrian activity since no parking spaces are proposed on-site. The main entrances would front the public right-of-way and provide night-time lighting for enhanced security. The Proposed Project's location near mass transit and within walking distance to services, retail stores, and employment opportunities promotes a

	pedestrian-friendly environment. Thus, the Proposed Project would not conflict with this objective.
• To create a symbol of pride and identity which gives the Central City a strong image as the major center of the Los Angeles region.	**No Conflict.** Development of the Project Site is guided by the Redevelopment Plan, Central City Community Plan, and the Downtown Design Guide. The Proposed Project would not conflict with this objective and preserve and contribute to the area's symbol of pride and identity by introducing a mixed-use residential and commercial development that would be consistent with the Downtown Design Guidelines. Therefore, the Proposed Project furthers the goals of this objective.
• To facilitate the development of an integrated transportation system which will allow for the efficient movement of people and goods into, through, and out of the Central City.	**No Conflict.** This objective is directed towards City goals and does not specifically pertain to the Proposed Project. The Proposed Project would place new housing and commercial space in a highly walkable and transit-rich area. As such, residents and guests of the Proposed Project can easily move around the Central City area and greater Los Angeles region. Therefore, the Proposed Project furthers the goals of this objective.
• To achieve excellence in design, based on how the Central City is to be used by people, giving emphasis to parks, green spaces, streetscapes, street trees, and places designed for walking and sitting, and to develop an open space infrastructure that will aid in the creation of a cohesive social fabric.	**No Conflict.** The Downtown Design Guide directs the design of the Proposed Project. As such, the Proposed Project would be consistent with the design and development goals of the Central City Community Plan area. As such, the Proposed Project would be attractively designed and landscaped. The Proposed Project would provide private and common open space to its residents, which would reduce the Proposed Project's demand on local parks and open space. By providing on-site open space and the payment of the park fee, the Proposed Project's impacts on local parks would be less than significant. With development of the Project and payment of the fee, the Proposed Project would not conflict with this objective.
• To preserve key landmarks which highlight the history and unique character of the City, blending old and new in an aesthetic realization of change or growth with distinction, and facilitating the adaptive reuse of structures of architectural, historic or cultural merit.	**No Conflict.** The Project Site is currently developed with a commercial building, and no significant landmarks or structures exist on-site. As previously discussed, the Proposed would have a less than significant impact on identified surrounding historic resources and would not negatively affect the physical integrity of any historical resource. The identified historical resource, the Higgins Building, in the vicinity of the Project Site would remain eligible for listing under the relevant landmark program. The ability of these historical resources to convey their significance would not be materially impaired by the Proposed Project. As such, the Proposed Project would not destroy or demolish key landmarks and historical or unique features of the City, which would not conflict with the goals of this objective.
• To provide high and medium density housing close to employment and available to all ethnic, social and economic groups, and to make an appropriate share of the City's low- and moderate-income housing available to residents of the area.	**No Conflict.** The Proposed Project would locate high-density housing near many employment opportunities. The Proposed Project's new residents would provide new foot traffic for the surrounding business. Additionally, the residential units would be available at market and affordable rates to all ethnic, social, and economic groups without discrimination. As such, the Proposed Project would not conflict with this objective.
• To establish an atmosphere of	**No Conflict.** This objective is directed toward City goals

cooperation among residents, workers, developers, business, special interest groups and public agencies in the implementation of this Plan.	and is not specifically applicable to the Proposed Project. The Proposed Project would be designed and developed with the guidance of the Department of City Planning, and other necessary City departments. Additionally, the Proposed Project would be designed in accordance with plans and design guidelines that have jurisdiction over the Project Site. As such, the Proposed Project would not conflict with this objective.
Notes: *1. "Plan" used within this table means the City Center Redevelopment Plan.* *Source: City of Los Angeles, Redevelopment Plan For the City Center Redevelopment Project (Ordinance No. 174593), May 15, 2002.* *Parker Environmental Consultants, 2021.*	

The Redevelopment Plan designates the Project Site as commercial. The Redevelopment Plan establishes five criteria for residential uses within commercial areas, which includes residential in a commercial zone. These criteria are:

1. Promote community revitalization;
2. Promote the goals and objectives of the Plan;
3. Be compatible with and appropriate for the Commercial uses in the vicinity;
4. Include amenities which are appropriate to the size and type of housing units proposed; and
5. Meet design and location criteria required by the Community Redevelopment Agency.

The Proposed Project would be consistent with the criteria for residential uses in commercial areas. The Proposed Project would revitalize an underutilized lot with the development of a high-density multi-family residential units. As demonstrated in Table 6, above, the Proposed Project would not conflict with the goals and objectives of the Redevelopment Plan. The Proposed Project's land uses are consistent with the surrounding neighborhood that is characterized by existing residential, commercial, and mixed-use buildings. Additionally, the Proposed Project would be consistent with the Project Site's zoning (C2-4D) and General Plan land use designation (Regional Center Commercial). As such, the Proposed Project would be compatible and appropriate for the residential and commercial land uses located in the vicinity of the Project Site. Further, the Proposed Project would provide open space for the residents, which would comply with the LAMC requirements for open space. Thus, the Proposed Project would include amenities, which are appropriate to the size and type of housing proposed. The Redevelopment Plan refers to the Downtown Design Guide for guidance in building design. The proposed building would be designed with the guidance of this document.

Section 512.1 of the Redevelopment Plan allows for a maximum FAR of 6 to 1 in the Historic Downtown Development Area. However, through the Density Bonus Incentives, the Proposed Project would be entitled to a 35 percent increase in FAR to a maximum of 8.1:1 FAR. Additionally, the Proposed Project is well served by transit and is within walking distance of the Pershing Square and the Civic Center/Grand Park Metro Stations. Therefore, the Proposed Project would not conflict with the Redevelopment Plan's goal to promote higher density multi-family development and its overall objectives.

Downtown Design Guide: City of Los Angeles

The City's Downtown Design Guide has been adopted by the City to guide its design review of projects as part of Site Plan Review. The Downtown Design Guide: City of Los Angeles encourages Downtown Los Angeles to develop as a more sustainable and livable community. The focus of the Design Guide is on the relationship of buildings to the street, including sidewalk treatment, character of the building as it adjoins the sidewalk, and connections to transit. To achieve this harmony between buildings and public rights-of-way, the Design Guide provides design goals and specific requirements for the design of sidewalks and setbacks, ground floor treatment, parking and access, building massing and street wall, on-site open space, architectural detail, streetscape improvements, signage, public art, and promote civic and cultural life, which are discussed in further detail below. Additionally, the Downtown Design Guide identifies design principles for creating a livable downtown; these principles include:

- *Employment Opportunities.* Maintain and enhance the concentration of jobs, in both the public and private sectors, that provides the foundation of a sustainable Downtown.
- *Housing Choices.* Provide a range of housing types and price levels that offer a full range of choices, including home ownership, and bring people of diverse ages, ethnicities, household sizes and income into daily interaction.
- *Transportation Choices.* Enable people to move around easily on foot, bicycle, transit, or auto. Accommodate cars but fewer than in the suburbs and allow people to live easily without one.
- *Shops and Services Within Walking Distance.* Provide shops and services for everyday needs, including groceries, day care, cafes and restaurants, banks and drug stores, within an easy walk from home.
- *Safe, Shared Streets.* Design Streets not just for vehicles, but as usable outdoor space for walking, bicycling and visual enjoyment.
- *Gathering Places.* Provide places for people to socialize, including parks, sidewalks, courtyards and plazas, that are combined with shops and services. Program places for events and gatherings.
- *Active Recreation Areas.* Provide adequate public recreational open space, including joint use open space, within walking distance of residents.
- *A Rich Cultural Environment.* Integrate public art and contribute to the civic and cultural life of the City.
- *Transit Oriented.* Since all of Downton is within walking distance of transit, design all projects as transit-oriented developments (TODs) that encourage residents, tenants, and visitors to use transit.
- *Green Streets.* Design sidewalks, including street trees, parkways, tree wells and paving, to collect stormwater runoff, thereby contributing to sustainable Green Streets, thereby enhancing the value of the project. Design alleys and paseos to collect stormwater where feasible.

The Proposed Project would redevelop an underutilized site in an area largely characterized by commercial land uses. The Proposed Project includes the development of a mixed-use building that would contain residential units and ground-floor restaurant/retail. The Proposed Project would increase employment opportunities with its ground-floor commercial component. The Proposed

Project would also be increasing the concentration of employment opportunities downtown and placing residents within walking distance of many employment opportunities, shops, and services. The Proposed Project's location would reduce dependence on single-occupancy vehicles and promote walking and alternative transportation. The Proposed Project would directly increase housing choices in downtown Los Angeles. With approval of the discretionary requests, the Proposed Project would provide adequate open space and residential amenities. The Proposed Project may include but is not limited to, a roof deck, recreation room, patio lobby/recreation room, and private balconies. Additionally, the Proposed Project would include plazas and commercial uses that would face toward the public right-of-way, which would promote a pedestrian environment, activate the sidewalk, and provide socializing opportunities. The Proposed Project would support the Downtown Design Guide's principles of on-site recreation opportunities and gathering places. Generally, the Proposed Project would not conflict with the principles of the Downtown Design Guide.

Project Site access and driveway design would be designed and developed in consultation with the Los Angeles Department of Transportation, Department of Building and Safety, and the Los Angeles Fire Department, as required. The Proposed Project would comply with the sidewalk and setback requirements of the Design Guide. A 14-foot-wide sidewalk is required per the Downtown Street Standards with a minimum 7-foot parkway and a 6-foot walkway. The Proposed Project would provide a 7'-6" parkway and a 6'-6" walkway that would also contain landscaping and street trees. Additionally, the Proposed Project would provide ground-floor commercial uses that would front Spring Street and would support a pedestrian-oriented environment, which would help support civic and cultural life. Ground-floor design and treatment (such as providing large storefront windows and beautifying the public right-of-way with street trees and landscaping) would promote pedestrian activity along Spring Street. The Project Site would be designed and landscaped to further enrich the community identity within Downtown Los Angeles. Additionally, primary vehicular access for residential and commercial uses would be provided via full-access driveways the adjacent alley, which would provide a connection to the parking areas. Parking for the Proposed Project would all be provided as subterranean contained and hidden from view. The Proposed Project's building siting, parking and access, architectural design, and materials would support the Downtown Design Guidelines. Thus, the Proposed Project would support the applicable principles and design criteria of the Downtown Design Guide.

Metropolitan Transportation Authority Right-Of-Way Project Area

The Project Site is located within the Metropolitan Transportation Authority right-of-way (Metro ROW) Project area (ZI-1117). Prior to the issuance of any building permit within 100 feet of a Metro ROW, clearance from the Los Angeles County Metro is required for the Proposed Project. Metro clearance would include filing a building permit application and site plan. With clearance and approval from Metro, the Proposed Project would be in compliance with ZI-1117.

As discussed above, the Proposed Project would not conflict with applicable zoning and development standards, including those set forth in the LAMC, the Central City Community Plan, the City Center Redevelopment Plan, and the Metro ROW.

b) The proposed development occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses.

As shown in Figure 3, Aerial Photograph of the Project Site and Surrounding Land Uses, the Project Site is located in an urbanized area of the Central City Community Plan area and is entirely surrounded by urban land uses. The Project Site encompasses one parcel, and is identified by the following County of Los Angeles Assessor Parcel Number (APN): 5149-007-005. The Project Site encompasses approximately 12,784 square feet of buildable lot area (0.29 acres). The Project Site is surrounded by a mix of commercial uses, mixed-use residential buildings, parking structures, and parking lots. Therefore, the Project Site is less than five acres and surrounded by urban uses.

c) The Project Site has no value as habitat for endangered, rare or threatened species.

The Project Site is located in a highly urbanized area within the City of Los Angeles. As shown in Figure 3, Aerial Photograph of the Project Site and Surrounding Land Uses, the Project Site and the surrounding area are fully developed with urban infrastructure and do not contain any significant areas of natural open space or areas of significant biological resource value. The Project Site is developed with a commercial building. There is no vegetation on the Project Site. There are two street trees located along the public right-of-way along Spring Street. Based on a review of the U.S. Fish and Wildlife Service (USFWS) Threatened & Endangered Species Active Critical Habitat Report for the Project area, no candidate, sensitive, or special status species identified in local plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or the USFWS have been recorded or exist in the immediate Project area. Additionally, no critical habitat was identified in the U.S. Environmental Protection Agency's NEPAssist mapping tool and USFWS's IPaC database. Additionally, the USFWS's IPaC database identified one threatened species (coastal California gnatcatcher) that occurs within the broader project locale, but indicated that the Project Site is located outside of the designated critical habitat for these species (*see Attachment 1 to this Categorical Exemption*).

Based on information provided by the Arborist Report, prepared by Class One Arboriculture, Inc. (*Attachment 6 to this Categorical Exemption*), there are two street trees (Holly Oak trees) adjacent to the Project Site. These trees are not identified as a protected tree species and would be removed during construction. The City of Los Angeles requires trees to be replaced and planted on a 2:1 basis for the removal of street trees. According to this replacement ratio, four replacement trees would be required along Spring Street. The replacement trees will be at least 36" box size per the Downtown Design Guide.

While the removal of non-protected trees would not be considered a significant impact under CEQA, the removal of trees has the potential to impact nesting bird species if they are present at the time of tree removal. Nesting birds are protected under the Federal Migratory Bird Treaty Act (MBTA) *(Title 16, United States Code, Section 703 et seq., see also Title 50, Code of Federal Regulation, Part 20)* and Section 3503 of the California Department of Fish and Game Code. To ensure compliance with the MBTA, the City of Los Angeles Department of Building and Safety imposes standard regulatory compliance measures advising applicants to avoid tree removal

activities during the breeding season. If avoidance is not feasible, the LADBS recommends weekly bird surveys be conducted to ensure that the trees proposed for removal are not occupied by nesting birds. Thus, with adherence to the Federal Migratory Bird Treaty Act, the Proposed Project would have a less than significant impact on sensitive biological species or habitat.

d) Approval of the Proposed Project would not result in any significant effects relating to traffic, noise, air quality, or water quality.

Traffic/Transportation

The following information summarizes the findings and conclusions from the Transportation Impact Assessment for the Proposed Mixed-Use Development Located at 216 Spring Street in the City of Los Angeles (Transportation Impact Assessment), dated September 2021. The Transportation Impact Assessment was also approved by LADOT, as shown in their correspondence dated November 23, 2021. The Transportation Impact Assessment and LADOT Approval Letter are provided in Attachment 2 to this Categorical Exemption.

In response to the updates to the CEQA guidelines, the LADOT updated the City's Transportation Assessment Guidelines (TAG) in July 2020 to conform to the requirements of SB 743. The TAG replaced the Transportation Impact Study Guidelines and shifted the performance metric for evaluating transportation impacts under the CEQA from LOS to VMT for studies completed within the City. The TAG establishes thresholds to identify development projects that would conflict with the updated CEQA guidelines.

As part of the updated TAG, the LADOT has identified three CEQA thresholds for identifying significant transportation impacts in accordance with SB 743 that are applicable to the Proposed Project:

Threshold T-1: Conflicting with the City's plans, programs, ordinances, or policies.
Threshold T-2: Causing substantial Vehicle Miles Traveled (VMT).
Threshold T-3: Substantially increasing hazards due to a geometric design feature or incompatible use(s).

An evaluation of the Proposed Project's potential impacts in these three areas, following the updated TAG, is presented in the following sections.

Threshold T-1: Plans, Programs, Ordinances, and Policies Compliance

To guide the City's Mobility Plan 2035 (Transportation Element of the General Plan), the City adopted programs, plans, ordinances, and policies that establish the transportation planning framework for all travel modes, including vehicular, transit, bicycle, and pedestrian facilities. Land development projects shall be evaluated for conformance with these City adopted transportation plans, programs, and policies.

Per the TAG guidelines, the Threshold T-1 CEQA question (impact criteria) would be significant if a project conflicts with a program, plan, ordinance(s), or policy addressing the circulation system?

However, a project would not be shown to result in an impact merely based on whether a project would not implement a program, policy, or plan. Rather, it is the intention of this threshold test to ensure that proposed development does not conflict with nor preclude the City from implementing adopted programs, plans, and policies.

Screening Criteria for Policy Analysis

If the development project requires a discretionary action, and the answer is yes to any of the following screening threshold questions, further analysis may be required to assess whether the proposed project would conflict with plans, programs, ordinances, or policies.

1. Does the project require a discretionary action that requires the decision maker to find that the decision substantially conforms to the purpose, intent, and provisions of the General Plan?

Yes, the Proposed Project requires a discretionary action.

2. Is the Project known to directly conflict with a transportation plan, policy or program adopted to support multi-modal transportation options or public safety?

No, the Proposed Project would not conflict with these key City planning documents, and potential impacts would be less than significant, see Table 7, Consistency Check with Key City Plans, Programs, Ordinances or Policies, below.

3. Is the Project proposing to, or required to, make any voluntary or required, modifications to the public right-of-way (i.e., street dedications, reconfigurations of curb lines, etc.)?

No, pursuant to the following Mobility Element Street Standards for the Proposed Project's adjacent street standards. The Proposed Project has no dedication requirements.

Spring Street is designated as a Modified Avenue II roadway which requires an 80-foot right-of-way (40-foot half width) and 52-foot (26-foot half width) roadway.

- Spring Street is dedicated to a 40-foot half width and a 26-foot half street adjacent to the Project Site. No dedication or street widening is necessary to satisfy the Modified Avenue II Street standard.
- Harlem Place (adjacent alley) is fully dedicated to 20 feet; therefore, no additional dedication is necessary.

The TAG provides a list of key City plans, policies, programs, and ordinances for consistency review as shown in Table 7, below. Projects that generally conform with and do not conflict with the City's development policies and standards addressing the circulation system, will generally be considered consistent.

Table 7
Consistency Check with Key City Plans, Programs, Ordinances or Policies

TAG Table 2.1-1: City Documents that Establish the Regulatory Framework		
Plan or Policy	**Consistency**	**Preclude City Implementation?**
1. LA Mobility Plan 2035	**Yes.** The Proposed Project would comply with the LA Mobility Plan 2035 street standards for Spring Street and Harlem Place (Alley), as required by the Bureau of Engineering.	No
2. Plan for Healthy LA	**Yes.** The Proposed Project would support Policy 5.7, Land Use Planning for Public Health and Greenhouse Gas (GHG) Emission Reduction by reducing single-occupant vehicle trips by its location within a Transit Priority Area (TPA) service area and by providing bike parking. The Proposed Project would provide pedestrian access separate from the vehicular access. The Proposed Project would not conflict with policies in the Plan for Healthy LA.	No
3. Land Use Element of the General Plan (35 Community Plans)	**Yes.** The Proposed Project is in the Central City Community Plan area. The Proposed Project would be in substantial conformance with the purposes, intent, and provisions of the General Plan and the Community Plan. Note the Central City Community Plan is being updated.	No
4. Specific Plans	**Yes.** The Proposed Project is not located in a Specific Plan area.	N/A
5. LAMC Section 12.21A.16 (Bicycle Parking)	**Yes.** The Proposed Project complies with the ratio of short and long-term bicycle parking pursuant to LAMC Section 12.21. A.16.	No
6. LAMC Section 12.26J (TDM Ordinance)	**Yes.** LAMC Section 12.26J for Transportation Demand Management and Trip Reduction Measures applies only to the construction of new non-residential floor area greater than 25,000 sf. The Proposed Project does not have commercial floor area exceeding 25,000 sf.	No
7. LAMC Section 12.37 (Waivers of Dedications and Improvement)	**Yes.** The Proposed Project is not seeking a waiver of the dedication and widening.	N/A
8. Vision Zero Action Plan	**Yes.** The Proposed Project would not preclude or conflict with the implementation of future Vision Zero projects in the public right-of-way.	No
9. Vision Zero Corridor Plan	**Yes.** The Proposed Project would not preclude or conflict with the implementation of future Vision Zero projects in the public right-of-way, No Vision Zero projects have been identified near the Project Site. See https://ladotlivablestreets.org/programs/vision-zero/maps	No
10. Citywide Design Guidelines	**Yes.**	No
Guideline 1: Promote a safe, comfortable, and accessible pedestrian experience for all	**Yes.** The Proposed Project would create a continuous and straight sidewalk clear of obstructions for pedestrian travel. The Proposed Project would provide adequate sidewalk width and right-of-way that accommodates pedestrian flow and activity. Pedestrian access would be provided	No

	at street level with direct access to the surrounding neighborhood and amenities.	
Guideline 2: Carefully incorporate vehicular access such that it does not degrade the pedestrian experience.	**Yes.** The Proposed Project complies with the Citywide Design Guidelines incorporating vehicle access locations that do not discourage and/or inhibit the pedestrian experience. All vehicular access is provided from the adjacent alley and not on adjacent streets.	No
Guideline 3: Design projects to actively engage with streets and public space and maintain human scale.	**Yes.** The building design uses attractive architectural elements. The Proposed Project would not preclude or conflict with the implementation of future streetscape projects in the public right-of-way.	No
11. Downtown Design Guide	**Yes.** The Proposed Project would provide ground-floor commercial uses fronting Spring Street and would support a pedestrian-oriented environment. Ground-floor design and treatment, such as providing large storefront windows and landscaping the public right-of-way with street trees, would promote pedestrian activity along Spring Street.	No
12. Downtown Street Standards	**Yes.** A 14-foot wide sidewalk is required per the Downtown Street Standards with a minimum 7-foot parkway and a 6-foot walkway. The Proposed Project would provide a 7 foot-6 inch parkway and a 6 foot-6 inch walkway, which would be consistent with the Downtown Street Guidelines.	No
Source: Overland Traffic Consultants, Inc., Transportation Impact Assessment for Proposed Mixed-Use Development, Located at 216 S. Spring Street in the City of Los Angeles, September 2021; and Parker Environmental Consultants, 2022.		

Threshold T-2: Vehicle Miles Traveled

The intent of this threshold question is to assess whether a land development project causes a substantial VMT impact. CEQA Guidelines Section 15064.3(b) relates to use of VMT as the methodology for analyzing transportation impacts.

To address this question, LADOT's TAG identified significant VMT impact thresholds for each of seven Area Planning Commission (APC) sub-areas in the City of Los Angeles. A project's VMT is compared against the City's APC threshold goals for household VMT per capita and work VMT per employee to evaluate the significance of the project's VMT.

A development project will have a potential impact if the development project would generate VMT exceeding 15% below the existing average VMT for the Area Planning Commission (APC) area in which the project is located per TAG's Table 2.2-1.

The Project Site is in the Central APC sub - area which limits daily household VMT per capita to a threshold value of 6.0 and a daily work VMT per employee to a threshold value of 7.6 (15% below the existing VMT for the Central APC).

The Proposed Project's household VMT per capita is estimated at 2.5 which is significantly below the VMT threshold for the Central APC. The work VMT per employee is not applicable because the commercial space is less than the 50,000 sf threshold. Results of the Proposed Project's VMT calculation (as shown in Appendix F of the Transportation Impact Assessment). Thus, the Proposed Project's VMT impacts would be less than significant.

Transportation Demand Management (TDM)

The Proposed Project's design features include TDM measures that reduce trips and VMT through TDM strategies selected in the VMT calculator. Specifically, the Proposed Project's TDM program includes reduced parking and bike parking which is a regulatory measure and part of the Proposed Project's design features. These strategies, as described by LADOT'S TAG, are listed below:

- Parking Strategy – Reduced Parking Supply – This strategy changes the on-site parking supply to provide less than the amount of vehicle parking required by direct application of the LAMC without consideration of parking reduction mechanisms permitted in the code. Permitted reductions in parking supply could utilize parking reduction mechanisms such as TOC, Density Bonus, Bike Parking ordinance, or locating in an Enterprise Zone or Specific Plan area.

- Bike Parking - This strategy involves implementation of short and long-term bicycle parking to support safe and comfortable bicycle travel by providing parking facilities at destinations under existing LAMC regulations applicable to the Project (LAMC Section 12.21.A.16). The Proposed Project would provide bicycle parking consistent with LAMC Section 12.21.A.16 - The Proposed Project would provide 102 bicycle parking spaces (89 long-term spaces and 13 short-term spaces).

The effectiveness of the TDM strategies included in the VMT Calculator is based primarily on research documented in the 2010 California Air Pollution Control Officers Association (CAPCOA) publication, Quantifying Greenhouse Gas Mitigation Measures (CAPCOA, 2010).

Threshold T-3: Geometric Design Feature or Incompatible Use Hazards

Impacts regarding the potential increase of hazards due to a geometric design feature generally relate to the design of access points to and from the project site, and may include safety, operational, or capacity impacts. Impacts can be related to vehicle conflicts as well as to operational delays caused by vehicles slowing and/or queuing to access a project site.

No deficiencies are apparent in the site access plans which would be considered significant. This determination considers the following factors:

1. Vehicle access to the parking will be from the adjacent north – south alley.
2. The Proposed Project's access is consistent with LADOT driveway width and placement per LADOT Manual of Policies and Procedures, Section 321, Driveway Design.

3. The net Project peak hour trip generation is 36 vehicles per hour (VPH) during the morning peak hour and 38 VPH during the afternoon peak hour. This level of added traffic would not create a transportation hazard or create any operational issues.

A review of the Project Site plan does not present any hazardous geometric design features that would result in vehicle/pedestrian, vehicle/bicycle, or vehicle/vehicle safety hazards. Therefore, the Proposed Project's impacts under CEQA Threshold T-3.1 (Substantially Increasing Hazards Due to a Geometric Design Feature) would be less than significant.

Construction Impacts

Project construction is evaluated to determine if activities substantially interfere with pedestrian, bicycle, transit, or vehicle mobility. Factors to be considered are the location of the Project Site, the functional classification of the adjacent street affected, temporary loss of bus stops or rerouting of transit lines, and the loss of vehicle, bicycle, or pedestrian access. LADOT's TAG considers three areas to be considered when evaluating project construction activities.

1. Temporary Transportation Constraints

As part of the Proposed Project's construction, a Construction Traffic Management Plan would be implemented during the construction phase to minimize potential conflicts with vehicles, pedestrians, bicycle, and transit facilities associated with the Proposed Project's construction. This plan would be approved by the LADOT and would detail the measures enacted to ensure less than significant traffic impacts during construction related to designated haul routes and staging areas, traffic control procedures, emergency access provisions, and construction crew parking. The Proposed Project shall obtain prior LADOT approval for any lane closures, detours, on-street staging areas, or other temporary changes in traffic control due to construction activities and will enact appropriate temporary traffic control procedures. Haul routes for Project construction would be coordinated with the City of Los Angeles Department of Building and Safety (LADBS) to minimize the impact of construction traffic to congested roadways and residential streets.

Construction workers are typically expected to arrive at the Project Site before 7:00 A.M. and depart before or after the weekday peak hours of 4:00 to 6:00 P.M. Deliveries of construction materials will be coordinated to non-peak travel periods, to the extent possible and occur from the parking lane along the Project Site's Spring Street and alley frontages.

For off-site activities, Worksite Traffic Control Plans, as part of the Construction Traffic Management Plan would be prepared for any temporary traffic lane or sidewalk closures in accordance with City guidelines. These worksite plans will require a formal review and approval by the City prior to the issuance of any construction permits. In addition, the City of Los Angeles will require a Truck Haul Route plan including permitted hauling hours and a haul route to and from the landfill.

No detours around the construction site are expected; however, flagmen would be used to control traffic movement during the ingress and egress of construction trucks.

Since Project construction would not substantially interfere with pedestrian, bicycle or vehicle mobility, the construction impacts would be less than significant.

2. Temporary Loss of Access

Vehicular access to the adjacent properties will be maintained. Safe pedestrian circulation paths adjacent to or around the work areas will be provided by covered pedestrian walkways if necessary and will be maintained as required by City-approved Work Area Traffic Control Plans.

Since the Proposed Project's construction would not result in complete loss of vehicular or pedestrian access, the construction impacts on loss of access would be less than significant.

3. Temporary Loss of Bus Stops or Rerouting of Bus Lines

No bus stops are located within the work zone adjacent to the Project Site that would need to be temporarily relocated. There will be no loss of pedestrian access to transit stops and no rerouting of bus lines are necessary.

Since the Proposed Project's construction would not require relocation of bus stops or bus lines, the construction impacts on transit operations would be less than significant.

Therefore, with implementation of the Construction Traffic Management Plan, the Proposed Project construction would not adversely affect the pedestrian, bicycle, transit, and vehicular circulation around the Project Site, and transportation impacts during construction would be less than significant.

Noise

Construction Noise Impacts

For purposes of determining the Proposed Project's construction noise impacts, a significant impact would occur if the Proposed Project is not in compliance with LAMC Chapter XI, Article 2, Section 112.04, 112.05, and 41.40. LAMC Section 112.05 provides that between the hours of 7:00 A.M. and 10:00 P.M., in any residential zone of the City or within 500 feet thereof, no person shall operate or cause to be operated any powered equipment or powered hand tool that produces a maximum noise level exceeding 75 dBA at a distance of 50 feet therefrom. Under this standard, the Applicant must at minimum demonstrate compliance with LAMC Section 112.05. Further, in compliance with LAMC Section 112.04, this analysis addresses whether construction activities would exceed existing ambient exterior noise levels by 5 dBA (hourly L_{eq}) or more in residential areas. If necessary, features to reduce noise to below-threshold levels (75 dBA) and below a 5-dBA ambient noise increase can be incorporated into the project design to ensure regulatory compliance.

For purposes of evaluating the Proposed Project's construction and operational noise impacts, the following regulatory compliance measures and construction project design features would be incorporated into the Proposed Project's construction activities. These features and control

measures are consistent with the noise management procedures and regulations of the LAMC and Noise Element of the General Plan.

Los Angeles Municipal Code

The LAMC contains a number of regulations that would apply to the Project's temporary construction activities and long-term operations. Provided below are the relevant sections from the LAMC that pertain to construction noise. The applicant will be required to adhere to these code restrictions and any other conditions of approval that may be imposed on the Project to the satisfaction of the Department of City Planning.

Sec. 41.40. Noise Due to Construction, Excavation Work—When Prohibited

(a) No person shall, between the hours of 9:00 P.M. and 7:00 A.M. of the following day, perform any construction or repair work of any kind upon, or any excavating for, any building or structure, where any of the foregoing entails the use of any power drive drill, riveting machine, excavator or any other machine, tool, device or equipment which makes loud noises to the disturbance of persons occupying sleeping quarters in any dwelling hotel or apartment or other place of residence. In addition, the operation, repair or servicing of construction equipment and the job-site delivering of construction materials in such areas shall be prohibited during the hours herein specified. Any person who knowingly and willfully violates the foregoing provision shall be deemed guilty of a misdemeanor punishable as elsewhere provided in this Code.

Sec. 112.01. Radios, Televisions Sets, and Similar Devices

(a) It shall be unlawful for any person within any zone of the City to use or operate any radio, musical instrument, phonograph, television receiver, or other machine or device for the producing, reproducing or amplification of the human voice, music, or any other sound, in such a manner, as to disturb the peace, quiet, and comfort of neighbor occupants or any reasonable person residing or working in the area… … to exceed the ambient noise level by more than five decibels.

Sec. 112.02. Air Conditioning, Refrigeration, Heating, Plumbing, Filtering Equipment

(a) It shall be unlawful for any person, within any zone of the city, to operate any air conditioning, refrigeration or heating equipment for any residence or other structure or to operate any pumping, filtering or heating equipment for any pool or reservoir in such manner as to create any noise which would cause the noise level on the premises of any other occupied property … to exceed the ambient noise level by more than five decibels.

Sec. 112.04 Powered Equipment Intended for Repetitive Use in Residential Areas and Other Machinery, Equipment, and Devices.

(a) Between the hours of 10:00 p.m and. 7:00 a.m. of the following day, no person shall operate any lawn mower, backpack blower, lawn edger, riding tractor, or any other machinery, equipment, or other mechanical or electrical device, or any hand tool which creates a loud, raucous or impulsive sound, within any residential zone or within 500 feet of a residence

(b) Except as to the equipment and operations specifically mentioned and related elsewhere in this Chapter or for emergency work as that term is defined in Section 111.01(d), and except as to aircraft, tow tractors, aircraft auxiliary power units, trains and motor vehicles in their respective operations governed by State or federal regulations, no person shall operate or cause to be operated any machinery, equipment, tools, or other mechanical or electrical device, or engage in any other activity in such manner as to create any noise which would cause the noise level on the premises of any other occupied property, or, if a condominium, apartment house, duplex, or attached business, within any adjoining unit, to exceed the ambient noise level by more than five (5) decibels.

Sec. 112.05 Maximum Noise Level of Powered Equipment or Powered Hand Tools

Between the hours of 7:00 A.M. and 10:00 P.M., in any residential zone of the City or within 500 feet thereof, no person shall operate or cause to be operated any powered equipment or powered hand tool that produces a maximum noise level exceeding the following noise limits at a distance of 50 feet therefrom:

(a) 75 dBA for construction, industrial, and agricultural machinery including crawler-tractors, dozers, rotary drills and augers, loaders, power shovels, cranes, derricks, motor graders, paving machines, off-highway trucks, ditchers, trenchers, compactors, scrapers, wagons, pavement breakers, compressors and pneumatic or other powered equipment;

(b) 75 dBA for powered equipment of 20 HP or less intended for infrequent use in residential areas, including chain saws, log chippers and powered hand tools;

(c) 65 dBA for powered equipment intended for repetitive use in residential areas, including lawn mowers, backpack blowers, small lawn and garden tools and riding tractors.

Said noise limitations shall not apply where compliance therewith is technically infeasible. The burden of proving that compliance is technically infeasible shall be upon the person or persons charged with a violation of this section. Technical infeasibility shall mean that said noise limitations cannot be complied with despite the use of mufflers, shields, sound barriers and/or other noise reduction device or techniques during the operation of the equipment.

Sec. 113.01. Rubbish and Garbage Collection and Disposal

It shall be unlawful for any person engaged in the business of collecting or disposing of rubbish or garbage to operate any refuse disposal truck, parking lot sweeper, or vacuum truck, or to collect, load, pick up, transfer, unload, dump, discard, sweep, vacuum, or dispose of any rubbish or garbage, as such terms are defined in Section 66.00 of this Code, within 200 feet of any residential building between the hours of 9:00 p.m. and 6:00 a.m. of the following day, unless a permit therefore has been duly obtained beforehand from the Board of Police Commissioners.

Sec. 114.02. Motor Driven Vehicles

(a) It shall be unlawful for any person to unreasonably operate any motor driven vehicle upon any property within the City or to unreasonably accelerate the engine of any vehicle, or unreasonably sound, blow or operate the horn or other warning device of such vehicle in such manner:

1. As to disturb the peace, quiet and comfort of any neighborhood or of any reasonable person residing in such area

2. That such activity is audible to the human ear at a distance in excess of 150 feet from the property line of the noise source;

3. As to create any noise which would cause the noise level on the premises of any occupied residential property, or if a condominium, apartment house or duplex, within any adjoining unit, to exceed the ambient noise level by more than five (5) decibels.

Sec. 114.03. Vehicles – Loading and Unloading

(a) It shall be unlawful for any person, between the hours of 10:00 p.m. and 7:00 a.m. of the following day, to load or unload any vehicle, or operate any dollies, carts, forklifts, or other wheeled equipment, which causes any impulsive sound, raucous or unnecessary noise within 200 feet of any residential building.

Sec. 114.06. Vehicle Theft Alarm Systems

It shall be unlawful for any person to install, operate or use any vehicle theft alarm system that emits or causes the emission of an audible sound, which is not, or does not become, automatically and completely silenced within five minutes. The time period shall be calculated based upon the emission of the first audible sound and shall end five minutes thereafter notwithstanding any variation or stoppage in the emissions of audible sound. Violation of this section shall constitute an infraction.

Sec. 116.01. Loud, Unnecessary And Unusual Noise

Notwithstanding any other provisions of this chapter and in addition thereto, it shall be unlawful for any person to willfully make or continue, or cause to be made or continued, any loud, unnecessary, and unusual noise which disturbs the peace or quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area. The standard which may be considered in determining whether a violation of the provisions of this section exists may include, but not be limited to, the following: (a) The level of noise; (b) Whether the nature of the noise is usual or unusual; (c) Whether the origin of the noise is natural or unnatural; (d) The level and intensity of the background noise, if any; (e) The proximity of the noise to residential sleeping facilities; (f) The nature and zoning of the area within which the noise emanates; (g) The density of the inhabitation of the area within which the noise emanates; (h) The time of the day and night the noise occurs; (i) The duration of the noise; (j) Whether the noise is recurrent, intermittent, or constant; and (k) Whether the noise is produced by a commercial or noncommercial activity.

Ordinance No. 178,048

The City of Los Angeles Building Regulations Ordinance No. 178,048 requires a construction site notice to be posted on site that includes the job site address, permit number, name and phone number of the contractor and owner or owner's agent, hours of construction allowed by code or any discretionary approval for the Site, and City telephone numbers where violations can be reported. This notice is required to be posted and maintained at the construction site prior to the start of construction and displayed in a location that is readily visible to the public.

Project Design Features

In furtherance of complying with the provisions set forth in LAMC Sections 112.04 and 112.05, above, the Applicant will incorporate the following features into the construction work plans, which shall be conditions of approval of the Proposed Project:

- Demolition and construction activities shall be scheduled so as to avoid operating several pieces of equipment simultaneously, which causes high noise levels.
- The project contractor shall use power construction equipment with noise shielding and muffling devices.
- The project contractor will erect a temporary noise-attenuating sound barrier along the perimeter of the Project Site. The sound wall will be a minimum of 8 feet in height to block the line-of-sight of construction equipment and off-site receptors at the ground level. The sound barrier shall include sound absorbing material capable of achieving a minimum of 15-dBA reduction in sound level.
- During any jackhammering and structural framing, the project contractor shall utilize temporary portable acoustic barriers, partitions, or acoustic blankets to effectively block the line-of-sight between noise producing equipment and the adjacent residential land uses for

purposes of ensuring noise levels at the adjacent residential land uses does not exceed 75 dBA L_{eq} over the ambient noise levels.

Existing Ambient Noise Conditions

The Project Site is located on the eastern side of Spring Street and is currently developed with a one-story commercial office building. Commercial activity from the Project Site currently contributes noise to the baseline conditions. Traffic and transit operations around the Project Site also contribute noise to the baseline noise conditions. Collectively, these noise sources contribute to ambient noise levels in the baseline condition.

Exterior daytime noise levels were monitored at three locations in the vicinity of the Project Site to measure ambient noise conditions affecting the sensitive receptors in the vicinity. The approximate locations of where each noise measurement were taken are depicted in Figure 1, Noise Monitoring and Sensitive Receptor Location Map, in Attachment 3 of this Categorical Exemption. The noise measurements were conducted at three separate locations on June 11, 2021, over a period of 15 minutes in accordance with LAMC Section 111.01(a) as summarized in Table 8, Existing Ambient Noise Levels in the Project Site Vicinity, below.

Location A was selected to obtain the ambient noise levels for the existing and future residential land uses west and southwest of the Project Site, across Spring Street (Sensitive Receptor Nos. 3 and 4). The primary noise sources at this location are vehicle traffic noise along Spring Street and construction activity at 222 W. 2nd Street.

Table 8
Existing Ambient Noise Levels in the Project Site Vicinity

ID	Location	Primary Noise Sources	Noise Level Statistics [a]		
			L_{eq}	L_{min}	L_{max}
A	On the west side of Spring Street, across from the Project Site	Vehicle and pedestrian traffic, construction, buses	65.6	56.3	77.5
B	On the south side of 2nd Street, between Spring Street and Main Street	Vehicle and pedestrian traffic	61.3	58.6	71.9
C	On the east side of Main Street	Vehicle and pedestrian traffic	69.0	56.7	88.4

Notes:
[a] *Noise measurements were taken on Friday, June 11, 2021, at each location for a duration of 15 minutes. Pursuant to LAMC Sec. 111.01, ambient noise shall be averaged over a period of at least 15 minutes at a location and time of day comparable to that during which the measurement is taken of the particular noise source being measured.*
Parker Environmental Consultants, 2021.

Location B was selected to obtain the ambient noise levels for the residential uses located directly northeast of the Project Site (Sensitive Receptor No. 1). The primary noise sources at this location are vehicle traffic noise and pedestrian activity.

Location C was selected to obtain the ambient noise levels for the residential land uses further east of the Project Site, fronting Main Street (Sensitive Receptor Nos. 2). The primary noise sources at this location are vehicle traffic noise and pedestrian activity along Main Street.

On-Site Construction Noise

Construction of the Proposed Project would require the use of heavy equipment for demolition, grading, building construction, and architectural coatings. During each construction phase there would be a different mix of equipment operating and noise levels would vary based on the amount of equipment in operation and the location of each activity. Table 9 identifies the representative noise levels for the types of construction equipment anticipated to be used for the Proposed Project,[4] including estimated usage factors found in the U.S. Department of Transportation, Federal Highway Administration, Roadway Construction Noise Model. The noise levels listed in Table 9, below, represent the A-weighted maximum sound level (L_{max}), measured at a distance of 50 feet from the construction equipment.

Table 9
Noise Data for Selected Construction Equipment

Construction Phases	Construction Equipment	Estimated Usage Factor %	Actual Measures Noise Level at 50 Feet (dBA L_{max})
Demolition	Rubber Tired Dozer (1)	40	82
	Concrete/Industrial Saws (1)	20	90
	Tractor/Loader/Backhoe (2)	40	78
Grading	Grader (1)	40	85
	Tractor/Loader/Backhoe (2)	40	78
Building Construction	Forklifts (2)	20	75
	Tractor/Loader/Backhoe (2)	40	78
	Cement and Mortar Mixers (1)	40	79
	Generator Sets (1)	50	81
	Pavers (1)	50	77
	Rollers (1)	20	80
	Crane (1)	16	81
Architectural Coating	Aerial Lifts (2)	20	75
	Air Compressors (5)	40	78

Source: FHWA, Roadway Construction Noise Model, Construction Noise Prediction, (at Table 1 CA/T Equipment noise emissions and acoustical usage factors database, January 2006.

It should be noted that not all construction noise equipment would be utilized concurrently during each phase and the location and spacing of heavy construction equipment and machinery would vary over the course of construction. Mobile equipment moves around the construction site with power applied in cyclic fashion (bulldozers, loaders), or to and from the site (trucks). Because the precise numbers and locations of equipment operating at the same time are not known, this

[4] *Based on the construction equipment identified in the CalEEMod worksheets for the air quality and greenhouse gas emissions models presented in Attachments 4 and 5 of this Categorical Exemption.*

analysis follows the recommended procedures contained in the Federal Transit Administrations Transit Noise and Vibration Impact Assessment Manual for a quantitative construction noise assessment. Pursuant to these procedures, the noise levels for the two loudest pieces of construction equipment were calculated from the center of the Project Site and the respective distance to each sensitive receptor.

Sensitive receptors identified within 500 feet of the Project Site include:

1) Mixed-use residential building immediately northeast of the Project Site, located at 108 W. 2nd Street;
2) Multi-family residences further east of the Project Site, located at 222 S. Main Street;
3) Multi-family residences further southwest of the Project Site, located at 242 S. Broadway and 257 S. Spring Street; and
4) Future mixed-use residential building west of the Project Site, located at 222 W. 2nd Street (currently under construction).

Refer to Figure 1 of Attachment 3 for locations of these sensitive receptors.

As noted above, temporary noise barriers would be installed along the Project Site's property lines to block the line-of-sight between the noise sources and surrounding sensitive receptors. The construction of a temporary ¾ inch plywood noise barrier would be capable of attenuating the noise level by approximately 15 dBA. Additionally, noise control efforts to limit the construction activities to permissible hours of construction, incorporate noise shielding devices such as sound mufflers and echo barriers, and operate machinery in a manner that reduces noise levels (i.e., not operating several pieces of equipment simultaneously if possible) would be effective in reducing noise impacts. Localized and portable sound enclosures would also be used, as necessary, to significantly reduce noise from these types of equipment. Products such as Echo Barrier Outdoor noise barrier/absorbers can provide a 10 to 20 dBA noise reduction or more if the barrier is doubled up (see product data specifications included in Attachment 3).

Pursuant to LAMC Chapter IV, Article 1, Section 41.40, exterior demolition and construction activities that generate noise are prohibited between the hours of 9:00 P.M. and 7:00 A.M. Monday through Friday, and between 6:00 P.M. and 8:00 A.M. on Saturday and federal holidays. Demolition and construction are prohibited on Sundays. The construction activities associated with the Proposed Project would comply with these LAMC requirements.

Further, the Applicant would be required to post informational signage providing contact information to report complaints regarding excessive noise. The City of Los Angeles Building Regulations Ordinance No. 178,048 requires a construction site notice to be provided that includes the following information: job site address, permit number, name and phone number of the contractor and owner or owner's agent, hours of construction allowed by code or any discretionary approval for the Project Site, and City telephone numbers where violations can be reported. The notice is required to be posted and maintained at the construction site prior to the start of construction and displayed in a location that is readily visible to the public. With incorporation of the project design features, as described above, and regulatory compliance measures, affected

residents and business owners would be provided advanced notice of potential noise impacts and opportunities to comment on construction noise.

As shown in Table 10, Estimated Exterior Construction Noise at Nearest Sensitive Receptors, the ambient exterior noise levels with project design features would range from 35.4 dBA to 66.1 dBA. As such, construction noise levels would not exceed 75 dBA at a distance of 50 feet from the Project Site (in compliance with LAMC 112.05) and would not exceed ambient noise levels by more than 5-dBA at any of the sensitive receptors (in compliance with LAMC 112.04). A such, temporary construction-related noise impacts would be considered less than significant in accordance with City requirements and standards.

Table 10
Estimated Exterior Construction Noise at Nearest Sensitive Receptors

ID [a]	Ambient Noise (dBA L_{eq}) [b]	Noise Level Impact (dBA L_{eq}) by Phase [c]				Construction Noise Threshold (dBA L_{eq}) [d]	Significant Impact?
		Demo	Grading	Building	Architectural Coating		
1	61.3	66.1	64.9	60.1	58.9	66.3	No
2	69.0	43.5	42.4	37.5	36.3	74.0	No
3	65.6	42.5	41.4	36.6	35.4	70.6	No
4	65.6	60.0	58.9	54.1	52.9	70.6	No

Notes:
[a] ID refers to the sensitive receptor locations identified in Figure 1, Noise Monitoring and Sensitive Receptor Location Map, of Attachment 3.
[b] Daytime noise levels are based on actual noise measurements taken at the Project Site vicinity.
[c] Calculations based on the loudest two pieces of heavy construction equipment specific to each phase.
[d] The significance threshold is an increase 5 dBA or more in relation to the ambient noise measurements for each sensitive receptor (LAMC 112.04).
Source: Parker Environmental Consultants, 2021 (see Attachment 3, Noise Monitoring Data and Calculations Worksheets).

Off-Site Construction Noise

In addition to the on-site construction noise sources addressed above, which are regulated under the City's Noise Ordinance, other noise sources may be generated off-site resulting from materials delivery, concrete mixing trucks, haul trucks, and other trucks from workers accessing the Project Site during construction. The highest of these noise sources would be generated by haul trucks for demolition debris during the first month of construction. It is anticipated that the proposed haul route to the Sunshine Canyon Landfill would utilize the SR-110 Freeway using Spring Street and the 3rd Street on-ramp, and the haul route from the Landfill to the Project Site would utilize the US-101 Freeway and the Broadway off-ramp to Aliso Street and Spring Street to the Project Site.

Based on the total volume of construction/demolition debris, the highest number of haul trips would occur during the grading/excavation phase. Assuming an average of 14 cubic yards per haul

trucks, the debris export during the three-month grading phase would generate approximately 2,143 one-way haul trips, distributed over an approximate 66-day period. This would result in approximately 32 haul trips per day. The addition of 32 haul truck trips per day would not result in any significant roadway noise impacts. As such, the temporary noise increase from haul truck trips would not significantly increase noise in the Project area. As such, the hauling activities during construction would result in a less than significant impact to off-site noise receptors.

Structural Groundborne Vibration

In terms of construction vibration impacts on buildings, the Project Site is immediately bordered by a one-story commercial building to the north (210 S. Spring Street) and a parking structure to the south (220 S. Spring Street) of the Project Site. These buildings share property lines with the Project Site and would be potentially susceptible to groundborne vibration during the construction phase. Tieback and soldier piles would be employed during excavation to protect the buildings during excavation and foundation work as regulatory compliance measures. Vibration impacts can be reduced by controlled construction methods and careful selection and use of heavy equipment on-site. Accordingly, precautionary regulatory compliance measures would need to be employed during the construction process to ensure building damage does not occur. As such, the following measures would be incorporated to ensure potential structural vibration impacts are less than significant:

- All new construction work shall be performed so as not to adversely affect the structural integrity of the adjacent buildings. Prior to commencement of construction, the applicant shall retain a qualified structural engineer to survey the existing foundations and structures of the adjacent buildings, and provide a plan to protect them from potential damage. The performance standards of the structure monitoring plan shall including the following:
    - Documentation shall consist of video and/or photographic documentation of accessible and visible areas on the exterior and select interior facades of the buildings. A registered structural engineer shall develop recommendations for the adjacent structure monitoring program that will include, but not be limited to, vibration monitoring, elevation and lateral monitoring points, crack monitors and other instrumentation deemed necessary to protect the adjacent structures from construction-related damage.
    - The monitoring program shall survey for vertical and horizontal movement, as well as vibration thresholds. If the thresholds are met or exceeded, or noticeable structural damage becomes evident to the project contractor, work shall stop in the area of the affected building until measures have been taken to stabilize the affected building to prevent construction related damage to historic resources.
    - In the event damage occurs to historic finish materials due to construction vibration, such materials shall be repaired in consultation with a qualified preservation consultant and, if warranted, in a manner that meets the Secretary of the Interior's Standards.
    - The structure monitoring program and initial survey documentation shall be submitted to the Department of Building and Safety and received into the case file

for the associated discretionary action permitting the project prior to construction.

Operational Noise

Rooftop Deck and Open Space Noise

The Proposed Project would include approximately 12,692 square feet of open space, a majority of which would be concentrated on the 17th level roof deck (4,237 square feet) with a community patio courtyard to be improved with a swimming pool, gas fire pits, and gas grills. It is anticipated that there would not be any amplified music or speakers on the rooftop deck; however, occupancy and use of these areas may increase ambient noise levels in the Project Site vicinity. Based on the size of the roof deck and the type of amenities provided, it is conservatively anticipated that this area could accommodate up to 60 people for casual outdoor gatherings based on occupiable space.

Since the Proposed Project's open space would be provided to the future residents and guests, it is anticipated that the rooftop deck would emit low-level passive noise. There is no objective criterion for analyzing unamplified human voices within the LAMC. The only applicable criteria the LAMC code provides is that the Proposed Project shall adhere to LAMC Section 116.01, which states that it shall be unlawful for any person to willfully make or continue, or cause to be made or continued, any loud, unnecessary, and unusual noise which disturbs the peace or quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area. It is not expected that the intended use (i.e., only up to a few people having a conversation, relaxing, or enjoying the outdoors) would violate the prohibition of "loud, unnecessary and unusual noise" criteria. Additionally, due to the nature of the use, it is unlikely that the Proposed Project would operate at such full capacity often or for a prolonged period of time that would result in excessive crowd noise. Further, the roof deck would be surrounded with planters and either glass or concrete railings that would help to further attenuate noise in the surrounding area. As such, noise from the common open space would be less than significant.

Mechanical Equipment

As part of the Proposed Project, new mechanical equipment, HVAC units, and exhaust fans would be installed on the roof of the proposed structure. However, the operation of this equipment would be similar to the existing HVAC equipment currently surrounding the Project Site. Further, the design and placement of HVAC units and exhaust fans would be required to comply with the regulations under Section 112.02 of the LAMC, which prohibits noise from air conditioning, refrigeration, heating, pumping, and filtering equipment from exceeding the ambient noise level on the premises of other occupied properties by more than five decibels. Thus, the on-site equipment would be designed and located such that they would be appropriately shielded and fitted with noise muffling devices to reduce operational noise levels. In addition, nighttime noise limits would be applicable to any equipment items required to operate between the hours of 10:00 P.M. and 7:00

A.M. Thus, operational noise impacts from HVAC and mechanical equipment would be less than significant.

Roadway Traffic Noise

With respect to traffic noise impacts, in order for a new noise source to be audible, there would need to be a 3 dBA or greater CNEL noise increase. According to Caltrans guidelines, the traffic volume on any given roadway would need to double in order for a 3-dBA increase in ambient noise to occur. LADOT performed peak commute hour traffic counts at the intersection of Spring Street and 2nd Street in 2017. This intersection experienced a total of 4,950 vehicles during the peak commute hours of 7AM – 10AM and from 3PM – 6PM, with approximately 825 of those vehicles traveling westbound along 2nd Street and 4,154 of those vehicles traveling southbound along Spring Street.

According to the Proposed Project's Transportation Impact Assessment, the Proposed Project would result in approximately 427 daily vehicle trips. Accounting for a 1% ambient annual trip increase plus 427 daily trips from the Proposed Project, the 2nd Street roadway segment would experience approximately 1,312 trips during peak commute hours for the year 2024. This is based on a conservative estimate, assuming that all of the Proposed Project trips would utilize 2nd Street to Harlem Place, and assuming that all trips would occur during the peak hours.

Therefore, the Proposed Project's estimated 427 average daily trips would represent a small percentage increase in the daily volumes during traffic peak hours at this roadway segment. Based on the number of proposed multi-family units and an estimated daily trip increase of 427 trips, the Proposed Project is not anticipated to double the amount of traffic volumes along Spring Street in a 24-hour period. This is also a conservative estimate, assuming all trips occur during the peak hours. As such, increased mobile source noise from the Proposed Project's increase in traffic would be less than 3 dBA, and operational noise impacts due to roadway noise would be less than significant.

Air Quality

Construction Emissions

With respect to air quality during the construction phases, the Proposed Project would be required to comply with all applicable City, regional, state, and federal regulatory compliance measures from agencies including, but not limited to, the City of Los Angeles, the Southern California Air Quality Management District (SCAQMD), and the California Code of Regulations. As required by CEQA, the Proposed Project's construction emissions were quantified utilizing the California Emissions Estimator Model (CalEEMod *Version 2020.4.0*), as recommended by the SCAQMD. Table 11, Estimated Peak Daily Construction Emissions, identifies daily emissions that are estimated to occur on peak construction days for each phase of the Proposed Project's construction.

This analysis assumes a Project construction schedule of approximately 24 months, with final buildout occurring in 2024. Construction activities associated with the Project would be undertaken in four main steps: (1) demolition/site clearing, (2) grading/excavation, (3) building construction, and (4) architectural coatings/finishings.

Table 11
Estimated Peak Daily Construction Emissions

Emission Source	Emissions in Pounds per Day					
	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Demolition/Site Clearing						
On-Site Fugitive Dust	--	--	--	--	0.28	0.04
On-Site Off-Road Diesel Equipment	0.71	6.41	7.47	0.01	0.34	0.32
Off-Site Hauling/Vendor/Worker Trips	0.05	0.71	0.52	<0.01	0.19	0.06
Total Emissions	***0.76***	***7.12***	***7.99***	***0.01***	***0.81***	***0.42***
SCAQMD Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**
Grading/Excavation						
On-Site Fugitive Dust	--	--	--	--	2.40	1.16
On-Site Off-Road Diesel Equipment	1.59	16.27	11.56	0.02	0.75	0.70
Off-Site Hauling/Vendor/Worker Trips	0.23	7.64	2.08	0.03	1.06	0.33
Total Emissions	***1.82***	***23.91***	***13.64***	***0.05***	***4.21***	***2.19***
SCAQMD Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**
Building Construction						
On-Site Off-Road Diesel Equipment	1.44	14.10	15.83	0.03	0.73	0.68
Off-Site Hauling/Vendor/Worker Trips	0.39	1.14	4.06	0.01	1.24	0.34
Total Emissions	***1.83***	***15.24***	***19.89***	***0.04***	***1.97***	***1.02***
SCAQMD Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**
Architectural Coating						
On-Site Architectural Coating	8.53	--	--	--	0.00	0.00
On-Site Off-Road Diesel Equipment	0.97	7.14	11.22	0.02	0.32	0.32
Off-Site Hauling/Vendor/Worker Trips	0.06	0.04	0.65	<0.01	0.22	0.06
Total Emissions	***9.56***	***7.18***	***11.87***	***0.02***	***0.54***	***0.38***
SCAQMD Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**

Note: Calculations assume compliance with SCAQMD Rule 403 – Fugitive Dust and Rule 1113 – Architectural Coatings.
Calculation worksheets are provided in Attachment 4 to this Categorical Exemption.
Source: Parker Environmental Consultants, 2021.

As shown in Table 11, construction-related daily emissions associated with the Proposed Project would not exceed any regional SCAQMD significance thresholds for criteria pollutants during the construction phases. These calculations assume that appropriate dust control measures would be implemented as part of the Proposed Project during each phase of development, as required and regulated by SCAQMD Rule 403 – Fugitive Dust. Specific Rule 403 control requirements include, but are not limited to, applying water in sufficient quantities to prevent the generation of visible dust

plumes, applying soil binders to uncovered areas, reestablishing ground cover as quickly as possible, utilizing a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the Project Site, and maintaining effective cover over exposed areas. As such, construction-related emissions associated with the Proposed Project are not expected to exceed significance thresholds for criteria pollutants and hazardous substances. Further, all grading and earthwork activities would be conducted in accordance with applicable City, regional, state, and federal regulatory compliance measures. Furthermore, the Proposed Project shall also comply with the conditions contained within the Department of Building and Safety's Geology and Soils Report Approval Letter [LOG #119255-01] for the Proposed Project, dated December 29, 2021 (see Attachment 8 to this Categorical Exemption). As such, construction of the Proposed Project would not result in the accidental release of hazardous pollutants. Therefore, temporary constructed-related air quality impacts related to criteria pollutants and hazardous substances would be considered less than significant.

Localized Construction Emissions

The SCAQMD has developed localized significance thresholds (LSTs) that are based on the amount of pounds of emissions per day that can be generated by a project that would cause or contribute to adverse localized air quality impacts. These localized thresholds apply to projects that are less than or equal to five acres in size and are only applicable to the following criteria pollutants: NO_x, CO, PM_{10}, and $PM_{2.5}$. LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or State ambient air quality standards, and are developed based on the ambient concentrations of that pollutant for each SRA. For PM_{10}, the LSTs were derived based on requirements in SCAQMD Rule 403 — Fugitive Dust. For $PM_{2.5}$, the LSTs were derived based on a general ratio of $PM_{2.5}$ to PM_{10} for both fugitive dust and combustion emissions.

LSTs are provided for each of SCAQMD's 38 source receptor areas (SRA) at various distances from the source of emissions. The Project Site is located within SRA 1. The nearest sensitive receptors that could potentially be subject to localized air quality impacts associated with construction of the Proposed Project include the residential buildings to the west of the Project Site. Given the proximity of these sensitive receptors to the Project Site, and pursuant to SCAQMD guidance, the LSTs with receptors located within 25 meters (82.02 feet) are used to address the potential localized air quality impacts associated with the construction-related NO_X, CO, PM_{10}, and $PM_{2.5}$ emissions for each construction phase.

Emissions from construction activities have the potential to generate localized emissions that may expose sensitive receptors to harmful pollutant concentrations especially during the grading phase. However, as shown in Table 12, Localized On-Site Peak Daily Construction Emissions, peak daily emissions generated within the Project Site during construction activities for each phase would not exceed the applicable construction LSTs for a site less than one acre in SRA 1.

The localized air quality calculations assume that appropriate dust control measures would be implemented as part of the Proposed Project during each phase of development, as required by

SCAQMD Rule 403 - Fugitive Dust. Specific Rule 403 control requirements include, but are not limited to, applying water in sufficient quantities to prevent the generation of visible dust plumes, applying soil binders to uncovered areas, reestablishing ground cover as quickly as possible, utilizing a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the Project Site, and maintaining effective cover over exposed areas. Therefore, with compliance with SCAQMD Rule 403, localized air quality impacts from construction activities on the off-site sensitive receptors would be less than significant.

Table 12
Localized On-Site Peak Daily Construction Emissions

Construction Phase [a]	Total On-site Emissions (Pounds per Day)			
	NO_x [b]	CO	PM_{10}	$PM_{2.5}$
Demolition/Site Preparation	6.41	7.47	0.62	0.37
Grading/Excavation	16.27	11.56	3.15	1.86
Building Construction	14.10	15.83	0.73	0.68
Architectural Coatings	7.14	11.22	0.32	0.32
SCAQMD Localized Thresholds [c]	**74**	**680**	**5**	**3**
Potentially Significant Impact?	***No***	***No***	***No***	***No***

Notes:
[a] *The localized thresholds for all phases are based on a receptor distance of 25 meters in SCAQMD's SRA 1 for a Project Site less than one acre.*
[b] *The localized thresholds listed for NO_x in this table takes into consideration the gradual conversion of NO_x to NO_2, and are provided in the mass rate look-up tables in the "Final Localized Significance Threshold Methodology" document prepared by the SCAQMD. As discussed previously, the analysis of localized air quality impacts associated with NO_x emissions is focused on NO_2 levels as they are associated with adverse health effects.*
[c] *SCAQMD, Final LST Methodology Document, Appendix C – Mass Rate LST Look-Up Tables, October 21, 2009, and Sample Construction Scenarios for Projects Less than Five Acres in Size, Appendix K.*
Source: CalEEMod 2020.4.0, Calculation worksheets are provided in Attachment 4 to this Categorical Exemption.

Operational Emissions

Existing Emissions

The existing Project Site currently consists of a one-story commercial office building. The existing use generates air pollutant emissions from stationary sources, such as space and water heating, architectural coatings (paint), and mobile vehicle traffic traveling to and from the Project Site. Therefore, for this analysis, peak daily emissions generated by the existing uses at the Project Site were estimated utilizing the California Emissions Estimator Model (CalEEMod *Version 2020.4.0*), as shown in Table 13, below.

Table 13
Existing Daily Operational Emissions from Project Site

Emissions Source	Emissions in Pounds per Day					
	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Summertime (Smog Season) Emissions						
Area Sources	0.31	<0.01	<0.01	0.00	<0.01	<0.01
Energy Sources	<0.01	0.05	0.04	<0.01	<0.01	<0.01
Mobile Sources	0.28	0.35	2.80	<0.01	0.56	0.15
Total Emissions	***0.59***	***0.40***	***2.84***	***<0.01***	***0.56***	***0.15***
Wintertime (Non-Smog Season) Emissions						
Area Sources	0.31	<0.01	<0.01	0.00	<0.01	<0.01
Energy Sources	<0.01	0.05	0.04	<0.01	<0.01	<0.01
Mobile Sources	0.27	0.37	2.69	<0.01	0.56	0.15
Total Emissions	***0.58***	***0.42***	***2.73***	***<0.01***	***0.56***	***0.15***
Source: CalEEMod 2020.4.0, Calculation worksheets are provided in Attachment 4.						

Proposed Project Emissions

The Proposed Project would result in the demolition and site clearing of the existing structure for the construction, use, and maintenance of a 17-story mixed-use residential and commercial development with 120 dwelling units, 1,032 square feet of retail, and a 1,981 square-foot restaurant. The Proposed Project would generate both stationary and mobile emissions, including the consumption of electricity and natural gas, landscape maintenance, and vehicles traveling to and from the Project Site. Such emissions are typical of a mixed-use residential and commercial development such as the Proposed Project. The analysis of daily operational emissions associated with the Proposed Project has been prepared utilizing CalEEMod (*Version 2020.4.0*) recommended by the SCAQMD. The results of these calculations are presented in Table 14, Proposed Project Estimated Daily Regional Operational Emissions, below. As shown in Table 14, the operational emissions generated by the Proposed Project would not exceed the regional thresholds of significance set by the SCAQMD. Therefore, impacts associated with regional operational emissions from the Proposed Project would be less than significant.

Table 14
Proposed Project Estimated Daily Regional Operational Emissions

Emissions Source	Emissions in Pounds per Day					
	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Summertime (Smog Season) Emissions						
Area Sources	2.54	0.11	9.90	<0.01	0.05	0.05
Energy Sources	0.05	0.45	0.24	<0.01	0.04	0.04
Mobile Sources	1.08	1.05	9.76	0.02	2.23	0.60
Stationary Sources	0.82	3.67	2.09	<0.01	0.12	0.12
Total Project Emissions:	***4.49***	***5.28***	***21.99***	***0.02***	***2.44***	***0.81***
Less Existing Emissions:	*(0.59)*	*(0.40)*	*(2.84)*	*(<0.01)*	*(0.56)*	*(0.15)*
Net Project Site Emissions:	**3.90**	**4.88**	**19.15**	**0.02**	**1.88**	**0.66**
SCAQMD Thresholds	**55**	**55**	**550**	**150**	**150**	**55**
Potentially Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**
Wintertime (Non-Smog Season) Emissions						
Area Sources	2.54	0.11	9.90	<0.01	0.05	0.05
Energy Sources	0.05	0.45	0.24	<0.01	0.04	0.04
Mobile Sources	1.04	1.12	9.53	0.02	2.23	0.60
Stationary Sources	0.82	3.67	2.09	<0.01	0.12	0.12
Total Project Emissions:	**4.45**	**5.35**	**21.76**	**0.02**	**2.44**	**0.81**
Less Existing Emissions:	*(0.58)*	*(0.42)*	*(2.73)*	*(<0.01)*	*(0.56)*	*(0.15)*
Net Project Site Emissions:	**3.87**	**4.93**	**19.03**	**0.02**	**1.88**	**0.66**
SCAQMD Thresholds	**55**	**55**	**550**	**150**	**150**	**55**
Potentially Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**
Source: CalEEMod 2020.4.0, Calculation worksheets are provided in Attachment 4.						

Greenhouse Gas Emissions

The guidance from the State and City on Class 32 Categorical Exemptions does not require the preparation of greenhouse gas (GHG) analyses for projects eligible for exemptions. Specifically, Article 19 of the State's CEQA Guidelines states that eligible projects that qualify for categorical exemptions are deemed to not have a significant effect on the environment. Under Section 15332, the Class 32 exemption that governs in-fill development projects identifies the conditions under which a project can qualify, noting that "[a]pproval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality…" There are no requirements to making findings about a project's effects on GHG. Further, the City issued guidance in 2018 (CP-7828) that clarifies the special requirement criteria for projects that seek to use the Class 32 exemption. In this guidance, they clarify that projects that qualify must provide supporting documents to demonstrate eligibility for the Class 32 exemption, including an air quality study. However, the "[p]urpose of this assessment is to evaluate the regional significance of criteria pollutant emissions from both the construction and operation of a proposed project." An assessment of criteria pollutant emissions has been prepared, as described immediately above. As there is no requirement for

preparation of GHG analyses to validate the Class 32 exemption, the following is provided for informational purposes only.

Neither the City of Los Angeles, SCAQMD, nor the State CEQA Guidelines Amendments provide any adopted thresholds of significance for addressing a commercial project's GHG emissions. Nonetheless, Section 15064.4 of the CEQA Guidelines Amendments serves to assist lead agencies in determining the significance of the impacts of GHGs. Because the City of Los Angeles does not have an adopted quantitative threshold of significance for a mixed-use residential and commercial project's generation of greenhouse gas emissions, the following analysis is based on a combination of the requirements outlined in the CEQA Guidelines.

For informational purposes, and consistent with Section 15064.4 of the CEQA Guidelines, this analysis includes an impact determination based on the following: (1) the extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting; (2) whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; (3) the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. The Guidelines do not mandate the use of absolute numerical thresholds to measure the significance of greenhouse gas emissions. As such, this analysis relies on the extent to which the Proposed Project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions.

Construction

Greenhouse gas emissions were calculated using CalEEMod (*Version 2020.4.0*). Construction of the Proposed Project would emit GHG emissions through the combustion of fossil fuels by heavy-duty construction equipment and through vehicle trips generated by construction workers traveling to and from the Project Site. Emissions of GHGs were calculated for each year of construction of the Proposed Project and the results of this analysis are presented in Table 15, Proposed Project Construction-Related Greenhouse Gas Emissions. As shown in Table 15, the total GHG emissions from construction activities related to the Proposed Project would be approximately 861 metric tons with the greatest annual emissions occurring in 2023. Total Construction GHG emissions are amortized over the 30-year life of the Proposed Project and added to the total operational impacts.

Table 15
Proposed Project Construction-Related Greenhouse Gas Emissions

Year	CO_2e Emissions (Metric Tons per Year) [a]
2022	261.46
2023	449.11
2024	150.29
Total Construction GHG Emissions:	**860.86**

Note:
[a] *Construction CO_2 values were derived using CalEEMod Version 2020.4.0 Calculation data and results are provided in Attachment 5, Greenhouse Gas Emissions Worksheets.*

Operation

Existing Baseline GHG Emissions

The Project Site is currently developed with a one-story commercial office building, which serves as the existing conditions baseline. The operations of the on-site commercial uses generate GHG emissions as a result of vehicle trips and building operations involving the use of electricity, natural gas, water, and generation of solid waste and wastewater. The average daily GHG emissions generated by the existing Project Site have been estimated utilizing the CalEEMod computer model recommended by the SCAQMD. Table 16, Existing Project Site Greenhouse Gas Emissions, presents the GHG emissions associated with operation of the existing commercial uses at the Project Site. As shown in Table 16, the existing operations on the Project Site generate approximately 198.45 CO^2e MTY.

Table 16
Existing Project Site Greenhouse Gas Emissions

Emissions Source	CO_2e Emissions (Metric Tons per Year)
Area	<0.01
Energy	76.51
Mobile	96.47
Waste	6.55
Water	18.92
Total	**198.45**

Calculation data and results are provided in Attachment 5, Greenhouse Gas Emissions Worksheets.

Project GHG Emissions

The GHG emissions resulting from operation of the Proposed Project, which involves the usage of on-road mobile vehicles, electricity, natural gas, water, landscape equipment and generation of

solid waste and wastewater, were calculated using CalEEMod. The Proposed Project's compliance with the *L.A. Green Building Code* and other project design features would be effective in reducing GHG emissions, such as the Project Site being an infill lot and its proximity to transit and walking distance to a major employment center. As shown in Table 17, below, the net increase in GHG emissions generated by the Proposed Project would result in a net increase of 565.25 CO_2e MTY, which is well below the 3,000 $MTCO_2e$ per year threshold of significance considered by the SCAQMD. The Proposed Project's structural and operational features such as low-flow plumbing fixtures and implementing energy-efficient appliances during the life of the Proposed Project would reduce the Project's GHG emissions. Through required implementation of the Green Building Code, the Project Site's location on an infill site, the Proposed Project would be consistent with local and statewide goals and policies aimed at reducing the generation of GHGs, including SB 32, SB 375, SCAG's RTP/SCS, *L.A. Green Building Code*, and CARB's 2017 Scoping Plan aimed at achieving a 40 percent reduction of 1990 GHG emission levels by 2030.

Table 17
Proposed Project Operational Greenhouse Gas Emissions

Emissions Source	Estimated Project Generated CO_2e Emissions (Metric Tons per Year)
Area	2.07
Energy	318.12
Mobile	350.30
Stationary	4.59
Waste	8.77
Water	51.15
Construction Emissions [a]	28.70
Proposed Project Total:	***763.70***
Less Existing Project Site:	*(198.45)*
Proposed Project Net Total:	**565.25**

Notes:
[a] *The total construction GHG emissions were amortized over 30 years and added to the operation of the Project.*
Calculation data and results provided in Attachment 5 to this Categorical Exemption.

The following Project characteristics have been identified that would result in a reduction in greenhouse gas emissions and thus are supportive of the State's 2017 Scoping Plan:

Infill Development. The Project Site is located on an infill site that is currently developed with a commercial office building. The Proposed Project is also located in an area that is adequately served by existing infrastructure and would not require the extension of utilities or roads to accommodate the proposed development. The Project's redevelopment of the Project Site would eliminate the current land uses, which are estimated to generate 198.45 $MTCO_2e$.

Transit Priority Area. The Proposed Project is also located in a Transit Priority Area as defined by CEQA Sections 21099 and 21064.3. Studies by the California Department of

Transportation, the U.S. Environmental Protection Agency and the Metropolitan Transportation Commission have found that focusing development in areas served by transit can result in local, regional and statewide benefits including reduced air pollution and energy consumption. The Proposed Project's close proximity to neighborhood-serving commercial/retail land uses and regional transit would result in fewer trips and a reduction to the Proposed Project's vehicle miles traveled (VMTs) as compared to the base trip rates for similar stand-alone residential uses that are not located in close proximity to transit.

Energy Conservation. The Proposed Project would include the development of a mixed-use residential and commercial building with 120 dwelling units and 3,013 square feet of commercial space, totaling more than 50,000 gross square feet of floor area. As mandated by the *L.A. Green Building Code*, the Proposed Project must meet Title 24 2019 Standards and would include ENERGY-STAR appliances in all of the dwelling units. Additionally, the Proposed Project would provide rooftop solar zones on the roof of the building.

Solid Waste Reduction Efforts. *L.A. Green Building Code* Section 5.408.1 and LAMC Section 66.32 require the construction contractor to obtain an AB 939 Compliance Permit certifying the delivery of the construction and demolition waste to a certified construction and demolition waste processing facility. Diversion efforts would be accomplished through source reduction, recycling, and composting. Finally, the Proposed Project is required by the California Solid Waste Reuse and Recycling Access Act of 1991 to provide adequate storage areas for collection and storage of recyclable waste materials. As such, a minimum 50 percent reduction of the Proposed Project's waste stream to the local landfill would reduce methane emissions and thus lower the Proposed Project's contribution to global GHG emissions.

Water Conservation. As mandated by the *L.A. Green Building Code*, the Proposed Project would be required to provide separate submeters for individual leased, rented or other tenant spaces projected to consume more than 100 gallons per day and any building or addition that is projected to consume more than 1,000 gallons per day. Plumbing fixtures would need to comply with one of the following: (1) a 20% reduction in the building's "water use baseline" as demonstrated in Table 5.303.2.2 of the Los Angeles Plumbing Code; or (2) comply with the maximum flow rates shown in Table 5.303.2.3 of the Plumbing Code. The Proposed Project would also be required to develop a water budget for landscape irrigation use and install automatic irrigation systems with weather or soil moisture-based controllers.

As demonstrated above, the Proposed Project's characteristics and design features, coupled with compliance with mandatory regulatory measures would be consistent with local and statewide goals and policies aimed at reducing the generation of GHGs, including SB 32, SB 375, SCAG's RTP/SCS, *L.A. Green Building Code*, and CARB's 2017 Scoping Plan. Therefore, the Proposed Project's generation of GHG emissions would not conflict with any applicable plan, policy or regulation for the purposes of reducing the emissions of greenhouse gases.

Water Quality

Groundwater

Based on the Department of Toxic Substances Control EnviroStor Database, the Project Site is not listed on any national, state, and local environmental databases for cleanup, permitting, or investigation of any hazardous waste contamination. Therefore, the Proposed Project would not exacerbate any hazardous conditions on the Project Site during construction that could affect groundwater conditions. Moreover, any hazardous materials utilized during construction would be used, stored, and disposed of in accordance with all applicable regulatory requirements, and would therefore not pose any potential impacts to groundwater or surface water quality. The Proposed Project, once operational, would not use hazardous materials other than modest amounts of typical cleaning supplies and solvents used for janitorial purposes that are typically associated with the operation of the Proposed Project and the use of these substances would comply with State Health Codes and Regulations. As such, the Proposed Project does not include potential sources of contaminants that could potentially degrade water quality.

Stormwater

The Project Site is currently developed with a commercial office building. Therefore, 100 percent of the Project Site is covered with impervious surfaces. Thus, approximately 100 percent of the surface water runoff from the Project Site are directed to adjacent storm drains and do not percolate into the groundwater table beneath the Project Site. With respect to water quality from stormwater, surface water runoff from the Project Site flows southbound along Spring Street into a storm drain inlet located at the intersection of Spring Street and 3rd Street, approximately 285 feet south of the Project Site. The Proposed Project would continue to generate surface water runoff similar to existing conditions, and stormwater would be directed towards existing stormwater infrastructure that currently serve the Project Site.

A Storm Water Pollution Prevention Plan (SWPPP) would be required to mitigate the effects of erosion and the inherent potential for sedimentation and other pollutants entering the stormwater system. The SWPPP would identify Best Management Practices (BMPs) for erosion control and other measures to meet the NPDES requirements for stormwater quality. Implementation of the BMPs identified in the SWPPP and compliance with the NPDES and City discharge requirements would ensure that the construction of the Proposed Project would not violate any water quality standards or discharge requirements, or otherwise substantially degrade water quality during construction.

Additionally, the Proposed Project would be required to demonstrate compliance with Low Impact Development (LID) Ordinance standards and retain and treat the first ¾-inch of rainfall in a 24-hour period or the rainfall from an 85th percentile 24-hour runoff event, whichever is greater. To ensure that all stormwater related BMPs are constructed and/or installed in accordance with the approved LID Plan, the City of Los Angeles requires a Stormwater Observation Report to be submitted to the City prior to the issuance of the Certificate of Occupancy. Compliance with the LID Ordinance would ensure that the Proposed Project would not adversely affect water quality or

significantly contribute to site runoff during the operation of the Proposed Project. Therefore, the Proposed Project would result in less than significant impacts to the existing stormwater infrastructure serving the Project Site.

e) The Project Site can be adequately served by all required utilities and public services.

Water

The Project Site is located within the service area of the Los Angeles Department of Water and Power (LADWP) for potable water service. The LADWP's 2020 Urban Water Management Plan ("UWMP") projects the City of Los Angeles will have a reliable water supply of approximately 509,501 acre-feet per year ("AFY") and 565,751 AFY in 2025 and 2045, respectively, based on growth projections of the 2020-2045 RTP/SCS. Thus, projects that are consistent with the underlying zoning and allowable density requirements of the LAMC and General Plan, are inherently consistent with the future water demands established in the 2020 UWMP. The Proposed Project would be consistent with the underlying land use of the Project Site. Based on the sewer generation factors provided by the Bureau of Sanitation and assuming all water usage converts to wastewater, it is estimated that the Proposed Project's net increase in water demand would be approximately 14,066 gallons per day, or approximately 15.8 AFY, as shown in Table 18, below.

Table 18
Proposed Project Estimated Water Demand

Type of Use	Size	Water Demand Rate (gpd/unit) [a]	Total Water Demand (gpd)
Existing Conditions (To Be Removed)			
Commercial Office	14,000 sf	0.12 gpd/sf	1,680
		Total Existing Water Demand:	***1,680***
Proposed Project			
Residential: Studio	16 du	75 gpd/du	1,200
Residential: One-bedroom	89 du	110 gpd/du	9,790
Residential: Two-bedroom	13 du	150 gpd/du	1,950
Residential: Three-bedroom	2 du	190 gpd/du	380
Restaurant (1,981 sf)	80 seats	30 gpd/seat	2,400
Retail	1,032 sf	0.025 gpd/sf	26
		Total Proposed Project Water Demand:	***15,746***
		Less Existing Water Demand:	*(1,680)*
		NET Project Site Water Demand:	**14,066**

Notes: du= dwelling units; sf=square feet; gpd= gallons per day
[a] Consumption Rates based on City of Los Angeles Department of Public Works, Bureau of Sanitation, Sewer Generation Factor for Residential and Commercial Categories table, effective April 6, 2012. It is assumed that all water usage would convert to wastewater.
Source: Parker Environmental Consultants, 2022.

Articles 4 and 9 of Chapter IX of the LAMC establish citywide water efficiency standards and require water-saving systems and technologies in buildings and landscapes to conserve and

reduce water usage. Plumbing fixtures would need to comply with one of the following: (1) a 20% reduction in the building's "water use baseline" as demonstrated in Table 5.303.2.2 of the Los Angeles Plumbing Code; or (2) comply with the maximum flow rates shown in Table 5.303.2.3 of the Plumbing Code. The Proposed Project would also be required to develop a water budget for landscape irrigation use and install automatic irrigation systems with weather or soil moisture-based controllers. Compliance with the L.A. Green Building Code would further reduce the Proposed Project's operational water demands. Because the Proposed Project is consistent with the zoning and General Plan land use designations, and the Proposed Project's employment growth would be within SCAG's growth forecast, the Proposed Project's increased water demand has already been accounted for in the 2020 UWMP, and impacts upon water demand would be less than significant.

Sewer

The Project Site is served by an existing 12-inch sewer pipeline along Spring Street. Wastewater from the Proposed Project would be treated by the Hyperion Water Reclamation Plant (HWRP), which treats an average daily flow of 275 million gallons per day (mgd) on an average dry weather day and with a maximum daily flow of 450 mgd. This equals a remaining capacity of 175 mgd of wastewater able to be treated at the HWRP. Based on standard sewer flow rates published by the Bureau of Sanitation, the Proposed Project's sewer generation is expected to be 14,066 gallons per day. Pursuant to City policy, the Bureau of Sanitation will check the gauging of the sewer lines and make the appropriate decisions on how best to connect to the local sewer lines at the time of construction. The Applicant would be required to submit a Sewer Capacity Availability Request (SCAR) to verify the anticipated sewer flows and points of connection and to assess the condition and capacity of the sewer lines receiving additional sewer flows from the Proposed Project. If the public sewer has insufficient capacity to accommodate the Proposed Project's wastewater flows, the Applicant would be required to build sewer lines to a point in the sewer system with sufficient capacity. A final approval for sewer capacity and connect permit would be made at the time. The installation of a secondary line, if needed, would require minimal trenching and pipeline installation and would not result in any adverse environmental impacts. Ultimately, the sewage flow would be conveyed to the HWRP, which has sufficient capacity for the Proposed Project. As the Proposed Project would make all necessary improvements and would have a negligible impact on the existing sewer capacity, the Proposed Project's impacts upon the City's sewer system would be less than significant.

Solid Waste

In 2017, the City of Los Angeles entered into exclusive franchise agreements with waste haulers to provide solid waste, commingled recyclables, and organics collection, transfer, disposal and processing services to commercial and multifamily establishments in the City. The companies that were awarded the contract for each franchise secured a dedicated waste stream, increasing the financial viability to develop new organic waste processing and conversion technology facilities in the vicinity of the City of Los Angeles. The Project Site is located within the Downtown Commercial Waste Franchise Zone, which is serviced under contract to NASA Services, Inc. Under the existing

contract, the service provider is required to deliver solid waste resources collected to the following certified facilities: Central Los Angeles Recycling and Transfer Station (CLARTS), located at 2201 E. Washington Boulevard; and Puente Hills Material Recovery Facilities, located at 2808 S. Workman Mill Road. All solid waste is initially disposed into these two recycling and transfer facilities. Then all trash and non-recyclables materials are transferred to a landfill that accepts non-recyclable waste. It is assumed that the Proposed Project's solid waste would be disposed of at the Sunshine Canyon Landfill. The Sunshine Canyon Landfill is jointly operated by the City and the County, has a remaining capacity of 55.1 million tons. The Sunshine Canyon Landfill has an estimated remaining life of 18 years.

Approximately 14,000 square feet of building debris would be demolished and removed from the Project Site. With approximately 156,006 square feet of proposed gross building area, the Proposed Project is anticipated to generate approximately 1,413 tons of construction and demolition debris before source reduction and recycling efforts. The Proposed Project would follow all applicable solid waste policies and objectives that are required by law, statute, or regulation. Under the requirements of the hauler's AB 939 Compliance Permit from the Bureau of Sanitation, all construction and demolition debris would be delivered to a Certified Construction and Demolition Waste Processing Facility. Operation of the Proposed Project is expected to generate approximately 1,573 pounds per day or approximately 287 tons per year. The Proposed Project would also comply with AB 939, AB 341, AB 1826 and City waste diversion goals, as applicable, by providing clearly marked, source-sorted receptacles to facilitate recycling. The amount of solid waste generated by the Proposed Project is estimated to be well within the available capacities of area landfills.

Fire Services

The factors that the Los Angeles Fire Department (LAFD) considers in determining whether fire protection services for a project are adequate include whether the Project: (1) is within the maximum response distance for the land uses proposed; (2) complies with emergency access requirements; (3) complies with fire-flow requirements; and (4) complies with fire hydrant placement. Pursuant to LAMC Section 57.09.07, the maximum response distance between a residential or neighborhood commercial land use and a LAFD station that houses an engine or truck company is 1.5 miles. If this distance is exceeded, all structures shall be constructed with automatic fire sprinkler systems.

The Los Angeles Fire Department Station No. 4, located at 450 E. Temple Street, currently serves the Project Site. The fire station is located approximately 1.5 miles (driving distance) west of the Project Site. The LAFD considers fire protection services for a project adequate if a project is within the maximum response distance for the land use proposed. Based on the response distance criteria specified in LAMC 57.507.3.3, fire protection response would be considered adequate. Pursuant to LAMC Section 57.507.3.1, the required fire flow for a high-density multi-family development, such as the Proposed Project, is 4,000 gallons per minute from four adjacent fire hydrants flowing simultaneously. The Proposed Project would be required to maintain appropriate fire flow and access pursuant to the Los Angeles Fire Code. LAMC Section 57.507.3.2 addresses

land use-based requirements for fire hydrant spacing and type. Additionally, every first story of a residential, commercial, and industrial building must be within 300 feet of an approved hydrant. There is an existing fire hydrant approximately north of the Project Site along Harlem Space, and another hydrant located approximately 180 feet south of the Project Site along Spring Street. The number and location of hydrants would be determined as part of LAFD's fire/life safety plan review for the Proposed Project. The required fire flow and hydrant placement for the Proposed Project would be confirmed in consultation with the LAFD during the plan check approval process.

Local access to the Project Site is provided via S. Spring Street, and direct access to the Project Site would be provided from one full-access driveway from the alleyway, Harlem Place. The Project driveway would be designed according to LADOT standards to ensure adequate access, including emergency access, to the Project Site. Furthermore, the drivers of emergency vehicles normally have a variety of options for avoiding traffic, such as using sirens to clear a path of travel or driving in the lanes of opposing traffic. As such, existing emergency access to the Project Site and surrounding uses would be maintained during operation of the Proposed Project. The Proposed Project would not involve activities during its operational phase that could impede public access or travel upon a public right-of-way or would interfere with an adopted emergency response or evacuation plan. Therefore, development of the Proposed Project is not expected to significantly impact fire protection services in the Project area.

Police Services

For the purpose of this analysis, a significant impact may occur if the Los Angeles Police Department (LAPD) could not adequately serve a project, necessitating a new or physically altered station, the construction of which may cause significant environmental impacts. The determination of whether a project results in a significant impact on police protection shall be made considering the following factors: (a) the population increase resulting from the project, based on the net increase of residential units or square footage of non-residential floor area; (b) the demand for police services anticipated at the time of project buildout compared to the expected level of service available, considering, as applicable, scheduled improvements to LAPD services (facilities, equipment, and officers) and the project's proportional contribution to the demand; and (c) whether the project includes security and/or design features that would reduce the demand for police services.

The Project Site is located in the Central Division of the Los Angeles Police Department's Central Bureau. The Central Community Police Station, located at 251 E. 6th Street, serves the Central Community and the Project Site. This police station is located approximately 0.7 mile (driving distance) south of the Project Site. The Project Site is located within Reporting District 135.

Operation of the Proposed Project would result in an increase of residents, guests, and employees at the Project Site, thereby generating a potential increase in the number of service calls from the Project Site. Responses to thefts, vehicle burglaries, vehicle damage, and traffic-related incidents would be anticipated to escalate as a result of the increased on-site activity and increased traffic on adjacent streets. The plans for the Proposed Project would incorporate adequate crime

prevention design features that would provide security design measures for semi-public and private spaces, which may include, but not be limited to, surveillance cameras, access control to the building, secured parking facilities, walls/fences with key systems, well-illuminated public and semi-public spaces designed with a minimum of dead space to eliminate areas of concealment, and location of building entrances in high-foot traffic areas. The Proposed Project would be subject to Site Plan Review and would be reviewed by the LAPD for compliance with the recommended site design guidelines to improve public safety. Thus, development of the Proposed Project would not significantly impact police protection services in the Project area.

Los Angeles Unified School District

The Project Site is located within the service area of the Los Angeles Unified School District (LAUSD). The Project Site is currently served by one elementary school, one middle school, and four high schools. The following schools serve the Project Site:

1) 9th Street Elementary School, located at 835 Stanford Avenue, approximately 1.5 miles southeast of the Project Site;
2) Sal Castro Middle School, located at 1575 W. 2nd Street, approximately 1.4 miles west of the Project Site;
3) Belmont Senior High School, located at 1575 W. 2nd Street, approximately 1.4 miles west of the Project Site;
4) Edward R. Roybal Learning Center, located at 1200 W. Colton Street, approximately 1.3 miles west of the Project Site;
5) Ramon C. Cortines School of Visual and Performing Arts, located at 450 N. Grand Avenue, approximately 0.9 mile north of the Project Site; and
6) Miguel Contreras Learning Complex, located at 322 S. Lucas Avenue, approximately 1.2 miles west of the Project Site.

The Proposed Project would provide multi-family residential units that may result in a net increase in students attending local schools. Based on student generation rates provided by LAUSD, the Proposed Project would generate approximately 27 elementary students, 7 middle school students, and 16 high school students, for a total of approximately 50 students.[5] It is likely that some of the students generated by the Proposed Project already reside in areas served by the LAUSD and would already be enrolled in LAUSD schools. However, for a conservative analysis, it is assumed that all students generated by the Proposed Project would be new to the LAUSD. In order to lessen school capacity impacts, the Project Applicant would be required to pay all applicable developer fees to the LAUSD to offset the Proposed Project's demands upon local schools. Prior to issuance of a building permit, the General Manager of the City of Los Angeles, Department of Building and Safety, or designee, shall ensure that the Applicant has paid all applicable school facility development fees in accordance with California Government Code Section 65995. Pursuant to Government Code Section 65995, payment of development fees

[5] *Student generation rates are as follows for multi-family residential uses: 0.2269 elementary, 0.0611 middle and 0.1296 high school students per unit. Source: Table 3 of the Los Angeles Unified School District, 2020 Developer Fee Justification Study, March 2020.*

authorized by SB 50 are deemed to be "full and complete school facilities mitigation." With the payment of a School Development Fee, the Proposed Project's potential impact upon public school services would be less than significant.

Parks

The Proposed Project would result in a net increase of 120 multi-family dwelling units, which would have the potential to increase demands upon public park facilities. The Project Site is served by parks and recreation facilities, which are owned and maintained by the City of Los Angeles Recreation and Parks Department. Parks and recreation facilities within a two-mile radius of the Project Site include: City Hall Park Center, Spring Street Park, Pershing Square Park, San Julian Park, Los Angeles Plaza Park, Gladys Park, Arts District Park, Alpine Recreation Center, Vista Hermosa Park, Echo Park Indoor Pool, Patton Street Park, Everett Triangle Park, Pecan Pool and Recreation Center, Unidad Park, Echo Park Recreation Center, Lilac Terrance Park, Prospect Park, Echo Park and Lake, Buena Vista Meadow Picnic Area, Hope and Peace Park, Hollenbeck Lake/Park and Recreation Center, Downey Recreation Center, Lake Street Park and Skate Park, Montecillo De Leo Politi Park, Lake Street Community Center, MacArthur Park/Lake and Recreation Center, Downey Pool, State Street Recreation Center, and Ross Valencia Community Park. In addition, the Proposed Project would provide a total of 12,692 square feet of open space that would be available exclusively to serve Project residents and their guests, which would reduce the Proposed Project's demand upon public parks and recreational facilities. The Proposed Project's demand for open space would be met through a combination of (1) on-site open space proposed within the Project Site, (2) payment of applicable taxes in accordance with LAMC Section 21.10.3(a)(1), and (3) the availability of existing park and recreation facilities within the area. The Proposed Project would pay all required park and recreation fees, as required by the LAMC. Development of the Proposed Project is therefore not expected to significantly impact park and recreation facilities in the Project area.

Libraries

The LAPL branches currently serving the Project Site include:

1) Little Tokyo Branch Library, located at 203 S. Los Angeles Street, approximately 0.1 miles east of the Project Site;
2) Central Library, located at 630 W. 5th Street, approximately 0.5 miles west of the Project Site;
3) Chinatown Branch Library, located at 639 N. Hill Street, approximately 0.7 miles north of the Project Site;
4) Echo Park Branch Library, located at 1410 W. Temple Street, approximately 1.4 miles northwest of the Project Site;
5) Pico Union Branch Library, located at 1030 S. Alvarado Street, approximately 1.9 miles west of the Project Site; and
6) Benjamin Franklin Branch Library, located at 2200 W. 1st Street, approximately 1.9 miles east of the Project Site.

Existing library services are expected to adequately serve the needs of future occupants of the Proposed Project. The LAPL Branch Facilities Plan (the "Plan"), adopted in 1988, sets standards for site selection of libraries and identified a list of projects in which existing branch libraries are to be renovated or new facilities constructed in order to bring library resources to the residents of the City in accordance with the standards in the Plan. The goals of the Plan were implemented with money received by two bond programs: Phase I of the Plan was implemented with funds from the 1989 Bond Program and Phase II by the 1998 Bond Program. Under the two bond programs, 64 library facilities have been renovated or built. As of October 2008, all of the projects identified under the Plan have been completed. At present, the Plan is going through a process of revision in which the list of projects for the LAPL through the year 2030 will be updated. There are no planned improvements to add capacity through expansion or development of new libraries in the Project area. However, the Proposed Project would generate revenues for the City's General Fund (in the form of property taxes, sales tax revenue, etc.) that could be applied toward the provision of library facilities, staffing, and materials, as deemed appropriate. The Proposed Project's contribution to the General Fund would help offset the Project-related increase in demand for library services. Further, the Proposed Project would not conflict with or impede implementation of the applicable policies and goals related to libraries in the General Plan Framework or Central City Community Plan. Moreover, the Proposed Project would not be anticipated to result in a substantial increase in demand that would necessitate new or physically altered facilities, the construction of which could cause environmental impacts. Therefore, the Proposed Project's impacts upon library services would be considered less than significant.

Section 5. Exceptions to Categorical Exemptions

In addition to the above qualifying criteria, there are exceptions to the exemptions depending on the nature or location of a project, or unusual circumstances that create the reasonable possibility of significant effects. As provided in CEQA Section 15300.2, for a proposed project to qualify for an exemption to CEQA, the project must be able to demonstrate that it does not fall under the following exceptions:

(a) Location. Classes 3, 4, 5, 6, and 11 are qualified by consideration of where the project is to be located - a project that is ordinarily insignificant in its impact on the environment may in a particularly sensitive environment be significant. Therefore, these classes are considered to apply all instances, except where the project may impact on an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies.

(b) Cumulative Impact. All exemptions for these classes are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time is significant.

(c) Significant Effect. A categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances.

(d) Scenic Highways. A categorical exemption shall not be used for a project which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a state scenic highway. This does not apply to improvements which are required as mitigation by an adopted negative declaration or certified EIR.

(e) Hazardous Waste Sites. A categorical exemption shall not be used for a project located on a site which is included on any list compiled pursuant to Section 65962.5 of the Government Code.

(f) Historical Resources. A categorical exemption shall not be used for a project which may cause a substantial adverse change in the significance of a historical resource.

(a) Location

The Proposed Project does not qualify for a Class 3, 4, 5, 6, or 11 Categorical Exemption. As discussed herein, the Proposed Project qualifies under the Class 32 Categorical Exemption – “In-fill Development Projects.” Therefore, this exception does not apply to the Proposed Project.

(b) Cumulative Impacts

Provided below are the individual analyses of the cumulative impacts from traffic, noise, air quality, water quality, public services, and public utilities. In accordance with CEQA Guidelines Section 15300.2, this Categorical Exemption includes an evaluation of the Proposed Project’s cumulative

impacts to rule out the exception of cumulative impacts under Section 15300.2(b). Section 15300.2(b), Cumulative Impact, states that: "All exemptions for these classes are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time is significant."

In determining the cumulative impacts, the guidance provided under CEQA Guidelines Section 15064(h) is as follows:

> *"(1) When assessing whether a cumulative effect requires an EIR, the lead agency shall consider whether the cumulative impact is significant and whether the effects of the project are cumulatively considerable. An EIR must be prepared if the cumulative impact may be significant and the project's incremental effect, though individually limited, is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.*
>
> *(2) A lead agency may determine in an initial study that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus is not significant. When a project might contribute to a significant cumulative impact, but the contribution will be rendered less than cumulatively considerable through mitigation measures set forth in a mitigated negative declaration, the initial study shall briefly indicate and explain how the contribution has been rendered less than cumulatively considerable.*
>
> *(3) A lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program (including, but not limited to, water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plan, plans or regulations for the reduction of greenhouse gas emissions) that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. When relying on a plan, regulation or program, the lead agency should explain how implementing the particular requirements in the plan, regulation or program ensure that the project's incremental contribution to the cumulative effect is not cumulatively considerable. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding that the project complies with the specified plan or mitigation program addressing the cumulative problem, an EIR must be prepared for the project.*
>
> *(4) The mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable."*

In light of the guidance summarized above, an adequate discussion of a project's significant cumulative impact, in combination with other closely related projects, can be based on either: (1)

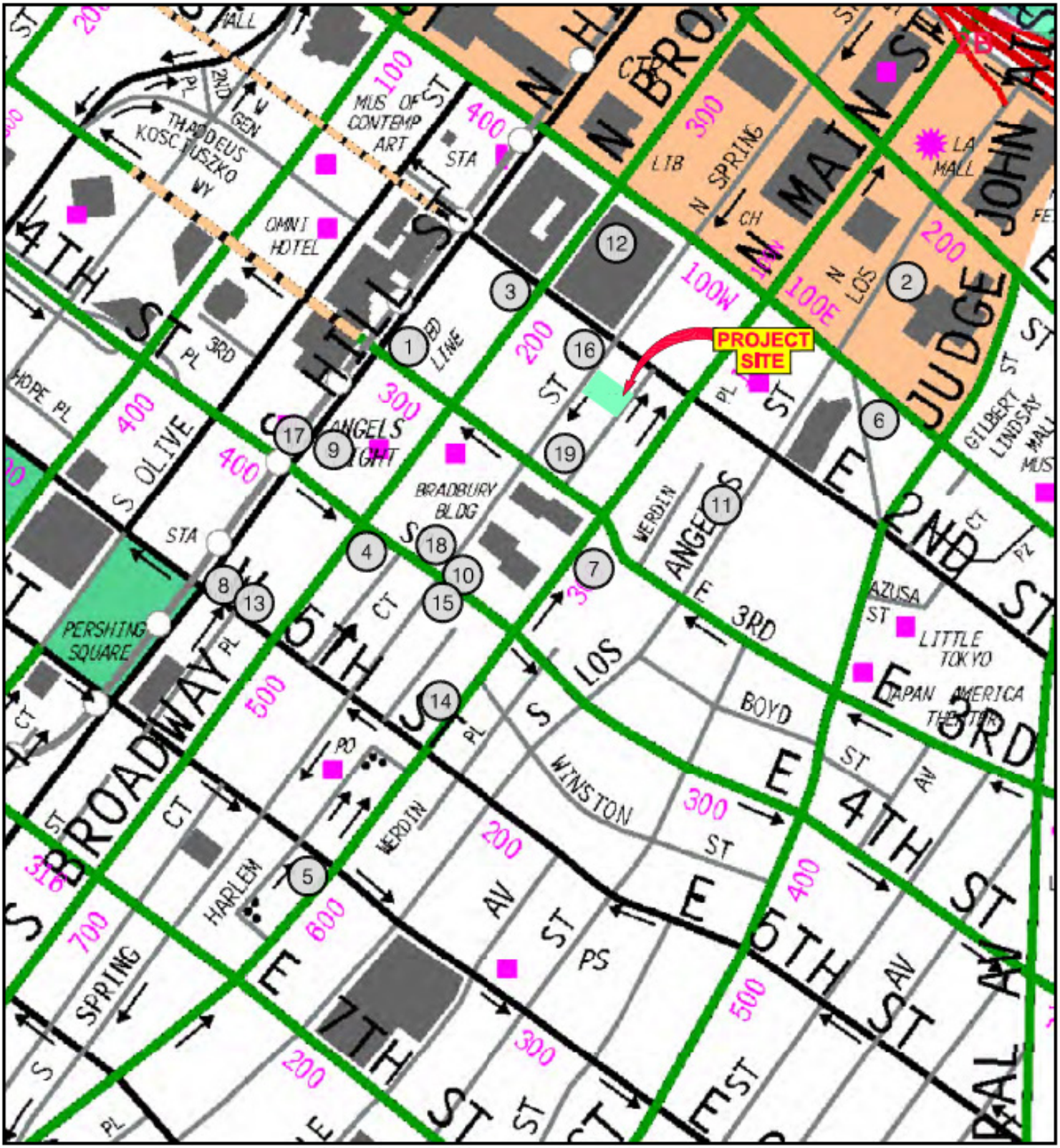
a list of past, present, and probable future producing related impacts; or (2) a summary of projections contained in an adopted local, regional, statewide plan, or related planning document that describes conditions contributing to the cumulative effect. (CEQA Guidelines Section 15130(b)(1)(A)-(B)). The lead agency may also blend the “list” and “plan” approaches to analyze the severity of impacts and their likelihood of occurrence. Accordingly, all proposed, recently approved, under construction, or reasonably foreseeable projects that could produce a related or cumulative impact on the local environment, when considered in conjunction with the Proposed Project, were identified for evaluation.

To assess local cumulative impacts of nearby related projects collectively with the Proposed Project, a search of proposed related projects was conducted within a ½-mile radius of the Project Site. There are 19 future related projects within ½-mile radius of the Project Site (see Table 19, Related Projects List, and Figure 19, Related Projects Map). This document analyzes the Proposed Project impacts to determine whether the Proposed Project is cumulatively considerable when assessing cumulative impacts with the related project and potential related projects located further from the Project Site and vicinity.

Table 19
Related Projects List

Project Number	Location/Address	Project Description	Size	Units
1	250 S. Hill Street	Condominiums Retail	330 12,000	du sf
2	150 N. Los Angeles Street	Office Retail Child Care	712,500 35,000 2,500	sf sf sf
3	201 S. Broadway	Mixed-Use	27,675	sf
4	400 S. Broadway	Apartments Retail Bar	450 6,904 5,000	du sf sf
5	601 S. Main Street	Condominiums Retail	452 25,000	du sf
6	118 S. Astronaut Ellison S. Onizuka Street	Apartments	77	du
7	300 S. Main Street	Apartments Retail Restaurant	471 5,190 27,780	du sf sf
8	333 W. 5th Street	Condominiums Hotel Restaurant	100 200 27,500	du rm sf
9	340 S. Hill Street	Apartments Retail Office	406 2,630 2,980	du sf sf
10	354 S. Spring Street	Apartments	212	du
11	237 S. Los Angeles Street	Sports Complex	43,453	sf
12	100 S. Broadways	Apartments Office Supermarket Restaurant	1,127 307,288 50,000 53,389	du sf sf sf
13	323 W. 5th Street	Hotel Condominiums Restaurant	190 31 29,232	rm du sf
14	433 S. Main Street	Apartments Retail Café	196 6,000 9,000	du sf sf
15	408 S. Spring Street	Hotel	140	rm
16	Metro Regional Connector Transit Project and 222 W. 2nd Street	Broadway/2nd Rail Station	--	--
		Apartments Retail	680 10,000	du sf
17	361 S. Hill Street	Hotel Retail Educational	509 36,551 38,977	rm sf sf
18	361 S. Spring Street	Hotel	315	rm
19	121 W. 3rd Street	Apartments Affordable Retail	294 38 6,350	du du sf

Notes: du = dwelling unit, sf = square feet, rm = room
Source: Overland Traffic Consultants, Inc., Transportation Impact Assessment for Proposed Mixed-Use Development, Located at 216 S. Spring Street in the City of Los Angeles, September 2021.



Source: Overland Traffic Consultants, September 2021.

Figure 19
Related Projects Map

Cumulative Traffic Impacts

Cumulative Consistency with Plans, Programs, Ordinances, and Policies

Pursuant to the TAG, each of the plans, programs, ordinances, and policies to assess potential conflicts with proposed projects should be reviewed to assess cumulative impacts that may result from the Proposed Project in combination with other nearby development projects. A cumulative impact could occur if the Proposed Project, with other future development projects located on the same block were to cumulatively preclude the City's ability to serve transportation user needs as defined by the City's transportation policy framework. One other development project has been identified on the same block (121 W. 3rd Street, Related Project No. 19). Since the related projects would be individually responsible for complying with the City's transportation plans, programs ordinances and policies, no cumulative impacts to the Mobility Element 2035 goals that define the development of the Citywide transportation infrastructure would occur.

Cumulative VMT Consistency Check

Cumulative VMT impacts are evaluated through a consistency check with SCAG's RTP/SCS. The RTP/SCS is the regional plan that demonstrates compliance with air quality conformity requirements and GHG reduction targets. Per the City's TAG, projects that are consistent with the RTP/SCS plan in terms of development location and density are part of the regional solution for meeting air pollution and GHG goals. Projects that have less than a significant VMT impact are deemed to be consistent with the SCAG's RTP/SCS and would have a less-than-significant cumulative impact on VMT.

As shown in the above Project-related VMT analysis and the conclusions reported in the Transportation Impact Assessment (see Attachment 2), the Proposed Project VMT impact would not exceed the City's Central APC VMT impact thresholds and as such, the Proposed Project's contribution to the cumulative VMT impact is adequate to demonstrate there is no cumulative VMT impact that would preclude the City's ability to provide transportation mobility in the area, and impacts would be less than significant.

Cumulative Noise Impacts

Development of the Proposed Project in conjunction with the 19 related projects could result in an increase in construction-related and traffic-related noise as well as on-site stationary noise sources in the already urbanized area of the City of Los Angeles. Localized construction impacts associated with noise generally occur within an area of 500 feet or less of the Project Site. Any projects located beyond 500 feet of the Project Site are farther than the distance that noise would generally travel in an urban area; and therefore, would not contribute to cumulative construction noise impacts.

There are two related projects within 500 feet of the Project Site: Related Project No. 16 and No. 19. .The nearest related project, Related Project No. 16 (City of Los Angeles Case No. CPC-2016-3808-VZC-CDO-DD-SPR) located at 222 W. 2nd Street, is approximately 80 feet west of the Project Site, across Spring Street. This related project was approved in April 2020. Related Project No. 19

(City of Los Angeles Case No. CPC-2021-3038-DB-SPR-HCA) located at 121 W. 3rd Street, is approximately 300 feet south of the Project Site. This related project was approved in January 2022. Therefore, it is likely that these related projects' construction schedules may be concurrent with the Proposed Project. However, similar to the Proposed Project, these related projects would be required to comply with the City's noise ordinance, as well as implement mitigation measures or project design features that may be prescribed pursuant to CEQA provisions that require potentially significant impacts to be reduced to the maximum extent feasible. Compliance with LAMC Section 112.05 would ensure the construction noise levels of Related Project Nos. 16 and 19 do not exceed 75 dBA at a distance of 50 feet from that project's construction site. As the Project Site is located approximately 80 feet from the Related Project No. 16, and neither site would exceed a noise level of 75 dBA at a distance of 50 feet, construction noise levels would be reduced to the maximum extent feasible. Construction noise for the Proposed Project and each related project (that has not yet been built) would be localized. Thus, the cumulative impact associated with construction noise would be less than significant, and the Proposed Project's incremental effects would not be cumulatively considerable.

With respect to cumulative operational noise impacts, each of the related projects would be required to comply with LAMC Section 112.02, which prohibits noise from air conditioning, refrigeration, heating, pumping, and filtering equipment from exceeding the ambient noise level on the premises of other occupied properties by more than five decibels. Thus, the siting and development of related projects would be subject to further CEQA review and evaluated on a case-by-case basis, and cumulative operational noise would be less than significant.

Cumulative Air Quality Impacts

Development of the Proposed Project in conjunction with the related projects in the Project Site vicinity would result in an increase in construction and operational emissions in the already urbanized area of the Wilshire community of the City of Los Angeles. Cumulative air quality impacts from construction and operation of the Proposed Project, based on SCAQMD guidelines, are analyzed in a manner similar to Project-specific air quality impacts. The SCAQMD recommends that a project's potential contribution to cumulative impacts should be assessed utilizing the same significance criteria as those for project specific impacts. Therefore, according to the SCAQMD, individual development projects that generate construction or operational emissions that exceed the SCAQMD recommended daily thresholds for project-specific impacts would also cause a cumulatively considerable increase in emissions for those pollutants for which the Basin is in non-attainment. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.[6]

Thus, as discussed above, because the construction-related and operational daily emissions associated with Proposed Project would not exceed the SCAQMD's recommended thresholds,

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[6] *SCAQMD, White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution. Appendix D, August 2003 (at page D-3), website: https://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper-appendix.pdf?sfvrsn=4, accessed June 2021.*

these emissions associated with the Proposed Project would not be cumulatively considerable. Further, each related project would quantify and address air quality emissions and mitigate impacts, if necessary, to ensure no cumulative impacts would occur. Furthermore, estimated emissions from similar projects of this size and type are typically well below SCAQMD thresholds and that multiple projects, when viewed together, are unlikely to exceed SCAQMD's regional thresholds. Therefore, cumulative air quality impacts would be less than significant.

Cumulative Greenhouse Gas Emissions Impacts

As stated previously in the Greenhouse Gas Emissions section of the supporting analysis above, the guidance from the State and City on Class 32 Categorical Exemptions does not require the preparation of GHG analyses for projects eligible for exemptions. Specifically, Article 19 of the State's CEQA Guidelines states that eligible projects that qualify for categorical exemptions are deemed to not have a significant effect on the environment. Under Section 15332, the Class 32 exemption that governs in-fill development projects identifies the conditions under which a project can qualify, noting that "[a]pproval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality…" There are no requirements to making findings about a project's effects on GHG. Further, the City issued guidance in 2018 (CP-7828) that clarifies the special requirement criteria for projects that seek to use the Class 32 exemption. In this guidance, they clarify that projects that qualify must provide supporting documents to demonstrate eligibility for the Class 32 exemption, including an air quality study. However, the "[p]urpose of this assessment is to evaluate the regional significance of criteria pollutant emissions from both the construction and operation of a proposed project." An assessment of criteria air pollutant emissions and cumulative impacts have been prepared, as described herein. As there is no requirement for preparation of cumulative GHG analyses to validate the Class 32 exemption, the following cumulative analysis is provided for informational purposes only.

The GHG emissions from a mixed-use residential and commercial development is relatively very small in comparison to state or global GHG emissions and, consequently, they would, in isolation, have no significant direct impact on climate change. Rather, it is the increased accumulation of GHG from more than one project and many sources in the atmosphere that may result in global climate change, which can cause the adverse environmental effects previously discussed. Per CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project will comply with an approved plan or mitigation program that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area of the project.

SCAG's 2020-2045 RTP/SCS, adopted in September 2020, is the regional plan that demonstrates compliance with air quality conformity requirements and GHG reduction targets. As such, projects and land use plans that are consistent with this plan in terms of development location, density, and intensity, are part of the regional solution for meeting air pollution and GHG reduction goals. Planning for more housing and jobs near transit was a strategy incorporated in SCAG's first RTP/SCS in 2012 and carried forward in the 2016 and 2020 RTP/SCS with a focus on areas that are well served by transit. The Proposed Project is an infill development in a Transit Priority Area

(TPA) and would be designed with sustainability features that are aimed at reducing overall GHG emissions.

The Proposed Project would also not conflict with all applicable local ordinances, regulations, and policies that have been adopted in furtherance of the state and City's goals of reducing GHG emissions. The Proposed Project would comply with the building efficiency standards of the California's Energy Efficiency Standards for Residential and Nonresidential Buildings, located at Title 24, Part 6 of the California Code of Regulations. Although not originally intended to reduce GHG emissions, increased energy efficiency and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standards. Additionally, the Proposed Project would comply with the L.A. Green Building Code, which imposes more stringent green building requirements than those contained within the CALGreen Code and is applicable to the construction of every new building, every new building alteration with a permit valuation of over $200,000, and every building addition unless otherwise noted. As such, any subsequent cumulative projects of a similar scale or nature would also be required to comply with applicable Title 24 Building Efficiency Standards, the L.A. Green Building Code, and incorporate GHG reducing measures as required. Thus, the Proposed Project would not make a cumulatively considerable contribution to GHG emissions and impacts would be less than significant.

Cumulative Water Quality Impacts

Development of the Proposed Project in combination with the related projects would result in the further infilling of uses in a highly developed area within the downtown community within the City of Los Angeles. As discussed above, the Project Site and the surrounding areas are served by the existing City or County storm drain system. Runoff from the Project Site and adjacent urban uses is typically directed into the adjacent streets, where it flows to the nearest stormwater drainage inlet. It is likely that most, if not all, of the related projects would also drain to the surrounding street system. However, little if any additional cumulative runoff is expected from the Proposed Project and the related project sites, since the surrounding area is highly developed with impervious surfaces. The surrounding area has long been developed and is heavily urbanized and improved with various residential and commercial buildings; thus, subsequent projects are not likely to result in a significant change from existing conditions with regards to runoff quantity. Nonetheless, under the requirements of Article 4.4 of the LAMC, each related project would be required to implement stormwater BMPs to retain or treat the runoff from a storm event producing ¾-inch of rainfall in a 24-hour period or the rainfall from an 85th percentile 24-hour runoff event, whichever is greater. Mandatory structural BMPs in accordance with the NPDES water quality program would result in a cumulative reduction of surface water runoff, as the development in the surrounding area is limited to infill developments and redevelopment of existing urbanized areas. Therefore, cumulative water quality impacts would be less than significant.

Cumulative Water Demand Impacts

Development of the Proposed Project and related projects and the cumulative growth throughout the City of Los Angeles, would further increase the demand for potable water within the City. Through the 2020 UWMP, the LADWP has demonstrated that it can provide adequate water supplies for the City through the year 2045, with implementation of conservation strategies and proper supply management. This estimate is based in part on demographic projections obtained for the LADWP service area from the Metropolitan Water District (MWD). The MWD utilizes a land-use based planning tool that allocates projected demographic data from the Southern California Association of Governments (SCAG) into water service areas for each of MWD's member agencies. MWD's demographic projections use data reported in SCAG's RTP/SCS and account for estimated increases in population (and by association the development of subsequent projects) in the surrounding area. The Proposed Project's contributions to population and housing growth that would be consistent with SCAG's growth projections for the City of Los Angeles. As such, the additional water demands generated by the Proposed Project are accounted for in the 2020 UWMP. Additionally, the Proposed Project's growth is consistent with SCAG's growth projections for the Los Angeles subregion. With approval of the requested discretionary actions, the Proposed Project is consistent with the underlying allowable uses per the LAMC and would not exceed the allowable density for the Project Site or exceed the available capacity in the local aqueduct. As such, the additional water demands generated by the Proposed Project are accounted for in the 2020 UWMP, and cumulative impacts associated with increased water demand would be less than significant.

Cumulative Sewer Impacts

Development of the Proposed Project in conjunction with the related projects would further increase regional demands on HWRP's capacity. Similar to the Proposed Project, each related project would be required to submit a SCAR and obtain approval by the Department of Public Works to ensure adequate sewer capacity for each related project. Since the Proposed Project would require approval from the Bureau of Sanitation, signifying that the sewer lines serving the Project Site have adequate capacity, the Proposed Project would not be expected to contribute to a local cumulative impact. Locally, the Proposed Project would not be cumulatively considerable. The impact of the continued growth of the region would likely have the effect of diminishing the daily excess capacity of the HWRP's service to the City of Los Angeles and surrounding area. However, it is anticipated that the 175 mgd of available capacity in the HWRP would not be significantly reduced with the cumulative wastewater generation from the related projects and Proposed Project. As such, cumulative impacts with respect to wastewater demand would be less than significant.

Cumulative Solid Waste Impacts

The City of Los Angeles Solid Waste Management Plan (AB 939) sets forth strategies that would provide adequate landfill capacity through 2037 to accommodate anticipated growth. The Bureau of Sanitation has projected the need for waste disposal capacity based on SCAG's regional

population growth projections. The growth associated with the Proposed Project is within those projections. Further, new programs are being implemented to increase the amount of waste diverted by the City, including: multi-family recycling, food waste recycling, commercial recycling and technical assistance and support for City departments to help meet their waste reduction and recycling goals. The City is also developing programs to ultimately meet a goal of zero waste by 2030. Thus, the Proposed Project's contribution to cumulative impacts would continue to decrease as it increases waste diversion rates in accordance with City goals.

Development of the Proposed Project in conjunction with the related projects would further increase regional demands on landfill capacity. The impact of the continued growth of the region would likely have the effect of diminishing the daily excess capacity of the existing landfills serving the City of Los Angeles. Although there are several proposals for new landfills in the region, there are currently few viable options for City of Los Angeles waste past 2029. The cumulative operational solid waste generation of the related projects and Proposed Project would represent a small fraction of the remaining capacity of the Sunshine Canyon Landfill, which currently has a remaining permitted capacity of approximately 55.1 million tons. Therefore, the cumulative impacts with respect to solid waste would be less than significant.

Cumulative Impacts to Fire Services

The Proposed Project, in combination with the related projects, could increase the demand for fire protection services in the Project area. Specifically, there could be increased demands for additional LAFD staffing, equipment, and facilities over time. This need would be funded via existing mechanisms (e.g., property taxes, government funding, and developer fees) to which the Proposed Project and related projects would contribute. Similar to the Proposed Project, each of the related projects would be individually subject to LAFD review and would be required to comply with all applicable fire safety requirements of the LAFD in order to adequately mitigate fire protection impacts. Specifically, any related project that exceeded the applicable response distance standards would be required to install automatic fire sprinkler systems in order to mitigate the additional response distance. To the extent cumulative development causes the need for additional fire stations to be built throughout the City, the development of such stations would be on small infill lots within existing developed areas and would not likely cause a significant impact upon the environment. Nevertheless, the siting and development of any new fire stations would be subject to further CEQA review and evaluated on a case-by-case basis. However, as the LAFD does not currently have any plans for new fire stations to be developed in proximity to the Project Site, no impacts are currently anticipated to occur. On this basis, the Proposed Project would not make a cumulatively considerable impact to fire protection services, and, as such cumulative impacts on fire protection would be less than significant.

Cumulative Impacts to Police Services

The Proposed Project, in combination with the related projects, would increase the demand for police protection services in the Project area. Specifically, there would be an increased demand for additional LAPD staffing, equipment, and facilities over time. This need would be funded via

existing mechanisms (e.g., sales taxes, government funding, and developer fees), to which the Proposed Project and related projects would contribute. In addition, each of the related projects would be individually subject to LAPD review and would be required to comply with all applicable safety requirements of the LAPD and the City of Los Angeles in order to adequately address police protection service demands. Furthermore, each of the related projects would likely install and/or incorporate adequate crime prevention design features in consultation with the LAPD, as necessary, to further decrease the demand for police protection services. To the extent cumulative development causes the need for additional police stations to be built throughout the City, the development of such stations would be on small infill lots within existing developed areas and would not likely cause a significant impact upon the environment. Nevertheless, the siting and development of any new police stations would be subject to further CEQA review and evaluated on a case-by-case basis. However, as the LAPD does not currently have any plans for new police stations to be developed in proximity to the Project Site. No impacts are currently anticipated to occur. On this basis, the Proposed Project would not make a cumulatively considerable impact to police protection services, and cumulative impacts on police protection would be less than significant.

Cumulative Impacts to Schools

The Proposed Project, in combination with the related projects is expected to result in a cumulative increase in the demand for school services. Development of the related projects would likely generate additional demands upon school services. These related projects would have the potential to generate students that would attend the same schools as the Proposed Project. This would create an increased cumulative demand on local school districts. However, each of the related projects would be responsible for paying applicable school fees to mitigate the increased demand for school services. Pursuant to Government Code Section 65995, payment of development fees authorized by SB 50 are deemed to be “full and complete school facilities mitigation.” With payment of the School Development Fee, any future school infrastructure would be developed as needed, and thus the cumulative impacts on schools from the Proposed Project and any subsequent project would be less than significant.

Cumulative Impacts to Parks

Development of the Proposed Project in conjunction with the related projects could result in an increase in permanent residents residing in the greater Project area. Additional cumulative development would contribute to lowering the City’s existing parkland to population ratio, which is currently below the preferred standard. However, each of the residential related projects are required to comply with payment of Quimby Fees (for subdivision projects with greater than 50 units) and/or park and recreation mitigation fees (for all other residential projects). Each residential related project would also be required to comply with the on-site open space requirements of the LAMC. Therefore, with payment of the applicable recreation fees on a project-by-project basis, any future park infrastructure would be developed as needed; therefore, the Proposed Project would not make a cumulatively considerable impact to parks and recreational facilities, and cumulative impacts would be less than significant.

Cumulative Impacts to Libraries

Development of the related projects is projected to generate additional housing and residents within the study area, which would likely generate additional demands upon library services. This increase in resident population would result in a cumulative increase in demands upon public library services. To meet the increased demands upon the City's Public Library system, Los Angeles voters passed a Library Bond Issue for $178.3 million to improve, renovate, expand, and construct 32 branch libraries. Since the Program's inception in 1998, the Library Department and the Department of Public works, Bureau of Engineering have made considerable progress in the design and construction of the branch library facilities. Based on the growth forecasts utilized in the 2015-2020 Strategic Plan, much of this growth has already been accounted for in planning new and expanded library facilities. Additionally, any future growth and development would analyze potential impacts on library services, and future library infrastructure would be developed, as needed. Thus, the additional residents generated by the Proposed Project would not make a cumulatively considerable impact upon the City's library system. Therefore, the cumulative impacts related to library facilities would be less than significant.

Cumulative Impacts Summary (Class 32)

As presented in the analysis above, the Proposed Project would not result in any significant impacts from traffic, noise, air quality, water quality, public services, and public utilities. The Proposed Project would be consistent with the use, type, and density of projects that are permitted by right and otherwise anticipated by the zoning code and General Plan, and when viewed in conjunction with other proposed, approved, or reasonably anticipated projects, would not generate impacts that are cumulatively considerable. Thus, the potential for the Proposed Project to result in cumulative impacts is less than significant.

(c) Significant Effect

There are no unusual circumstances that exist in connection with the Proposed Project or surrounding environmental conditions. The Project Site is located in an urbanized area of the Central City Community Plan Area and is consistent with the existing physical arrangement of the properties within the vicinity of the Project Site. The zoning designation for the Project Site is C2-4D with a General Plan land use designation of Regional Center Commercial. The Proposed Project is consistent with the designated zoning with respect to allowable uses and density and would comply with all applicable provisions of the LAMC. As such, there are no unique or unusual circumstances that exist in connection with the Proposed Project or surrounding environmental conditions that have the potential to result in a significant environmental impact upon the environment.

The Project Site is located in close proximity to significant transit infrastructure, including being within one-half mile of two light rail stations as well as multiple local bus routes. The Proposed Project is located within a defined Transit Priority Area under Senate Bill 743 and City of Los Angeles Zoning Information File No. 2452. Residential developments that provide much needed housing units in close proximity to commercial uses are encouraged and desired in TPAs. Pursuant

to P.R.C. Section 21099(d)(1), parking and aesthetic impacts of infill development projects in TPAs shall be considered less than significant as a matter of law. Thus, the Proposed Project is consistent with the type of development desired in this transit rich location as a matter of both State and local policy.

While no unusual circumstances exist, as described above, there is also not a reasonable possibility that any significant effects could result from development of the Proposed Project. Specifically, the Proposed Project would not result in any significant impacts related to traffic, noise, air quality, water quality, public services, and/or utilities.

(d) Scenic Resources

The Project Site is not bordered by or within the viewshed of any designated scenic highway as identified in the Mobility Element of the City of Los Angeles General Plan or a State scenic highway as identified by the Department of Transportation.[7] The closest designated State scenic highway is the Topanga Canyon State Scenic Highway, State Route 27, which is located approximately 22 miles west of the Project Site. The Proposed Project fronts S. Spring Street, which is not designated as a scenic highway in the City's Mobility Plan. The Project Site contains a one-story commercial building. There are no protected trees, historic resources, or unique geologic features located on the Project Site. Therefore, the Proposed Project would not damage any scenic resources within an officially designated scenic highway.

(e) Hazardous Materials

Pursuant to Government Code Section 65962.5, the Department of Toxic Substances Control (DTSC) shall compile and update as appropriate, at least annually, a list of all hazardous waste facilities subject to corrective action (pursuant to Section 25187.5 of the Health and Safety Code), all land designated as hazardous waste property or border zone property (pursuant to Section 25220 of the Health and Safety Code), all information received by the DTSC on hazardous waste disposals on public land (pursuant to Section 25242 of the Health and Safety Code), and all site listed pursuant to Section 25356 of the Health and Safety Code. Based on a review of the DTSC EnviroStor Database, the Project Site is not listed for cleanup, permitting, or investigation of any hazardous waste contamination (*see Attachment 7, Figure 1 DTSC EnviroStor Map)*. Therefore, the Project Site is not located on a site that the DTSC and the Secretary of the Environmental Protection have identified as being affected by hazardous wastes or clean-up problems. Pursuant to Government code section 65962.5, the Project Site is not listed on any national, state, and local environmental databases for cleanup, permitting, or investigation of any hazardous waste contamination, and this exception does not apply.

(f) Historic Resources

A substantial adverse change in the significance of a historic resource means demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the

[7] *California Scenic Highway Mapping Systems: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways, accessed June 2021.*

significance of a historical resource would be materially impaired. The Los Angeles Historic Resources Inventory (Historic Places LA) is the City's online database of designated historic resources and undesignated places of historical significance.

The Project Site consists of a one-story commercial office building. According to the Los Angeles Historic Resources Inventory, the Project Site does not contain any historic structures or resources on site. The Project Site is not designated as a Los Angeles Historic-Cultural Monument, is not located within a Historic Preservation Overlay Zone, and is not indicated in ZIMAS as requiring historic preservation review. The Project Site is located in the Central City Community Plan Area and was not identified as significant individually or as a contributing property to a district by SurveyLA, the Citywide historic resource survey. The survey of the Central City Community Plan Area was completed in September 2016.

The nearest historic resource is the Higgins Building, located at 108 W. 2nd Street, approximately 20 feet northeast of the Project Site. Findings in the Los Angeles Historic Resources Inventory show that this building has a local listing as a Los Angeles Historic-Cultural Monument. Since the Project Site does not directly abut this property, the Proposed Project would not directly demolish, relocate, or significantly modify the Higgins Building or its surroundings, such that their significance would be materially impaired. Also, per an email correspondence dated March 18, 2021, the Department of City Planning, Office of Historic Resources confirmed that the existing building is not eligible as a historical resource pursuant to CEQA and the construction of the Project would not impact the adjacent historic resources. Therefore, the Proposed Project will not result in a substantial adverse change to the significance of a historic resource and this exception does not apply.

Section 6. Project Design Features

The following project design features would be implemented as part of the Proposed Project.

Noise

In furtherance of complying with the provisions set forth in LAMC Sections 112.04 and 112.05, above, the Applicant will incorporate the following features into the construction work plans, which shall be conditions of approval of the Proposed Project:

- Demolition and construction activities shall be scheduled so as to avoid operating several pieces of equipment simultaneously, which causes high noise levels.
- The project contractor shall use power construction equipment with noise shielding and muffling devices.
- The project contractor will erect a temporary noise-attenuating sound barrier along the perimeter of the Project Site. The sound wall will be a minimum of 8 feet in height to block the line-of-sight of construction equipment and off-site receptors at the ground level. The sound barrier shall include sound absorbing material capable of achieving a minimum of 15-dBA reduction in sound level.
- During any jackhammering and structural framing, the project contractor shall utilize temporary portable acoustic barriers, partitions, or acoustic blankets to effectively block the line-of-sight between noise producing equipment and the adjacent residential land uses for purposes of ensuring noise levels at the adjacent residential land uses does not exceed 75 dBA L_{eq} over the ambient noise levels.

Section 7. References

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ATTACHMENT 1

U.S. Fish & Wildlife Service,
Information for Planning and
Consultation (IPaC) Resource List,
June 10, 2021.

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IPaC Information for Planning and Consultation **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Los Angeles County, California

Local office

Carlsbad Fish And Wildlife Office

(760) 431-9440
(760) 431-5901

2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385

http://www.fws.gov/carlsbad/

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at

the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS
Coastal California Gnatcatcher *Polioptila californica californica* Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/8178	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Allen's Hummingbird *Selasphorus sasin* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15
Black Swift *Cypseloides niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8878	Breeds Jun 15 to Sep 10

Common Yellowthroat Geothlypis trichas sinuosa This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084	Breeds May 20 to Jul 31
Costa's Hummingbird Calypte costae This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9470	Breeds Jan 15 to Jun 10
Marbled Godwit Limosa fedoa This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere
Nuttall's Woodpecker Picoides nuttallii This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410	Breeds Apr 1 to Jul 20
Oak Titmouse Baeolophus inornatus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9656	Breeds Mar 15 to Jul 15
Rufous Hummingbird selasphorus rufus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002	Breeds elsewhere
Song Sparrow Melospiza melodia This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Feb 20 to Sep 5
Spotted Towhee Pipilo maculatus clementae This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/4243	Breeds Apr 15 to Jul 20
Whimbrel Numenius phaeopus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9483	Breeds elsewhere
Willet Tringa semipalmata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere

Wrentit *Chamaea fasciata* Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

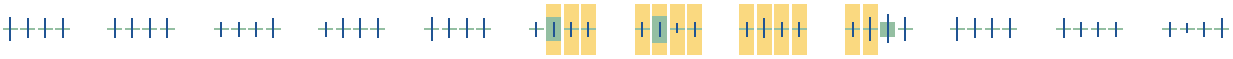
Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

■ probability of presence ■ breeding season | survey effort — no data

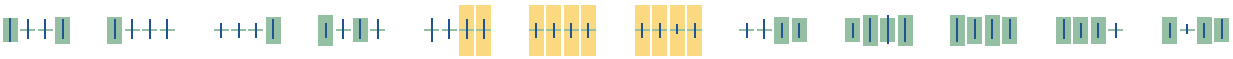
SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Allen's Hummingbird												

BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Black Swift
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



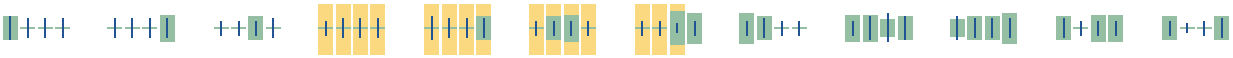
Common Yellowthroat
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



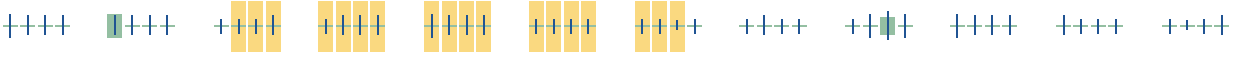
Costa's Hummingbird
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Marbled Godwit
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Nuttall's Woodpecker
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

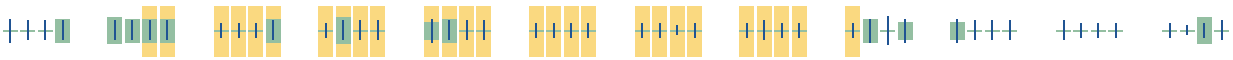


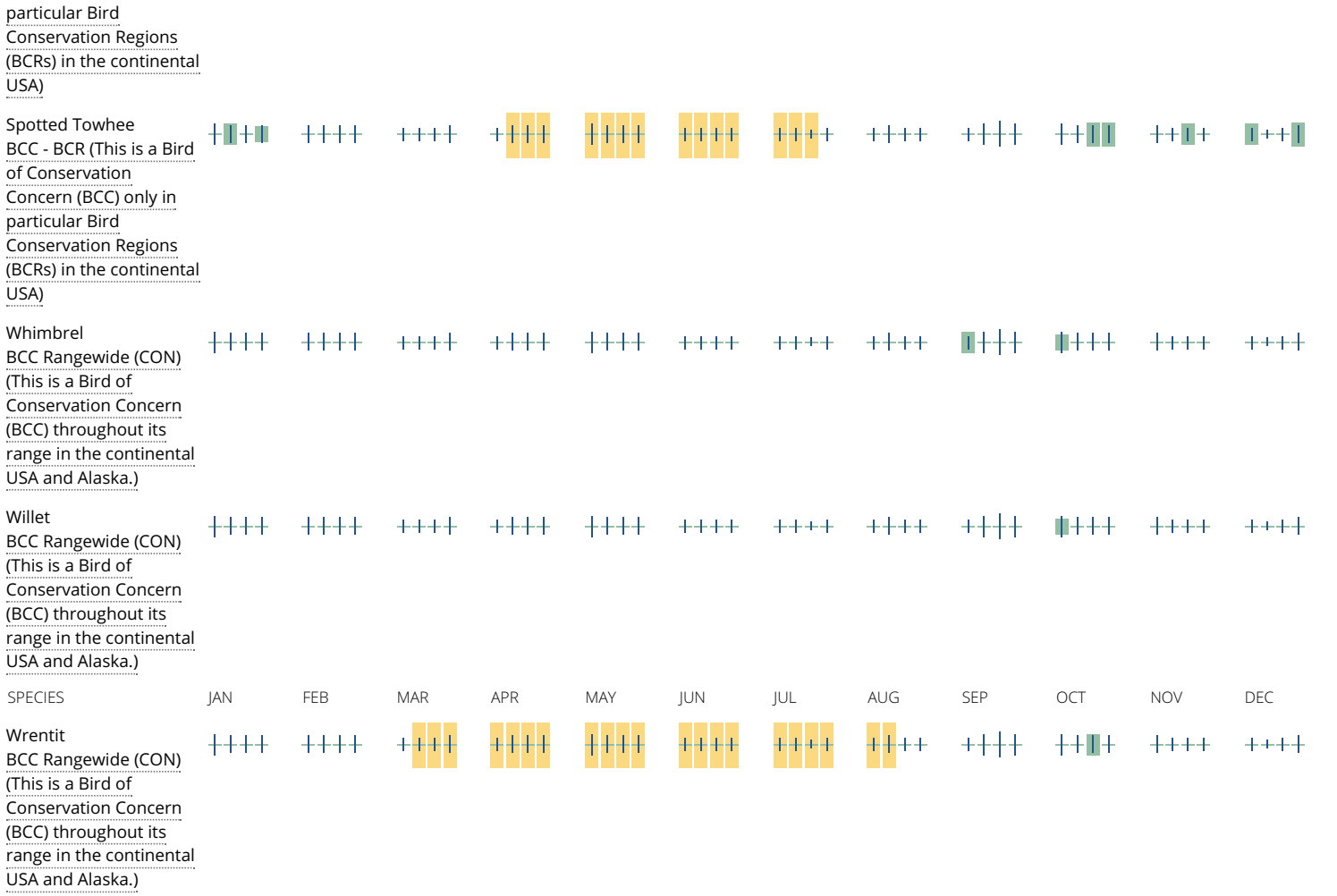
Oak Titmouse
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Rufous Hummingbird
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Song Sparrow
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and

helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

ATTACHMENT 2

LADOT Approval Letter,
Transportation Analysis for the Proposed Mixed-Use Development Project Located at 216 South Spring Street [DIR-2020-7846-DB-SPR-RDP-HCA],
November 23, 2021.

Overland Traffic Consultants, Inc.,
Transportation Impact Assessment for Proposed Mixed-Use Development, Located at 216. S. Spring Street in the City of Los Angeles,
September 2021.

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FORM GEN. 160A (Rev. 1/82)

CITY OF LOS ANGELES

INTER-DEPARTMENTAL CORRESPONDENCE

216 South Spring Street
DOT Case No. CEN21-51507

Date: November 23, 2021

To: Susan Jimenez, Administrative Clerk
Department of City Planning

From: Wes Pringle, Transportation Engineer
Department of Transportation

Subject: **TRANSPORTATION ANALYSIS FOR THE PROPOSED MIXED-USE DEVELOPMENT PROJECT LOCATED AT 216 SOUTH SPRING STREET (DIR-2020-7846-DB-SPR-RDP-HCA)**

The Department of Transportation (DOT) has reviewed the transportation impact study, dated September 2021, prepared by Overland Traffic Consultants, Inc (Overland) for the proposed mixed-use development, located at 216 South Spring Street. In compliance with Senate Bill 743 and the California Environmental Quality Act (CEQA), a vehicle miles traveled (VMT) analysis is required to identify the project's ability to promote the reduction of green-house gas emissions, access to diverse land-uses, and the development of multi-modal networks. The significance of a project's impact in this regard is measured against the VMT thresholds established in DOT's Transportation Assessment Guidelines (TAG), as described below.

DISCUSSION AND FINDINGS

A. Project Description

The proposed project includes construction of 120 apartment units (106 market-rate units and 14 affordable units), as well as approximately 1,992 square feet of restaurant space and 1,033 square feet of retail space. The proposed development would replace the existing site, which is comprised of approximately 14,000 square feet of commercial offices. The project site is generally bounded by existing commercial development to the south, South Spring Street to the west, existing commercial development to the north, and an alley (Harlem Place) the east. The project is expected to be completed by year 2024.

B. CEQA Screening Threshold

Prior to accounting for trip reductions resulting from the application of Transportation Demand Management (TDM) Strategies, a trip generation analysis was conducted to determine if the project would exceed the net 250 daily vehicle trips screening threshold. Using the City of Los Angeles VMT Calculator tool, which draws upon trip rate estimates published in the Institute of Transportation Engineers' (ITE's) Trip Generation, 10th Edition manual as well as applying trip generation adjustments when applicable, based on sociodemographic data and the built environment factors of the project's surroundings, it was determined that the project **does** exceed the net 250 daily vehicle trips threshold. A copy of the VMT calculator screening page, with the corresponding net daily trips estimate, is provided as **Attachment A** to this report.

Additionally, the analysis included further discussion of the transportation impact thresholds:

T-1 Conflicting with plans, programs, ordinances, or policies
T-2.1 Causing substantial vehicle miles traveled
T-3 Substantially increasing hazards due to a geometric design feature or incompatible use.

The assessment determined that the project would **not** have a significant transportation impact under any of the above thresholds. The Project's impacts per Thresholds T-2.1 is determined by using the VMT calculator and is discussed below. A copy of the VMT Calculator summary reports is provided as **Attachment B** to this report.

C. Transportation Impacts

On July 30, 2019, pursuant to SB 743 and the recent changes to Section 15064.3 of the State's CEQA Guidelines, the City of Los Angeles adopted VMT as a criteria in determining transportation impacts under CEQA. The new DOT TAG provide instructions on preparing transportation assessments for land use proposals and defines the significant impact thresholds.

The VMT Calculator tool measures project impact in terms of Household VMT per Capita and Work VMT per Employee. DOT identified distinct thresholds for significant VMT impacts for each of the seven Area Planning Commission (APC) areas in the City. For the Central Los Angeles APC, in which the project is located, the following thresholds have been established:

- Household VMT per Capita: 6.0
- Work VMT per Employee: 7.6

Included in the VMT report as inputs are the following project design features: reduced parking supply and bicycle parking per LAMC.

As cited in the transportation assessment report, the proposed project is projected to have a Household VMT per capita of 2.5 and no Work VMT. The restaurant and retail spaces are considered local serving since they are less than 50,000 square feet. Therefore, it is concluded that implementation of the Project would have a less than significant Household and Work VMT impact.

D. Safety, Access and Circulation

During the preparation of the new CEQA guidelines, the State's Office of Planning and Research stressed that lead agencies can continue to apply traditional operational analysis requirements to inform land use decisions provided that such analyses were outside of the CEQA process. The authority for requiring non-CEQA transportation analysis and requiring improvements to address potential circulation deficiencies, lies in the City of Los Angeles' Site Plan Review authority as established in Section 16.05 of the Los Angeles Municipal Code (LAMC), Section 16.05. Therefore, DOT continues to require and review a project's site access, circulation, and operational plan to determine if any safety and access enhancements, transit amenities,

intersection improvements, traffic signal upgrades, neighborhood traffic calming, or other improvements are needed. In accordance with this authority, the project has completed a circulation analysis using a summary of vehicle queuing, including the change in future queue levels with and without the project. DOT has reviewed this analysis and determined that it adequately discloses operational concerns. A copy of the circulation analysis table that summarizes these potential deficiencies is provided as **Attachment C** to this report.

E. Freeway Safety Analysis

Per the Interim Guidance for Freeway Safety Analysis memorandum issued by LADOT on May 1, 2020 to address Caltrans safety concerns on freeways, the study addresses the project's effects on vehicle queuing on freeway off-ramps. Such an evaluation measures the project's potential to lengthen a forecasted off-ramp queue and create speed differentials between vehicles exiting the freeway off-ramps and vehicles operating on the freeway mainline. Based on the Project's trip generation estimates, and traffic distribution pattern detailed later in this report, the Project would **not** add 25 or more peak hour trips to any freeway off-ramp, thus a complete freeway off-ramp analysis was not required.

PROJECT REQUIREMENTS

A. Highway Dedication and Street Widening Requirements

Per the Mobility Element 2035 of the General Plan, **South Spring Street** has been designated as a Modified Avenue II which would require a 26-foot half-width roadway within a 40-foot half-width right-of-way. The applicant should check with BOE's Land Development Group to determine if there are any other applicable highway dedication, street widening and/or sidewalk requirements for this project.

B. Parking Requirements

The project would provide 69 total parking spaces that would be located on four different levels: 3 spaces on the at-grade level and 22 spaces on each of the three subterranean levels. The project will also provide 89 long-term bicycle spaces and 13 short-term bicycle spaces. Vehicular access to the site will be provided via the adjacent alley (Harlem Place) to the project site. Pedestrian access to the site will be located on South Spring Street. The applicant should check with the Department of Building and Safety on the number of Code-required parking spaces needed for the project.

C. Project Access and Circulation

The conceptual site plan (see **Attachment D**) is acceptable to DOT. However, the review of this study does not constitute approval of the dimensions for any new proposed driveway. This requires separate review and approval and should be coordinated with DOT's Citywide Planning Coordination Section (201 N. Figueroa Street, 5th Floor, Room 550, at 213-482-7024). In order to minimize and prevent last minute building design changes, the applicant should contact DOT for driveway width and internal circulation requirements prior to the commencement of building or parking layout design.

D. TDM Ordinance Requirements

The TDM Ordinance (LAMC 12.26 J) is currently being updated. The updated ordinance, which is

currently progressing through the City's approval process, will:

- Expand the reach and application of TDM strategies to more land uses and neighborhoods,
- Rely on a broader range of strategies that can be updated to keep pace with technology, and
- Provide flexibility for developments and communities to choose strategies that work best for their neighborhood context.

Although not yet adopted, DOT recommends that the applicant be subject to the terms of the proposed TDM Ordinance update. The updated ordinance is expected to be completed prior to the anticipated construction of this project, if approved.

E. Worksite Traffic Control Plan

DOT recommends that a construction worksite traffic control plan be submitted to DOT's Citywide Temporary Traffic Control Section or Permit Plan Review Section for review and approval prior to the start of any construction work. Refer to http://ladot.lacity.org/what-we-do/plan-review to determine which section to coordinate review of the work site traffic control plan. The plan should show the location of any roadway or sidewalk closures, traffic detours, haul routes, hours of operation, protective devices, warning signs and access to abutting properties. DOT also recommends that all construction related truck traffic be restricted to off-peak hours.

E. Development Review Fees

Section 19.15 of the Los Angeles Municipal Code identifies specific fees for traffic study review, condition clearance, and permit issuance. The applicant shall comply with any applicable fees per this ordinance.

If you have any questions, please contact Pete Eyre of my staff at (213) 972-4913.

Attachments

L:\letters\2021\CEN21-51507_216 S Spring Street_mu

c: Emma Howard, Council District 14
Kaylinn Pell, Central District, DOT
Taimour Tanavoli, Case Management, DOT
Hokchi Chui, Central District, BOE
Jerry Overland, Overland Traffic Consultants, Inc.

Attachment A

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project: 216 Spring

Scenario: MOU

Address: 216 S SPRING ST, 90012

Is the project replacing an existing number of residential units with a smaller number of residential units AND is located within one-half mile of a fixed-rail or fixed-guideway transit

Yes No

Existing Land Use

Land Use Type	Value	Unit
Office | General Office	14	ksf
Office | General Office	14	ksf

Click here to add a single custom land use type (will be included in the above list)

Proposed Project Land Use

Land Use Type	Value	Unit
Retail | High-Turnover Sit-Down Restaurant	1.992	ksf
Housing | Multi-Family	106	DU
Retail | General Retail	1.033	ksf
Retail | High-Turnover Sit-Down Restaurant	1.992	ksf
Housing | Affordable Housing - Family	14	DU

Click here to add a single custom land use type (will be included in the above list)

Project Screening Summary

Existing Land Use	Proposed
90 Daily Vehicle Trips	490 Daily Vehicle Trips
727 Daily VMT	3,312 Daily VMT

Tier 1 Screening Criteria

Project will have less residential units compared to existing residential units & is within one-half mile of a fixed-rail station. ☐

Tier 2 Screening Criteria

The net increase in daily trips < 250 trips	400 Net Daily Trips
The net increase in daily VMT ≤ 0	2,585 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	3.025 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

7/16/2021

Attachment B

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: 216 Spring
Scenario: MOU
Address: 216 S SPRING ST, 90012

Proposed Project Land Use Type	Value	Unit
Housing | Multi-Family	106	DU
Retail | General Retail	1.033	ksf
Retail | High-Turnover Sit-Down Restaurant	1.992	ksf
Housing | Affordable Housing - Family	14	DU

TDM Strategies

Select each section to show individual strategies
Use ☑ to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

	Proposed Project	With Mitigation
Max Home Based TDM Achieved?	**No**	**No**
Max Work Based TDM Achieved?	**No**	**No**

- **A** Parking
- **B** Transit
- **C** Education & Encouragement
- **D** Commute Trip Reductions
- **E** Shared Mobility
- **F** Bicycle Infrastructure

Implement/Improve On-street Bicycle Facility
☐ Proposed Prj ☐ Mitigation — Select Proposed Prj or Mitigation to include this strategy

Include Bike Parking Per LAMC
☑ Proposed Prj ☐ Mitigation — Select Proposed Prj or Mitigation to include this strategy

Include Secure Bike Parking and Showers
☐ Proposed Prj ☐ Mitigation — Select Proposed Prj or Mitigation to include this strategy

- **G** Neighborhood Enhancement

Analysis Results

Proposed Project	With
427 Daily Vehicle Trips	**427** Daily Vehicle Trips
2,880 Daily VMT	**2,880** Daily VMT
2.5 Household VMT per Capita	**2.5** Household VMT
N/A Work VMT per Employee	**N/A** Work VMT per Employee

Significant VMT Impact?

Household: No Threshold = 6.0 15% Below APC	**Household: No** Threshold = 6.0 15% Below APC
Work: N/A Threshold = 7.6 15% Below APC	**Work: N/A** Threshold = 7.6 15% Below APC

Measuring the Miles

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: July 16, 2021
Project Name: 216 Spring
Project Scenario: MOU
Project Address: 216 S SPRING ST, 90012

Version 1.3

Project Information

Land Use Type		Value	Units
Housing	*Single Family*	*0*	*DU*
	Multi Family	106	DU
	Townhouse	*0*	*DU*
	Hotel	*0*	*Rooms*
	Motel	*0*	*Rooms*
Affordable Housing	Family	14	DU
	Senior	*0*	*DU*
	Special Needs	*0*	*DU*
	Permanent Supportive	*0*	*DU*
Retail	General Retail	1.033	ksf
	Furniture Store	*0.000*	*ksf*
	Pharmacy/Drugstore	*0.000*	*ksf*
	Supermarket	*0.000*	*ksf*
	Bank	*0.000*	*ksf*
	Health Club	*0.000*	*ksf*
	High-Turnover Sit-Down Restaurant	1.992	ksf
	Fast-Food Restaurant	*0.000*	*ksf*
	Quality Restaurant	*0.000*	*ksf*
	Auto Repair	*0.000*	*ksf*
	Home Improvement	*0.000*	*ksf*
	Free-Standing Discount	*0.000*	*ksf*
	Movie Theater	*0*	*Seats*
Office	*General Office*	*0.000*	*ksf*
	Medical Office	*0.000*	*ksf*
Industrial	*Light Industrial*	*0.000*	*ksf*
	Manufacturing	*0.000*	*ksf*
	Warehousing/Self-Storage	*0.000*	*ksf*
School	*University*	*0*	*Students*
	High School	*0*	*Students*
	Middle School	*0*	*Students*
	Elementary	*0*	*Students*
	Private School (K-12)	*0*	*Students*
Other		*0*	*Trips*

Analysis Results

Total Employees: 10
Total Population: 283

Proposed Project		*With Mitigation*	
427	**Daily Vehicle Trips**	**427**	**Daily Vehicle Trips**
2,880	**Daily VMT**	**2,880**	**Daily VMT**
2.5	**Household VMT per Capita**	**2.5**	**Household VMT per Capita**
N/A	**Work VMT per Employee**	**N/A**	**Work VMT per Employee**

Significant VMT Impact?

APC: Central

Impact Threshold: 15% Below APC Average
Household = 6.0
Work = 7.6

Proposed Project		*With Mitigation*	
VMT Threshold	**Impact**	**VMT Threshold**	**Impact**
Household > 6.0	No	Household > 6.0	No
Work > 7.6	N/A	Work > 7.6	N/A

TDM Strategy Inputs

Strategy Type		Description	Proposed Project	Mitigations
Parking	Reduce parking supply	City code parking provision (spaces)	147	147
		Actual parking provision (spaces)	69	69
	Unbundle parking	*Monthly cost for parking ($)*	*$0*	*$0*
	Parking cash-out	*Employees eligible (%)*	*0%*	*0%*
	Price workplace parking	*Daily parking charge ($)*	*$0.00*	*$0.00*
		Employees subject to priced parking (%)	*0%*	*0%*
	Residential area parking permits	*Cost of annual permit ($)*	*$0*	*$0*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Transit	*Reduce transit headways*	*Reduction in headways (increase in frequency) (%)*	*0%*	*0%*
		Existing transit mode share (as a percent of total daily trips) (%)	*0%*	*0%*
		Lines within project site improved (<50%, >=50%)	*0*	*0*
	Implement neighborhood shuttle	*Degree of implementation (low, medium, high)*	*0*	*0*
		Employees and residents eligible (%)	*0%*	*0%*
	Transit subsidies	*Employees and residents eligible (%)*	*0%*	*0%*
		Amount of transit subsidy per passenger (daily equivalent) ($)	*$0.00*	*$0.00*
Education & Encouragement	*Voluntary travel behavior change program*	*Employees and residents participating (%)*	*0%*	*0%*
	Promotions and marketing	*Employees and residents participating (%)*	*0%*	*0%*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Commute Trip Reductions	*Required commute trip reduction program*	*Employees participating (%)*	*0%*	*0%*
	Alternative Work Schedules and Telecommute	*Employees participating (%)*	*0%*	*0%*
		Type of program	*0*	*0*
	Employer sponsored vanpool or shuttle	*Degree of implementation (low, medium, high)*	*0*	*0*
		Employees eligible (%)	*0%*	*0%*
		Employer size (small, medium, large)	*0*	*0*
	Ride-share program	*Employees eligible (%)*	*0%*	*0%*
Shared Mobility	*Car share*	*Car share project setting (Urban, Suburban, All Other)*	*0*	*0*
	Bike share	*Within 600 feet of existing bike share station - OR- implementing new bike share station (Yes/No)*	*0*	*0*
	School carpool program	*Level of implementation (Low, Medium, High)*	*0*	*0*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Bicycle Infrastructure	*Implement/Improve on-street bicycle facility*	*Provide bicycle facility along site (Yes/No)*	*0*	*0*
	Include Bike parking per LAMC	Meets City Bike Parking Code (Yes/No)	Yes	Yes
	Include secure bike parking and showers	*Includes indoor bike parking/lockers, showers, & repair station (Yes/No)*	*0*	*0*
Neighborhood Enhancement	*Traffic calming improvements*	*Streets with traffic calming improvements (%)*	*0%*	*0%*
		Intersections with traffic calming improvements (%)	*0%*	*0%*
	Pedestrian network improvements	*Included (within project and connecting off-site/within project only)*	*0*	*0*

TDM Adjustments by Trip Purpose & Strategy

Place type: Urban

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Parking	Reduce parking supply	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	TDM Strategy Appendix, Parking sections 1 - 5
	Unbundle parking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Parking cash-out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Price workplace parking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Residential area parking permits	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Transit	Reduce transit headways	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Transit sections 1 - 3
	Implement neighborhood shuttle	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Transit subsidies	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Education & Encouragement	Voluntary travel behavior change program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Education & Encouragement sections 1 - 2
	Promotions and marketing	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Commute Trip Reductions	Required commute trip reduction program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Commute Trip Reductions sections 1 - 4
	Alternative Work Schedules and Telecommute Program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Employer sponsored vanpool or shuttle	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Ride-share program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Shared Mobility	Car-share	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	TDM Strategy Appendix, Shared Mobility sections 1 - 3
	Bike share	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
	School carpool program	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

TDM Adjustments by Trip Purpose & Strategy, Cont.

Place type: Urban

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Bicycle Infrastructure	Implement/ Improve on-street bicycle facility	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	TDM Strategy Appendix, Bicycle Infrastructure sections 1 - 3
	Include Bike parking per LAMC	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	
	Include secure bike parking and showers	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	
Neighborhood Enhancement	Traffic calming improvements	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	TDM Strategy Appendix, Neighborhood Enhancement
	Pedestrian network improvements	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	

Final Combined & Maximum TDM Effect

	Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*	
	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated
COMBINED TOTAL	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*
MAX. TDM EFFECT	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*

= Minimum (X%, 1-[(1-A)*(1-B)…])

where X%=

PLACE TYPE MAX:	urban	75%
	compact infill	*40%*
	suburban center	*20%*
	suburban	*15%*

Note: (1-[(1-A)*(1-B)…]) reflects the dampened combined effectiveness of TDM Strategies (e.g., A, B,...). See the TDM Strategy Appendix (*Transportation Assessment Guidelines Attachment G)* for further discussion of dampening.

CITY OF LOS ANGELES VMT CALCULATOR

Report 4: MXD Methodology

Date: July 16, 2021
Project Name: 216 Spring
Project Scenario: MOU
Project Address: 216 S SPRING ST, 90012

Version 1.3

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	107	-31.8%	73	5.0	535	365
Home Based Other Production	296	-67.9%	95	4.7	1,391	447
Non-Home Based Other Production	185	-11.4%	164	8.5	1,573	1,394
Home-Based Work Attraction	15	-53.3%	7	8.5	128	60
Home-Based Other Attraction	248	-67.3%	81	6.0	1,488	486
Non-Home Based Other Attraction	80	-12.5%	70	8.0	640	560

MXD Methodology with TDM Measures

	Proposed Project			*Project with Mitigation Measures*		
	TDM Adjustment	Project Trips	Project VMT	TDM Adjustment	Mitigated Trips	Mitigated VMT
Home Based Work Production	-13.0%	63	317	-13.0%	63	317
Home Based Other Production	-13.0%	83	389	-13.0%	83	389
Non-Home Based Other Production	-13.0%	143	1,212	-13.0%	143	1,212
Home-Based Work Attraction	-13.0%	6	52	-13.0%	6	52
Home-Based Other Attraction	-13.0%	71	423	-13.0%	71	423
Non-Home Based Other Attraction	-13.0%	61	487	-13.0%	61	487

MXD VMT Methodology Per Capita & Per Employee

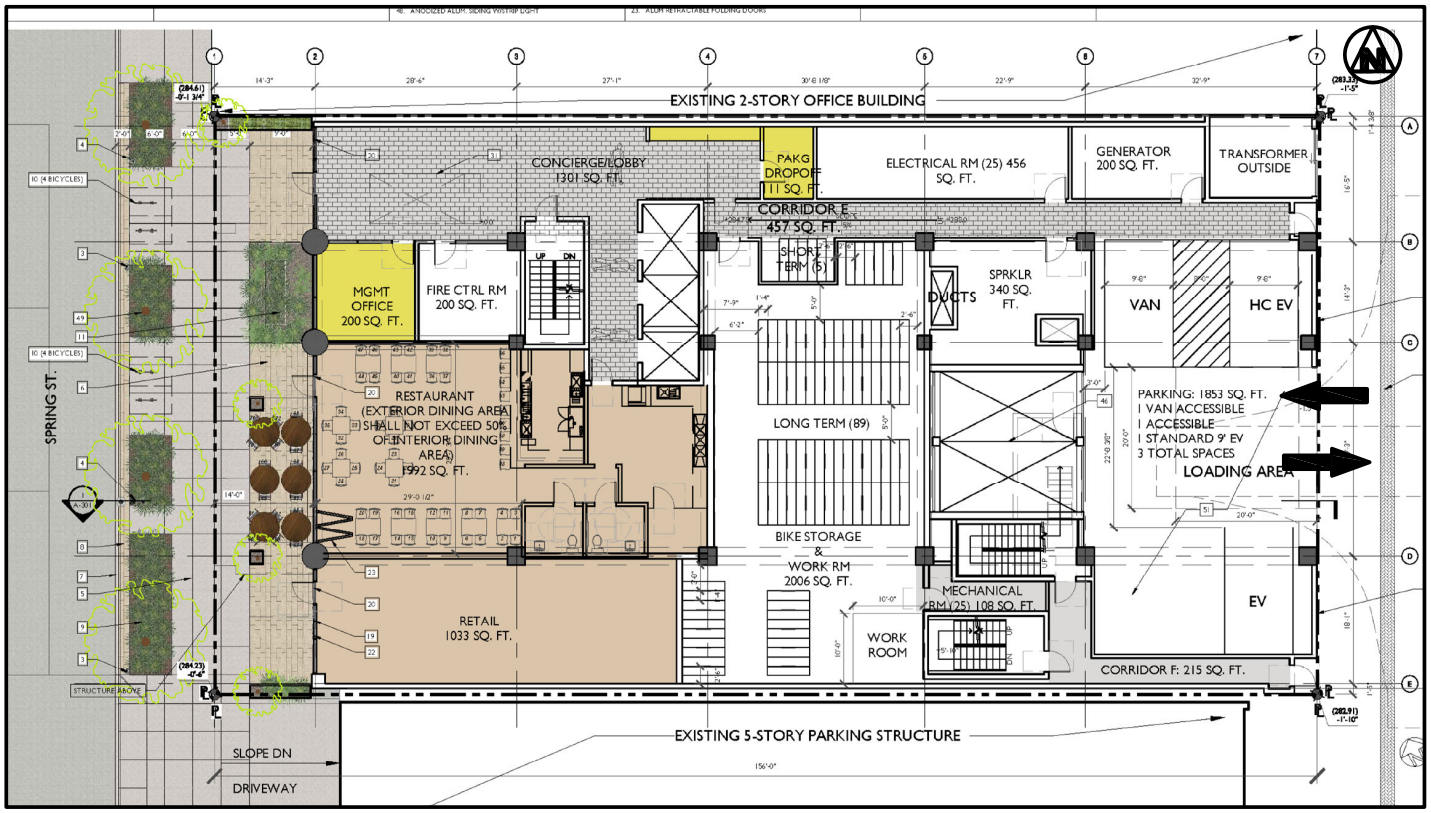
Total Population: 283
Total Employees: 10
APC: Central

	Proposed Project	*Project with Mitigation Measures*
Total Home Based Production VMT	**706**	**706**
Total Home Based Work Attraction VMT	**52**	**52**
Total Home Based VMT Per Capita	**2.5**	**2.5**
Total Work Based VMT Per Employee	**N/A**	**N/A**

Table 5
Traffic Conditions
Without and With Project

No.	Intersection	Peak Hour	Existing 2021		Existing + Project		Future (2024) Without Project		Future (2024) With Project	
			Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
1	Spring Street &	AM	27.0	C	27.0	C	41.9	D	43.1	D
	2nd Street	PM	19.1	B	19.0	B	27.2	C	27.2	C
2	Main Street &	AM	17.8	B	17.4	B	24.0	C	24.1	C
	3rd Street	PM	25.9	C	25.9	C	31.0	C	30.9	C
3	Main Street &	AM	25.8	C	25.6	C	28.5	C	28.5	C
	2nd Street	PM	29.6	C	29.6	C	53.2	D	53.9	D

s = seconds



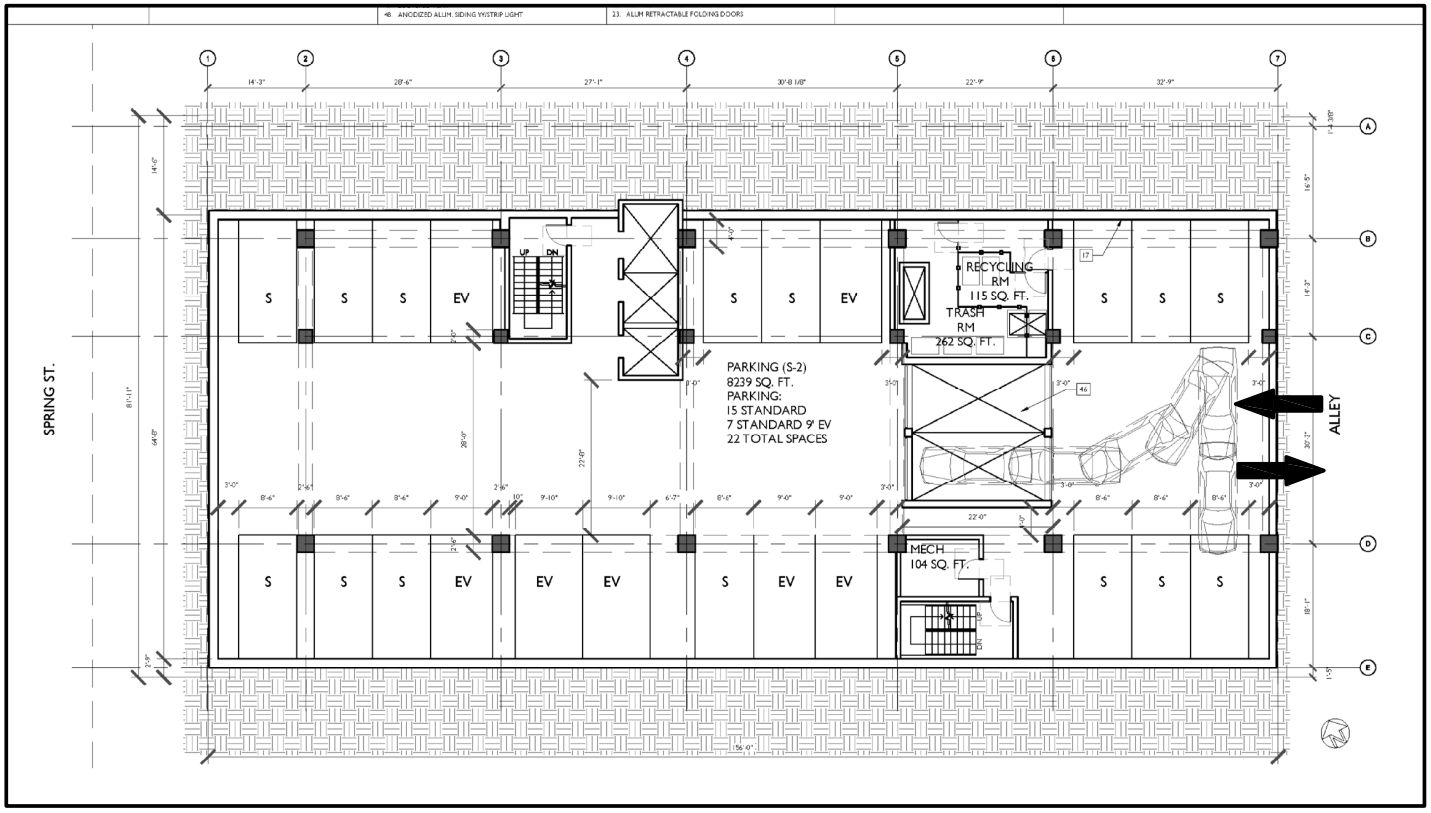


FIGURE 3

7/2021

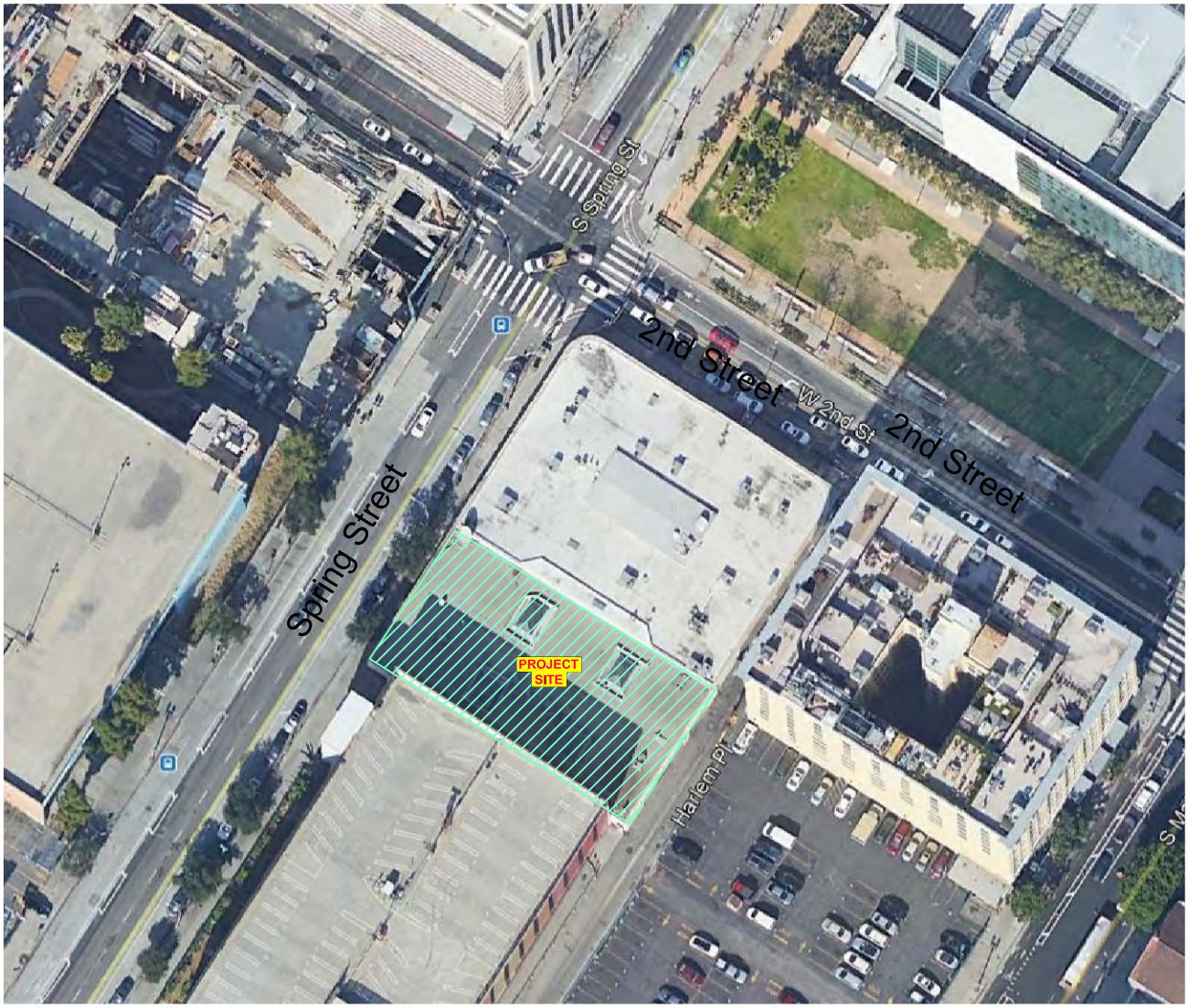
PROJECT SITE PLAN
GROUND FLOOR AND TYPICAL PARKING LEVEL

Overland Traffic Consultants, Inc.
24325 Main Street #202, Santa Clarita, CA 91321
(661) 799-8423 OTC@overlandtraffic.com

Overland Traffic Consultants, Inc.

TRANSPORTATION IMPACT ASSESSMENT FOR PROPOSED MIXED - USE DEVELOPMENT

Located at 216 S. Spring Street in the City of Los Angeles



Prepared by:
Overland Traffic Consultants, Inc.
24325 Main Street #202
Santa Clarita, California 91321
(661) 799 - 8423

September 2021

TRANSPORTATION ASSESSMENT
MIXED – USE DEVELOPMENT
(DIR-2020-7846-DB-SPR-RDP-HCA)
(LADOT CEN21-51507)

Located at 216 S. Spring Street
in the Central City Community Plan Area
of the City of Los Angeles

Prepared by:

Overland Traffic Consultants, Inc.
952 Manhattan Beach Bl., Suite 100
Manhattan Beach, California 90266
(310) 930 -3303

September 2021

EXECUTIVE SUMMARY

Introduction

Overland Traffic Consultants has prepared this assessment of the potential CEQA transportation impacts for a proposed mixed – use development in the Central City Community Plan Area of the City of Los Angeles. See the aerial view for the Project's location on Figure 1.

The purpose of this Transportation Assessment (TA) is to document potential transportation impacts associated with the Project using the Los Angeles Department of Transportation's (LADOT) Transportation Assessment Guidelines (TAG). The TAG establishes procedures and methods for review of development projects pursuant to the California Environmental Quality Act (CEQA) guidelines. LADOT has determined that a Transportation Assessment (TA) is required and has set the study parameters in a Memorandum of Understanding (MOU) (see LADOT MOU Appendix A).

Project Description

The Project Site is in the Central City Community Plan area at 216 S. Spring Street (Project Site) on one lot with a total lot area of approximately 12,718 square feet (0.292 acres). The lot is currently occupied with approximately 14,000 square feet of commercial office use. The mixed – use development consists of 120 apartments (106 market rate apartments and 14 affordable units), approximately 1,992 square feet of restaurant floor area and 1,033 square feet of retail floor area (Project).

Project Parking and Access

Vehicular access to the Project Site's parking garage is via Harlem Place, a 20 - foot one-way northbound alley located east of Spring Street between 2nd and 3rd Streets. The parking garage will provide 69 total parking spaces for the residents of the project (3 parking spaces at-grade plus loading area, and 22 parking spaces on each of the three basement levels). A parking garage elevator with 2 auto lifts connects the at-grade vehicular access to the 3 basement parking levels. The Project is providing 102 bicycle parking spaces (89 long-term spaces and 13 short-term spaces).

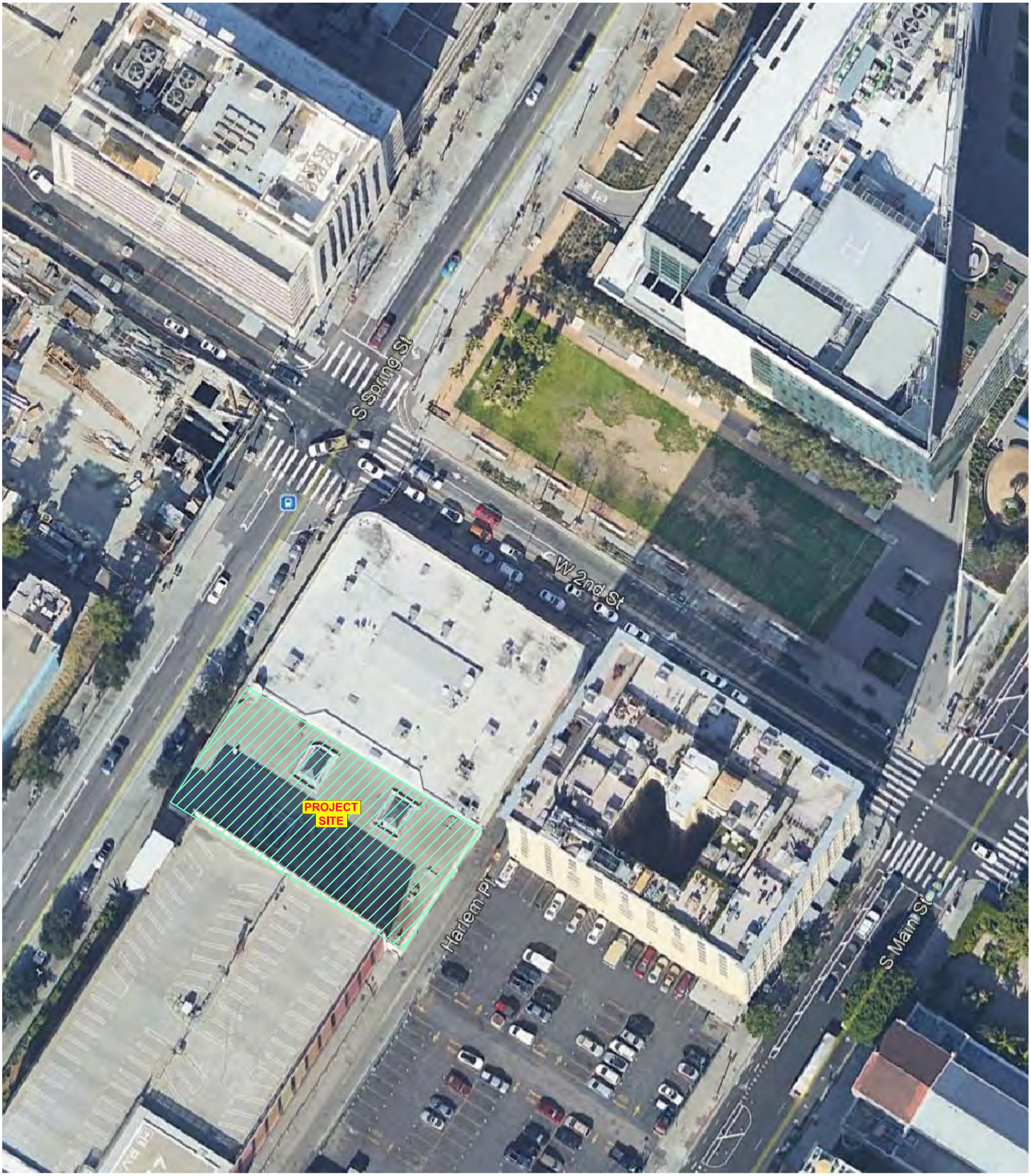


FIGURE 1

7/2021

PROJECT SETTING

Overland Traffic Consultants, Inc.
24325 Main Street #202, Santa Clarita, CA 91321
(661) 799-8423 OTC@overlandtraffic.com

Transportation Assessment CEQA and NON – CEQA Review

On July 30, 2019, the City of Los Angeles adopted the vehicle miles traveled (VMT) metric as its criterion for determining transportation impacts under the California Environmental Quality Act (CEQA). These changes are mandated by requirements of the State of California Senate Bill 743 (SB 743) and the State's CEQA Guidelines.

These new CEQA guidelines for evaluating transportation impacts no longer focus on measuring automobile delay and level of service (LOS). Instead, SB 743 directed lead agencies to revise transportation assessment guidelines to include a transportation performance metric that promotes: the reduction of greenhouse gas emissions, the development of multimodal networks, and access to diverse land uses.

The July 2020 LADOT TAG is the City of Los Angeles' document providing guidance for conducting CEQA transportation analyses for land development projects. The TAG identifies three CEQA thresholds for identifying significant transportation impacts in accordance with SB 743 that are applicable to the Project.

- Threshold T-1: Conflicting with Plans, Programs, Ordinances, or Policies
- Threshold T-2.1: Causing Substantial Vehicle Miles Traveled (VMT)
- Threshold T-3: Substantially Increasing Hazards Due to a Geometric Design Feature or Incompatible Use

The City's adopted process also requires additional non-CEQA analysis and review for land development projects. The purpose of this review is to evaluate how projects affect vehicular access, circulation, and safety for all users of the transportation system.

Findings

Based on the evaluation discussed in Chapters 2 and 3, no significant CEQA VMT transportation impacts or significant circulation, access, and safety deficiencies (non-CEQA) were identified by the development of the Project. No transportation mitigation measures are required of the Project.

Cumulative VMT impacts have been evaluated through a consistency check with the Southern California Association of Governments' (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (2016-2040 RTP/SCS) plan. The RTP/SCS is the regional plan that demonstrates compliance with air quality conformity requirements and greenhouse gas (GHG) reduction targets.

Per the LADOT TAG, projects that are consistent with the RTP/SCS plan in terms of development location and density are part of the regional solution for meeting air pollution and GHG goals. Projects that have less than a significant VMT impact are deemed to be consistent with the SCAG's 2016-2040 RTP/SCS and would have a less-than-significant cumulative impact on VMT. The Project is consistent with the RTP/SCS plan.

No cumulative development project impacts have been identified that would preclude the City's ability to provide transportation mobility in the area. As such, the Project will not create any cumulative operational impacts, emergency access impacts, and/or hazardous geometric design features.

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CHAPTER 1 PROJECT DESCRIPTION

The Project Site is in the Central City Community Plan area. The address of the Project Site is 216 S. Spring Street on the east side of Spring Street south of 2nd Street. Figure 2 illustrates the map location of the Project Site.

The Project Site consists of 1 lot with a total lot area of approximately 12,718 square feet (0.292 acres) and occupied with approximately 14,000 square feet of commercial office use. The mixed – use development consists of 120 apartments (106 market rate apartments and 14 affordable units), approximately 1,992 square feet of restaurant floor area and 1,033 square feet of retail floor area (Project).

Project Parking and Access

Vehicular access to the Project Site's parking garage is via Harlem Place, a 20 - foot one-way northbound alley located east of Spring Street between 2nd and 3rd Streets. The parking garage will provide 69 total parking spaces for the residents of the project (3 parking spaces at-grade plus loading area, and 22 parking spaces on each of the three basement levels). A parking garage elevator with 2 auto lifts connects the at-grade vehicular access to the 3 basement parking levels.

The Project is providing 102 bicycle parking spaces (89 long-term spaces and 13 short-term spaces).

Figure 3 shows the ground floor and the typical parking level. Figure 4 illustrates lot survey and City of Los Angeles' Cadastral map of the site.

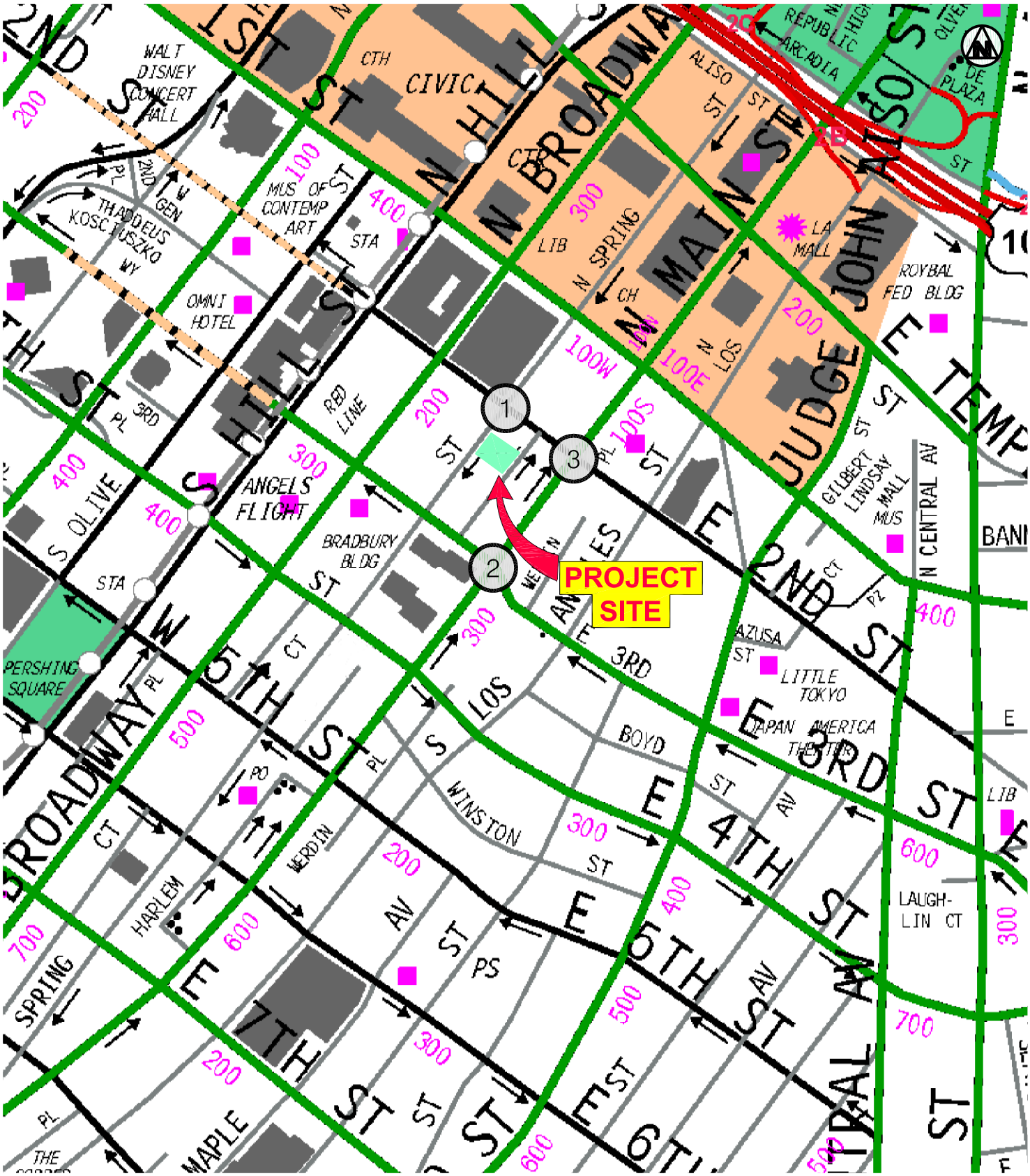
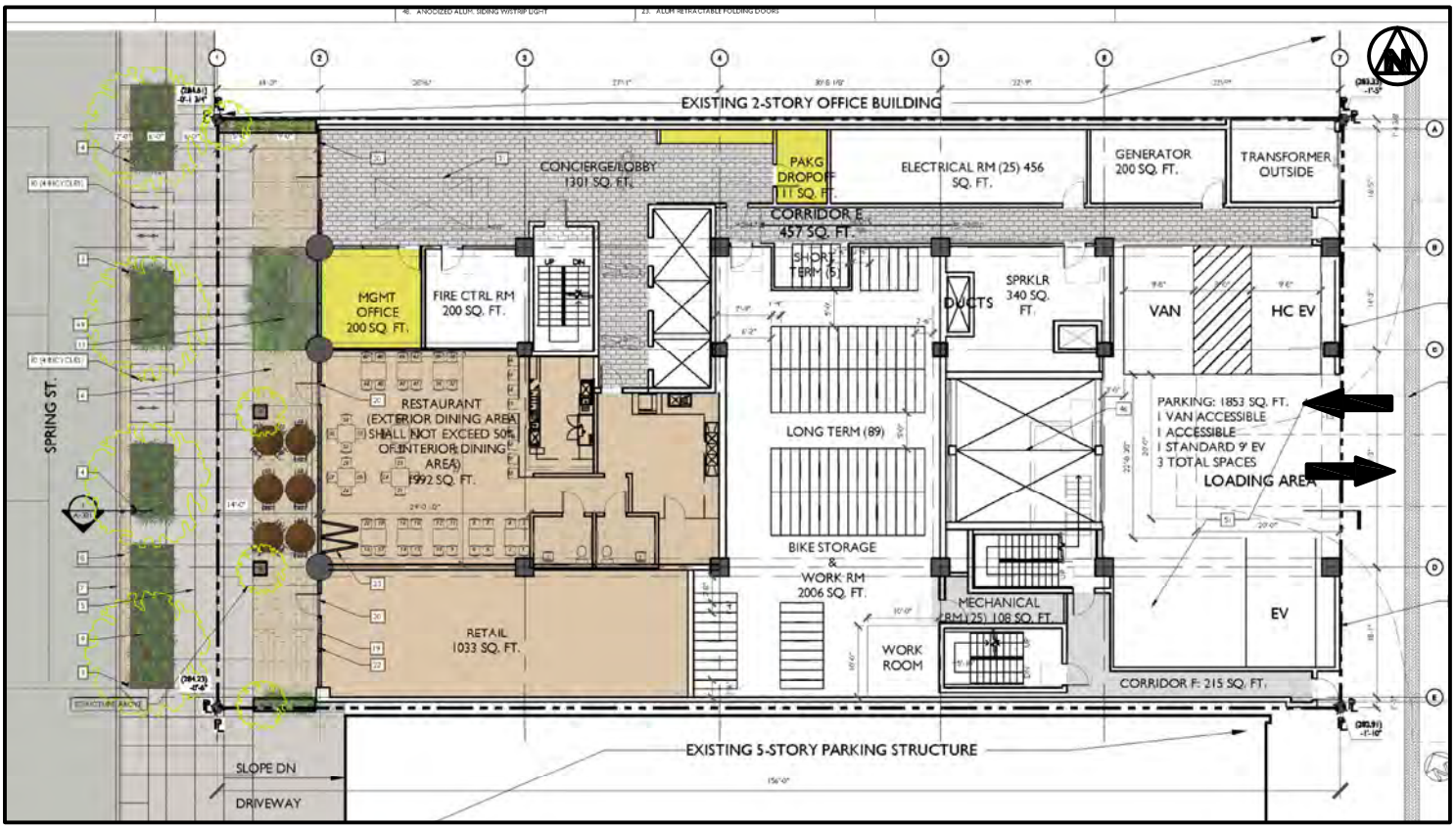


FIGURE 2

7/2021

PROJECT LOCATION

Overland Traffic Consultants, Inc.
24325 Main Street #202, Santa Clarita, CA 91321
(661) 799-8423 OTC@overlandtraffic.com



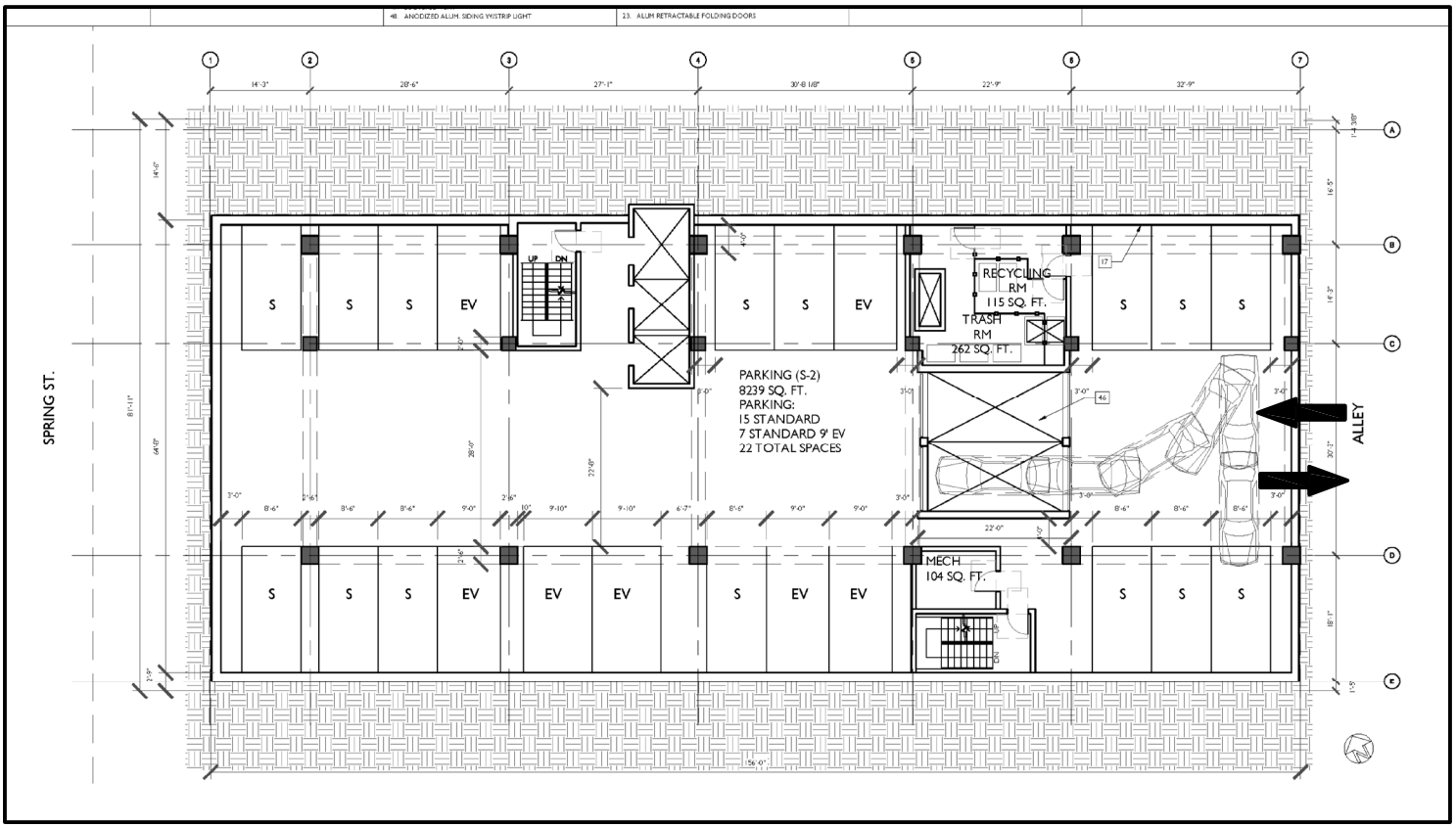
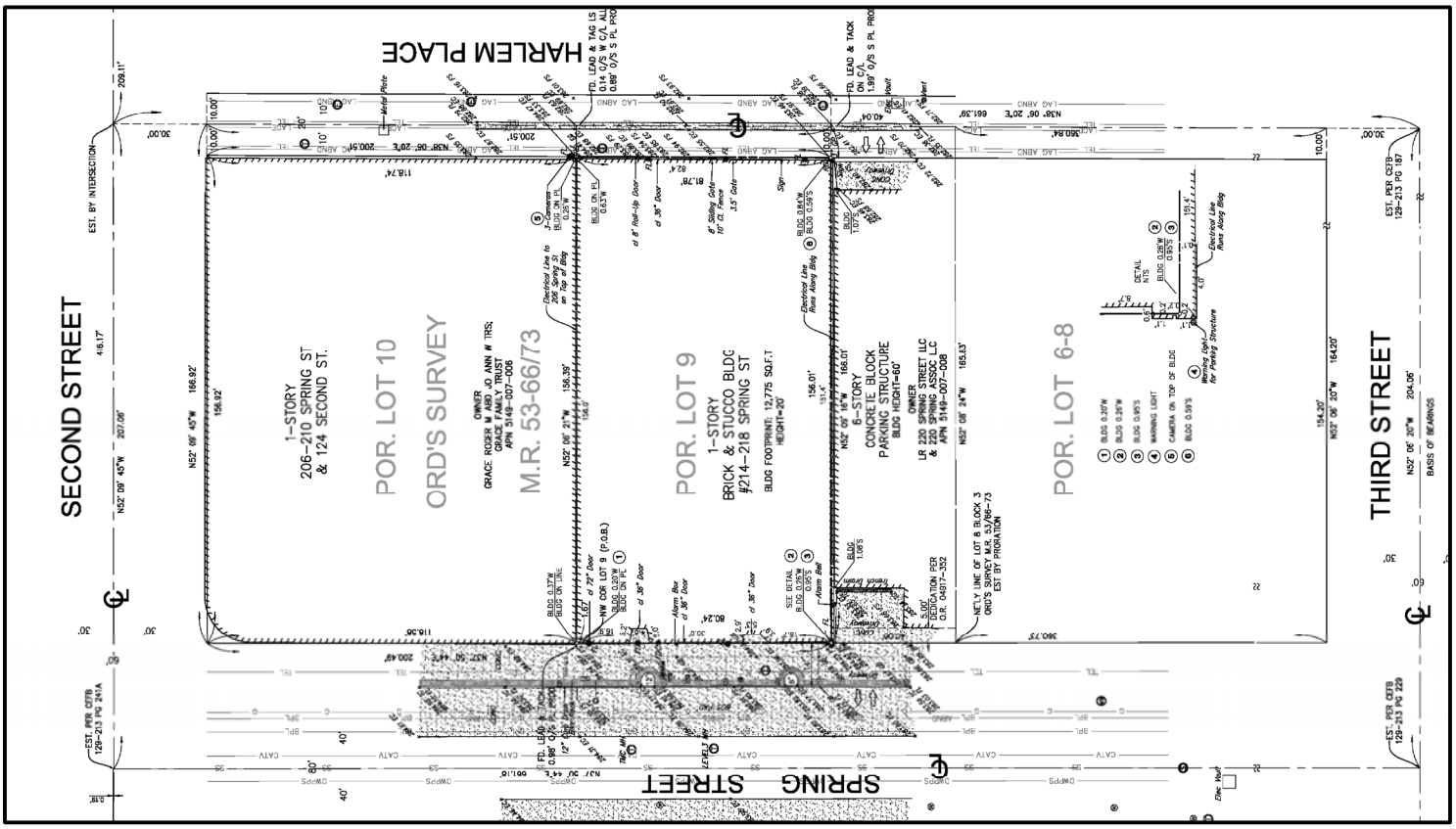


FIGURE 3

7/2021

PROJECT SITE PLAN
GROUND FLOOR AND TYPICAL PARKING LEVEL

Overland Traffic Consultants, Inc.
24325 Main Street #202, Santa Clarita, CA 91321
(661) 799-8423 OTC@overlandtraffic.com



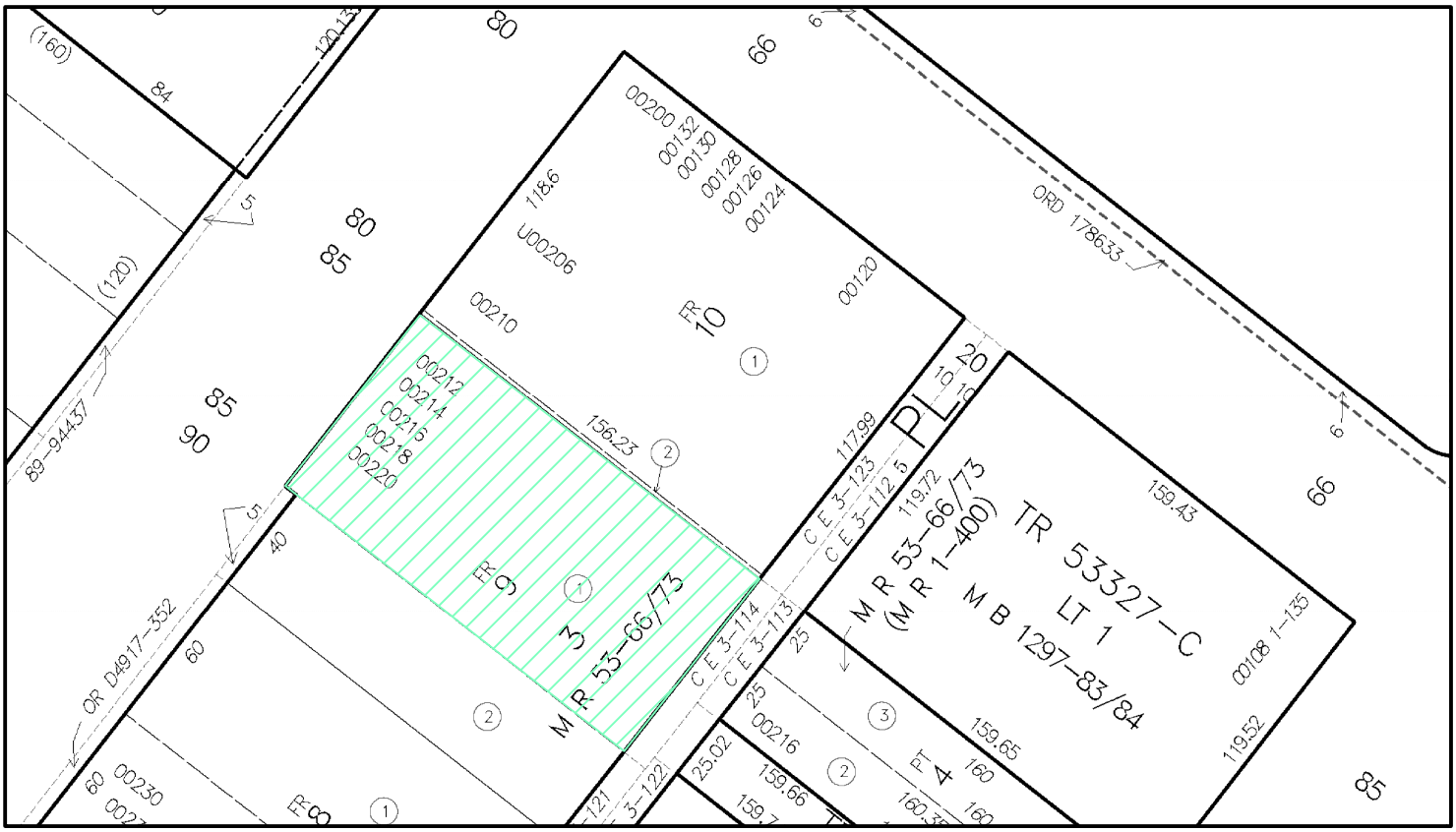


FIGURE 4

7/2021

PROJECT SITE
(parcel and cadastral map)

Overland Traffic Consultants, Inc.
24325 Main Street #202, Santa Clarita, CA 91321
(661) 799-8423 OTC@overlandtraffic.com

The TAG is the City document that establishes procedures and methods for conducting CEQA transportation analyses for land development projects. The TAG identifies three CEQA thresholds for identifying significant transportation impacts in accordance with SB 743 that are applicable to the Project.

- Threshold T-1: Conflicting with Plans, Programs, Ordinances, or Policies
- Threshold T-2.1: Causing Substantial Vehicle Miles Traveled (VMT)
- Threshold T-3: Substantially Increasing Hazards Due to a Geometric Design Feature or Incompatible Use

I. Conflicts with Plans, Programs, Ordinances or Policies (Threshold T-1)

To guide the City's Mobility Plan 2035 (Transportation Element of the General Plan), the City adopted programs, plans, ordinances, and policies that establish the transportation planning framework for all travel modes, including vehicular, transit, bicycle, and pedestrian facilities. Land development projects shall be evaluated for conformance with these City adopted transportation plans, programs, and policies.

Per the TAG guidelines, the Threshold T-1 CEQA question (impact criteria) would be if a project conflicts with a program, plan, ordinance(s), or policy addressing the circulation system? However, a project would not be shown to result in an impact merely based on whether a project would not implement a program, policy, or plan. Rather, it is the intention of this threshold test to ensure that proposed development does not conflict with nor preclude the City from implementing adopted programs, plans, and policies.

Screening Criteria for Policy Analysis

If the development project requires a discretionary action, and the answer is yes to any of the following screening threshold questions, further analysis may be required to assess whether the proposed project would conflict with plans, programs, ordinances, or policies.

1. Does the project require a discretionary action that requires the decision maker to find that the decision substantially conforms to the purpose, intent, and provisions of the General Plan?
   Yes, the Project requires a discretionary action.

2. Is the Project known to directly conflict with a transportation plan, policy or program adopted to support multi-modal transportation options or public safety?
   No, the Project would not conflict with these key City planning documents, and potential impacts would be less than significant, see Table 1, Consistency Check.

3. Is the Project proposing to, or required to, make any voluntary or required, modifications to the public right-of-way (i.e., street dedications, reconfigurations of curb lines, etc.)?
   No, Pursuant to the following Mobility Element Street Standards for the Project's adjacent street standards. The Project has no dedication requirements.

   Spring Street is designated a Modified Avenue II roadway which requires an 80-foot right-of-way (40-foot half width) and 52-foot (26-foot half width) roadway.

   - Spring Street is dedicated to a 40-foot half width and a 26-foot half street adjacent to the Project Site. No dedication or street widening is necessary to satisfy the Modified Avenue II Street standard.
   - Harlem Place (adjacent alley) is fully dedicated to 20 feet; therefore, no additional dedication is necessary.

The TAG provides a list of key City plans, policies, programs, and ordinances for consistency review as shown in Table 1. Projects that generally conform with and do not conflict with the City's development policies and standards addressing the circulation system, will generally be considered consistent.

Table 1
Consistency Check with Key City Plans, Programs, Ordinances or Policies

TAG Table 2.1-1: City Documents that Establish the Regulatory Framework				
	Plan or Policy	Consistent?	Notes	Preclude City Implementation?
1.	LA Mobility Plan 2035	Yes	The Project will comply with the LA Mobility Plan 2035 street standards for Spring Street and Harlem Place (Alley), as required by the Bureau of Engineering.	No
2.	Plan for Healthy LA	Yes	The Project would support Policy 5.7, Land Use Planning for Public Health and Greenhouse Gas (GHG) Emission Reduction by reducing single-occupant vehicle trips by its location within a Transit Priority Area (TPA) service area and by providing bike parking. The Project provides pedestrian access separate from the vehicular access. The Project would not conflict with policies in the Plan for Healthy LA.	No
3.	Land Use Element of the General Plan (35 Community Plans)	Yes	The Project is in the Central City Community Plan area. The Project would be in substantial conformance with the purposes, intent, and provisions of the General Plan and the Community Plan. Note the Central City Community Plan is being updated.	No
4.	Specific Plans	Yes	The Project is not located in a Specific Plan area.	N/A
5.	LAMC Section 12.21A.16 (Bicycle Parking)	Yes	The Project complies with the ratio of short and long-term bicycle parking pursuant to LAMC Section 12.21. A.16.	No
6.	LAMC Section 12.26J (TDM Ordinance)	Yes	LAMC Section 12.26J for Transportation Demand Management and Trip Reduction Measures applies only to the construction of new non-residential floor area greater than 25,000 s.f. The Project does not have commercial floor area exceeding 25,000 s.f..	No
7.	LAMC Section 12.37 (Waivers of Dedications and Improvement)	Yes	The Project is not seeking a waiver of the dedication and widening.	N/A
	Plan or Policy	Consistent?	Notes	Preclude City Implementation?
8.	Vision Zero Action Plan	Yes	The Project would not preclude or conflict with the implementation of future Vision Zero projects in the public right-of-way.	No
9.	Vision Zero Corridor Plan	Yes	The Project would not preclude or conflict with the implementation of future Vision Zero projects in the public right-of-way, No Vision Zero projects have been identified near the Project Site. See https://ladotlivablestreets.org/programs/vision-zero/maps	No

10.	Citywide Design guidelines	Yes		No
	Guideline 1: Promote a safe, comfortable, and accessible pedestrian experience for all	Yes	The Project will create a continuous and straight sidewalk clear of obstructions for pedestrian travel. The Project will provide adequate sidewalk width and right-of-way that accommodates pedestrian flow and activity. Pedestrian access will be provided at street level with direct access to the surrounding neighborhood and amenities.	No
	Guideline 2: Carefully incorporate vehicular access such that it does not degrade the pedestrian experience.	Yes	The Project complies with the Citywide Design Guidelines incorporating vehicle access locations that do not discourage and/or inhibit the pedestrian experience. All vehicular access is provided from the adjacent alley and not on adjacent streets.	No
	Guideline 3: Design projects to actively engage with streets and public space and maintain human scale.	Yes	The building design uses attractive architectural elements. The Project would not preclude or conflict with the implementation of future streetscape projects in the public right-of-way.	No

Cumulative Consistency Check

Pursuant to the TAG, each of the plans, programs, ordinances, and policies to assess potential conflicts with proposed projects should be reviewed to assess cumulative impacts that may result from the Project in combination with other nearby development projects. In accordance with the TAG, the cumulative analysis must include Related Projects within 0.5 miles of the Project Site. A listing of the Related Projects considered in the analysis is provided in Appendix G.

A cumulative impact could occur if the Project, with other future development projects located on the same block were to cumulatively preclude the City's ability to serve transportation user needs as defined by the City's transportation policy framework. One other development project has been identified on the same block (121 W. 3rd Street, related project #19). Note that Related Projects would be individually responsible for complying with the City's transportation plans, programs ordinances and policies, no cumulative impacts to the Mobility Element 2035 goals that define the development of the citywide transportation infrastructure been identified.

The Project does not have a significant transportation impact under CEQA Threshold T-1 (Conflicting with Plans, Programs, Ordinances, or Policies).

Criteria for Transportation Projects - Would the Transportation Project include the addition of through traffic lanes on existing or new highways, including general purpose lanes, high-occupancy vehicle (HOV) lanes, peak period lanes, auxiliary lanes, and lanes through grade-separated interchanges (except managed lanes, transit lanes, and auxiliary lanes of less than one mile in length designed to improve roadway safety)?

Not Applicable **-** This analysis for Transportation Projects is not applicable to land development projects and the Project is not a transportation project because the Project is a land development project. Therefore, the Transportation Project analysis is not part of the Project's CEQA review.

II. Causing Substantial Vehicle Miles Traveled (Threshold T - 2.1)

The intent of this threshold question is to assess whether a land development project causes a substantial VMT impact. CEQA Guidelines Section 15064.3(b) relates to use of VMT as the methodology for analyzing transportation impacts.

To address this question, LADOT's TAG identified significant VMT impact thresholds for each of seven Area Planning Commission (APC) sub-areas in the City of Los Angeles. A project's VMT is compared against the City's APC threshold goals for household VMT per capita and work VMT per employee to evaluate the significance of the project's VMT.

A development project will have a potential impact if the development project would generate VMT exceeding 15% below the existing average VMT for the Area Planning Commission (APC) area in which the project is located per TAG's Table 2.2-1.

The Project is in the Central APC sub - area which limits daily household VMT per capita to a threshold value of 6.0 and a daily work VMT per employee to a threshold value of 7.6 (15% below the existing VMT for the Central APC).

The Project's household VMT per capita is estimated at 2.5 which is significantly below the VMT threshold for the Central APC. The work VMT per employee is not applicable because the commercial space is less than the 50,000 s.f. threshold. Results of the Project's VMT calculation (as shown in Appendix F).

<u>Transportation Demand Management (TDM)</u>

The Project's design features include TDM measures that reduce trips and VMT through TDM strategies selected in the VMT calculator. Specifically, the Project's TDM program includes reduced parking and bike parking which is a regulatory measure and part of the Project's design features. These strategies as described by LADOT'S TAG are listed below:

- <u>Parking Strategy – Reduced Parking Supply</u> – This strategy changes the on-site parking supply to provide less than the amount of vehicle parking required by direct application of the Los Angeles Municipal Code (LAMC) without consideration of parking reduction

mechanisms permitted in the code. Permitted reductions in parking supply could utilize parking reduction mechanisms such as TOC, Density Bonus, Bike Parking ordinance, or locating in an Enterprise Zone or Specific Plan area.

- Bike Parking - This strategy involves implementation of short and long-term bicycle parking to support safe and comfortable bicycle travel by providing parking facilities at destinations under existing LAMC regulations applicable to the Project (LAMC Section 12.21.A.16). The Project provides bicycle parking consistent with LAMC Section 12.21.A.16 - The Project will provide 102 bicycle parking spaces (89 long-term spaces and 13 short-term spaces).

The effectiveness of the TDM strategies included in the VMT Calculator is based primarily on research documented in the 2010 California Air Pollution Control Officers Association (CAPCOA) publication, Quantifying Greenhouse Gas Mitigation Measures (CAPCOA, 2010).

Cumulative VMT Consistency Check

Cumulative VMT impacts are evaluated through a consistency check with the Southern California Association of Governments' (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (2016-2040 RTP/SCS) plan. The RTP/SCS is the regional plan that demonstrates compliance with air quality conformity requirements and greenhouse gas (GHG) reduction targets.

Per the City's TAG, projects that are consistent with the RTP/SCS plan in terms of development location and density are part of the regional solution for meeting air pollution and GHG goals. Projects that have less than a significant VMT impact are deemed to be consistent with the SCAG's 2016-2040 RTP/SCS and would have a less-than-significant cumulative impact on VMT.

As shown, the Project VMT impact would not exceed the City's Central APC VMT impact thresholds and as such, the Project's contribution to the cumulative VMT impact is adequate to demonstrate there is no cumulative VMT impact that would preclude the City's ability to provide transportation mobility in the area.

III. Substantially Increasing Hazards Due to a Geometric Design Feature or Incompatible Use (Threshold T- 3.1)

Impacts regarding the potential increase of hazards due to a geometric design feature generally relate to the design of access points to and from the project site, and may include safety, operational, or capacity impacts. Impacts can be related to vehicle conflicts as well as to operational delays caused by vehicles slowing and/or queuing to access a project site.

No deficiencies are apparent in the site access plans which would be considered significant. This determination considers the following factors:

1. Vehicle access to the parking will be from the adjacent north – south alley.
2. The Project's access is consistent with LADOT driveway width and placement per LADOT Manual of Policies and Procedures, Section 321, Driveway Design.
3. The net Project peak hour trip generation is 36 vehicles per hour (VPH) during the morning peak hour and 38 VPH during the afternoon peak hour. This level of added traffic would not create a transportation hazard or create any operational issues.

A review of the Project Site plan does not present any hazardous geometric design features that would result in vehicle/pedestrian, vehicle/bicycle, or vehicle/vehicle safety hazards. Therefore, the Project does not have a significant transportation impact under CEQA Threshold T-3.1 (Substantially Increasing Hazards Due to a Geometric Design Feature).

CHAPTER 3 NON-CEQA TRANSPORTATION ASSESSMENT

In addition to conducting a CEQA review of development projects pursuant to SB743, LAMC Section 16.05 (Site Plan Review) authorizes a non-CEQA transportation analysis of development projects to identify deficiencies that may occur in the area due to the Project. LADOT retains the ability to impose development conditions to improve operational safety and access around a project site and to better assess how proposed projects may affect the City's transportation system under the non-CEQA assessment.

To assist in the Project's non-CEQA evaluation, the following information summaries the environmental conditions in which the Project Site is located.

ENVIRONMENTAL SETTING

Land Use

The Project Site is in the Central City Community Plan area located in downtown Los Angeles. The Project is also located within the Civic Cener District of Los Angeles Council District 14 and the Downtown Los Angeles Neighborhood Council area.

The Community Plan area is located predominately south of Sunset Boulevard / Cesar Chavez Avenue, north of the Santa Monica Freeway (I-10), west of Alameda Street and east of the Harbor Freeway (I-110).

The adopted Central City Community Plan includes areas for residential uses, commercial uses, industrial uses, open space, and public facilities. The summary of land use (provided in Appendix B) indicates that the community plan area is 2,161 acres with approximately 5% residential, 38% commercial, 40% industrial with the balance open space and public facilities. A community plan update process is actively underway because the Central City Community Plan currently in effect was adopted in 2003.

Appendix B contains the Central City Community Plan land use map.

Transportation Facilities

The City of Los Angeles has adopted the Mobility Plan 2035 as an update to the City's General Plan Transportation Element to incorporate the complete streets principles for integrating multi-mode transportation networks. The Mobility Plan 2035 dictates the street standards and designations for all users. Appendix C provides the community plan circulation map of the area roadway designations and roadway design standards.

Pursuant to the City of Los Angeles Mobility Element, arterial roadways are designated Boulevards and Avenues. Boulevards represent the City's widest streets that typically provide regional access to major destinations; the roadway standard for a Boulevard II roadway is a right - of - way width of 110 feet and a roadway width of 80 feet. Avenues may vary in their land use context, with some streets passing through both residential and commercial areas; the roadway standard for an Avenue II roadway is a right - of - way width of 86 feet and a roadway width of 56 feet.

Non - arterial roadways connect arterial roadways to local residential neighborhoods or industrial areas. Non - arterial roadways are designated collector or local streets. The standard for a collector street is a right - of - way width of 66 feet and a roadway width of 40 feet; a hillside collector has a reduced right - of - way width of 50 feet and a roadway width of 40 feet; the standard for a local street is a right - of - way width of 60 feet and a roadway width of 36 feet with a hillside local street right - of - way width of 44 feet and a roadway width of 36 feet.

Regional access to Project area is provided by the Harbor Freeway (I-110) and the Santa Ana Freeway (US-101). The Harbor Freeway is a north-south freeway approximately 0.7 mile west of the Project Site and accessible with a full access on and off ramps at 3rd^{h} Street. The Harbor Freeway provides four lanes in each direction with access auxiliary lanes. The Santa Ana Freeway is an east-west freeway located approximately 0.4 mile north of the Project Site and accessible with access ramps on Broadway and Los Angeles Street. Both regional Freeways provides four lanes in each direction with access auxiliary lanes.

Major east - west streets serving the study area include 2nd Street and 3rd Street. Key north - south streets providing access to the Project Site include Spring Street and Main Street.

2nd Street is an east - west roadway designated a Modified Avenue II roadway. 2nd Street is included in the Pedestrian Network, and Tier 1 Bike Network (west of Main Street) and Tier 2 Bike Network (east of Main Street) of the Mobility Plan. 2nd Street provides one lane in each direction, metered parking, and left turn lanes.

3rd Street is an east - west roadway designated a Modified Avenue II roadway. 2nd Street is included in the Pedestrian Network, and Tier 1 Bike Network (east of Spring Street) of the Mobility Plan 3rd Street provides one lane in each direction, metered parking, and left turn median lanes.

Spring Street is a north-south roadway designated a Modified Avenue II roadway. Spring Street is included in the Pedestrian Network, and Tier 1 Bike Network of the Mobility Plan. Two lanes are provided southbound, bike lanes and on-street parking.

Main Street is a north-south roadway designated an Avenue II roadway that provides 2 lanes northbound, bike lanes and on-street parking. Main Street is included in the Pedestrian Network, and Tier 1 Bike Network of the Mobility Plan

Transit Information

The NextGen Bus Plan was approved by the Metro Board of Directors and is ready for implementation with a 3-phased roll-out that begins in December 2020 and continues through the end of 2021. The approved Bus Plan is a reimagined bus system that focuses on providing fast, frequent, reliable, and accessible service to meet the needs of today's riders. In addition to the improved bus system, the Project Site is in a designated Tier 4 Transit Oriented Community (TOC).

Multiple public transportation opportunities are provided in downtown Los Angeles. Public transportation is provided by the Metropolitan Transportation Authority (Metro), the City of Los Angeles Department of Transportation Dash service (DASH), and other

municipal transit agencies. The Project Site is located near the Metro Rail's Historic Broadway station located on 2nd Street between Broadway and Spring Street. This new station under construction is part of the 1.9 mile underground light rail system connecting Metro Rail's L Line (Gold) to the 7th Street/Metro Center Station.

Metro Local routes include Lines 30 and 210 with the nearest stops located at the intersection of Pico Boulevard and Crenshaw Boulevard (less than 500 feet). These Metro transit lines are described below:

The transit line route maps are illustrated in Appendix D.

Complete Streets Mobility Networks (Vehicle, Bicycle, Transit and Neighborhood)

The Mobility Plan Element establishes a layered network of street standards that are designed to emphasize mobility modes within the larger system. This approach maintains the primary function of the streets that exist but identifies streets for potential alternative transportation modes providing a range of options available when selecting the appropriate design elements. Street may be listed in several networks with the goal of selecting a variety of mobility enhancements.

Network layers have been created for the Complete Street Network that prioritizes a certain mode within each layer with the goal of providing better connectivity. The network layers are Vehicle Enhanced network, Transit Enhanced network, Bicycle Enhanced network, Neighborhood Enhanced network, and Pedestrian Enhanced District. Definitions of these networks per the Complete Street Design Guidelines are provide below. Mobility Element maps, Walkability Index maps, bicycle plan maps, and pedestrian destination maps are included in Appendix E.

Vehicle Enhanced Network (VEN) - The VEN includes a select number of arterials that carry high volume of traffic for long distance travel on corridors with freeway access. Moderate enhancements typically include technology upgrades and peak-hour restrictions for parking and turning movements. Comprehensive enhancements can include improvements to access management, all-day lane conversions of parking, and all-day turning movement restrictions or permanent access control.

- No study area streets are identified on Vehicle Network Map.

Transit Enhanced Network (TEN) - The TEN is comprised of streets that prioritize travel for transit riders.

- Broadway – Comprehensive Transit Enhanced Street.
- First Street – Moderate Plus Transit Enhanced Street.

Bicycle Enhanced Network (BEN) – The BEN is comprised of a network of low – stressed protected bike lanes (Tier 1) and bike paths prioritize bicycle travel by providing specific bicycle facilities and improvements. The BEN proposes bike facilities on arterial roadways with a striped separation. Tier 1 corresponding to protected bicycle lanes, and Tier 2 and Tier 3 bicycle lanes on arterial roads with a striped separation that are differentiated only by their potential implementation phasing - The difference between Tier 2 and Tier 3 implies probability that some lanes are not expected to be implemented by 2035.

The City of Los Angeles adopted a 2010 Bicycle Master Plan to encourage alternative modes of transportation throughout the City of Los Angeles. The Master Plan was developed to provide a network system that is safe and efficient to use in coordination with the vehicle and pedestrian traffic on the city street systems. The Master Plan has mapped out the existing, funded, and potential future Bicycle Paths, Bicycle Lanes, and Bicycle Routes. A brief definition of the bicycle facilities is provided below:

Bicycle Path – A bicycle path is a facility that is separated from the vehicular traffic for the exclusive use of the cyclist (although sometimes combined with a pedestrian lane). The designated path can be completely separated from vehicular traffic or cross the vehicular traffic with right-of-way assigned through signals or stop signs.

- No streets in the vicinity of the Project Site are designated a bicycle path.

Bicycle Lane – A bicycle lane is typically provided on street with a designated lane striped on the street for the exclusive use of the cyclist. The bicycle lanes are occasionally curbside, outside the parking lane, or along a right turn lane at intersections.

- Second Street west of Main Street is identified as part of the BEN – Tier 1.
- Second Street east of Main Street is identified as part of the BEN – Tier 2.
- Third Street and First Street east of Spring Street are identified as part of the BEN – Tier 1.
- First Street west of Spring Street are identified as part of the BEN – Tier 2.
- Spring Street is identified as part of the BEN – Tier 1.
- Main Street is identified as part of the BEN – Tier 1.
- Los Angeles Street north of First Street is identified as part of the BEN – Tier 2.

Bicycle Route – A bicycle route is a designated route in a cycling system where the cyclist shares the lane with the vehicle. Cyclist would follow the route and share the right-of-way with the vehicle.

- No streets in the vicinity of the Project Site are designated bike routes per the network maps.

Neighborhood Enhanced Network (NEN) - NEN is comprised of local streets intended to benefit from pedestrian and bicycle related safety enhancements for more localized travel of slower means of travel while preserving the connectivity of local streets to other enhanced networks. These enhancements encourage lower vehicle speeds, providing added safety for pedestrians and bicyclists.

- No streets in the vicinity of the Project Site are identified as part of the City's NEN.

Pedestrian Enhanced District (PEDs) - In addition to these street networks, many arterial streets that could benefit from additional pedestrian features to provide better walking connections are identified as Pedestrian Enhanced Districts. The PED segments provided in the mobility map identify streets where pedestrian improvements on arterial streets could be prioritized to provide better walking connections to and from the major destinations within communities.

- All the streets in the study area have been identified as pedestrian enhanced street segments with the goal of providing a more attractive environment to promote walking for shorter trips.

The Complete Streets guide acknowledges that adding pedestrian design features and street trees encourages people to take trips on foot instead of by car. Thereby helping to reduce the volume of cars on the road and emissions, increases economic vitality, and make the City of Los Angeles feel like a more vibrant place.

PROJECT TRAFFIC GENERATION

As part of the non-CEQA assessment, an operational analysis of the peak hour traffic flow with the Project has been requested. This evaluation is based on peak hour traffic flow level of service (LOS) methodologies which determines vehicle delay using current traffic volume data, traffic signal and street characteristics.

Traffic generating characteristics of land uses have been studied by the Institute of Transportation Engineers (ITE) and LADOT. The results of these studies are published in ITE Trip Generation, 10th Edition Handbook and the LADOT TAG (LADOT has adopted traffic rates for affordable apartments). Using these traffic rates, the Project traffic has been estimated at 337 net daily trips (LADOT VMT Calculator Tool) with 36 morning and 38 afternoon peak hour trips using the ITE peak hour traffic rates, as shown in Tables 2 and 3.

Table 2
Project Trip Generation Rates

ITE		Daily	AM Peak Hour			PM Peak Hour		
Code	Description	Traffic	In	Out	Total	In	Out	Total
710	Office (per 1,000 s.f.)	9.74	86%	14%	1.16	16%	84%	1.15
820	Retail (per 1,000 s.f.)	37.75	62%	38%	0.94	48%	52%	3.81
932	Restaurant (per 1,000 s.f.)	112.18	55%	45%	9.94	62%	38%	9.77
222	Apartments high-rise Center City Core (per unit)	2.16	24%	76%	0.31	61%	39%	0.36
LADOT	Affordable Apartments (per unit inside TPA)	4.16	37%	63%	0.49	56%	44%	0.35

Table 3
Estimated Project Traffic Generation

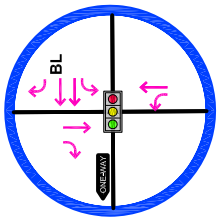
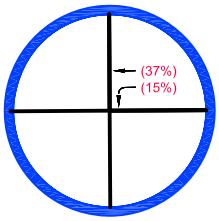
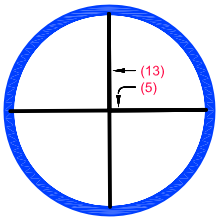
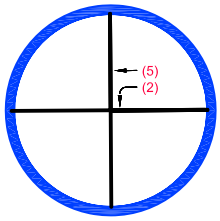
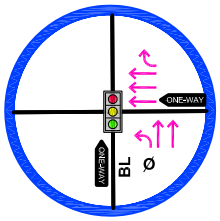
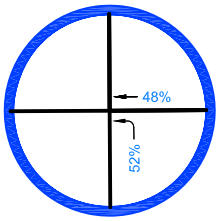
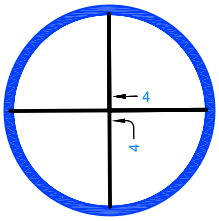
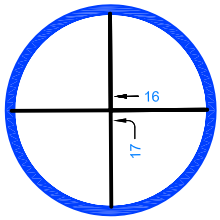
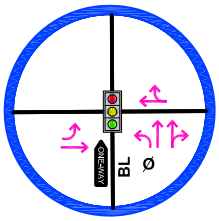
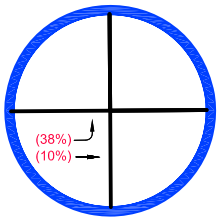
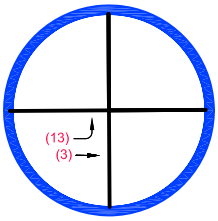
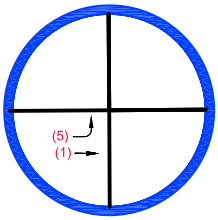
ITE Code	Description	Size	VMT Calculator	Daily Traffic	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
	Proposed Project									
222	Apartments high-rise Center City Core (per unit)	106 units		229	8	25	33	23	15	38
LADOT	Affordable Apartments (per unit inside TPA)	14 units		58	3	4	7	3	2	5
933	Restaurant Fast Food (per 1,000 s.f.)	1,992 sf		223	11	9	20	12	7	19
	Transit/Walk*	25%		(56)	(3)	(2)	(5)	(3)	(2)	(5)
	Pass By	50%		(84)	(3)	(3)	(6)	(5)	(3)	(8)
820	Retail (per 1,000 s.f.)	1,033 sf		39	1	0	1	2	2	4
	Transit/Walk	15%		(6)	(0)	(0)	(0)	(1)	(0)	(1)
	Street Traffic		427	403	17	33	50	31	21	52
	Driveway Traffic			487	20	36	56	36	24	60
	Existing									
710	Office (per 1,000 s.f.)	14,000 sf		136	14	2	16	3	13	16
	Transit/Walk	15%		(20)	(2)	0	(2)	0	(2)	(2)
	Existing Street Traffic		90	116	12	2	14	3	11	14
	Existing Driveway Traffic			116	12	2	14	3	11	14
	Net Street Traffic		337	287	5	31	36	28	10	38
	Net Driveway Traffic			371	8	34	42	33	13	46

* Regional Rail Connector project under construction with Historic Broadway Station just west of Project Site.

Using the traffic assignment at each intersection presented in Figure 5 and the estimated peak hour traffic volume as provided in the Table 3, the Project's peak hour traffic volume at each study intersection has been calculated. Figure 5 shows the estimated project traffic distribution percentages and assignment of Project's peak hour traffic for the analysis.

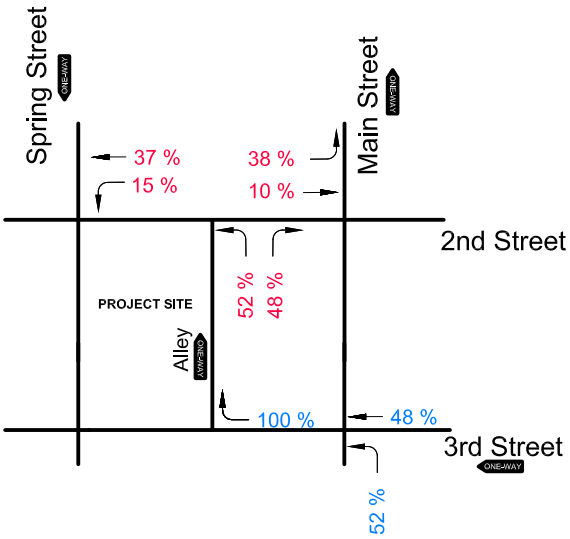
Trip Assignment Source: DOT Case No. CEN16-44536 (222 W. 2nd St.)

LEGEND
XX INBOUND
(XX) OUTBOUND

		LANE CONFIGURATION	PROJECT TRAFFIC ASSIGNMENT PERCENTAGE	PROJECT TRAFFIC AM PEAK HOUR VOLUME	PROJECT TRAFFIC PM PEAK HOUR VOLUME
1	SPRING STREET & 2ND STREET				
2	MAIN STREET & 3RD STREET				
3	MAIN STREET & 2ND STREET				

PROJECT NET TRIP GENERATION

AM TRIPS		PM TRIPS	
IN	OUT	IN	OUT
8	34	33	13



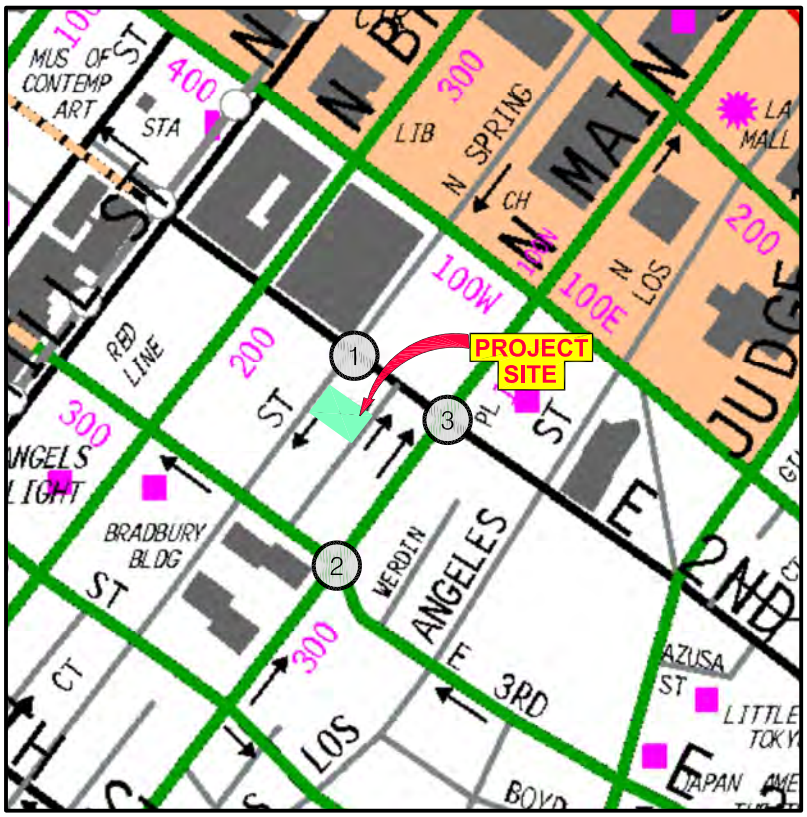


FIGURE 5

7/2021

PROJECT TRAFFIC ASSIGNMENT

Overland Traffic Consultants, Inc.
952 Manhattan Beach Bl, #100, Manhattan Beach, CA 90266
(310) 545 - 1235, OTC@overlandtraffic.com

PEDESTRIAN, BICYCLE AND TRANSIT ACCESS ASSESSMENT

Purpose - The pedestrian, bicycle and transit assessments are intended to determine a project's potential effect on pedestrian, bicycle, and transit facilities in the vicinity of the Project Site. Any deficiencies could be physical (through removal, modification, or degradation of facilities) or demand-based (by adding pedestrian or bicycle demand to inadequate facilities).

Removal or Degradation of Facilities

The Project will not remove, modify, or degrade any pedestrian, bicycle, and transit facility in the vicinity of the Project Site. In fact, any damaged or off grade sidewalk, curb and gutter along the property frontage(s) will be repaired under Section 12.37 of the Los Angeles Municipal Code (LAMC). Furthermore, the Project will not add any driveways on Spring Street, all vehicle access to and from Harlem Place (designated alley).

Project Intensification of Use

Generally, projects that contribute to efficient land use patterns enabling higher levels of walking, cycling, and transit as well as lower than average trip length are considered to have a less than significant impact on transportation. Governor's Office of Planning and Research (OPR) December 2018 Technical Advisory on Evaluating Transportation Impacts in CEQA, identifies projects and areas presumed to have a less than significant transportation impact to include:

- Residential, office, or retail projects within a Transit Priority Area, where a project is within a ½ mile of an existing or major transit stop or an existing stop along a high - quality transit corridor. A major transit stop is defined as a site containing an existing rail transit station, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods (Pub. Resources Code, § 21064.3). The Project is in a TPA and TOC Tier 4 designated area.

- A high-quality transit corridor is defined as a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours (Pub. Resources 215 Code, § 21155). Existing service performance (stop level ridership map) near the Project Site can be reviewed by exploring the Metro Next Generation Bus Plan portal using the link below.

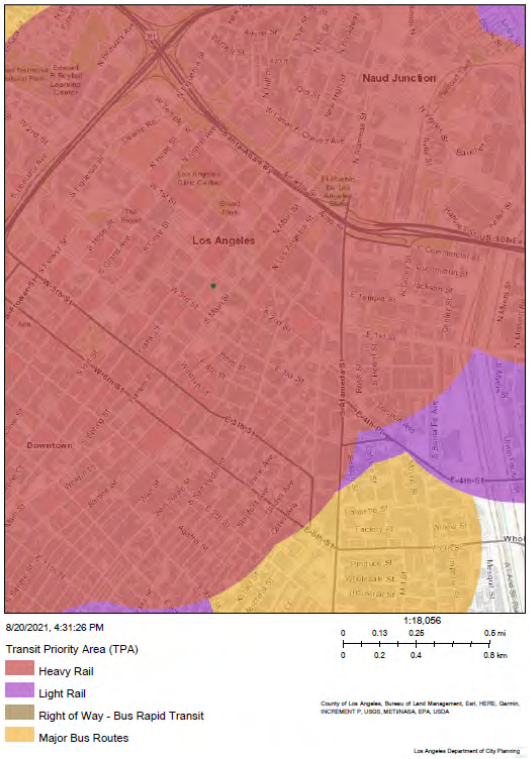
https://la-metro.maps.arcgis.com/apps/MapSeries/index.html?appid=8decc337ba35474ba28d0b4e9ad71647#

- An area pre-screened by an agency as having low residential or office VMT. The Project is in the Central CPA which has the lowest work VMT per employee and household VMT per capita in the City of Los Angeles
- The Project has a Walk Score of 96 out of 100 (very walkable); Walk Score measures the walkability of any address based on the distance to nearby places and pedestrian friendliness.

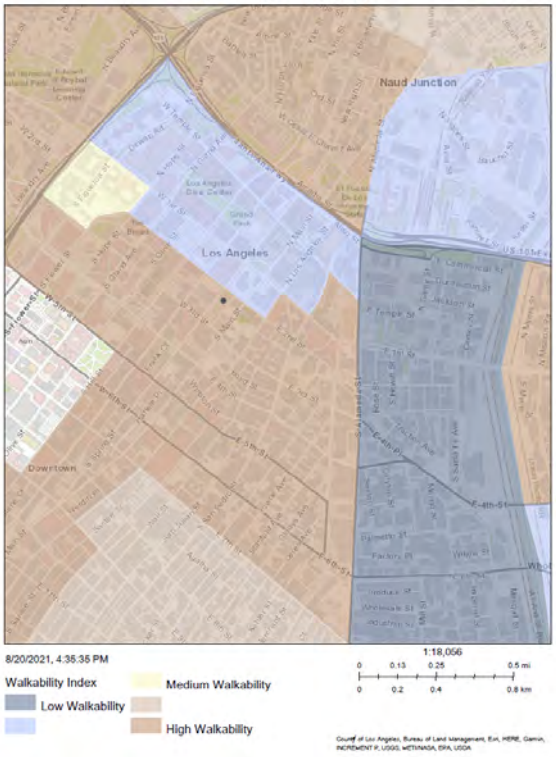
https://www.walkscore.com/score/216-s-spring-st-los-angeles-ca-90012

Network exhibits shown below are created by the Great Street Challenge interactive map which show the Projects location within the TPA and Walkability Index area.

TRANSIT PRIORITY AREA (TPA)



WALKABILITY INDEX



It is estimated that the Project would have a residential population of approximately 283 persons and 10 employees per the VMT Calculator. It should be noted that the Project generates less than the 1,000 daily vehicle trip threshold (337 net daily trips using the VMT calculator) to assess if the Project would negatively affect existing pedestrians, bicycle, or transit facilities. This level of intensification would not require any additional pedestrian, transit, or bike facilities assessment or new facilities to be constructed.

High Injury Network

Vision Zero Los Angeles identified a strategic plan to reduce traffic deaths to zero by focusing on engineering, enforcement, education, and evaluation. The priority identified in the report is safety with a goal to make the streets of the City of Los Angeles the safest in the nation. As part of an effort to achieve this goal, LADOT identified a High Injury Network (HIN) of city streets. The HIN identifies streets with a high number of traffic-related severe injuries and deaths across all modes of travel with emphasis on those involving pedestrians and cyclists.

Spring Street is included in the High Injury Network, as indicated on the HIN map in Appendix C. Preventive measures by the Project include providing site access from the Harlem Place alley will maintain the safety of pedestrians, passing motorists and bicyclist traveling on Spring Street bike lanes.

PROJECT ACCESS, SAFETY AND CIRCULATION EVALUATION

Purpose – Project access and circulation is evaluated for safety, operational, and capacity constraints to identify circulation and access deficiencies that may require specific operational improvements.

Operational Evaluation

Per the TAG, the Transportation Assessment should include a quantitative evaluation of the project's expected access and circulation operations. Project access is considered constrained if the project's traffic would contribute to unacceptable queuing at project driveway(s) or would cause or substantially extend queuing at nearby signalized intersections. It should be noted that this analysis is not intended to be interpreted as a threshold of

significance for the purposes of CEQA review and does not affect the CEQA VMT Impact analysis.

The circulation level of service evaluation has been prepared using the Highway Capacity Manual (HCM) methodology which calculates the amount of delay per vehicle based upon the intersection traffic volumes, lane configurations, and signal timing.

Once the vehicle delay value has been calculated, operating characteristics are assigned a level of service grade (A through F) to estimate the level of congestion and stability of the traffic flow. The term "Level of Service" (LOS) is used by traffic engineers to describe the quality of traffic flow. Definitions of the LOS grades in terms of vehicle delay are shown in Table 4.

Table 4
Level of Service Definitions

LOS	HCM (delay in seconds)	Operating Conditions
A	Less than 10	No loaded cycles and few are even close. No approach phase is fully utilized with no delay.
B	>10 to 20	A stable flow of traffic.
C	>20 to 35	Stable operation continues. Loading is intermittent. Occasionally drivers may have to wait more on red signal and backups may develop behind turning vehicles.
D	>35-55	Approaching instability. Delays may be lengthy during short time periods within the peak hour. Vehicles may be required to wait through more than one signal cycle.
E	>55 to 80	At or near capacity with possible long queues for left-turning vehicles. Full utilization of every signal cycle is seldom attained.
F	> 80	Gridlock conditions with stoppages of long duration.

Analysis of Existing and Future Traffic Conditions

Adjusted baseline (2009 and 2017) traffic counts were obtained from LADOT. These historic counts were used for consistency with approved nearby traffic studies (Times Mirror Square and 222 West 2nd Street) and because new traffic data cannot be collected during the COV-19 pandemic, as directed by LADOT. These baseline traffic counts have been increased by 1 percent per year to reflect current 2021 conditions.

The intersections analyzed include:

1. Spring Street and 2nd Street
2. Main Street and 3rd Street
3. Main Street and 2nd Street

The future cumulative analysis includes an ambient growth factor of 1% to future year 2024 and other related development project located within the study area.

Results of the analysis are shown in Table 5 below for Existing (2021) and Future (2024) traffic conditions without and with the Project's peak hour traffic volume. As shown below, the existing and future LOS traffic conditions do not change with the addition of Project's peak hour traffic volume. Furthermore, the worksheets for the without and with Project scenarios do not show any change in the vehicle queuing lengths by the addition of the Project's peak hour traffic volume. Level of Service standard D or better is considered operating at an acceptable design level.

Table 5
Traffic Conditions
Without and With Project

No.	Intersection	Peak Hour	Existing 2021		Existing + Project		Future (2024) Without Project		Future (2024) With Project	
			Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
1	Spring Street &	AM	27.0	C	27.0	C	41.9	D	43.1	D
	2nd Street	PM	19.1	B	19.0	B	27.2	C	27.2	C
2	Main Street &	AM	17.8	B	17.4	B	24.0	C	24.1	C
	3rd Street	PM	25.9	C	25.9	C	31.0	C	30.9	C
3	Main Street &	AM	25.8	C	25.6	C	28.5	C	28.5	C
	2nd Street	PM	29.6	C	29.6	C	53.2	D	53.9	D

s = seconds

Figure 6 illustrates the existing and future peak hour traffic volumes used in the analyses. HCM worksheets are provided in Appendix H.

Based on the traffic conditions analysis, no Project access and circulation constraints have been identified. The results of this evaluation show that the Project will not create any non–CEQA circulation and access deficiencies.

PROJECT TRIP GENERATION

AM TRIPS		PM TRIPS	
IN	OUT	IN	OUT
8	34	33	13

AM PEAK HOUR

	EXISTING TRAFFIC VOLUME	EXISTING + PROJECT TRAFFIC VOLUME	FUTURE W/O PROJECT TRAFFIC VOLUME	FUTURE WITH PROJECT TRAFFIC VOLUME
1 SPRING STREET AND SECOND STREET	89, 1154, 26, 363, 113, 377, 331	89, 1154, 26, 376, 118, 377, 331	95, 1492, 29, 466, 200, 573, 372	95, 1492, 29, 479, 205, 573, 372
2 MAIN STREET AND THIRD STREET	181, 1505, 172, 496	181, 1509, 176, 496	223, 1891, 221, 946	223, 1895, 225, 946
3 MAIN STREET AND SECOND STREET	35, 348, 65, 367, 87, 545, 75	35, 348, 78, 370, 87, 545, 75	37, 501, 72, 559, 184, 861, 156	37, 501, 85, 562, 184, 861, 156

PM PEAK HOUR

	EXISTING TRAFFIC VOLUME	EXISTING + PROJECT TRAFFIC VOLUME	FUTURE W/O PROJECT TRAFFIC VOLUME	FUTURE WITH PROJECT TRAFFIC VOLUME
1 SPRING STREET AND SECOND STREET	25, 522, 16, 556, 59, 506, 184	25, 522, 16, 561, 61, 506, 184	73, 953, 19, 730, 164, 678, 212	73, 953, 19, 735, 166, 678, 212
2 MAIN STREET AND THIRD STREET	400, 951, 197, 1146	400, 967, 214, 1146	434, 1498, 263, 1540	434, 1514, 280, 1540
3 MAIN STREET AND SECOND STREET	46, 481, 101, 450, 107, 1129, 57	46, 481, 106, 451, 107, 1129, 57	52, 673, 104, 620, 195, 1419, 111	52, 673, 109, 621, 195, 1419, 111

FIGURE 6

8/2021

EXISTING AND FUTURE TRAFFIC VOLUME
AM AND PM PEAK HOUR

Overland Traffic Consultants, Inc.
952 Manhattan Beach Bl, #100, Manhattan Beach, CA 90266
(310) 930 - 3303, OTC@overlandtraffic.com

Safety Evaluation

No deficiencies are apparent in the site access plans which would be considered significant. All emergency ingress/egress associated with the Project would be designed and constructed in conformance to all applicable City Building and Safety Department, LADOT, and LAFD standards and requirements for design and construction. This would also ensure pedestrian safety.

Passenger Loading Evaluation

All required parking is located on – site in a parking garage. It is anticipated that all loadings will occur from within the parking garage or from the on-site loading area. In addition, one existing yellow loading zone is present on Spring Street adjacent to the Project Site.

Guidance for Freeway Safety Analysis

On May 1, 2020, LADOT issued an Interim Guidance for Freeway Safety Analysis memorandum. The purpose of this memorandum is to provide interim guidance on the preparation of freeway safety analysis for land use proposals that are required by LADOT to prepare Transportation Assessments.

LADOT has developed the following criteria for a project freeway safety analysis to be included in Transportation Assessments for land development projects. The initial step is to identify the number of Project trips expected to be added to nearby freeway off-ramps serving the Project Site.

If the Project adds 25 or more trips to any off ramp in either the morning or afternoon peak hour, then that ramp should be studied for potential queuing impacts. If the Project is not expected to generate more than 25 or more peak hour trips at any freeway off-ramps, then a freeway ramp analysis is not required.

As shown in the trip generation Table 3 and Project traffic assignment in Figure 4, the Project generates less than 25 peak hour trips. No further freeway safety analysis is necessary for the Project analysis using this guidance criteria.

The LADOT interim guidance remains in effect until Caltrans releases their "Safety Analysis Guide." The Caltrans "Safety Analysis Guide" is expected to be developed and released in 2022.

Construction Overview

Project construction is evaluated to determine if activities substantially interfere with pedestrian, bicycle, transit, or vehicle mobility. Factors to be considered are the location of the Project Site, the functional classification of the adjacent street affected, temporary loss of bus stops or rerouting of transit lines, and the loss of vehicle, bicycle, or pedestrian access. LADOT's TAG considers three areas to be considered when evaluating project construction activities. The Project applicant may be required to submit formal Work Area Traffic Control Plans for review and approval by the City prior to the issuance of any construction permits.

1. Temporary Transportation Constraints

As part of the Project's construction, the City of Los Angeles may require a Construction Traffic Management Plan (Plan) to be implemented during the construction phase to minimize potential conflicts with vehicles, pedestrians, bicycle, and transit facilities associated with the Project's construction. The Plan should include a construction schedule, the location of any traffic lane or sidewalk closures, any traffic detours, haul routes, hours of operation, access plans to abutting properties, and contact information.

Construction workers are typically expected to arrive at the Project Site before 7:00 AM and depart before or after the weekday peak hours of 4:00 to 6:00 PM. Deliveries of construction materials will be coordinated to non-peak travel periods, to the extent possible and occur from the parking lane along the Project's Spring Street and alley frontages.

For off-site activities, Worksite Traffic Control Plans would be prepared for any temporary traffic lane or sidewalk closures in accordance with City guidelines. These worksite plans will require a formal review and approval by the City prior to the issuance

of any construction permits. In addition, the City of Los Angeles will require a Truck Haul Route plan including permitted hauling hours and a haul route to and from the landfill.

No detours around the construction site are expected; however, flagmen would be used to control traffic movement during the ingress and egress of construction trucks.

Since Project construction would not substantially interfere with pedestrian, bicycle or vehicle mobility, the construction impacts would be less than significant.

2. Temporary Loss of Access

Vehicular access to the adjacent properties will be maintained. Safe pedestrian circulation paths adjacent to or around the work areas will be provided by covered pedestrian walkways if necessary and will be maintained as required by City-approved Work Area Traffic Control Plans.

Since Project construction would not result in complete loss of vehicular or pedestrian access, the construction impacts on loss of access would be less than significant.

3. Temporary Loss of Bus Stops or Rerouting of Bus Lines

No bus stops are located within the work zone adjacent to the Project Site that would need to be temporarily relocated. There will be no loss of pedestrian access to transit stops and no rerouting of bus lines are necessary.

Since Project construction would not require relocation of bus stops or bus lines, the construction impacts on transit operations would be less than significant.

APPENDIX A

LADOT Memorandum of Understanding (MOU

REFERRAL FORMS:

TRANSPORTATION STUDY ASSESSMENT

DEPARTMENT OF TRANSPORTATION - REFERRAL FORM

RELATED CODE SECTION: Los Angeles Municipal Code Section 16.05 and various code sections.

PURPOSE: The Department of Transportation (LADOT) Referral Form serves as an initial assessment to determine whether a project requires a Transportation Assessment.

GENERAL INFORMATION

- Administrative: Prior to the submittal of a referral form with LADOT, a Planning case must have been filed with the Department of City Planning.
- All new school projects, including by-right projects, must contact LADOT for an assessment of the school's proposed drop-off/pick-up scheme and to determine if any traffic controls, school warning and speed limit signs, school crosswalk and pavement markings, passenger loading zones and school bus loading zones are needed.
- Unless exempted, projects located within a transportation specific plan area may be required to pay a traffic impact assessment fee regardless of the need to prepare a transportation assessment.
- Pursuant to LAMC Section 19.15, a review fee payable to LADOT may be required to process this form. The applicant should contact the appropriate LADOT Development Services Office to arrange payment.
- LADOT's Transportation Assessment Guidelines, VMT Calculator, and VMT Calculator User Guide can be found at **http://ladot.lacity.org**.
- A transportation study is not needed for the following project applications:
  - Ministerial / by-right projects
  - Discretionary projects limited to a request for change in hours of operation
  - Tenant improvement within an existing shopping center for change of tenants
  - Any project only installing a parking lot or parking structure
  - Time extension
  - Single family home (unless part of a subdivision)
- This Referral Form is not intended to address the project's site access plan, driveway dimensions and location, internal circulation elements, dedication and widening, etc. These items require separate review and approval by LADOT.

SPECIAL REQUIREMENTS

When submitting this referral form to LADOT, include the completed documents listed below.

☐ Copy of Department of City Planning Application (CP-7771.1).

☐ Copy of a fully dimensioned site plan showing all existing and proposed structures, parking and loading areas, driveways, as well as on-site and off-site circulation.

☐ If filing for purposes of Site Plan Review, a copy of the Site Plan Review Supplemental Application.

☐ Copy of project-specific VMT Calculator[1] analysis results.

TO BE VERIFIED BY PLANNING STAFF PRIOR TO LADOT REVIEW

LADOT DEVELOPMENT SERVICES DIVISION OFFICES: Please route this form for processing to the appropriate LADOT Office as follows:

Metro	**West LA**	**Valley**
213-972-8482	*213-485-1062*	*818-374-4699*
100 S. Main St, 9th Floor	7166 W. Manchester Blvd	6262 Van Nuys Blvd, 3rd Floor
Los Angeles, CA 90012	Los Angeles, CA 90045	Van Nuys, CA 91401

1. PROJECT INFORMATION

Case Number: DIR-2020-7846-DB-SPR-HCA

Address: 216, 214, 216, 218, 220 South Spring Street

Project Description: New 17 story mixed use120 unit apartment tower with subterranean parking

Seeking Existing Use Credit (will be calculated by LADOT): Yes ✓ No _____ Not sure _____

Applicant Name: David Gray Architects

Applicant E-mail: blaise@davidgrayarchitects.com Applicant Phone: 2132435707

Planning Staff Initials: _____ **Date:** _____

2. PROJECT REFERRAL TABLE

	Land Use (list all)	**Size / Unit**	**Daily Trips**[1]
Proposed[1]	Dwelling units	120	324
	Restaurant	2000 SF	107
	Retail	1000 SF	24
		Total trips[1]*:*	499

a. Does the proposed project involve a discretionary action? **Yes** ☑ **No** ☐

b. Would the proposed project generate 250 or more daily vehicle trips[2]? **Yes** ☑ **No** ☐

c. If the project is replacing an existing number of residential units with a smaller number of residential units, is the proposed project located within one-half mile of a heavy rail, light rail, or bus rapid transit station[3]? **Yes** ☐ **No** ☑

If **YES** to **a.** and **b.** or **c.**, or to **all** of the above, the Project must be referred to LADOT for further assessment.

Verified by: Planning Staff Name:_____ Phone: _____

Signature: _____ Date: _____

[1] Qualifying Existing Use to be determined by LADOT staff on following page, per LADOT's Transportation Assessment Guidelines.

[2] To calculate the project's total daily trips, use the VMT Calculator. Under 'Project Information', enter the project address, land use type, and intensity of all proposed land uses. Select the '**+**' icon to enter each land use. After you enter the information, copy the 'Daily Vehicle Trips' number into the total trips in this table. Do not consider any existing use information for screening purposes. For additional questions, consult LADOT's VMT Calculator User Guide and the LADOT Transportation Assessment Guidelines (available on the LADOT website).

[3] Relevant transit lines include: Metro Red, Purple, Blue, Green, Gold, Expo, Orange, and Silver line stations; and Metrolink stations.

TO BE COMPLETED BY LADOT

3. PROJECT INFORMATION

	Land Use (list all)	**Size / Unit**	**Daily Trips**
Proposed	Apartments	120 Units	
	Retail	1000 SF	
	Restaurant	2000 SF	
		Total new trips:	499
Existing	Office	14000 SF	
		Total existing trips:	90
		Net Increase / Decrease (+ or -)	409

a. Is the project a single retail use that is less than 50,000 square feet? **Yes** ☐ **No** ☒

b. Would the project generate a net increase of 250 or more daily vehicle trips? **Yes** ☒ **No** ☐

c. Would the project result in a net increase in daily VMT? **Yes** ☒ **No** ☐

d. If the project is replacing an existing number of residential units with a smaller number of residential units, is the proposed project located within one-half mile of a heavy rail, light rail, or bus rapid transit station? **Yes** ☐ **No** ☒

e. Does the project trigger Site Plan Review (LAMC 16.05)? **Yes** ☐ **No** ☐

f. Project size:

- **i.** Would the project generate a net increase of 1,000 or more daily vehicle trips? **Yes** ☐ **No** ☒
- **ii.** Is the project's frontage 250 linear feet or more along a street classified as an Avenue or Boulevard per the City's General Plan? **Yes** ☐ **No** ☒
- **iii.** Is the project's building frontage encompassing an entire block along a street classified as an Avenue or Boulevard per the City's General Plan? **Yes** ☐ **No** ☒

VMT Analysis (CEQA Review)
If **YES** to **a.** and **NO** to **d.** a VMT analysis is **NOT** required.
If **YES** to both **b.** and **c.**; or to **d.** a VMT analysis **is** required.

Access, Safety, and Circulation Assessment (Corrective Conditions)
If **YES** to **b.**, a project access, safety, and circulation evaluation may be required.
If **YES** to **e.** and either **f.i.**, **f.ii.**, or **f.iii.**, an access assessment may be required.

LADOT Comments:

Please note that this form is not intended to address the project's site access plan, driveway dimensions and location, internal circulation elements, dedication and widening, etc. These items require separate review and approval by LADOT. Qualifying Existing Use to be determined per LADOT's Transportation Assessment Guidelines.

4. Specific Plan with Trip Fee or TDM Requirements: **Yes** ☐ **No** ☒

Fee Calculation Estimate: _____

VMT Analysis Required (Question b. satisfied): **Yes** ☒ **No** ☐

Access, Safety, and Circulation Evaluation Required (Question b. satisfied): **Yes** ☒ **No** ☐

Access Assessment Required (Question b., e., and either f.i., f.ii. or f.iii satisfied): **Yes** ☐ **No** ☒

Prepared by DOT Staff Name: Wes Pringle Phone: 213-972-8482

Signature: _____ Date: May 10, 2021

Transportation Assessment Memorandum of Understanding (MOU)

This MOU acknowledges that the Transportation Assessment for the following Project will be prepared in accordance with the latest version of LADOT's Transportation Assessment Guidelines:

I. PROJECT INFORMATION

Project Name: 216 SPRING

Project Address: 216 S. Spring Street

Project Description: 120 Apartments (106 market rate and 14 affordable units), 1,992 sf restaurant and 1,033 sf retail. Remove existing 14,000 sf office.

LADOT Project Case Number: CEN21-51507 Project Site Plan attached? *(Required)* ☒ Yes ☐ No

II. TRANSPORTATION DEMAND MANAGEMENT (TDM) MEASURES

Select any of the following TDM measures, which may be eligible as a Project Design Feature[1], that are being considered for this project:

X	Reduced Parking Supply[2]	X	Bicycle Parking and Amenities		Parking Cash Out

List any other TDM measures (e.g. bike share kiosks, unbundled parking, microtransit service, etc.) below that are also being considered and would require LADOT staff's determination of its eligibility as a TDM measure. LADOT staff will make the final determination of the TDM measure's eligibility for this project.

1 _____ 4 _____

2 _____ 5 _____

3 _____ 6 _____

III. TRIP GENERATION

Trip Generation Rate(s) Source: ITE 10th Edition / Other ITE 1OTH Edition and LADOT Affordable Housing

Trip Generation Adjustment *(Exact amount of credit subject to approval by LADOT)*	**Yes**	**No**
Transit Usage	☒	☐
Existing Active or Previous Land Use	☒	☐
Internal Trip	☐	☒
Pass-By Trip	☒	☐
Transportation Demand Management (See above)	☐	☒

Trip generation table including a description of the existing and proposed land uses, rates, estimated morning and afternoon peak hour volumes (ins/outs/totals), proposed trip credits, etc. attached? *(Required)* ☒ Yes ☐ No

	IN	OUT	TOTAL
AM Trips	5	31	36
PM Trips	28	10	38

NET Daily Vehicle Trips (DVT)
287 DVT (ITE 10 ed.)
427 DVT (VMT Calculator ver. 1.3)

[1] At this time Project Design Features are only those measures that are also shown to be needed to comply with a local ordinance, affordable housing incentive program, or State law.

[2] Select if reduced parking supply is pursued as a result of a parking incentive as permitted by the City's Bicycle Parking Ordinance, State Density Bonus Law, or the City's Transit Oriented Community Guidelines.

IV. STUDY AREA AND ASSUMPTIONS

Project Buildout Year: 2024 Ambient Growth Rate: 1 % Per Yr.

Related Projects List, researched by the consultant and approved by LADOT, attached? *(Required)* ☒ Yes ☐ No

STUDY INTERSECTIONS and/or STREET SEGMENTS:
(May be subject to LADOT revision after access, safety, and circulation evaluation.)

1 Spring Street and 2nd Street
2 Main Street and 3rd Street
3 Spring Street and 2nd Street
4
5
6

Provide a separate list if more than six study intersections and/or street segments.

Is this Project located on a street within the High Injury Network? ☒ Yes ☐ No

If a study intersection is located within a ¼-mile of an adjacent municipality's jurisdiction, signature approval from said municipality is required prior to MOU approval. n/a

V. ACCESS ASSESSMENT

a. Does the project exceed 1,000 net DVT? ☐ Yes ☒ No
b. Is the project's frontage 250 linear feet or more along an Avenue or Boulevard as classified by the City's General Plan? ☐ Yes ☒ No
c. Is the project's building frontage encompassing an entire block along an Avenue or Boulevard as classified by the City's General Plan? ☐ Yes ☒ No

VI. ACCESS ASSESSMENT CRITERIA

If Yes to any of the above questions a., b., or c., complete **Attachment C.1: Access Assessment Criteria**.

VII. SITE PLAN AND MAP OF STUDY AREA

Please note that the site plan should also be submitted to the Department of City Planning for cursory review.

Does the attached site plan and/or map of study area show	Yes	No	Not Applicable
Each study intersection and/or street segment	☒	☐	☐
*Project Vehicle Peak Hour trips at each study intersection	☒	☐	☐
*Project Vehicle Peak Hour trips at each project access point	☒	☐	☐
*Project trip distribution percentages at each study intersection	☒	☐	☐
Project driveways designed per LADOT MPP 321 (show widths and directions or lane assignment)	☒	☐	☐
Pedestrian access points and any pedestrian paths	☒	☐	☐
Pedestrian loading zones	☐	☒	☐
Delivery loading zone or area	☒	☐	☐
Bicycle parking onsite	☒	☐	☐
Bicycle parking offsite (in public right-of-way)	☐	☒	☐

*For mixed-use projects, also show the project trips and project trip distribution by land use category.

VIII. FREEWAY SAFETY ANALYSIS SCREENING

Will the project add 25 or more trips to any freeway off-ramp in either the AM or PM peak hour? ☐ **YES** ☒ **NO**

Provide a brief explanation or graphic identifying the number of project trips expected to be added to the nearby freeway off-ramps serving the project site. If Yes to the question above, a freeway ramp analysis is required.

Project is a low traffic generator, a net increase of 5 am peak hour trips inbound and 28 pm peak hour trips inbound

IX. CONTACT INFORMATION

	CONSULTANT	DEVELOPER
Name:	Overland Traffic Consultants	216 Spring Street LLC
Address:	24325 Main Street #202 Santa Clarita CA	353 S. Broadway Ste 20o0 Los Angeles CA
Phone Number:	310.930.3303	213.243.5707
E-Mail:	otc@overlandtraffic.com	blaise@davidgreyarchitects.com

Approved by:	x	7/16/2021	x	7/29/2021
	Consultant's Representative	Date	LADOT Representative	**Date
Adjacent Municipality:		Approved by:		
		(if applicable)	Representative	Date

**MOUs are generally valid for two years after signing. If after two years a transportation assessment has not been submitted to LADOT, the developer's representative shall check with the appropriate LADOT office to determine if the terms of this MOU are still valid or if a new MOU is needed.

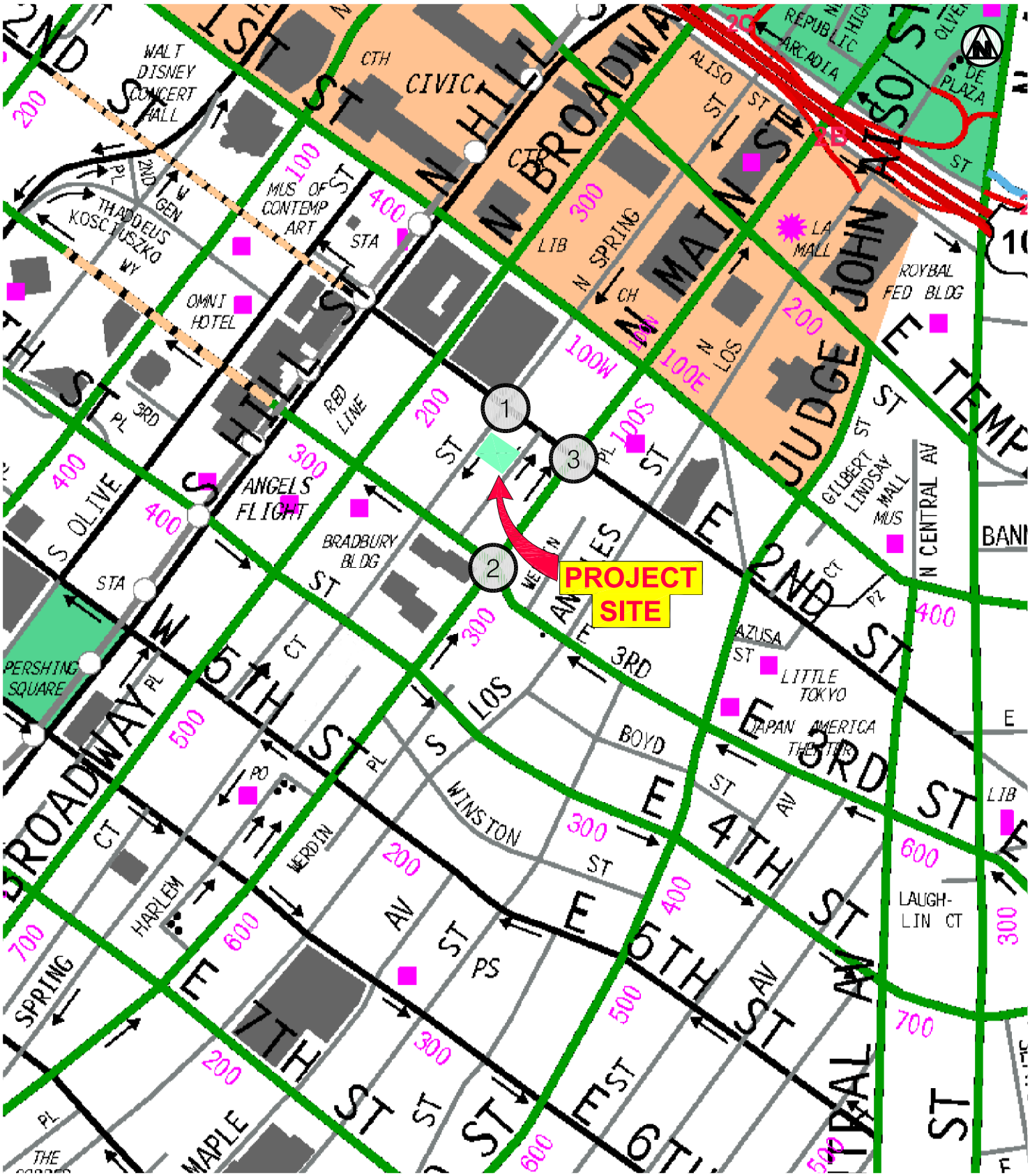


FIGURE 1

7/2021

PROJECT LOCATION

Overland Traffic Consultants, Inc.
24325 Main Street #202, Santa Clarita, CA 91321
(661) 799-8423 OTC@overlandtraffic.com

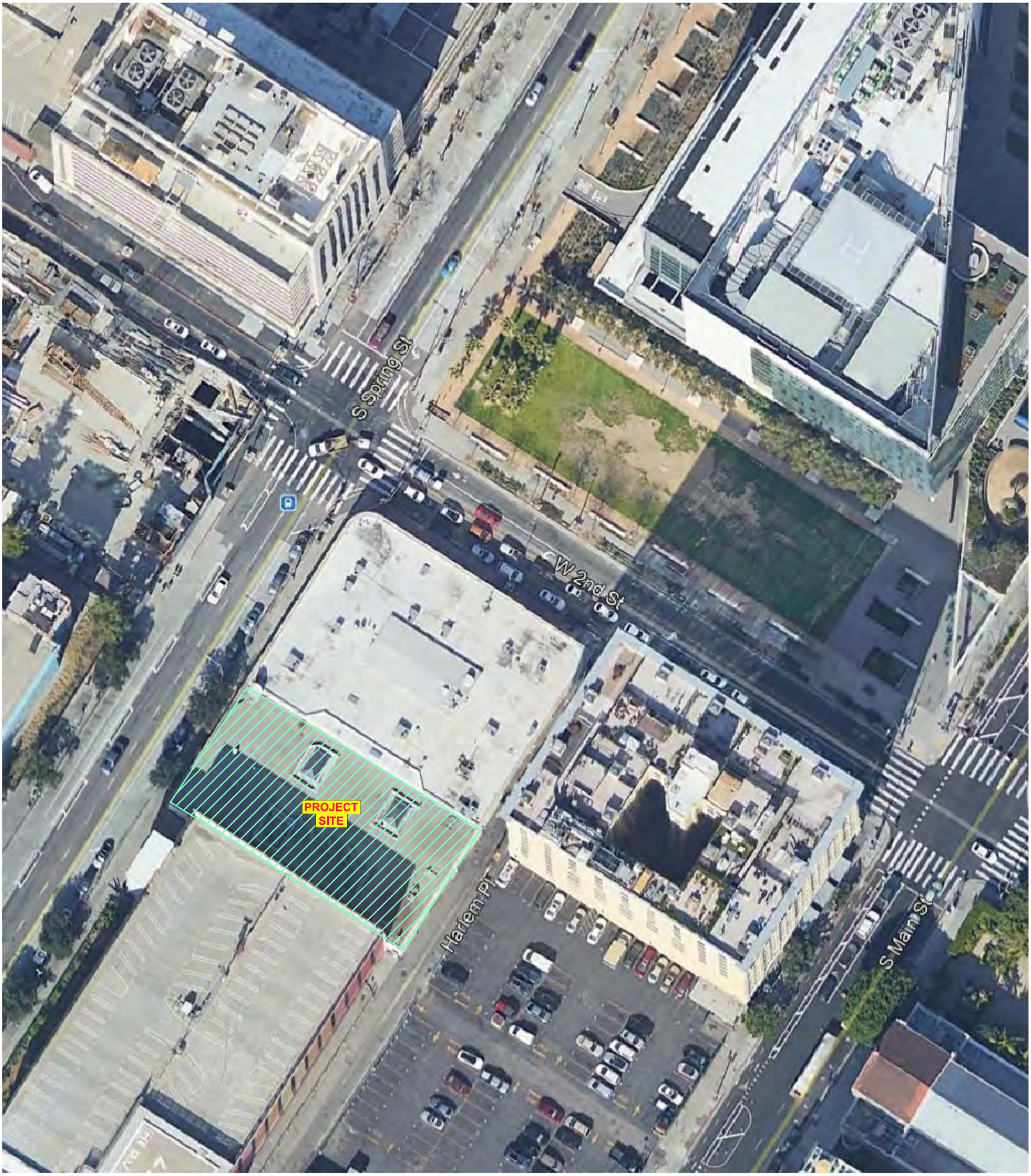
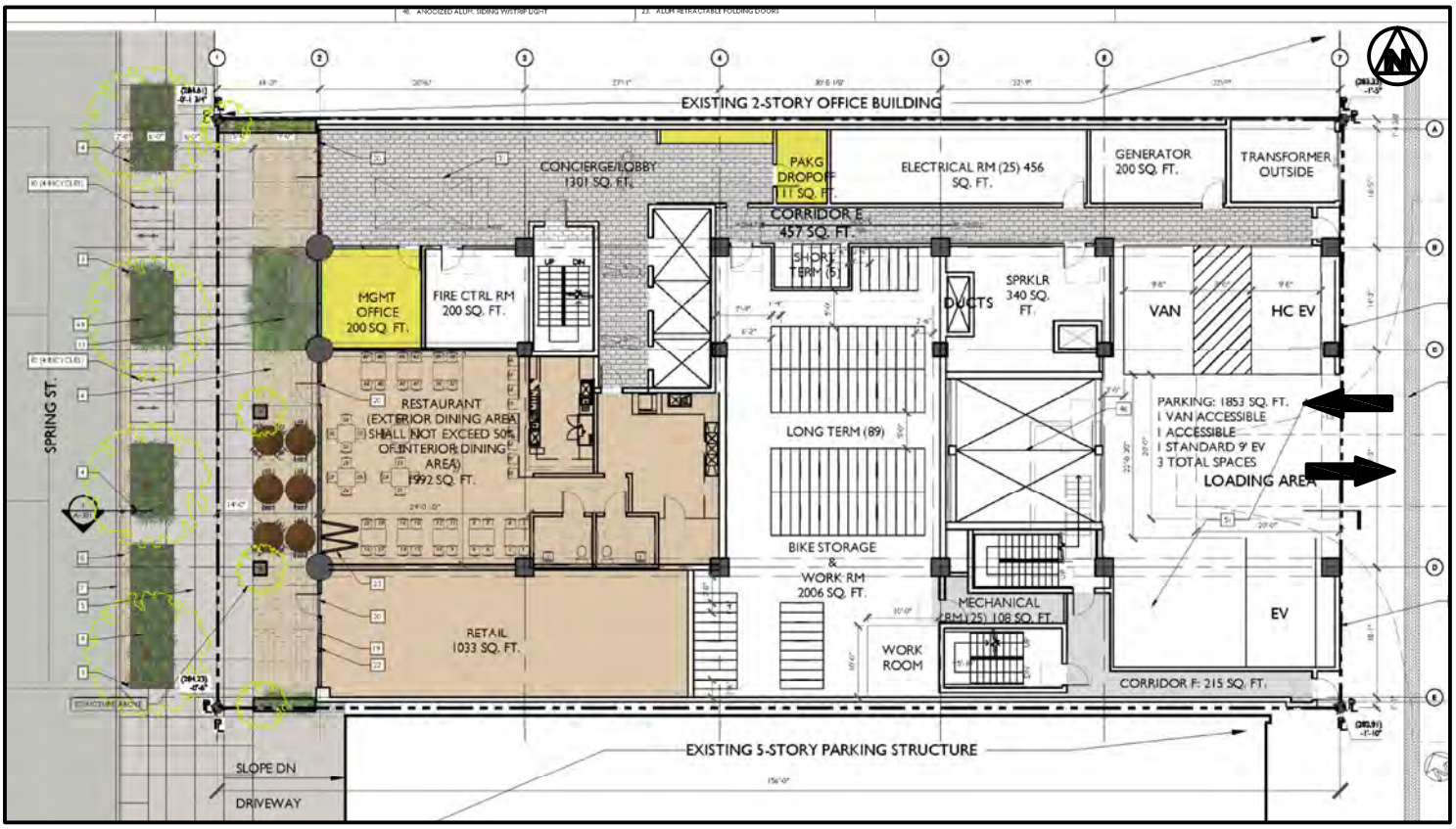


FIGURE 2

7/2021

PROJECT SETTING

Overland Traffic Consultants, Inc.
24325 Main Street #202, Santa Clarita, CA 91321
(661) 799-8423 OTC@overlandtraffic.com



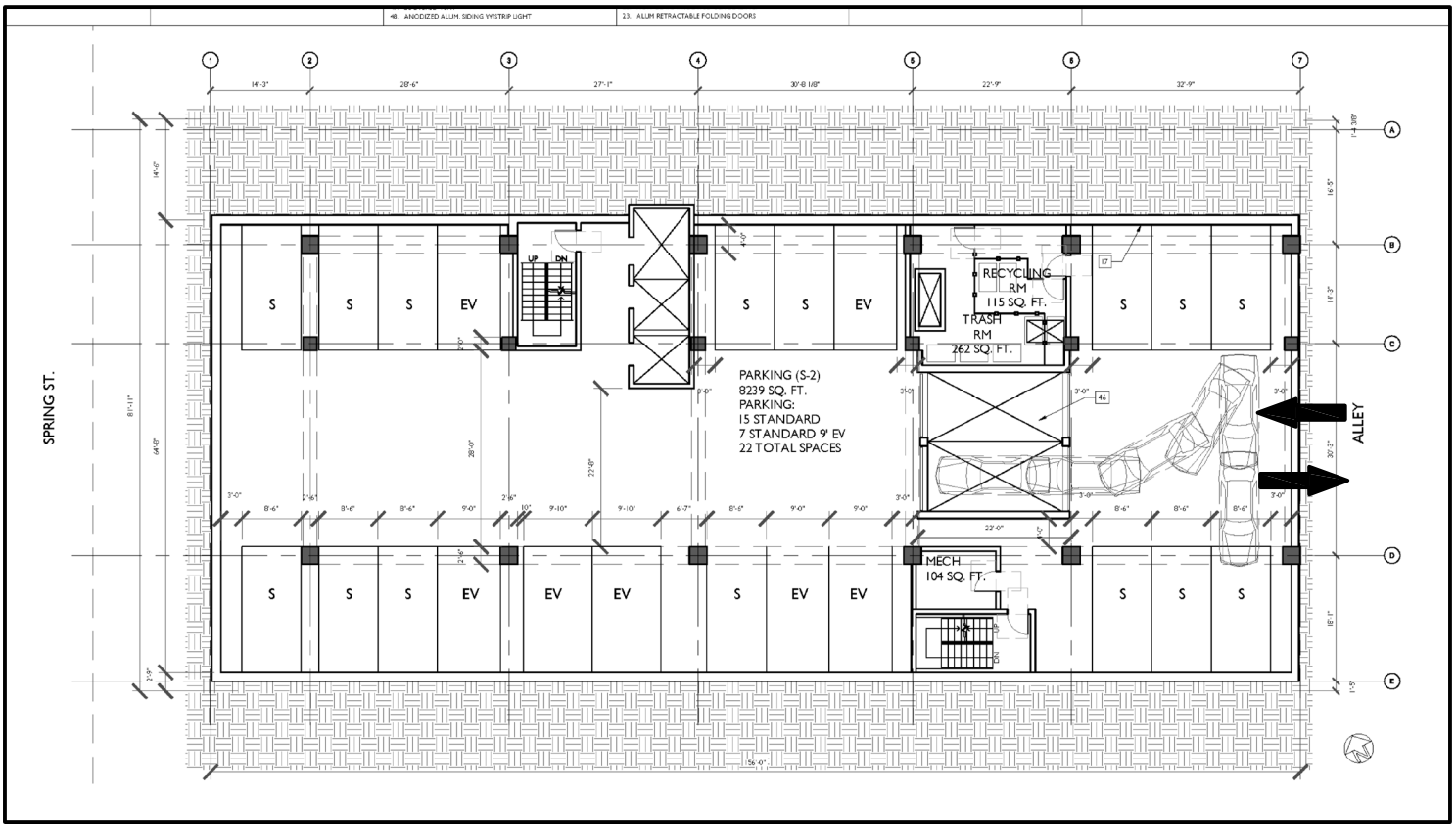
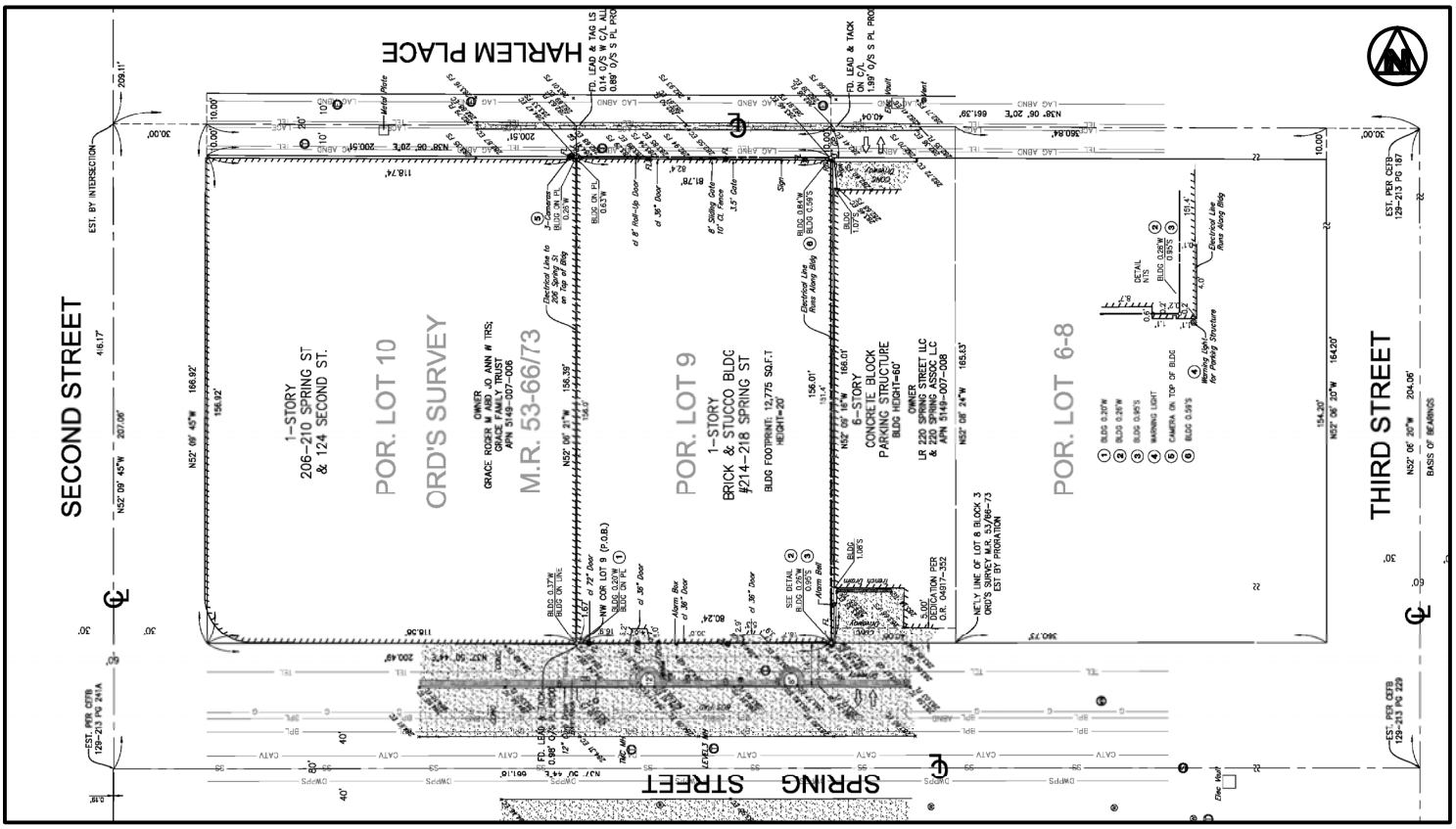


FIGURE 3

7/2021

PROJECT SITE PLAN

Overland Traffic Consultants, Inc.
24325 Main Street #202, Santa Clarita, CA 91321
(661) 799-8423 OTC@overlandtraffic.com



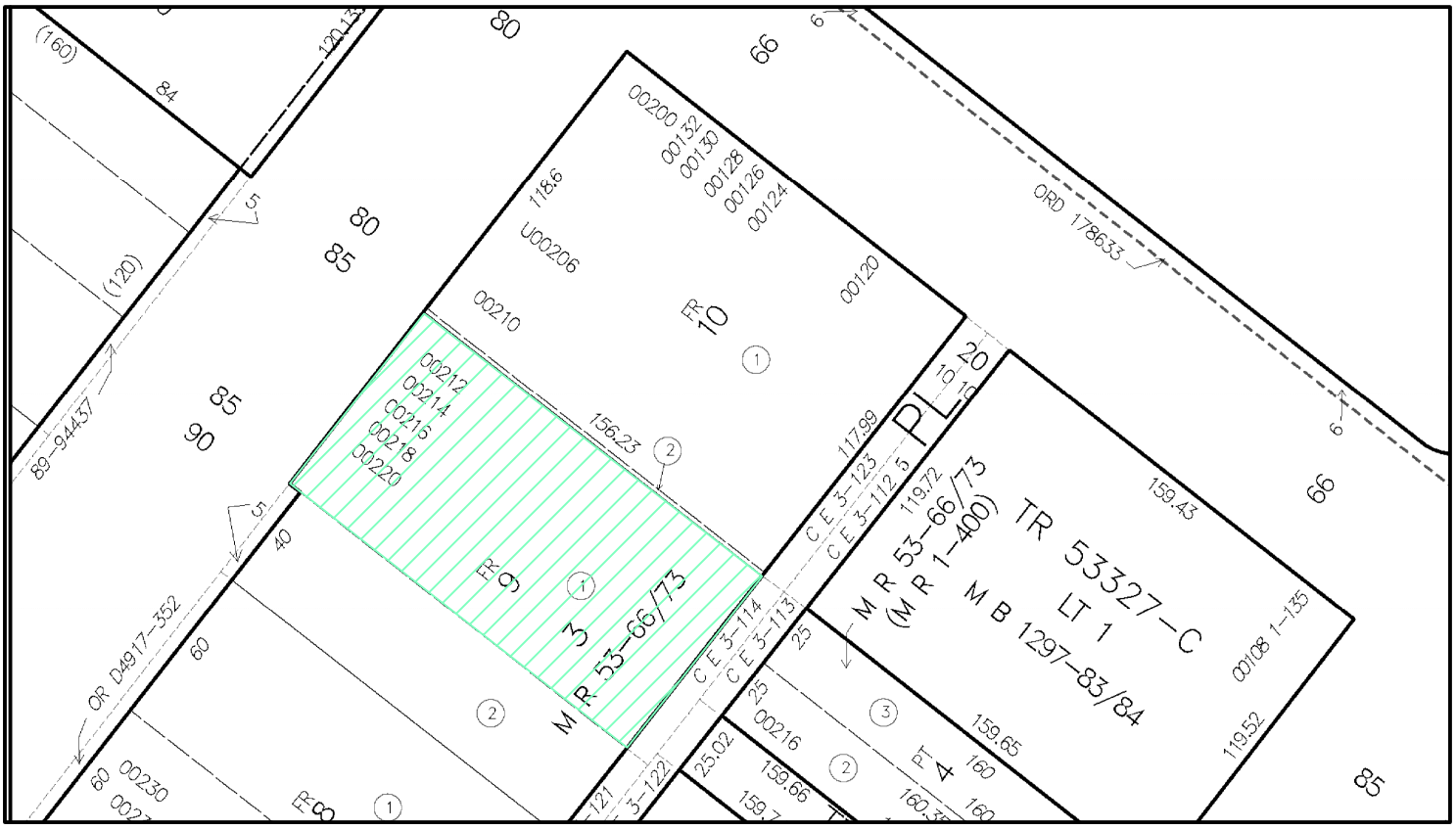


FIGURE 4

7/2021

PROJECT SITE PLAN
(parcel and cadastral map)

Overland Traffic Consultants, Inc.
24325 Main Street #202, Santa Clarita, CA 91321
(661) 799-8423 OTC@overlandtraffic.com

TRIP GENERATION RATES AND CALCULATIONS

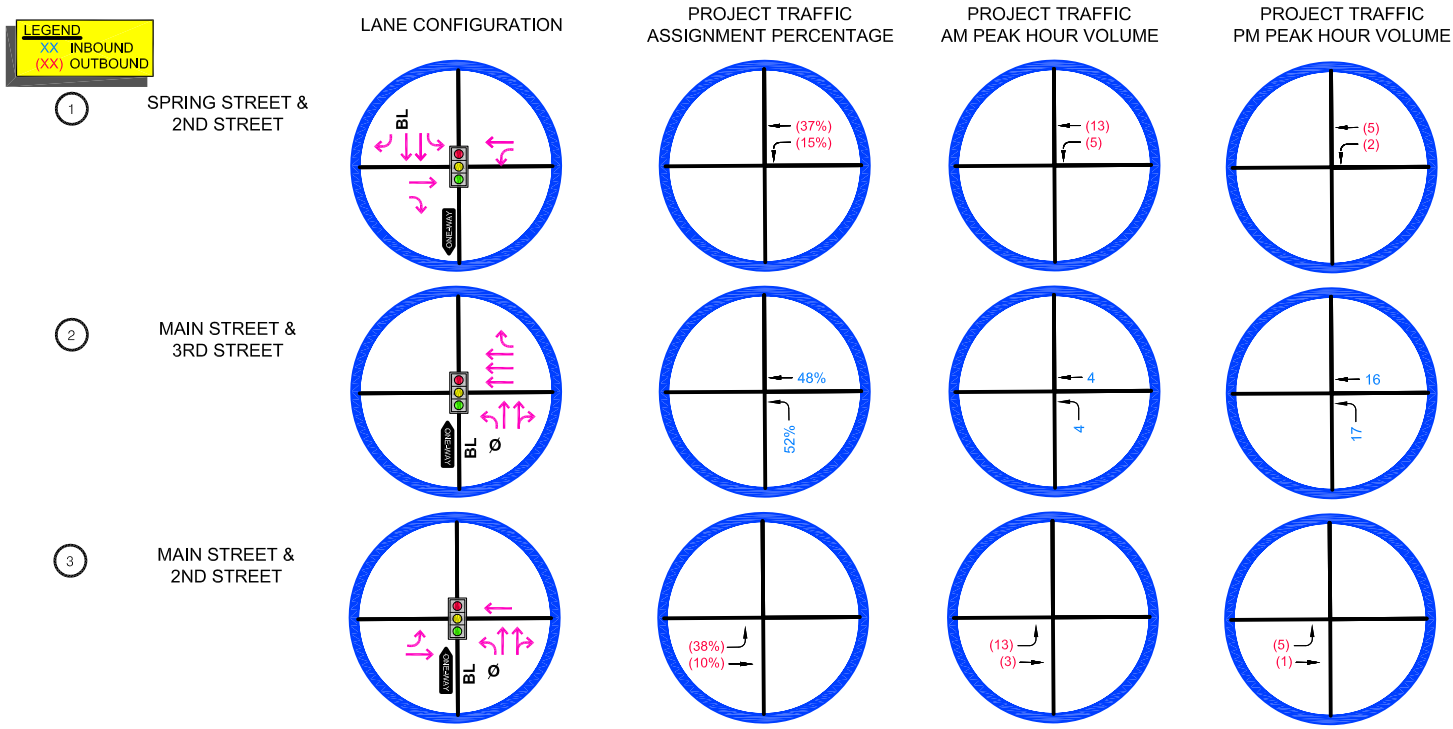
ITE 10TH EDITION AND LADOT AFFORDABLE HOUSING TRIP GENERATION RATES

ITE Code	Description	Daily Traffic	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
710	Office (per 1,000 s.f.)	9.74	86%	14%	1.16	16%	84%	1.15
820	Retail (per 1,000 s.f.)	37.75	62%	38%	0.94	48%	52%	3.81
932	Restaurant (per 1,000 s.f.)	112.18	55%	45%	9.94	62%	38%	9.77
222	Apartments high-rise Center City Core (per unit)	2.16	24%	76%	0.31	61%	39%	0.36
LADOT	Affordable Apartments (per unit inside TPA)	4.16	37%	63%	0.49	56%	44%	0.35

PROJECT TRIPS

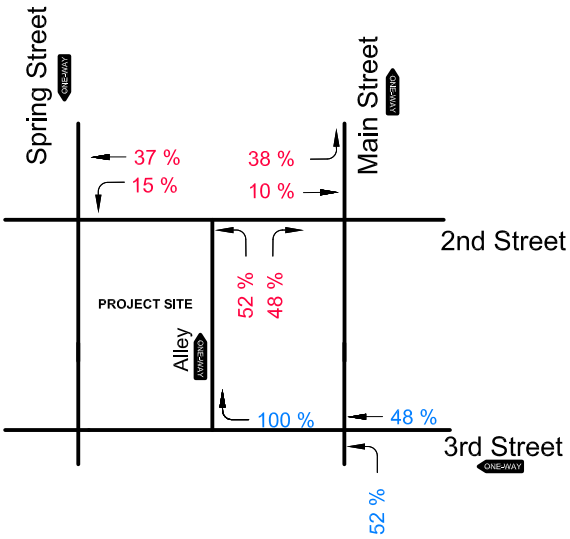
ITE Code	Description	Size	Daily Traffic	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
	Proposed Project								
222	Apartments high-rise Center City Core (per unit)	106 units	229	8	25	33	23	15	38
LADOT	Affordable Apartments (per unit inside TPA)	14 units	58	3	4	7	3	2	5
933	Restaurant Fast Food (per 1,000 s.f.)	1,992 sf	223	11	9	20	12	7	19
	Transit/Walk*	25%	(56)	(3)	(2)	(5)	(3)	(2)	(5)
	Pass By	50%	(84)	(3)	(3)	(6)	(5)	(3)	(8)
820	Retail (per 1,000 s.f.)	1,033 sf	39	1	0	1	2	2	4
	Transit/Walk	15%	(6)	(0)	(0)	(0)	(1)	(0)	(1)
	Street Traffic		403	17	33	50	31	21	52
	Driveway Traffic		487	20	36	56	36	24	60
	Existing								
710	Office (per 1,000 s.f.)	14,000 sf	136	14	2	16	3	13	16
	Transit/Walk	15%	(20)	-2	0	-2	0	-2	-2
	Existing Street Traffic		116	12	2	14	3	11	14
	Existing Driveway Traffic		116	12	2	14	3	11	14
	Net Street Traffic		287	5	31	36	28	10	38
	Net Driveway Traffic		371	8	34	42	33	13	46

Trip Assignment Source: DOT Case No. CEN16-44536 (222 W. 2nd St.)



PROJECT NET TRIP GENERATION

AM TRIPS		PM TRIPS	
IN	OUT	IN	OUT
8	34	33	13



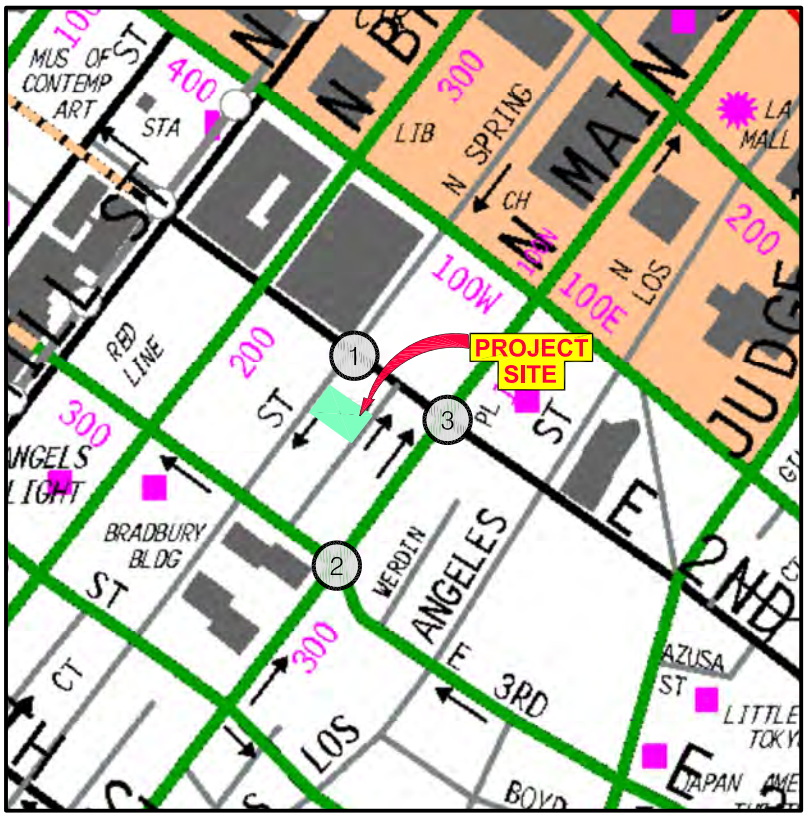


FIGURE 5

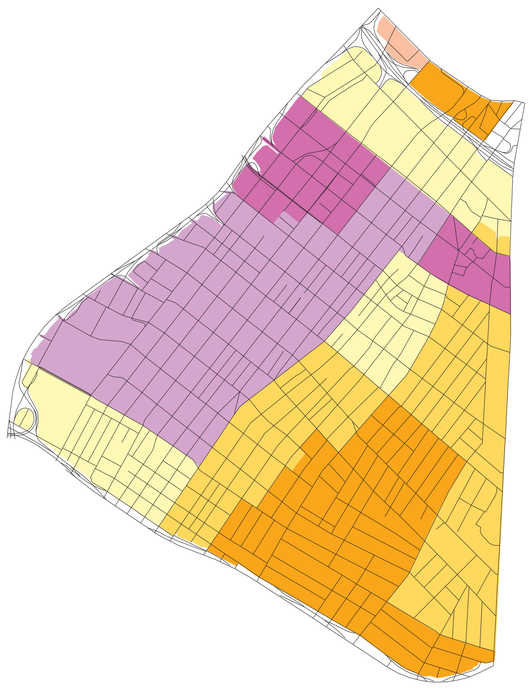
7/2021

PROJECT TRAFFIC ASSIGNMENT

Overland Traffic Consultants, Inc.
952 Manhattan Beach Bl, #100, Manhattan Beach, CA 90266
(310) 545 - 1235, OTC@overlandtraffic.com

APPENDIX B

Community Plan Land Use Map



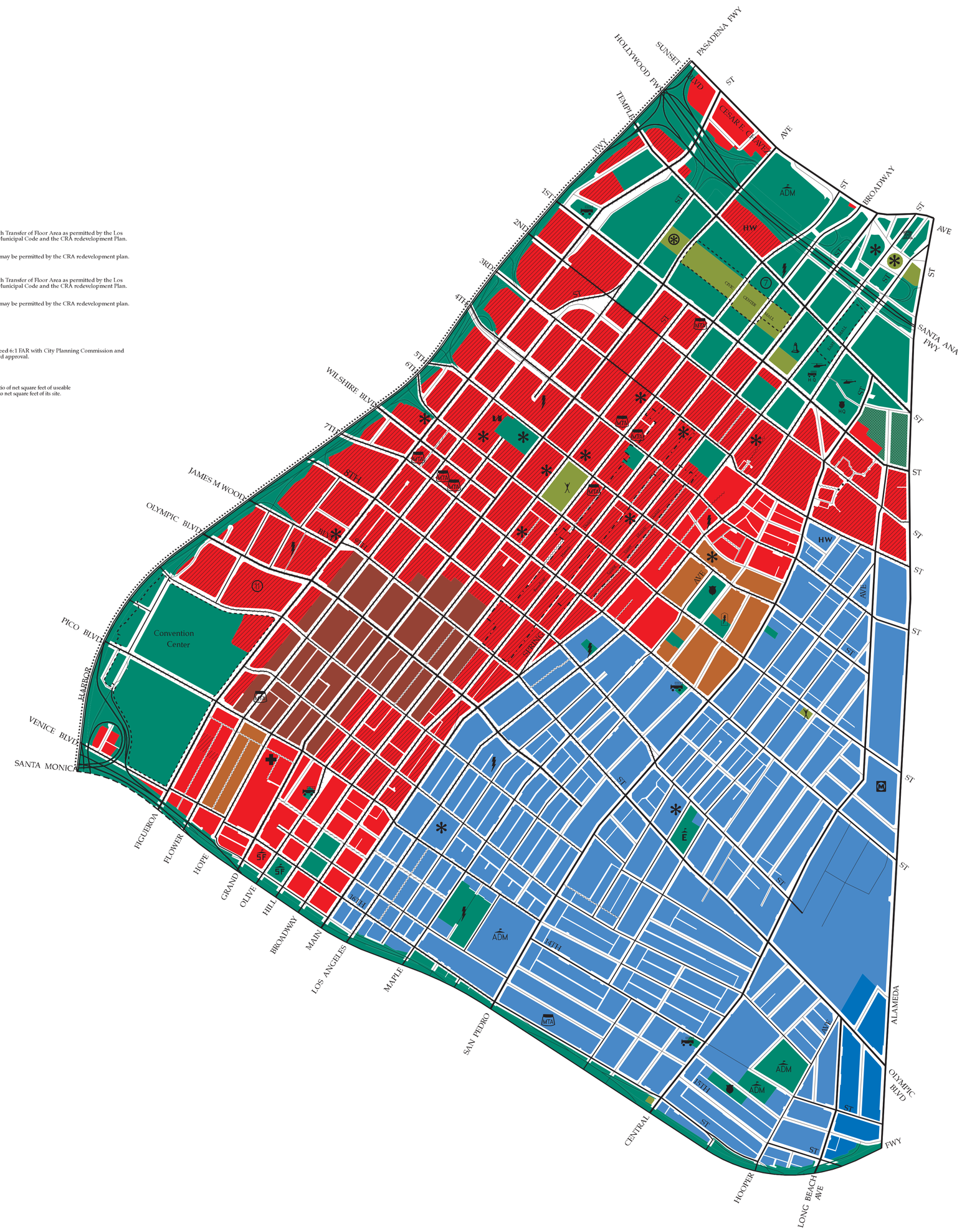
LEGEND:

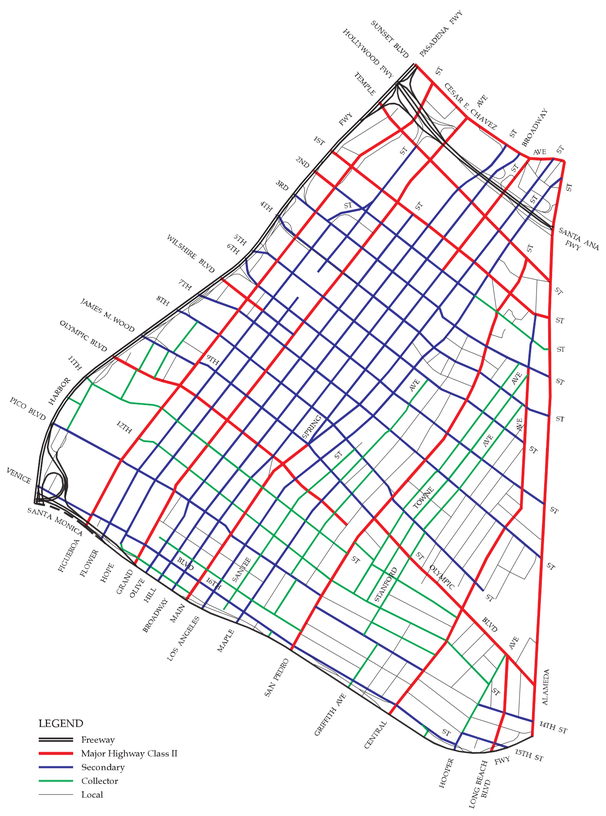
- 6:1 FAR except with Transfer of Floor Area as permitted by the Los Angeles Municipal Code and the CRA redevelopment Plan.
- 6:1 FAR except as may be permitted by the CRA redevelopment plan.
- 3:1 FAR except with Transfer of Floor Area as permitted by the Los Angeles Municipal Code and the CRA redevelopment Plan.
- 3:1 FAR except as may be permitted by the CRA redevelopment plan.
- 3:1 FAR
- 3:1 FAR not to exceed 6:1 FAR with City Planning Commission and CRA Board approval.

NOTE:
**Floor Area ratio is the ratio of net square feet of useable floor space in a building to net square feet of its site.

FLOOR AREA RATIO

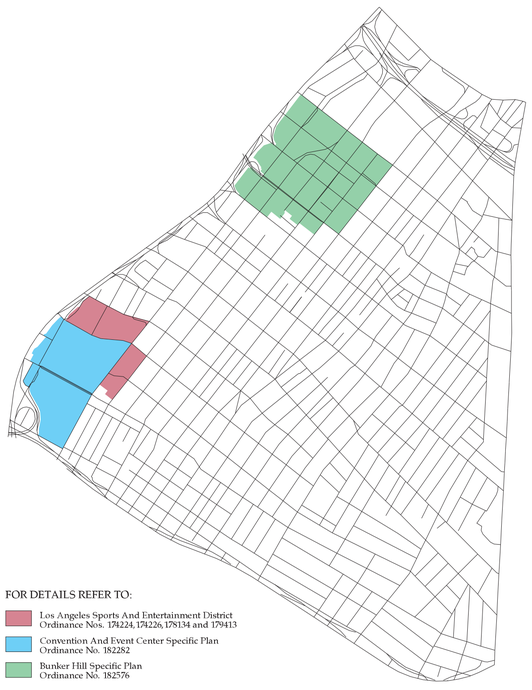
(*See individual FAR limitations, Ordinance No. 164307)





GENERALIZED CIRCULATION

(See Note "D")



FOR DETAILS REFER TO:

- Los Angeles Sports And Entertainment District Ordinance Nos. 174224,174226,178134 and 179413
- Convention And Event Center Specific Plan Ordinance No. 182282
- Bunker Hill Specific Plan Ordinance No. 182576

SPECIFIC PLAN AREA

LAND USE

RESIDENTIAL[10]	CORRESPONDING[13] ZONES
MULTIPLE FAMILY	
HIGH MEDIUM[2,4]	R4
HIGH[3]	R5
INDUSTRIAL	
LIGHT[2,4]	MR2,M2
HEAVY[2,4]	M3

	CORRESPONDING[13] ZONES
COMMERCIAL	
COMMUNITY[2,4]	CR,C2,C4, RAS3,RAS4
REGIONAL[3]	CR,C1.5,C2,C4,C5[12] R3,R4,R5,RAS3,RAS4
OPEN SPACE,PUBLIC/ QUASI-PUBLIC	
OPEN SPACE	OS,A1
PUBLIC FACILITIES[2,14,15]	PF
OTHER PUBLIC OPEN SPACE*	

Properties designated as Public/Quasi-Public on this map still need to be corrected in accordance with AB283 (General Plan/Zoning Consitency) requirements.

CIRCULATION

- Freeway[6]
- Scenic Freeway
- Major Highway II
- Modified Major Highway II
- Secondary Highway
- Modified Secondary Hwy
- Collector Street
- Modified Collector Street
- Local Street[6]
- Modified Local
- Pedestrian Walk
- Alley
- Modified Alley

SPECIAL BOUNDARY[7]

- Historical Preservation
- Site

ADMINISTRATIVE BOUNDARY

- Community Boundary

SERVICE SYSTEMS

SCHOOL SITES

- Public Elementary School
- Special School Facility
- School District Headquaters

RECREATIONAL SITES

- Neighborhood Park

OTHER FACILITIES

- Cultural and Historical Site
- Health Center
- City Hall
- Police Station
- Police Headquarters
- Heliport
- Fire Station
- Fire Headquarters
- Power Receiving Station
- Power Distribution Station
- Community Library
- House Of Worship
- Historical/Cultural Monument
- Performing Arts Center
- Metro Rail Station
- MTA Station

FOOTNOTES

1. Gross acreage includes streets.
2. Corresponds to Height District No. 2-D for commercial, industrial and public facilities zones; D Limitation to 3:1 FAR, except for transfer of floor area up to 6:1 FAR.
3. Corresponds to Height District 3-D and 4-D; D limitation to 6:1 FAR, except for transfer of floor area up to 10:1 or 13:1, respectively.
4. Corresponds to Height District No. 2.
5. Corresponds to Height District No. 4.
6. Local streets and freeways are shown for reference only.
7. Appropriate land uses in the Civic Center (the area generally bounded by the Hollywood Freeway, Alameda St., First St. and the Harbor Freeway) include the following:
   A. Government activities, on publicly owned land;
   B. Activities and uses related to the government complex, such as office space, retail stores, restaurants, clubs, hotels, etc., on privately owned land; and,
   C. Joint public-private uses, such as parking garages above or below retail stores.
8. Permitted floor area ratio for development projects in the absence of a transfer of floor area pursuant to Section 14.5.1 of the LAMC.
9. Maximum floor area ratio for development projects with a transfer of floor area pursuant to Section 14.5.1 of the LAMC.
10. The Plan contemplates that certain commercial uses may be allowed under Section 12.22-A.18 of the Los Angeles Municipal Code. The type and intensity of such commercial uses should be controlled by appropriate "Q" conditions or other means. Whenever possible, commercial uses should be located at street level, with residential uses on the upper levels.
11. FAR in the Los Angeles Sports and Entertainment District Specific Plan area may exceed 6:1 up to 13:1 pursuant to the provisions of the transfer of floor area provisions of the specific plan.
12. The C5 Zone shall be limited to the area generally bounded by Fifth Street, Spring Street, Ninth Street and Olive Street.
13. Each Plan category permits all indicated corresponding zones as well as those zones referenced in the Los Angeles Municipal Code (LAMC) as permitted by such zones unless further restricted by adopted Specific Plans, specific conditions and/or limitations of project approval, Plan footnotes or other Plan map or text notations.
    Zone established in the LAMC subsequent to the adoption of the Plan shall not be deemed as corresponding to any particular Plan category unless the Plan is amended to so indicate.
    It is the intent of the Plan that the entitlements granted shall be one of the zone designatios within the corresponding zones shown on the Plan, unless accompanied by a concurrent Plan Plan Amendment.
14. The Public Facility (PF) planning land use designation is premised on the ownership and use of the property by a government agency. The designation of the PF Zone as a corresponding zone is based on the same premise. The Plan also intends that when a board or governing body of a government agency officially determines that a property zone PF is surplus, and no other public agency has indicated an intent to acquire, and the City is notified that the agency intends to offer the property for sale to a private purchaser, then the property may be rezoned to the zone(s) most consistent within 500 feet of the property boundary and still be considered consistent with the adopted Plan.
15. The Convention and Event Center Specific Plan Zone (CEC) shall be a corresponding zone with respect to the Public Facilities land use designation and, notwithstanding the above footnotes, the FAR, height, and other development standards within the Convention and Event Center Specific Plan area zoned CEC shall be those set forth in the Convention and Event Center Specific Plan.

* Bikeways are shown on the Citywide Bikeways System maps contained in the City's 2010 Bicycle Plan, a component of the Transportation Element of the General Plan, which was adopted by the City Council on March 1, 2011.

Notes :
A. The text of the Community Plan can be accessed on the City Of Los Angeles' Web Page (http://www.planning.lacity.org).
B. Other Special Area Maps may not be included on this document.
C. Parcel level information (plan designation and zoning) can be found on the City Of Los Angeles' ZIMAS Map Automation Web Site.
D. Generalized Circulation is for reference only. For detailed information, see the "Street and Highway Designation" maps prepared and maintained by Public Works/Bureau of Engineering.

Disclaimer : The City Of Los Angeles is neither responsible nor liable for any inaccuracies,errors or omissions with respect to the material contained on this map. This map and all materials contained on it are distributed and transmitted "as is" without warranties of any kind, either express or implied, including without limitation,warranties of title or implied warranties of merchantability or fitness for a particular purpose. The City Of Los Angeles is not responsible for any special, indirect, incidental, or consequential damages that may arise from the use of, or the inability to use,the map and\or the materials contained on the map whether the materials contained on the map are provided by the City Of Los Angeles, or a third party.

GENERAL PLAN LAND USE MAP (as of July 07 2009)

CENTRAL CITY COMMUNITY PLAN

A PART OF THE GENERAL PLAN OF THE CITY OF LOS ANGELES

City Of Los Angeles - City Planning Department - Systems And GIS Division Michael LoGrande - Director

NORTH

0 700 1400
FEET

PLOT DATE : 06/11/15

DATA SOURCES:
LANDUSE (gp map) path1 : CCYgdbGENPLAN(from MNT.GENPLAN@PLY@68ggisdb.sde)
LANDUSE (gp map) path2 : NA ' '
LANDUSE (gp map) path3 : NA ' '
CL cpln cover : h:\dgarcia\bs\covs\CCY\CCYGDBcl
MISC cpln cover : h:\chernand\gislwrk\dbupdate\CCY
MAPS cpln cover : x:\cpln\gpdata\CCY
BSANNO cpln cover : h:\dgarcia\bs\covs\CCY
BSICONS cpln cover : h:\chernand\gislwrk\dbupdate\CCY
LUmask cover : h:\chernand\gislwrk\dbupdate\CCY

APPENDIX C

Street Standards, Circulation & High Injury Network Map

CENTRAL CITY

CIRCULATION

LEGEND

- Boulevard II
- Boulevard II Modified
- Avenue I
- Avenue I Modified
- Avenue II
- Avenue II Modified
- Avenue III
- Avenue III Modified
- Collector
- Collector Modified
- Local
- Local Modified
- Pedestrian Walk / Stairway
- Private Street
- Alley
- Community Plan Area Boundary

Date: 2/1/2017

DEPARTMENT OF CITY PLANNING
INFORMATION TECHNOLOGIES DIVISION

Disclaimer:
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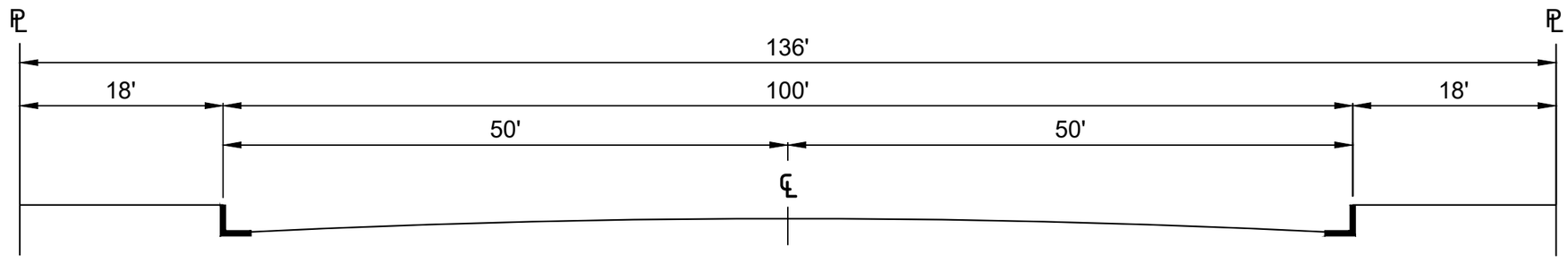
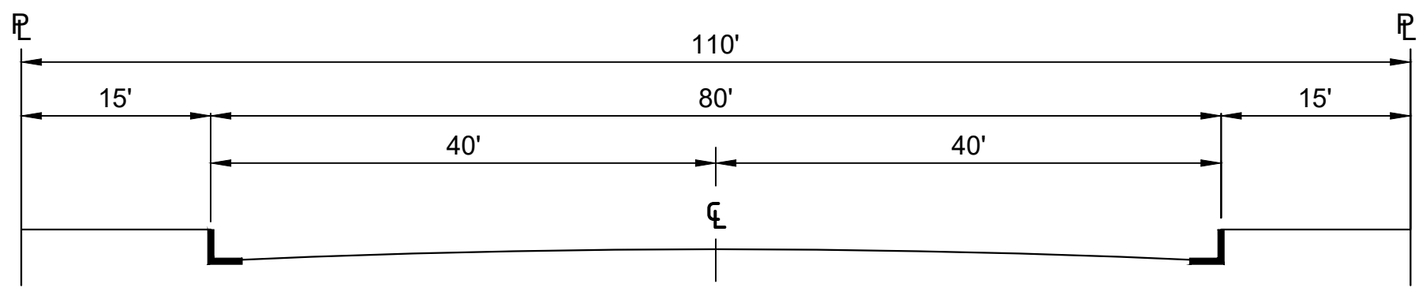
N
W E
S

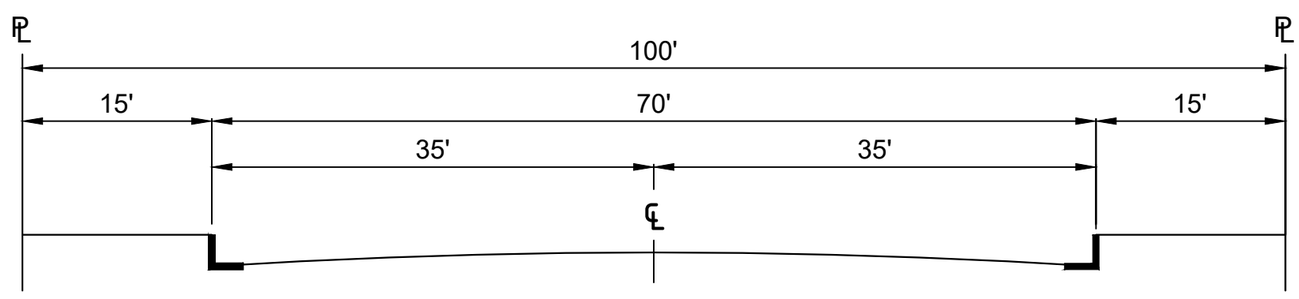
ARTERIAL STREETS



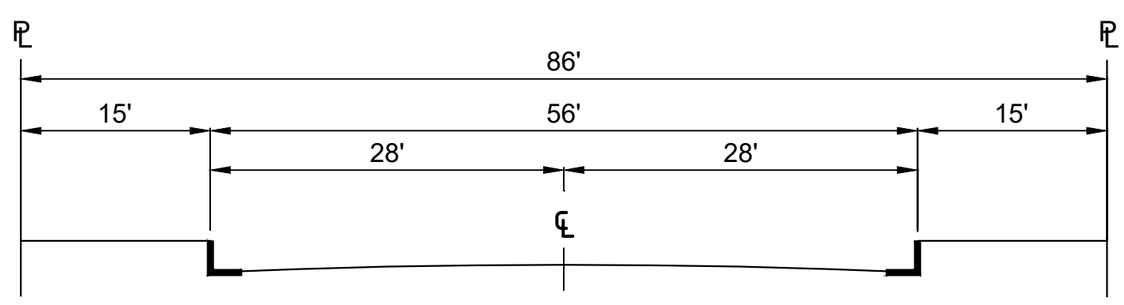
BOULEVARD I (MAJOR HIGHWAY CLASS I)



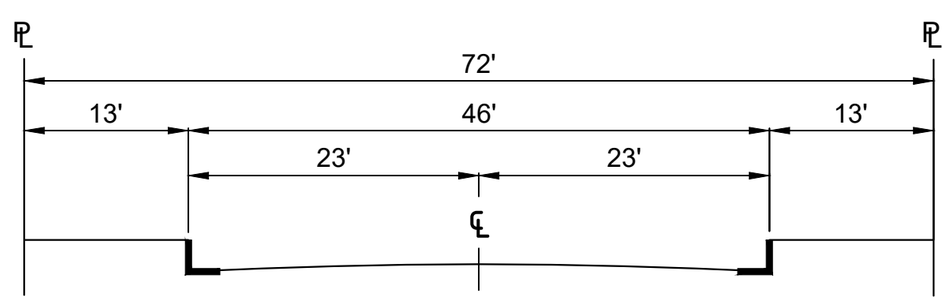
BOULEVARD II (MAJOR HIGHWAY CLASS II)



AVENUE I (SECONDARY HIGHWAY)



AVENUE II (SECONDARY HIGHWAY)



AVENUE III (SECONDARY HIGHWAY)

THIS STANDARD PLAN BECOMES EFFECTIVE CONCURRENT WITH THE ADOPTION OF THE MOBILITY PLAN 2035.

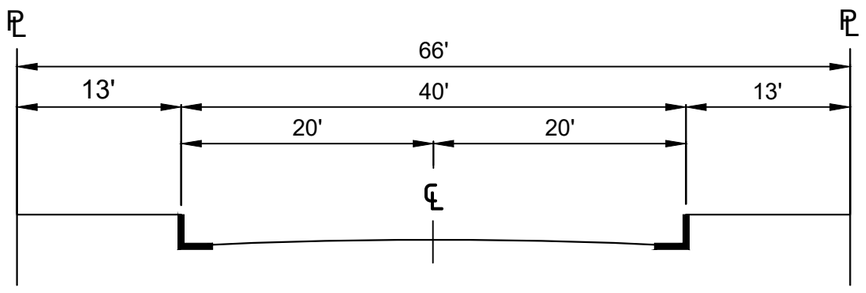
BUREAU OF ENGINEERING | DEPARTMENT OF PUBLIC WORKS | CITY OF LOS ANGELES

--- DRAFT --- STANDARD STREET DIMENSIONS

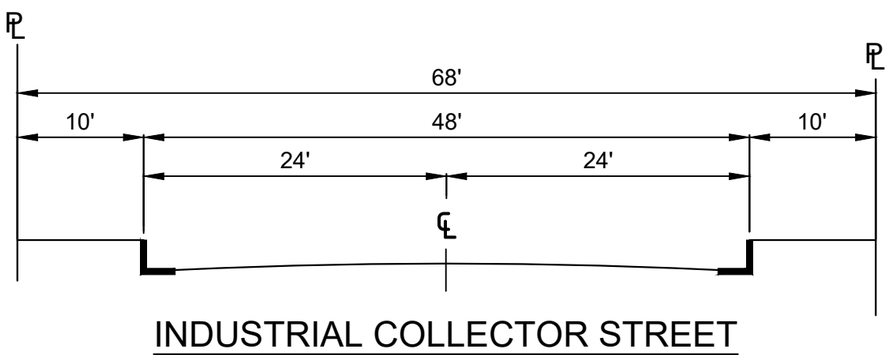
STANDARD PLAN
S-470-1

PREPARED	SUBMITTED	APPROVED		SUPERSEDES	REFERENCES
HAMID MADANI, P.E. BUREAU OF ENGINEERING	SAMARA ALI-AHMAD, P.E. DATE ENGINEER OF DESIGN BUREAU OF ENGINEERING	GARY LEE MOORE, P.E., ENV. SP. DATE CITY ENGINEER	REGISTERED PROFESSIONAL ENGINEER GARY LEE MOORE No. C-49446 Exp. CIVIL STATE OF CALIFORNIA	D-22549 S-470-0	
CHECKED RAFFI MASSABKI, P.E. BUREAU OF ENGINEERING	KENNETH REDD, P.E. DATE DEPUTY CITY ENGINEER	DEPARTMENT OF TRANSPORTATION DATE GENERAL MANAGER DIRECTOR OF PLANNING DATE		VAULT INDEX NUMBER:	
				SHEET 1 OF 4 SHEETS	

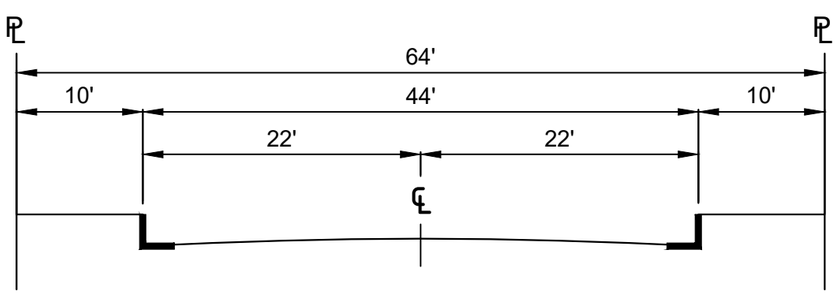
NON-ARTERIAL STREETS



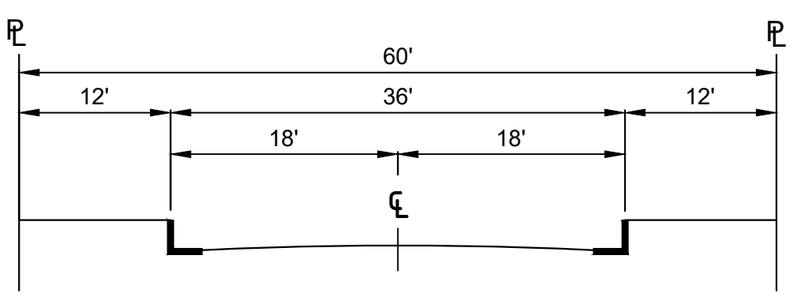
COLLECTOR STREET



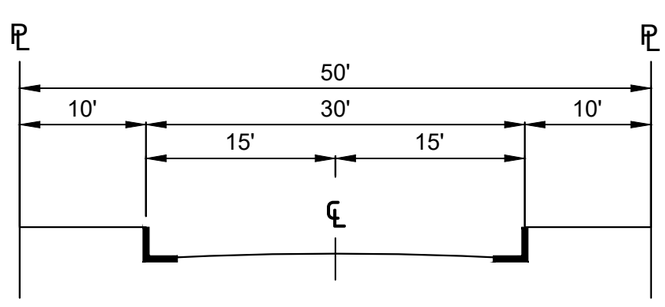
INDUSTRIAL COLLECTOR STREET



INDUSTRIAL LOCAL STREET

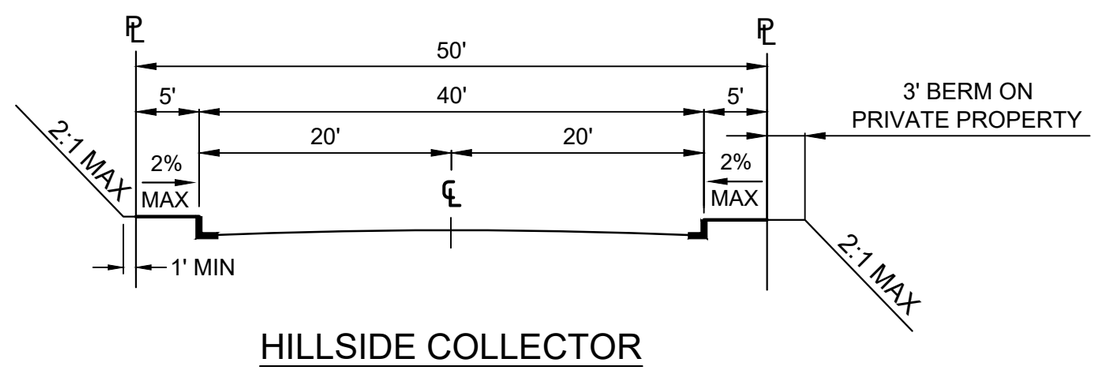


LOCAL STREET - STANDARD

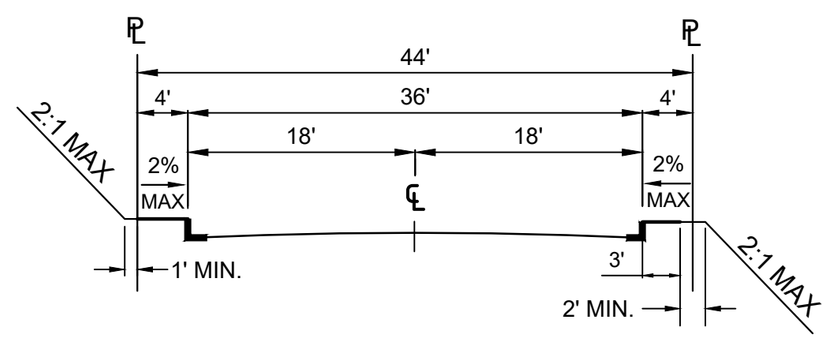


LOCAL STREET - LIMITED

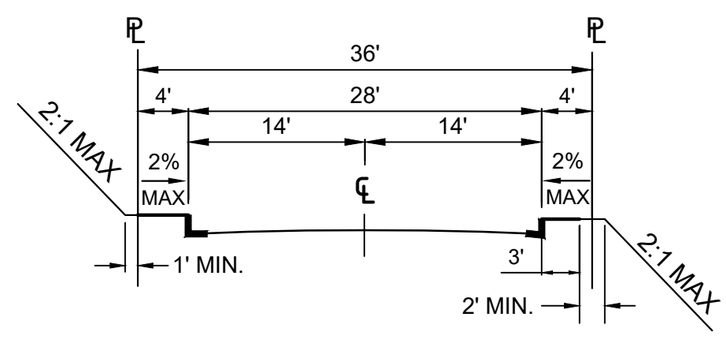
HILLSIDE STREETS



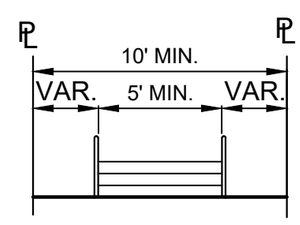
HILLSIDE COLLECTOR



HILLSIDE LOCAL



HILLSIDE LIMITED STANDARD

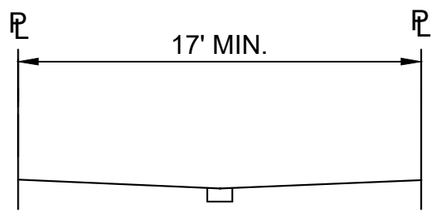


PUBLIC STAIRWAY

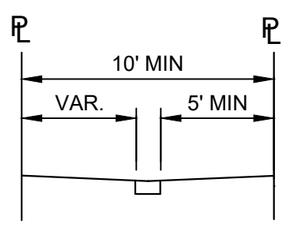
CONSTRUCTED IN ACCORDANCE WITH
BUREAU OF ENGINEERING STANDARD PLANS

STANDARD PLAN NO. S-470-1	VAULT INDEX NUMBER B-	SHEET 2 OF 4 SHEETS

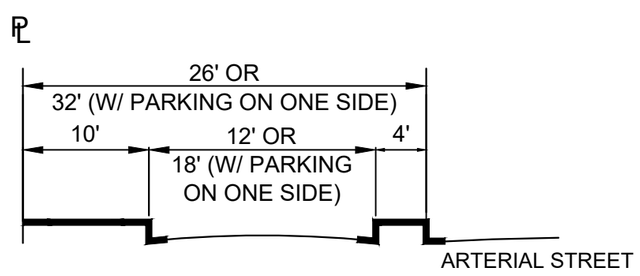
OTHER PUBLIC RIGHTS-OF-WAY



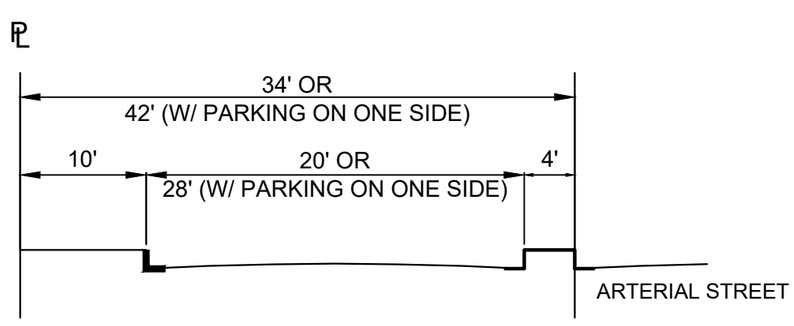
SHARED STREET



PEDESTRIAN WALKWAY

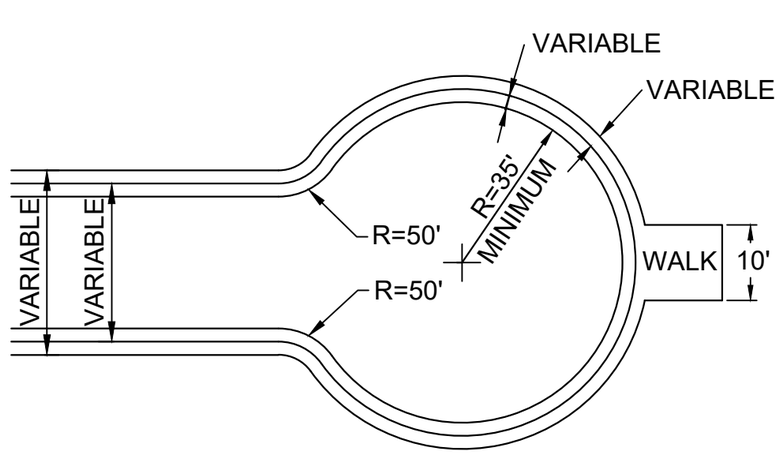


ONE-WAY SERVICE ROAD



BI-DIRECTIONAL SERVICE ROAD

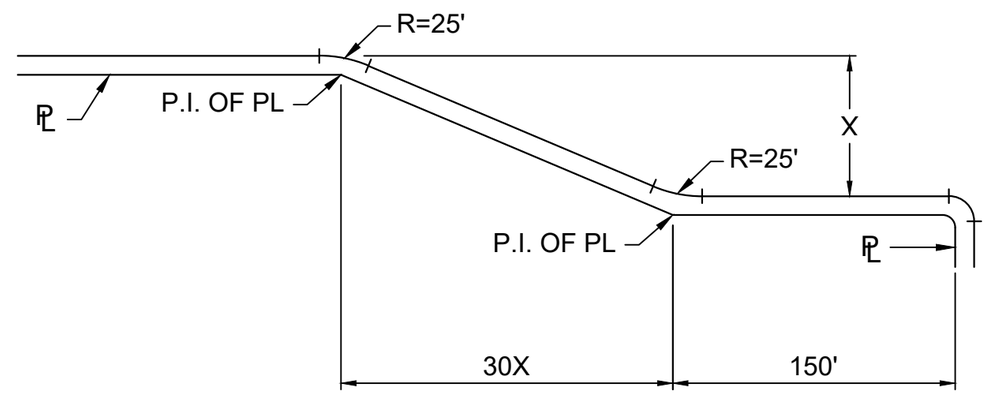
CUL-DE-SAC



MAY BE UNSYMMETRICAL
(PLAN VIEW)

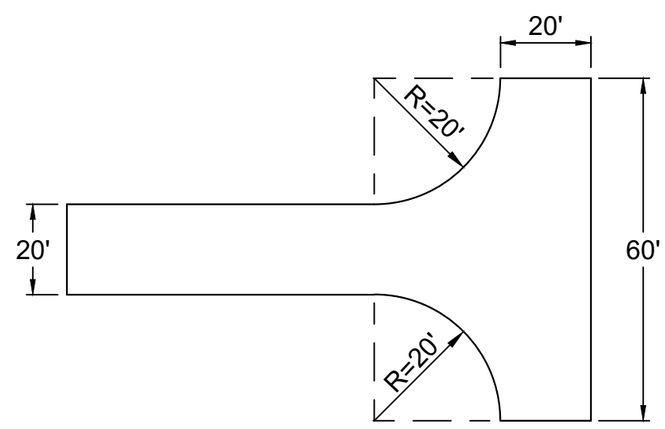
NOTE: FOR FIRE TRUCK CLEARANCE, NO OBSTRUCTION TALLER THAN 6" SHALL BE PERMITTED WITHIN 3FT. OF THE CURB. ON-STREET PARKING SHALL BE PROHIBITED.

TRANSITIONAL EXTENSIONS

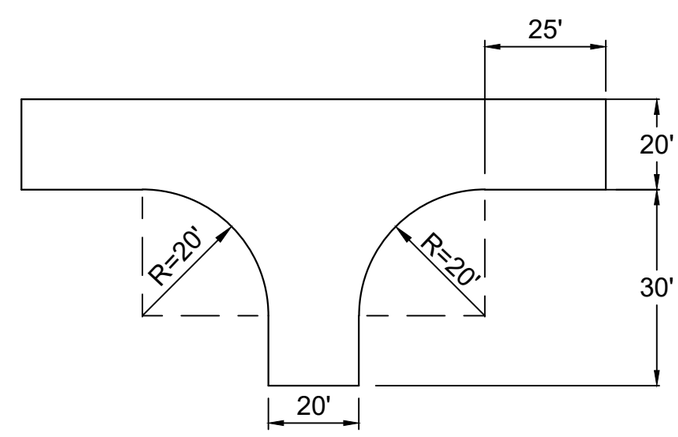


STANDARD FLARE SECTION
(PLAN VIEW)

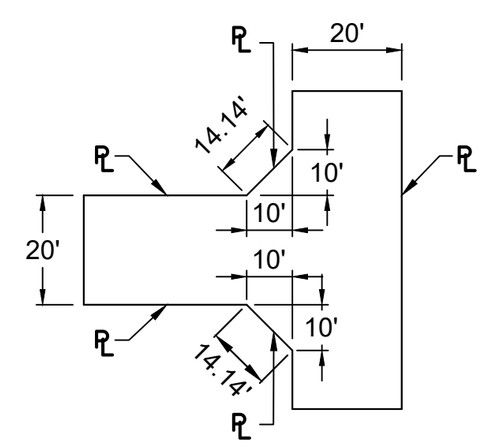
ALLEYS



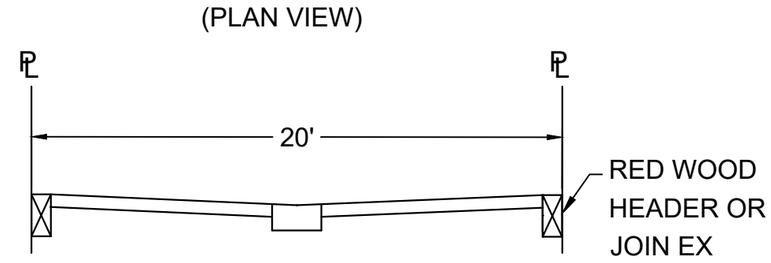
STANDARD TURNING AREA
(PLAN VIEW)



MINIMUM TURNING AREA
(PLAN VIEW)



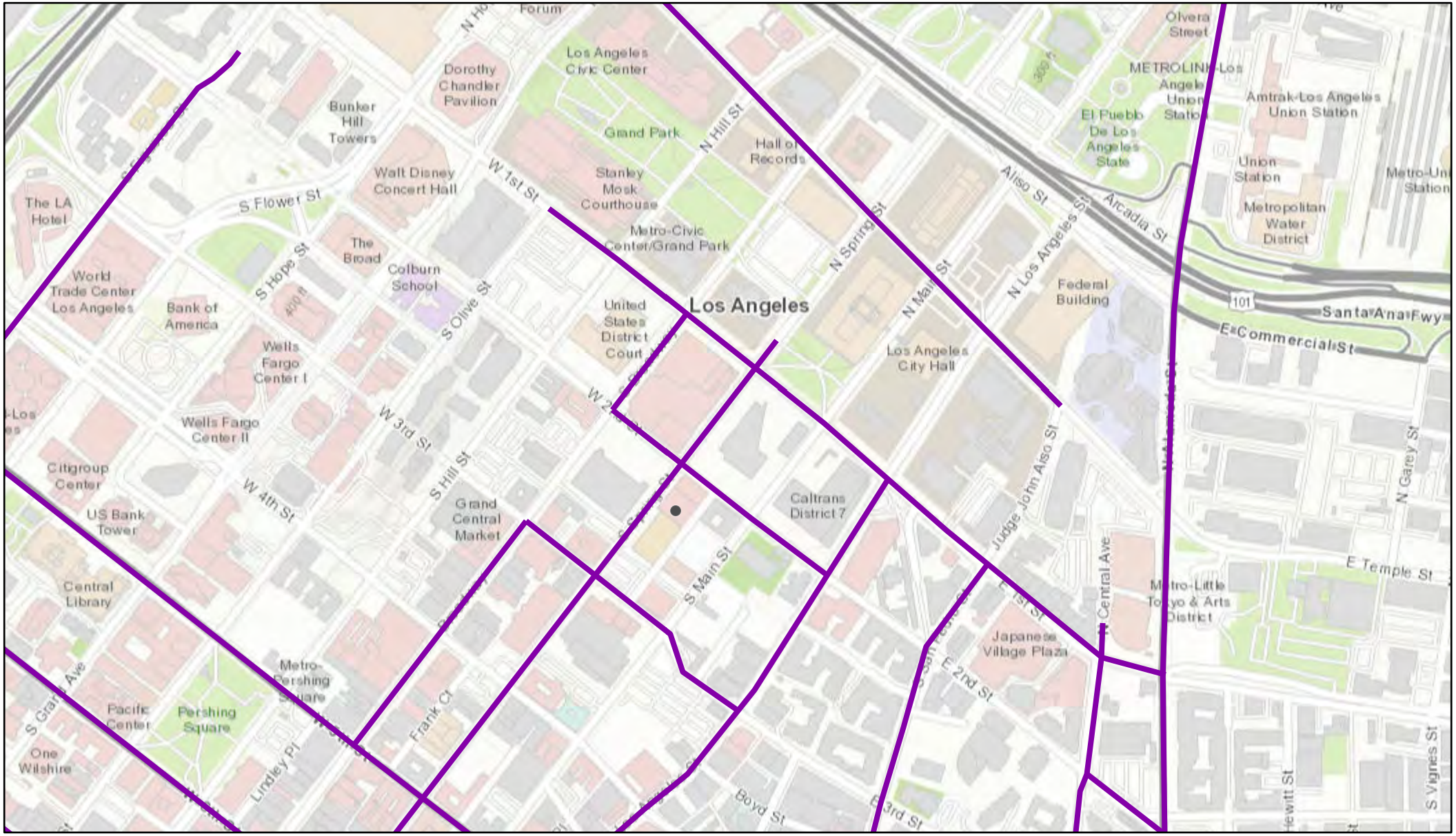
STANDARD CUT CORNERS
FOR 90° INTERSECTION
(PLAN VIEW)



STANDARD CROSS-SECTION
(PLAN VIEW)

STANDARD PLAN NO. S-470-1	VAULT INDEX NUMBER B-	SHEET 3 OF 4 SHEETS

HIGH INJURY NETWORK



7/16/2021, 8:17:52 AM

High Injury Network

1:9,028

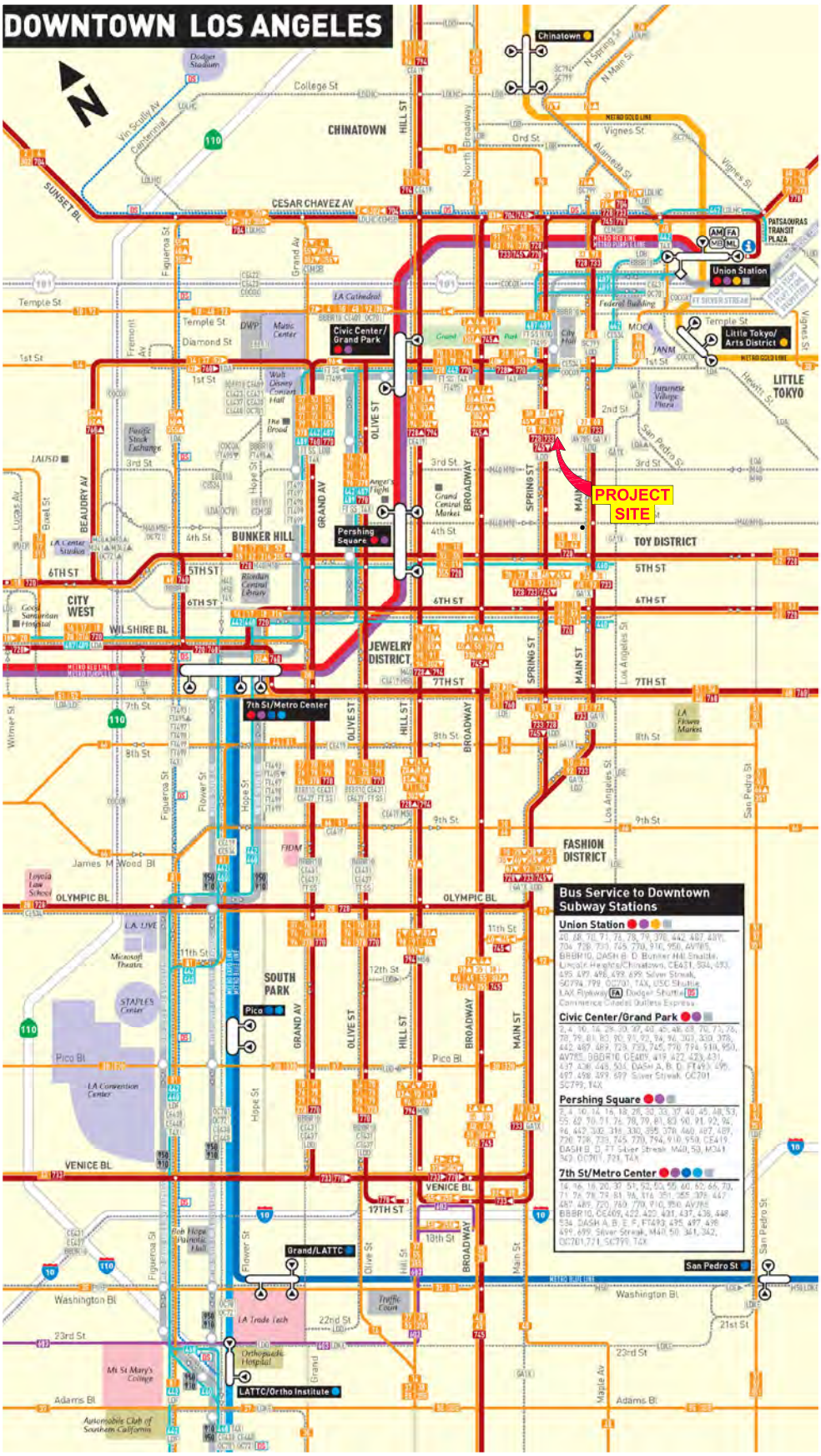
0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA

APPENDIX D

Transit System Map



9/2021

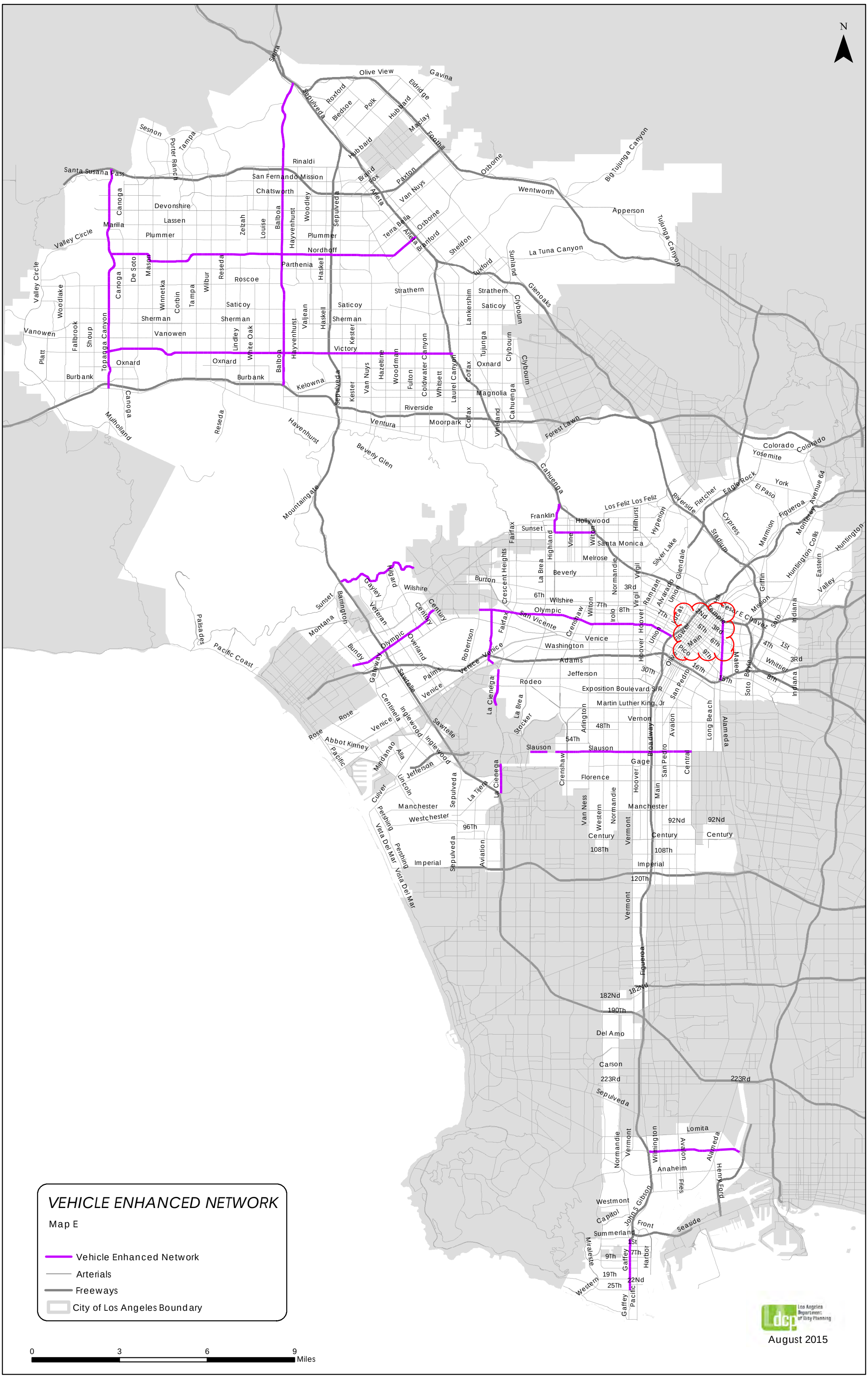
DOWNTOWN LOS ANGELES
TRANSIT MAP

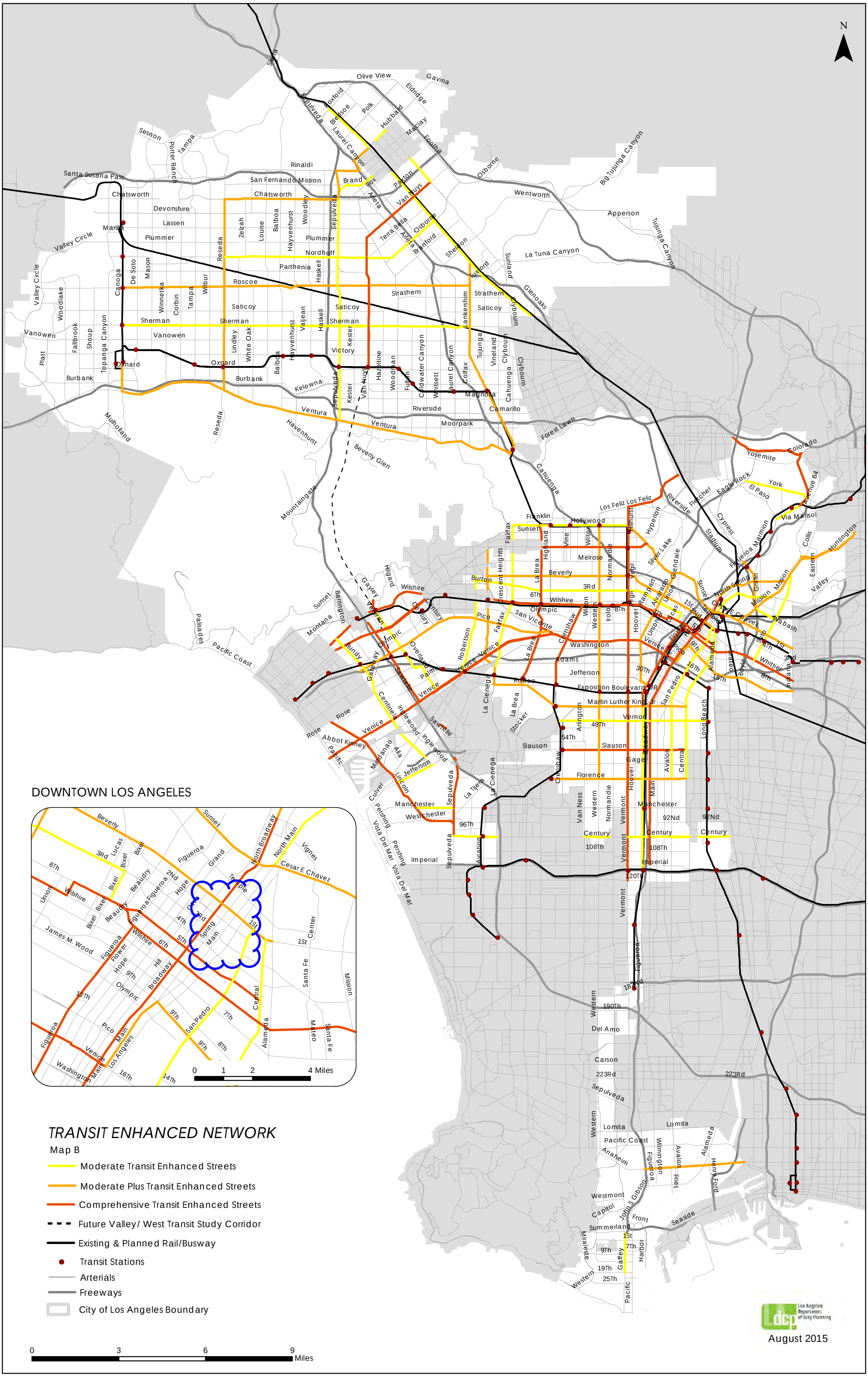
Overland Traffic Consultants, Inc.
24325 Main Street #202, Santa Clarita, CA 91321
(661) 799-8423 OTC@overlandtraffic.com

216 S SPRING STREET

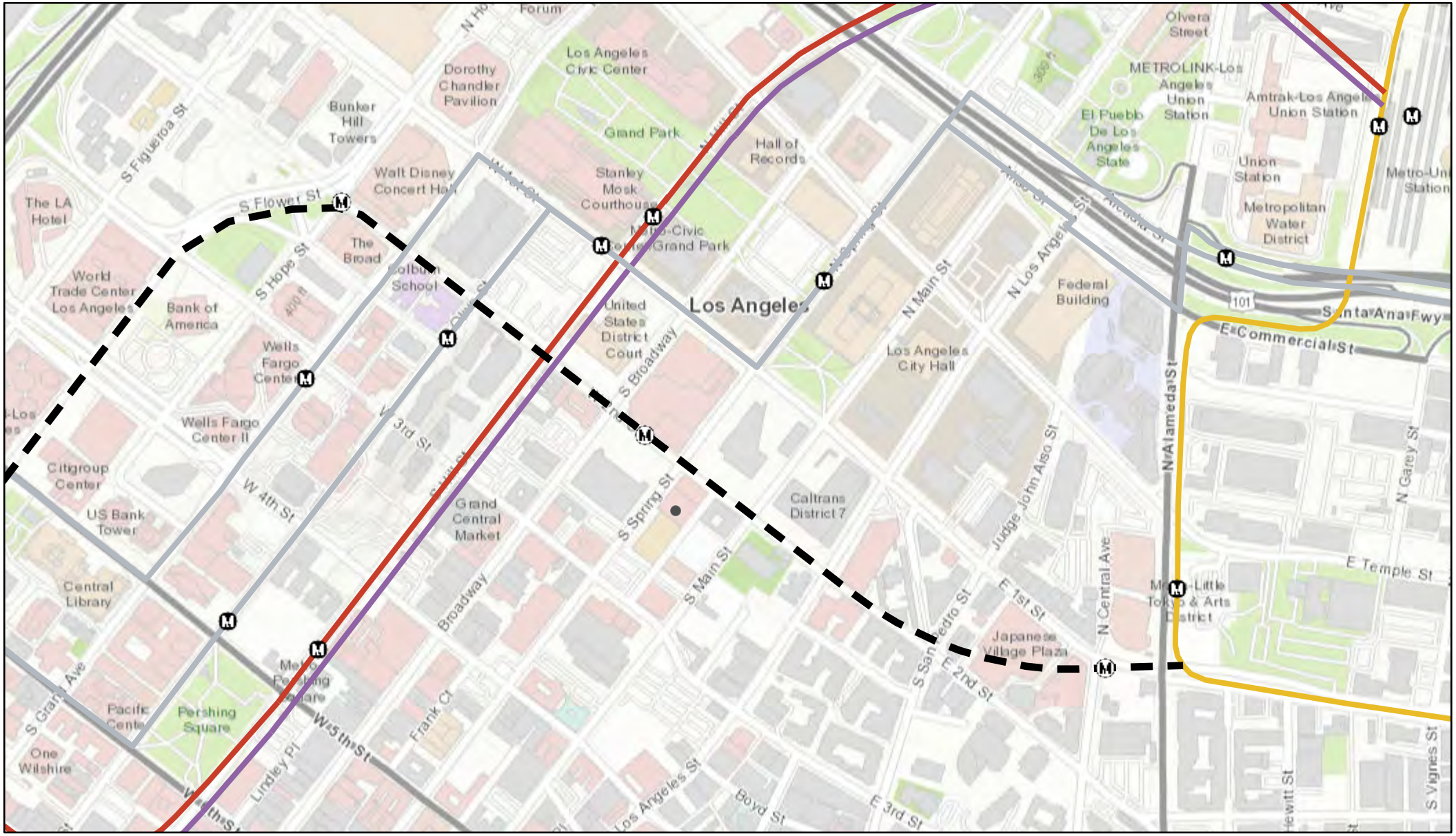
APPENDIX E

Mobility Network Maps


N
VEHICLE ENHANCED NETWORK
Map E
Vehicle Enhanced Network
Arterials
Freeways
City of Los Angeles Boundary
0
3
6
9
Miles
Los Angeles Department of City Planning
August 2015


N
DOWNTOWN LOS ANGELES
TRANSIT ENHANCED NETWORK
Map B
Moderate Transit Enhanced Streets
Moderate Plus Transit Enhanced Streets
Comprehensive Transit Enhanced Streets
Future Valley/ West Transit Study Corridor
Existing & Planned Rail/Busway
Transit Stations
Arterials
Freeways
City of Los Angeles Boundary
0 3 6 9 Miles
0 1 2 4 Miles
August 2015

METRO STATIONS AND LINES



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1:9,028

0 0.05 0.1 0.2 mi

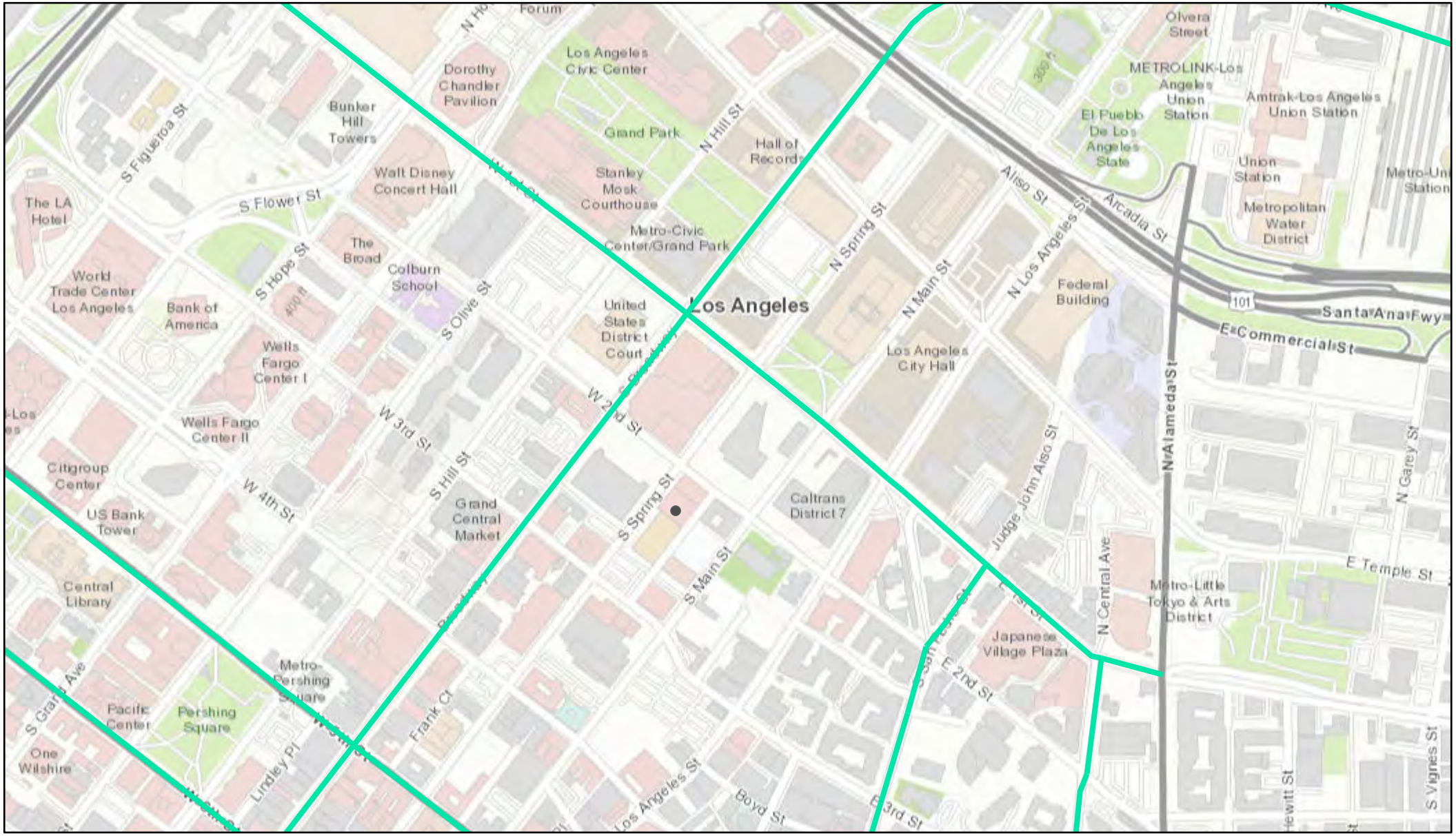
0 0.1 0.2 0.4 km

County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA

Metro Stations	Metro Lines	
Existing	Red Line	Gold Line
Proposed	Purple Line	Silver Line
		Regional Connector (Planned)

Los Angeles Department of City Planning

TRANSIT ENHANCED NETWORK (TEN)



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Transit Enhanced Network (TEN)

1:9,028

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA

TRANSIT PRIORITY AREA (TPA)

7/16/2021, 8:09:43 AM

Transit Priority Area (TPA)

- Heavy Rail
- Light Rail
- Right of Way - Bus Rapid Transit
- Major Bus Routes

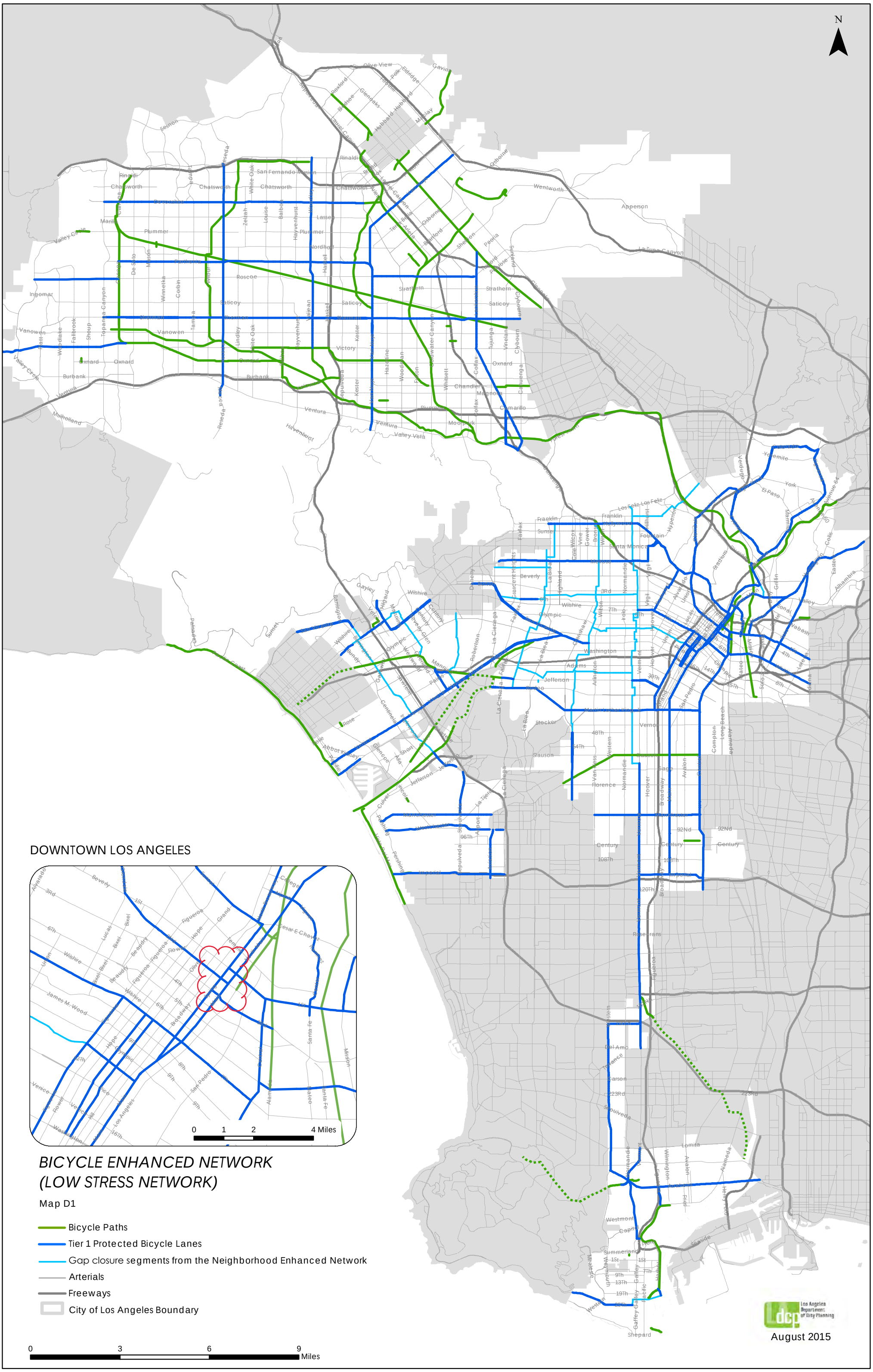
1:9,028

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA

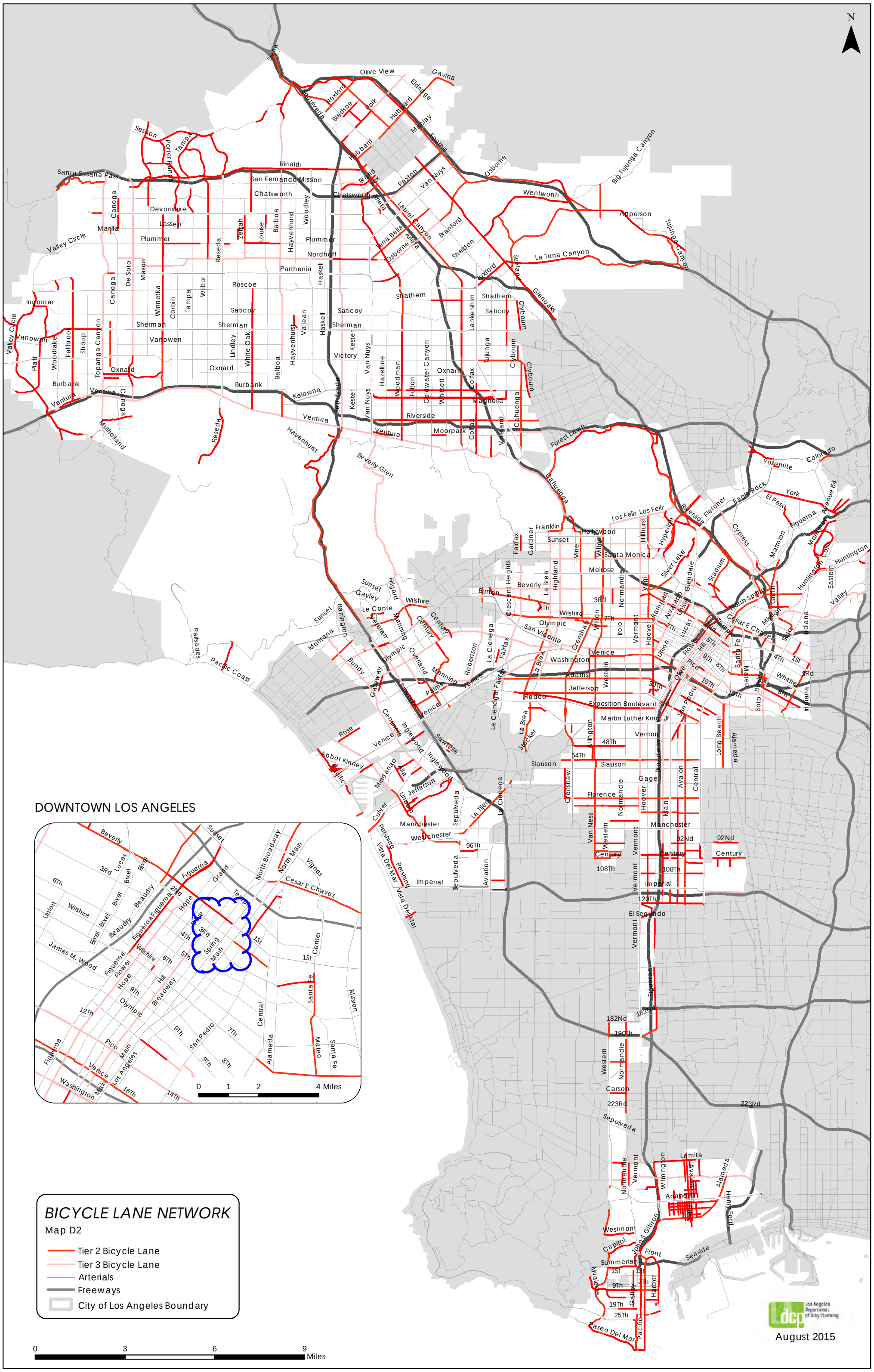
Los Angeles Department of City Planning



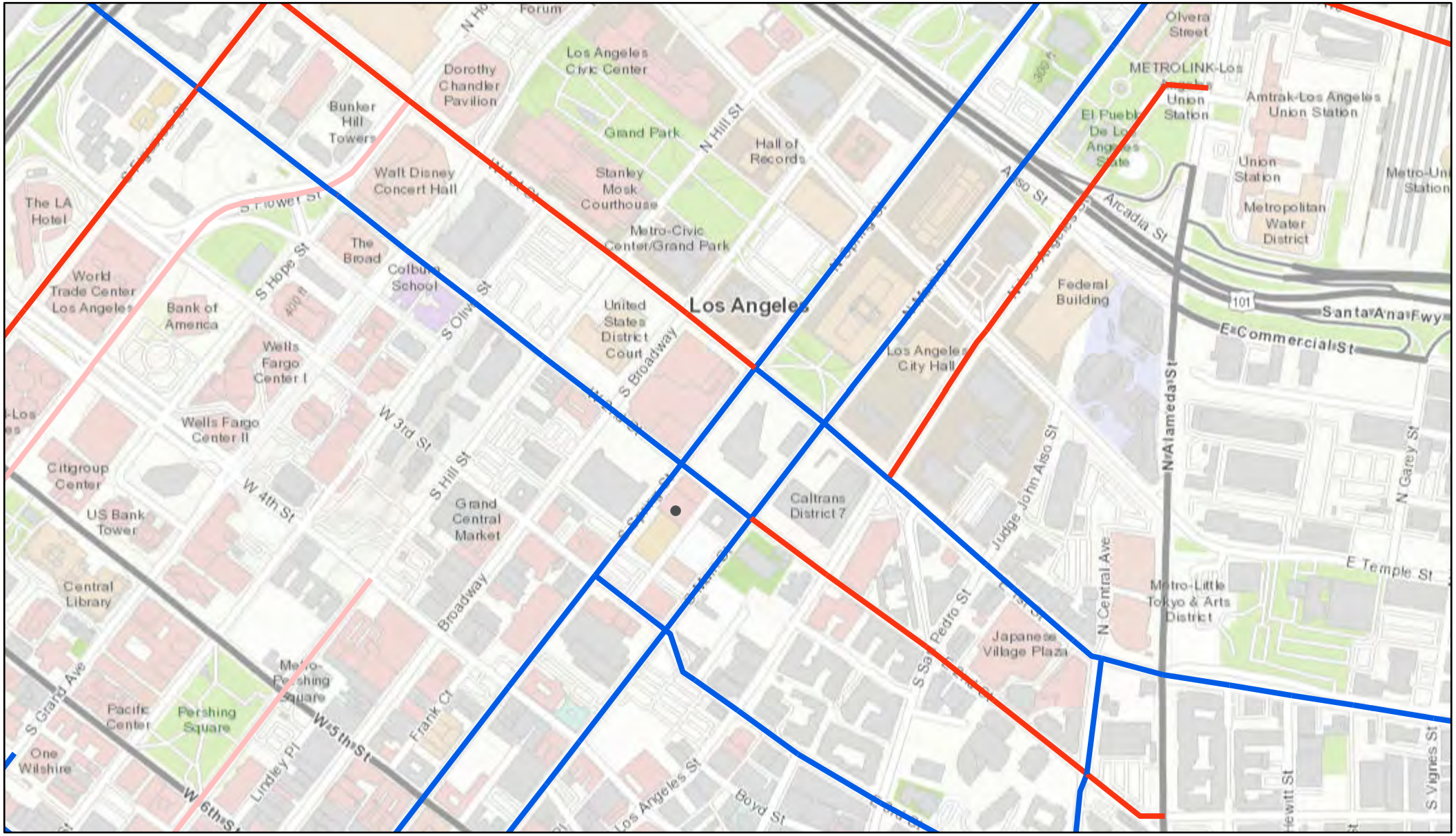
BICYCLE ENHANCED NETWORK
(LOW STRESS NETWORK)

Map D1

- Bicycle Paths
- Tier 1 Protected Bicycle Lanes
- Gap closure segments from the Neighborhood Enhanced Network
- Arterials
- Freeways
- City of Los Angeles Boundary


N
DOWNTOWN LOS ANGELES
BICYCLE LANE NETWORK
Map D2
Tier 2 Bicycle Lane
Tier 3 Bicycle Lane
Arterials
Freeways
City of Los Angeles Boundary
0 3 6 9 Miles
0 1 2 4 Miles
Los Angeles Department of City Planning
August 2015

BICYCLE ENHANCED NETWORK (BEN)



7/16/2021, 8:11:21 AM

Bicycle Network

Tier 2 (BLN)

Tier 3 (BLN)

Tier 1 (BEN)

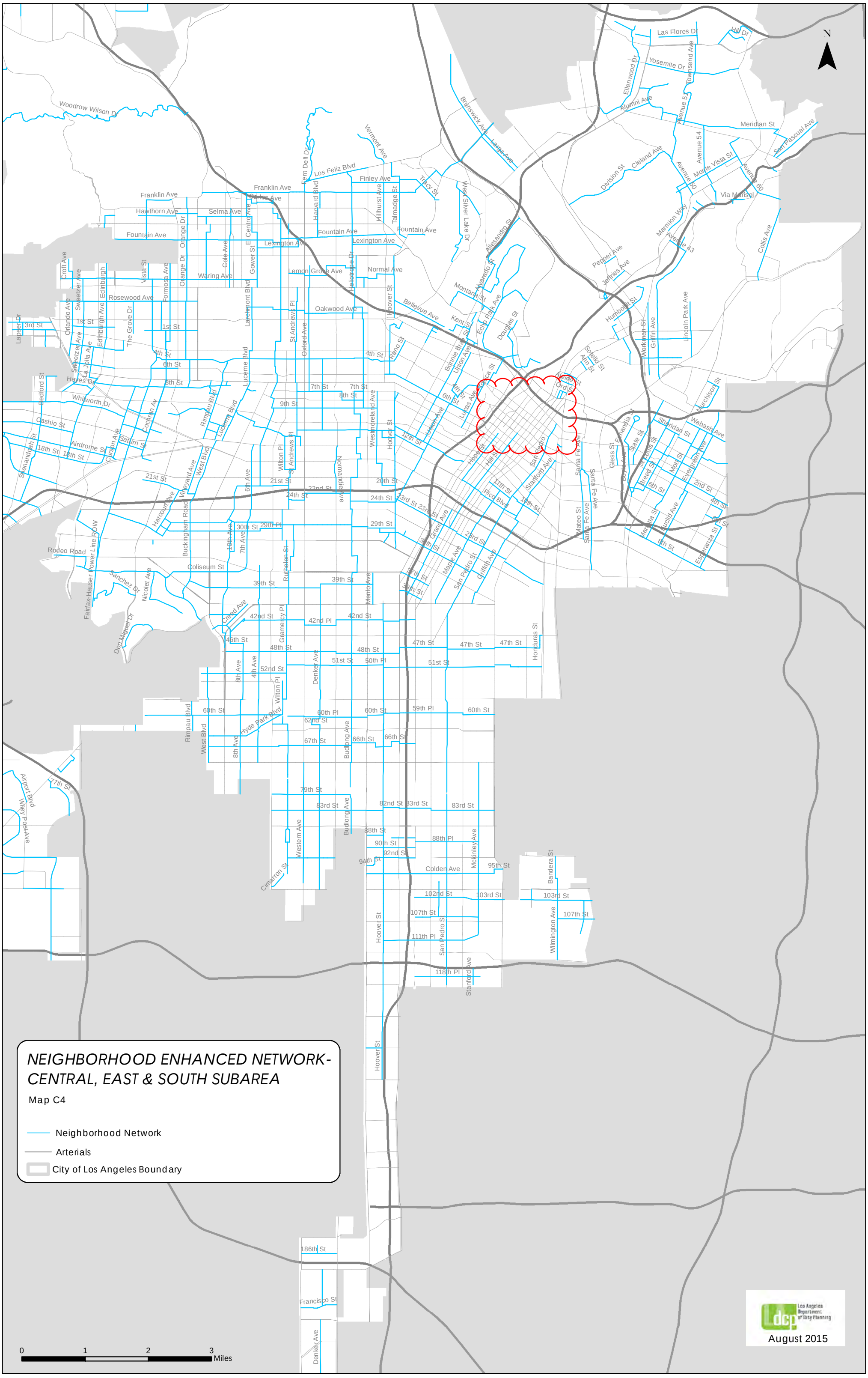
1:9,028

0 0.05 0.1 0.2 mi

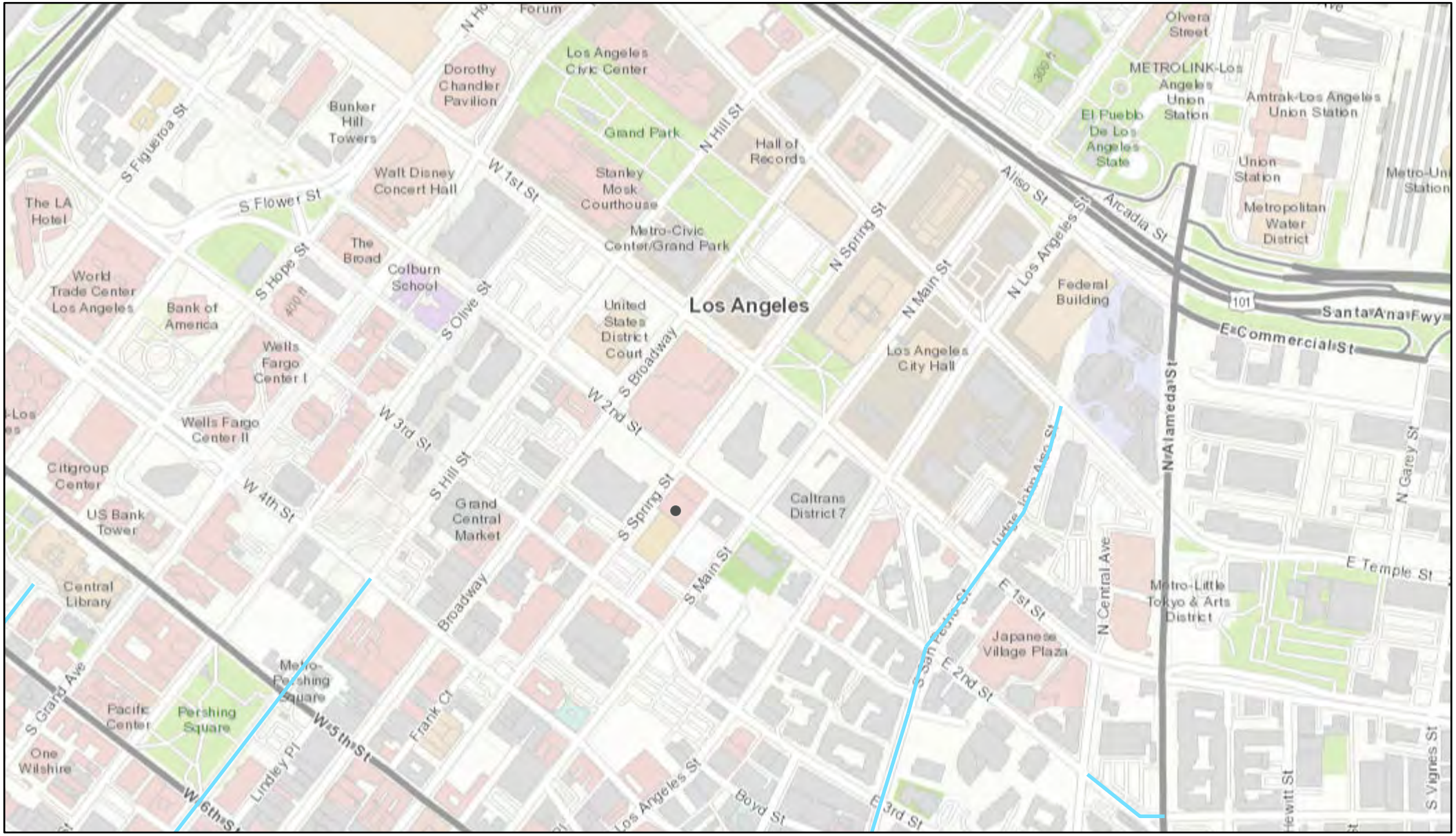
0 0.1 0.2 0.4 km

County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA

Los Angeles Department of City Planning


NEIGHBORHOOD ENHANCED NETWORK-
CENTRAL, EAST & SOUTH SUBAREA
Map C4
Neighborhood Network
Arterials
City of Los Angeles Boundary
0
1
2
3
Miles
N
August 2015

NEIGHBORHOOD ENHANCED NETWORK (NEN)



7/16/2021, 8:15:33 AM

Neighborhood Network (NEN)

Tier 2 NEN

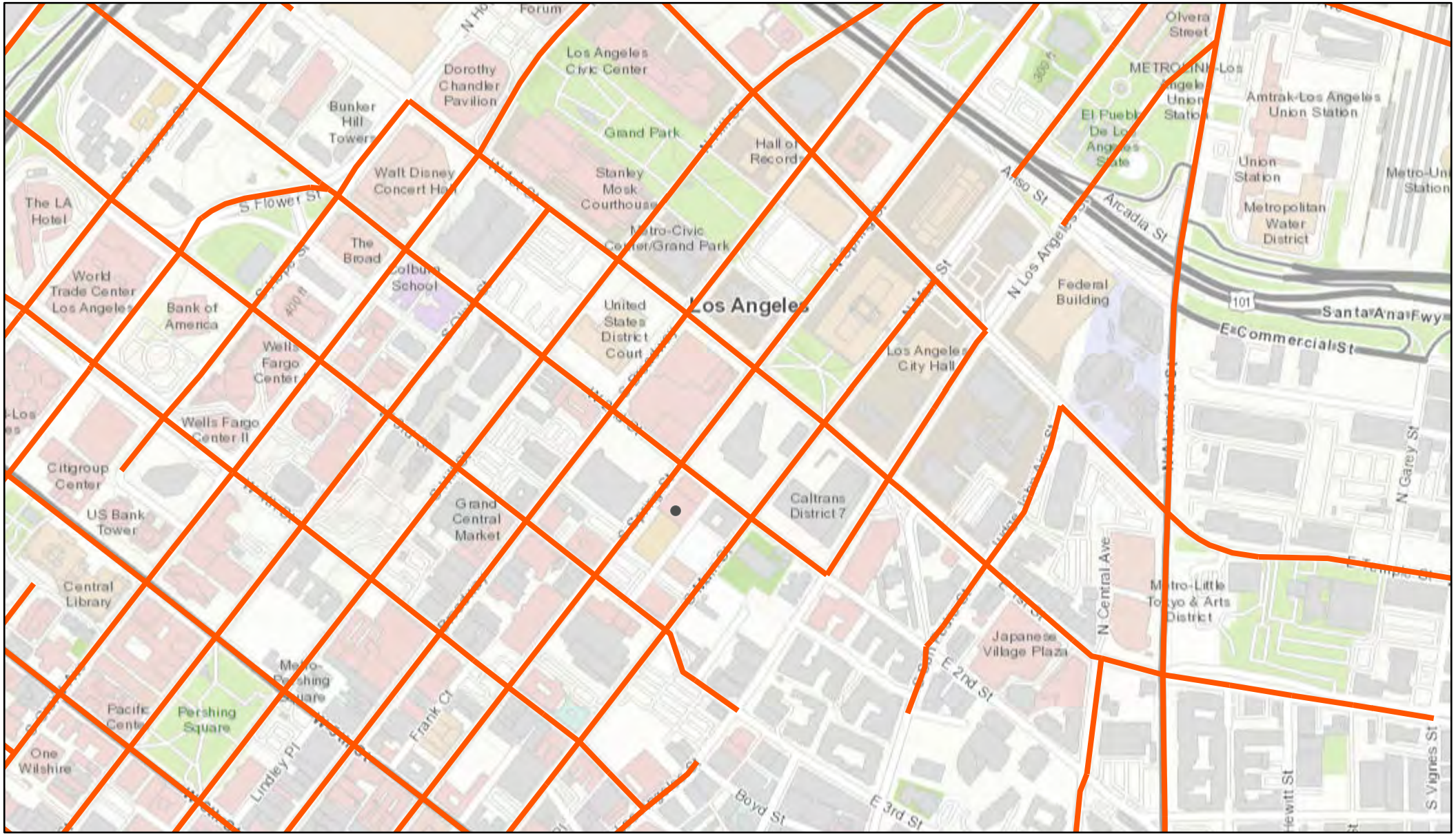
1:9,028

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA

PEDESTRIAN ENHANCED DISTIRCT (PEDs)



7/16/2021, 8:17:08 AM

Pedestrian Enhanced Districts (PEDs)

1:9,028

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA

Los Angeles Department of City Planning

WALKABILITY INDEX

7/16/2021, 8:19:12 AM

Walkability Index

Low Walkability

Medium Walkability

High Walkability

1:9,028

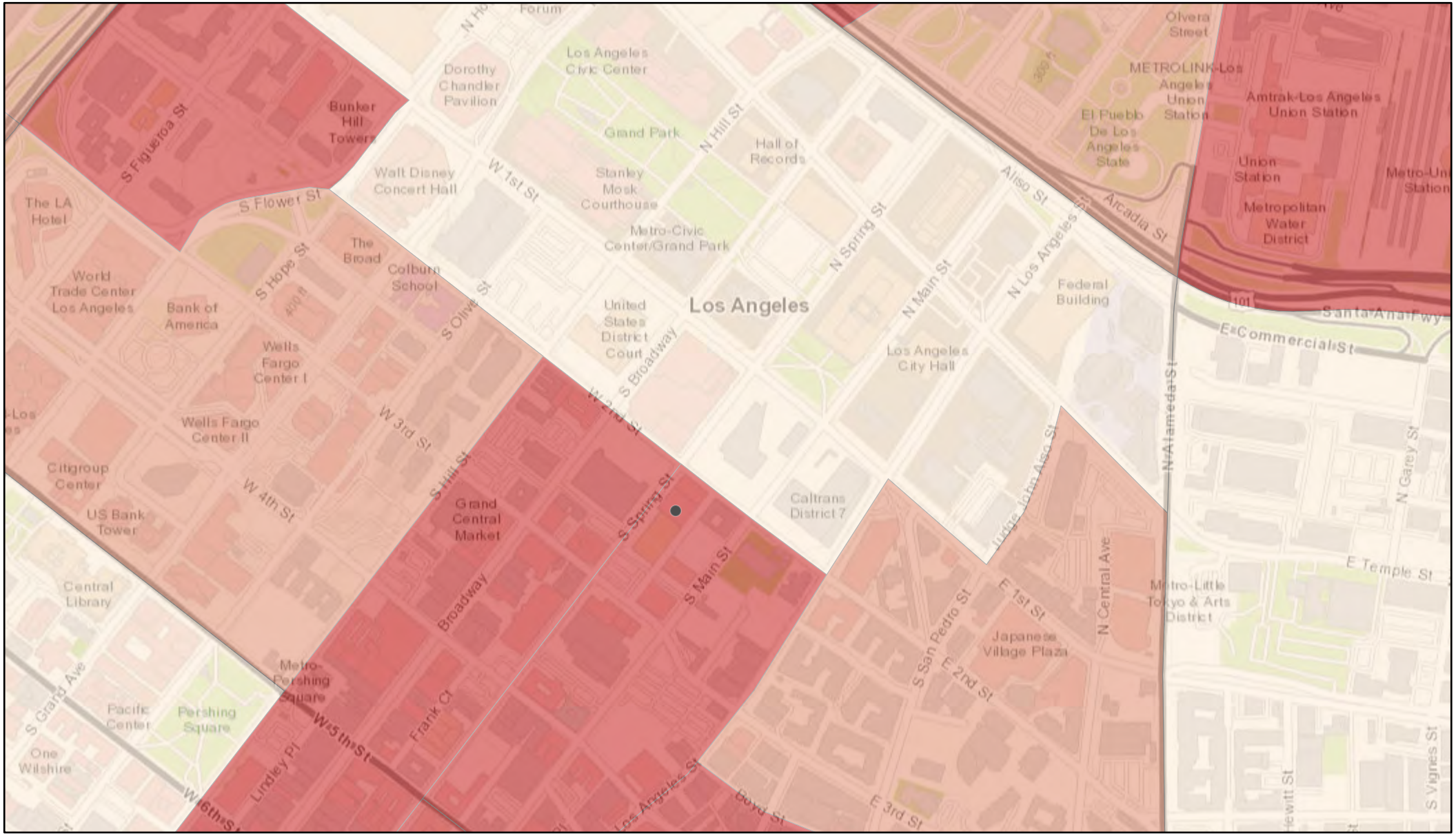
0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA

Los Angeles Department of City Planning

POPULATION DENSITY



7/16/2021, 8:20:02 AM

Population Density

Low Density

Medium Density

High Density

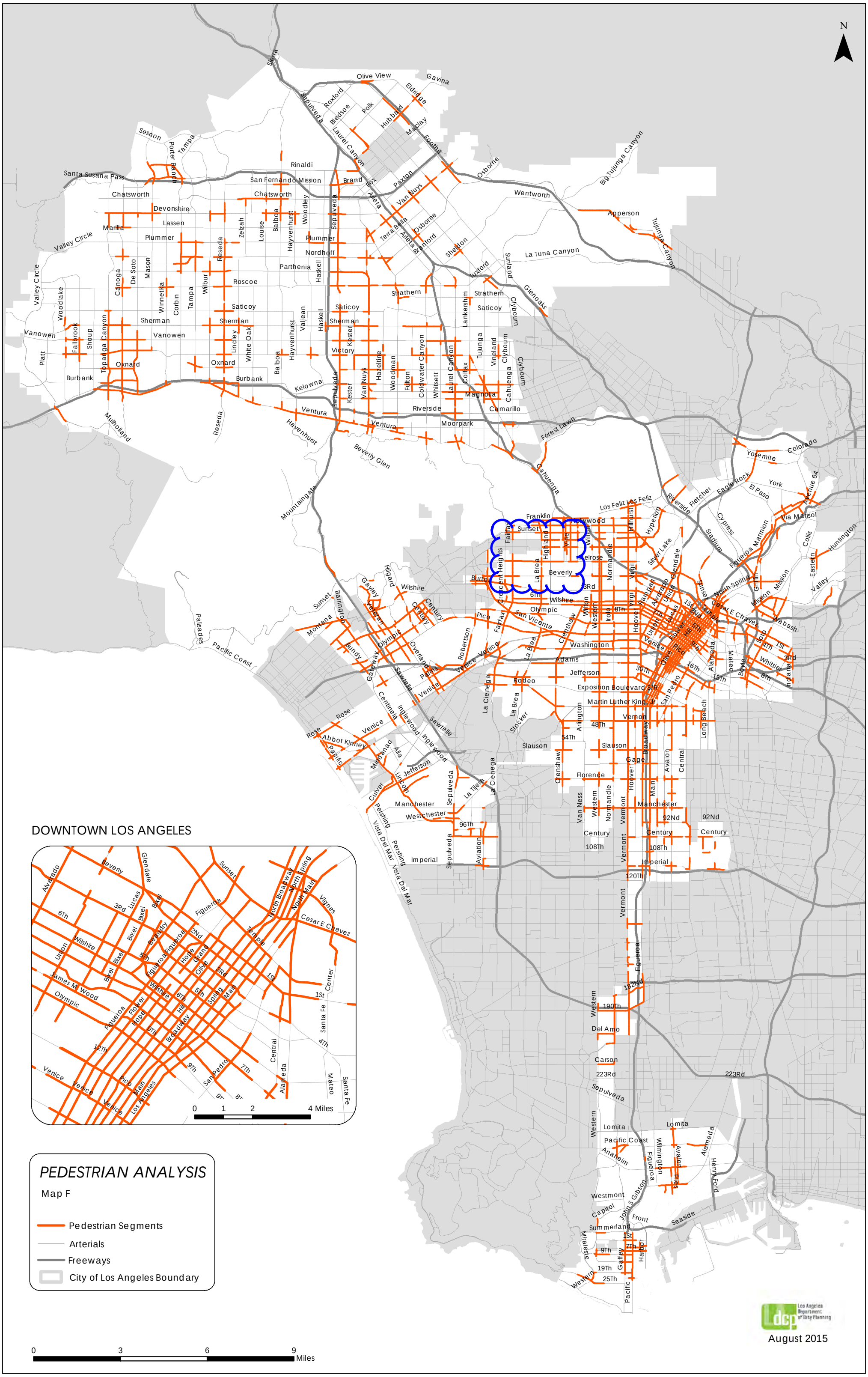
1:9,028

0 0.05 0.1 0.2 mi

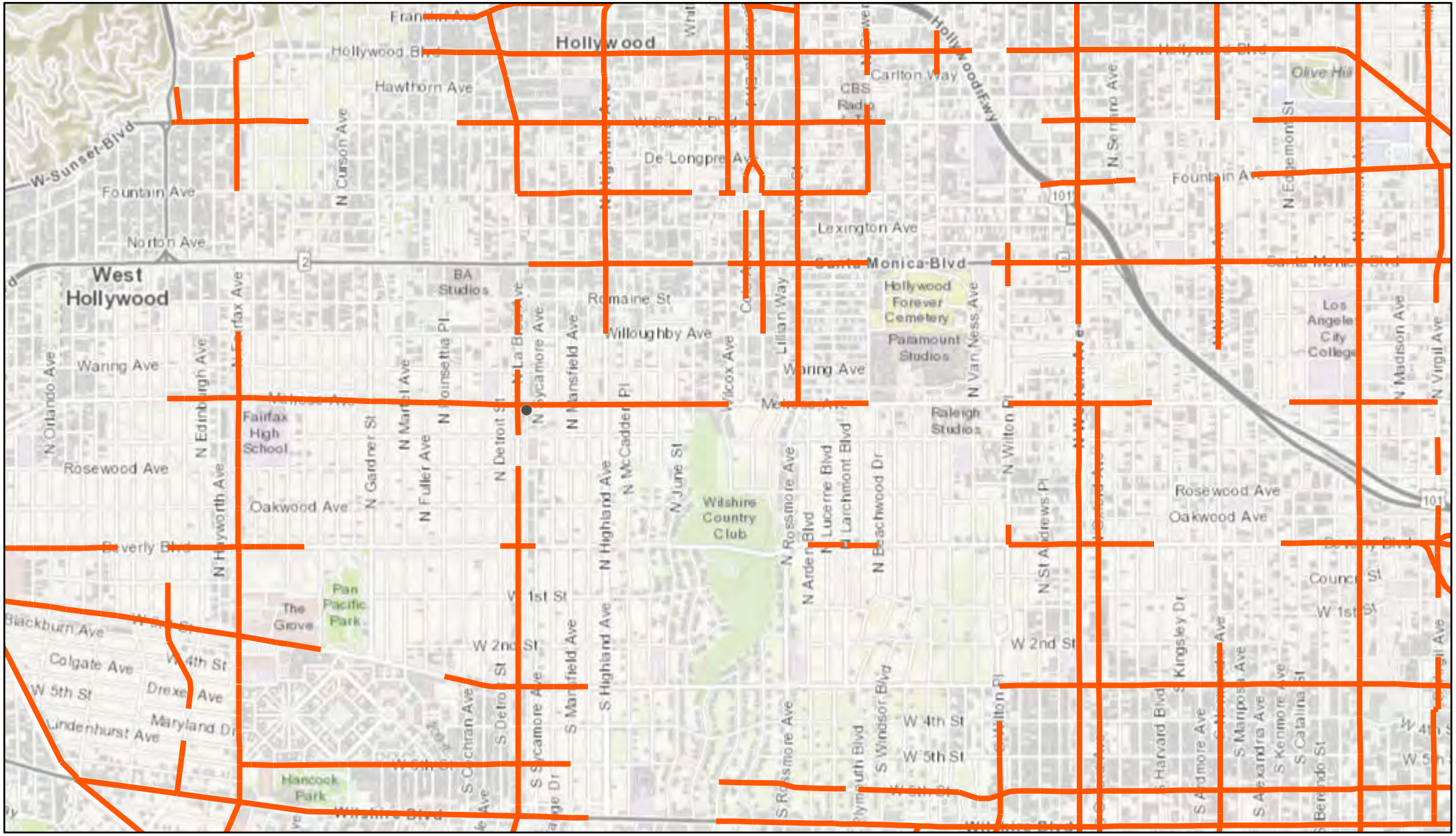
0 0.1 0.2 0.4 km

County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA

Los Angeles Department of City Planning


N
DOWNTOWN LOS ANGELES
0 1 2 4 Miles
PEDESTRIAN ANALYSIS
Map F
Pedestrian Segments
Arterials
Freeways
City of Los Angeles Boundary
0 3 6 9 Miles
Los Angeles Department of City Planning
August 2015

PEDESTRIAN ENHANCED DISTRICT (PEDs))



7/27/2021, 12:11:15 PM

Pedestrian Enhanced Districts (PEDs)

1:36,112

0 0.25 0.5 1 mi

0 0.4 0.8 1.6 km

County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA

Los Angeles Department of City Planning

Overland Traffic Consultants, Inc.

APPENDIX F

VMT Report

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project: 216 Spring

Scenario: MOU

Address: 216 S SPRING ST, 90012

Is the project replacing an existing number of residential units with a smaller number of residential units AND is located within one-half mile of a fixed-rail or fixed-guideway transit

○ Yes ○ No

Existing Land Use

Land Use Type	Value	Unit
Office | General Office	14	ksf
Office | General Office	14	ksf

☐ Click here to add a single custom land use type (will be included in the above list)

Proposed Project Land Use

Land Use Type	Value	Unit
Retail | High-Turnover Sit-Down Restaurant	1.992	ksf
Housing | Multi-Family	106	DU
Retail | General Retail	1.033	ksf
Retail | High-Turnover Sit-Down Restaurant	1.992	ksf
Housing | Affordable Housing - Family	14	DU

☐ Click here to add a single custom land use type (will be included in the above list)

Project Screening Summary

Existing Land Use	Proposed
90 Daily Vehicle Trips	490 Daily Vehicle Trips
727 Daily VMT	3,312 Daily VMT

Tier 1 Screening Criteria

Project will have less residential units compared to existing residential units & is within one-half mile of a fixed-rail station. ☐

Tier 2 Screening Criteria

The net increase in daily trips < 250 trips	400 Net Daily Trips
The net increase in daily VMT ≤ 0	2,585 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	3.025 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: 216 Spring

Scenario: MOU

Address: 216 S SPRING ST, 90012

Proposed Project Land Use Type	Value	Unit
Housing | Multi-Family	106	DU
Retail | General Retail	1.033	ksf
Retail | High-Turnover Sit-Down Restaurant	1.992	ksf
Housing | Affordable Housing - Family	14	DU

TDM Strategies

Select each section to show individual strategies

Use ☑ to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

	Proposed Project	With Mitigation
Max Home Based TDM Achieved?	**No**	**No**
Max Work Based TDM Achieved?	**No**	**No**

A Parking

B Transit

C Education & Encouragement

D Commute Trip Reductions

E Shared Mobility

F Bicycle Infrastructure

Implement/Improve On-street Bicycle Facility — Select Proposed Prj or Mitigation to include this strategy
☐ Proposed Prj ☐ Mitigation

Include Bike Parking Per LAMC — Select Proposed Prj or Mitigation to include this strategy
☑ Proposed Prj ☐ Mitigation

Include Secure Bike Parking and Showers — Select Proposed Prj or Mitigation to include this strategy
☐ Proposed Prj ☐ Mitigation

G Neighborhood Enhancement

Analysis Results

Proposed Project	With
427 Daily Vehicle Trips	**427** Daily Vehicle Trips
2,880 Daily VMT	**2,880** Daily VMT
2.5 Household VMT per Capita	**2.5** Household VMT
N/A Work VMT per Employee	**N/A** Work VMT per Employee

Significant VMT Impact?

Household: No Threshold = 6.0 15% Below APC	**Household: No** Threshold = 6.0 15% Below APC
Work: N/A Threshold = 7.6 15% Below APC	**Work: N/A** Threshold = 7.6 15% Below APC

Measuring the Miles

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: July 16, 2021
Project Name: 216 Spring
Project Scenario: MOU
Project Address: 216 S SPRING ST, 90012

Version 1.3

Project Information

Land Use Type		Value	Units
Housing	*Single Family*	*0*	*DU*
	Multi Family	106	DU
	Townhouse	*0*	*DU*
	Hotel	*0*	*Rooms*
	Motel	*0*	*Rooms*
Affordable Housing	Family	14	DU
	Senior	*0*	*DU*
	Special Needs	*0*	*DU*
	Permanent Supportive	*0*	*DU*
Retail	General Retail	1.033	ksf
	Furniture Store	*0.000*	*ksf*
	Pharmacy/Drugstore	*0.000*	*ksf*
	Supermarket	*0.000*	*ksf*
	Bank	*0.000*	*ksf*
	Health Club	*0.000*	*ksf*
	High-Turnover Sit-Down Restaurant	1.992	ksf
	Fast-Food Restaurant	*0.000*	*ksf*
	Quality Restaurant	*0.000*	*ksf*
	Auto Repair	*0.000*	*ksf*
	Home Improvement	*0.000*	*ksf*
	Free-Standing Discount	*0.000*	*ksf*
	Movie Theater	*0*	*Seats*
Office	*General Office*	*0.000*	*ksf*
	Medical Office	*0.000*	*ksf*
Industrial	*Light Industrial*	*0.000*	*ksf*
	Manufacturing	*0.000*	*ksf*
	Warehousing/Self-Storage	*0.000*	*ksf*
School	*University*	*0*	*Students*
	High School	*0*	*Students*
	Middle School	*0*	*Students*
	Elementary	*0*	*Students*
	Private School (K-12)	*0*	*Students*
Other		*0*	*Trips*

Analysis Results

Total Employees: 10
Total Population: 283

Proposed Project		*With Mitigation*	
427	**Daily Vehicle Trips**	**427**	**Daily Vehicle Trips**
2,880	**Daily VMT**	**2,880**	**Daily VMT**
2.5	**Household VMT per Capita**	**2.5**	**Household VMT per Capita**
N/A	**Work VMT per Employee**	**N/A**	**Work VMT per Employee**

Significant VMT Impact?

APC: Central

Impact Threshold: 15% Below APC Average
Household = 6.0
Work = 7.6

Proposed Project		*With Mitigation*	
VMT Threshold	**Impact**	**VMT Threshold**	**Impact**
Household > 6.0	No	Household > 6.0	No
Work > 7.6	N/A	Work > 7.6	N/A

TDM Strategy Inputs

Strategy Type		Description	Proposed Project	Mitigations
Parking	Reduce parking supply	City code parking provision (spaces)	147	147
		Actual parking provision (spaces)	69	69
	Unbundle parking	*Monthly cost for parking ($)*	*$0*	*$0*
	Parking cash-out	*Employees eligible (%)*	*0%*	*0%*
	Price workplace parking	*Daily parking charge ($)*	*$0.00*	*$0.00*
		Employees subject to priced parking (%)	*0%*	*0%*
	Residential area parking permits	*Cost of annual permit ($)*	*$0*	*$0*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Transit	*Reduce transit headways*	*Reduction in headways (increase in frequency) (%)*	*0%*	*0%*
		Existing transit mode share (as a percent of total daily trips) (%)	*0%*	*0%*
		Lines within project site improved (<50%, >=50%)	*0*	*0*
	Implement neighborhood shuttle	*Degree of implementation (low, medium, high)*	*0*	*0*
		Employees and residents eligible (%)	*0%*	*0%*
	Transit subsidies	*Employees and residents eligible (%)*	*0%*	*0%*
		Amount of transit subsidy per passenger (daily equivalent) ($)	*$0.00*	*$0.00*
Education & Encouragement	*Voluntary travel behavior change program*	*Employees and residents participating (%)*	*0%*	*0%*
	Promotions and marketing	*Employees and residents participating (%)*	*0%*	*0%*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Commute Trip Reductions	*Required commute trip reduction program*	*Employees participating (%)*	*0%*	*0%*
	Alternative Work Schedules and Telecommute	*Employees participating (%)*	*0%*	*0%*
		Type of program	*0*	*0*
	Employer sponsored vanpool or shuttle	*Degree of implementation (low, medium, high)*	*0*	*0*
		Employees eligible (%)	*0%*	*0%*
		Employer size (small, medium, large)	*0*	*0*
	Ride-share program	*Employees eligible (%)*	*0%*	*0%*
Shared Mobility	*Car share*	*Car share project setting (Urban, Suburban, All Other)*	*0*	*0*
	Bike share	*Within 600 feet of existing bike share station - OR- implementing new bike share station (Yes/No)*	*0*	*0*
	School carpool program	*Level of implementation (Low, Medium, High)*	*0*	*0*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Bicycle Infrastructure	*Implement/Improve on-street bicycle facility*	*Provide bicycle facility along site (Yes/No)*	*0*	*0*
	Include Bike parking per LAMC	Meets City Bike Parking Code (Yes/No)	Yes	Yes
	Include secure bike parking and showers	*Includes indoor bike parking/lockers, showers, & repair station (Yes/No)*	*0*	*0*
Neighborhood Enhancement	*Traffic calming improvements*	*Streets with traffic calming improvements (%)*	*0%*	*0%*
		Intersections with traffic calming improvements (%)	*0%*	*0%*
	Pedestrian network improvements	*Included (within project and connecting off-site/within project only)*	*0*	*0*

TDM Adjustments by Trip Purpose & Strategy

Place type: Urban

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Parking	Reduce parking supply	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	TDM Strategy Appendix, Parking sections 1 - 5
	Unbundle parking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Parking cash-out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Price workplace parking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Residential area parking permits	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Transit	Reduce transit headways	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Transit sections 1 - 3
	Implement neighborhood shuttle	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Transit subsidies	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Education & Encouragement	Voluntary travel behavior change program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Education & Encouragement sections 1 - 2
	Promotions and marketing	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Commute Trip Reductions	Required commute trip reduction program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Commute Trip Reductions sections 1 - 4
	Alternative Work Schedules and Telecommute Program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Employer sponsored vanpool or shuttle	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Ride-share program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Shared Mobility	Car-share	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	TDM Strategy Appendix, Shared Mobility sections 1 - 3
	Bike share	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
	School carpool program	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

TDM Adjustments by Trip Purpose & Strategy, Cont.

Place type: Urban

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Bicycle Infrastructure	Implement/ Improve on-street bicycle facility	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	TDM Strategy Appendix, Bicycle Infrastructure sections 1 - 3
	Include Bike parking per LAMC	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	
	Include secure bike parking and showers	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	
Neighborhood Enhancement	Traffic calming improvements	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	TDM Strategy Appendix, Neighborhood Enhancement
	Pedestrian network improvements	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	

Final Combined & Maximum TDM Effect

	Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*	
	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated
COMBINED TOTAL	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*
MAX. TDM EFFECT	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*

= Minimum (X%, 1-[(1-A)*(1-B)…])

where X%=

PLACE TYPE MAX:	urban	75%
	compact infill	*40%*
	suburban center	*20%*
	suburban	*15%*

Note: (1-[(1-A)*(1-B)…]) reflects the dampened combined effectiveness of TDM Strategies (e.g., A, B,…). See the TDM Strategy Appendix (*Transportation Assessment Guidelines Attachment G)* for further discussion of dampening.

CITY OF LOS ANGELES VMT CALCULATOR

Report 4: MXD Methodology

Date: July 16, 2021
Project Name: 216 Spring
Project Scenario: MOU
Project Address: 216 S SPRING ST, 90012

Version 1.3

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	107	-31.8%	73	5.0	535	365
Home Based Other Production	296	-67.9%	95	4.7	1,391	447
Non-Home Based Other Production	185	-11.4%	164	8.5	1,573	1,394
Home-Based Work Attraction	15	-53.3%	7	8.5	128	60
Home-Based Other Attraction	248	-67.3%	81	6.0	1,488	486
Non-Home Based Other Attraction	80	-12.5%	70	8.0	640	560

MXD Methodology with TDM Measures

	Proposed Project			*Project with Mitigation Measures*		
	TDM Adjustment	Project Trips	Project VMT	TDM Adjustment	Mitigated Trips	Mitigated VMT
Home Based Work Production	-13.0%	63	317	-13.0%	63	317
Home Based Other Production	-13.0%	83	389	-13.0%	83	389
Non-Home Based Other Production	-13.0%	143	1,212	-13.0%	143	1,212
Home-Based Work Attraction	-13.0%	6	52	-13.0%	6	52
Home-Based Other Attraction	-13.0%	71	423	-13.0%	71	423
Non-Home Based Other Attraction	-13.0%	61	487	-13.0%	61	487

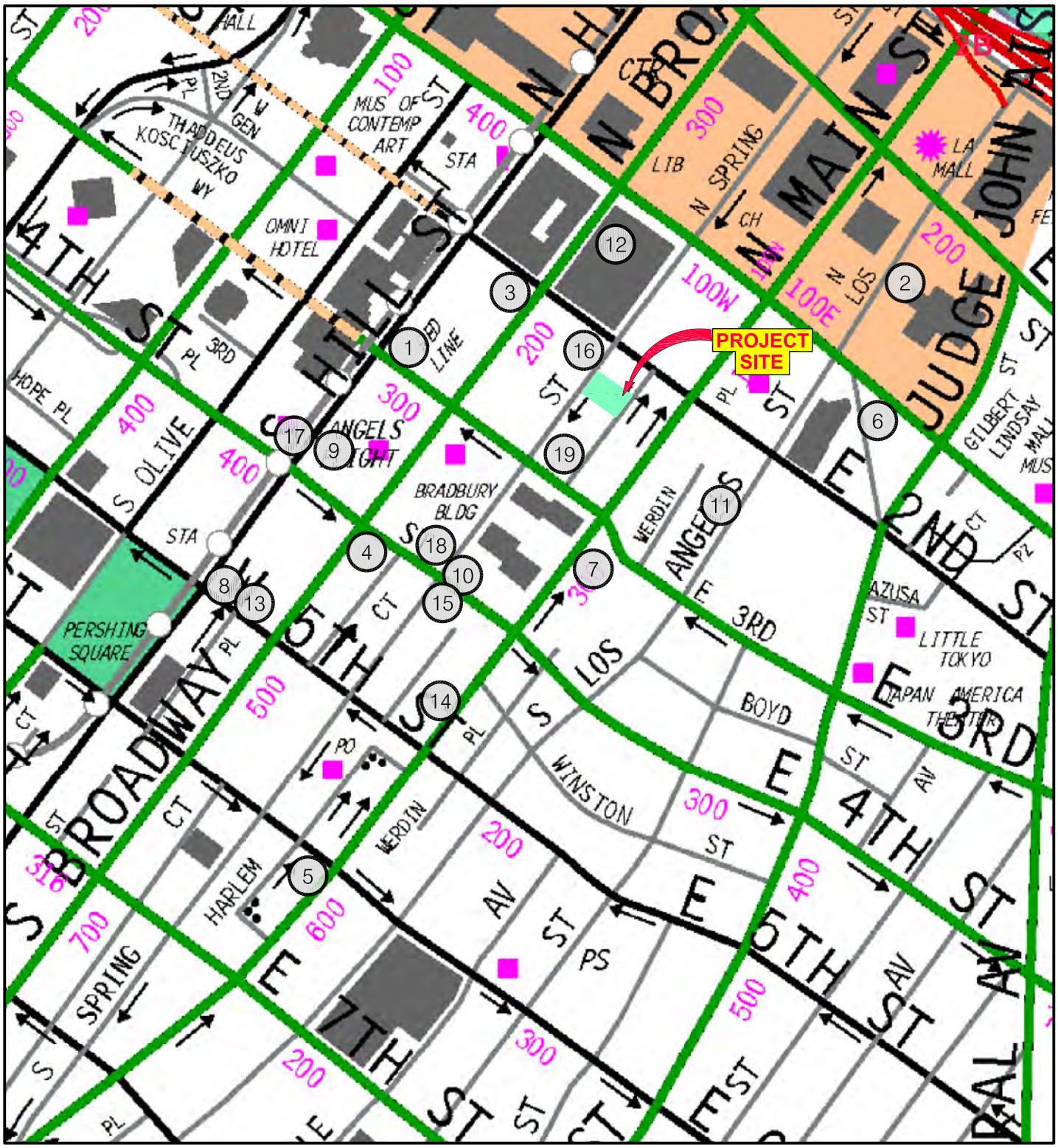
MXD VMT Methodology Per Capita & Per Employee

Total Population: 283
Total Employees: 10
APC: Central

	Proposed Project	*Project with Mitigation Measures*
Total Home Based Production VMT	**706**	**706**
Total Home Based Work Attraction VMT	**52**	**52**
Total Home Based VMT Per Capita	**2.5**	**2.5**
Total Work Based VMT Per Employee	**N/A**	**N/A**

APPENDIX G

Related Project Information



8/2021

RELATED PROJECTS LOCATIONs

Overland Traffic Consultants, Inc.
952 Manhattan Beach Bl, #100, Manhattan Beach, CA 90266
(310) 545 - 1235, OTC@overlandtraffic.com

RELATED PROJECT LIST
216 S. Spring Street

RELATED PROJECT TRAFFIC GENERATION

No.	Use	Size		Location	Daily Traffic	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
1	Condominiums	330	units	250 S. Hill Street	1,217	21	73	94	66	42	108
	Retail	12,000	s.f.								
2	Office	712,500	s.f.	150 N. Los Angeles Street	13,534	930	118	1,048	435	942	1,377
	Retail	35,000	s.f.								
	Child Care	2,500	s.f.								
3	Mixed Use	27,675	s.f.	201 S. Broadway	N/A	40	-41	-81	53	17	70
4	Apartments	450	units	400 S. Broadway	3,292	50	187	237	193	112	305
	Retail	6,904									
	Bar	5,000									
5	Condominiums	452	units	601 S. Main Street	2,686	36	144	180	152	87	239
	Retail	25,000	s.f.		28	3	1	4	1	3	4
6	Apartments	77	units	118 S. Astronaut Ellison S. Onizuka Street	97	-1	20	19	19	6	25
7	·B22:D26partmei	471	units	300 S. Main Street	4,691	143	243	386	257	153	410
	Retail	5,190	s.f.								
	Restaurant	27,780	s.f.								
8	Condominiums	100	units	333 W. 5th Street	5,712	233	214	447	259	184	443
	Hotel	200	rooms								
	Restaurant	27,500	s.f.								
9	Apartments	406	units	340 S. Hill Street	2,253	36	129	165	133	75	208
	Retail	2,630	s.f.								
	Office	2,980	s.f.								
10	Apartments	212	units	354 S. Spring Street	1,410	22	86	108	85	46	131
11	Sports Complex	43,453	s.f.	237 S. Los Angeles Street	2,131	85	44	129	85	88	173
12	Apartments	1,127	units	100 S. Broadway	6,994	9	291	300	253	26	279
	Office	307,288	s.f.								
	Supermarket	50,000	s.f.								
	Restaurant	53,389	s.f.								
	Hotel	190	rooms	323 W. 5th Street	2,809	73	49	122	126	100	226
13	Condominiums	31	units								
	Restaurant	29,232	s.f.								
14	Apartments	196	units	433 S. Main Street	1,476	33	72	105	61	38	99
	Retail	6,000	s.f.								
	Café	9,000	s.f.								
15	Hotel	140	rooms	408 S. Spring Street	464	15	17	32	11	14	25
16	Apartments	680	units	222 W. 2nd Street	3,478	53	200	253	205	116	321
	Retail	10,000	s.f.								
17	Hotel	509	rooms	361 S. Hill Street	5,410	184	214	396	347	238	585
	Retail	36,551	s.f.								
	Educational	38,977	s.f.								
18	Hotel	315	rooms	361 S. Spring Street	2,574	99	68	167	96	93	189
19	Apartments	294	units	121 W. 3rd Street	1,198	37	90	127	93	46	149
	Affordable	38	units								
	Retail	6,350	s.f.								

APPENDIX H

Traffic Volume Data and Level of Service Worksheets

Overland Traffic Consultants, Inc.

Traffic Volume Data

WILTEC

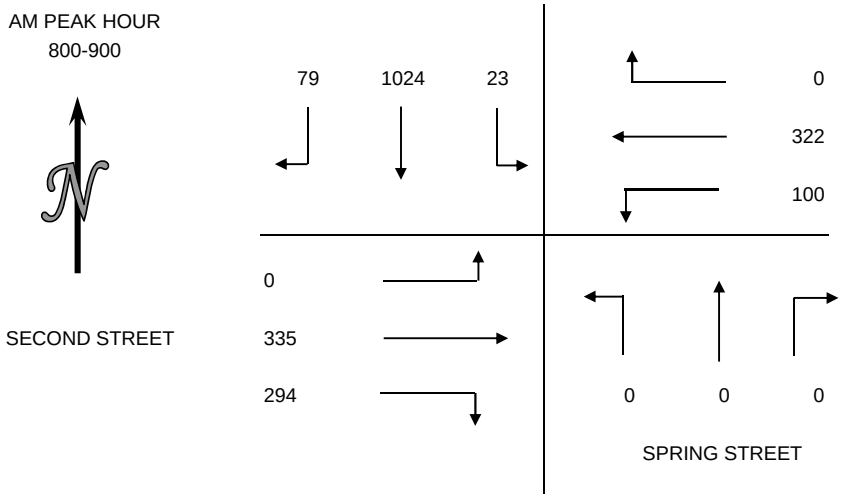
Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: INTUEOR
PROJECT: DOWNTOWN LOS ANGELES TRAFFIC COUNTS
DATE: WEDNESDAY APRIL 28, 2009
PERIOD: 7:00 AM TO 9:00 AM
INTERSECTION: N/S SPRING STREET
E/W SECOND STREET

15 MIN COUNTS PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
700-715	6	166	9	0	56	12	0	0	0	40	63	0	352
715-730	12	190	6	0	46	14	0	0	0	56	73	0	397
730-745	12	228	3	0	76	16	0	0	0	54	80	0	469
745-800	17	238	2	0	92	16	0	0	0	62	90	0	517
800-815	15	230	3	0	96	20	0	0	0	72	82	0	518
815-830	19	253	4	0	76	28	0	0	0	77	95	0	552
830-845	24	265	5	0	73	25	0	0	0	72	82	0	546
845-900	21	276	11	0	77	27	0	0	0	73	76	0	561
HOUR TOTALS													
700-800	47	822	20	0	270	58	0	0	0	212	306	0	1735
715-815	56	886	14	0	310	66	0	0	0	244	325	0	1901
730-830	63	949	12	0	340	80	0	0	0	265	347	0	2056
745-845	75	986	14	0	337	89	0	0	0	283	349	0	2133
800-900	79	1024	23	0	322	100	0	0	0	294	335	0	2177

AM PEAK HOUR
800-900



PEDESTRIAN COUNTS				
PERIOD 15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
700-715	7	25	14	39
715-730	9	10	22	29
730-745	13	15	12	37
745-800	8	16	22	43
800-815	9	16	27	52
815-830	10	15	30	67
830-845	8	18	31	87
845-900	23	26	45	73
HOUR TOTALS				
700-800	37	66	70	148
715-815	39	57	83	161
730-830	40	62	91	199
745-845	35	65	110	249
800-900	50	75	133	279

WILTEC

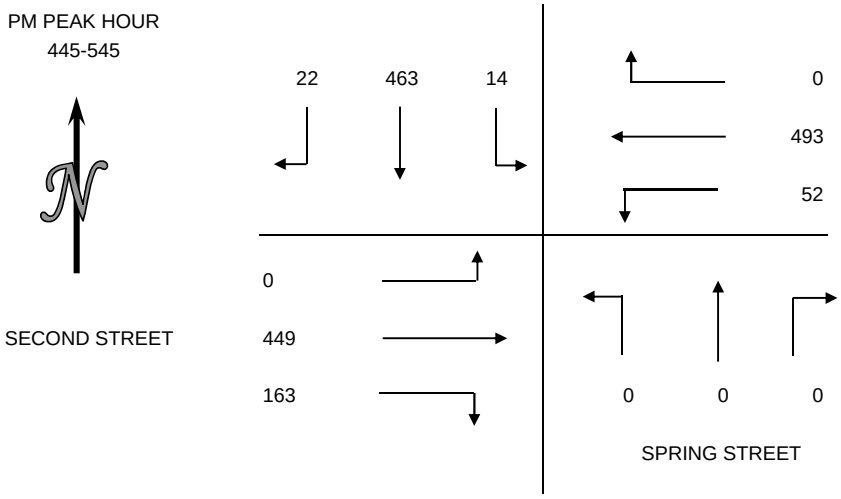
Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: INTUEOR
PROJECT: DOWNTOWN LOS ANGELES TRAFFIC COUNTS
DATE: WEDNESDAY APRIL 28, 2009
PERIOD: 4:00 PM TO 6:00 PM
INTERSECTION: N/S SPRING STREET
E/W SECOND STREET

15 MIN COUNTS PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
400-415	5	133	6	0	85	12	0	0	0	26	89	0	356
415-430	1	141	10	0	95	13	0	0	0	34	101	0	395
430-445	7	117	3	0	109	11	0	0	0	28	111	0	386
445-500	9	127	4	0	137	13	0	0	0	34	102	0	426
500-515	5	134	3	0	103	19	0	0	0	51	116	0	431
515-530	2	103	2	0	113	10	0	0	0	42	123	0	395
530-545	6	99	5	0	140	10	0	0	0	36	108	0	404
545-600	6	95	6	0	123	11	0	0	0	41	87	0	369
HOUR TOTALS													
400-500	22	518	23	0	426	49	0	0	0	122	403	0	1563
415-515	22	519	20	0	444	56	0	0	0	147	430	0	1638
430-530	23	481	12	0	462	53	0	0	0	155	452	0	1638
445-545	22	463	14	0	493	52	0	0	0	163	449	0	1656
500-600	19	431	16	0	479	50	0	0	0	170	434	0	1599

PM PEAK HOUR
445-545



PEDESTRIAN COUNTS PERIOD 15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
400-415	19	26	30	48
415-430	10	8	48	56
430-445	9	9	41	61
445-500	22	25	34	70
500-515	10	11	55	102
515-530	8	7	27	68
530-545	8	11	14	64
545-600	10	8	20	68
HOUR TOTALS				
400-500	60	68	153	235
415-515	51	53	178	289
430-530	49	52	157	301
445-545	48	54	130	304
500-600	36	37	116	302

City Of Los Angeles
Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:
North/South Main St

East/West 3rd St

Day: Thursday Date: March 23, 2017 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	189	0	0	110
BIKES	164	17	28	73
BUSES	183	0	0	40

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	186	8.45	0	0.00	0	0.00	458	7.45
PM PK 15 MIN	356	17.00	0	0.00	0	0.00	339	16.45
AM PK HOUR	675	8.00	0	0.00	0	0.00	1668	7.00
PM PK HOUR	1290	16.30	0	0.00	0	0.00	1325	16.30

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	154	439	0	593
8-9	152	523	0	675
9-10	111	449	0	560
15-16	168	823	0	991
16-17	169	1029	0	1198
17-18	183	1098	0	1281
TOTAL	937	4361	0	5298

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

TOTAL	XING S/L		XING N/L	
N-S	Ped	Sch	Ped	Sch
593	31	2	21	2
675	48	7	30	3
560	62	6	62	0
991	60	12	66	1
1198	60	7	55	6
1281	95	14	64	7
5298	356	48	298	19

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	1479	189	1668
8-9	0	1298	140	1438
9-10	0	800	185	985
15-16	0	642	262	904
16-17	0	920	316	1236
17-18	0	889	378	1267
TOTAL	0	6028	1470	7498

TOTAL	XING W/L		XING E/L	
E-W	Ped	Sch	Ped	Sch
1668	24	5	31	1
1438	54	6	30	1
985	53	4	44	2
904	70	10	62	7
1236	60	9	35	7
1267	73	11	58	8
7498	334	45	260	26

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-012

Day: Thursday

City: Los Angeles

Date: 3/23/2017

TOTALS

AM

NS/EW Streets:	Main St			Main St			3rd St			3rd St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	4	0	0	0	0	0	0	0	0	3	1	
7:00 AM	20	107	0	0	0	0	0	0	0	0	381	42	550
7:15 AM	41	113	0	0	0	0	0	0	0	0	369	44	567
7:30 AM	52	108	0	0	0	0	0	0	0	0	332	42	534
7:45 AM	41	111	0	0	0	0	0	0	0	0	397	61	610
8:00 AM	32	120	0	0	0	0	0	0	0	0	343	41	536
8:15 AM	40	138	0	0	0	0	0	0	0	0	374	30	582
8:30 AM	34	125	0	0	0	0	0	0	0	0	303	33	495
8:45 AM	46	140	0	0	0	0	0	0	0	0	278	36	500
9:00 AM	30	122	0	0	0	0	0	0	0	0	249	44	445
9:15 AM	20	107	0	0	0	0	0	0	0	0	175	35	337
9:30 AM	25	107	0	0	0	0	0	0	0	0	193	42	367
9:45 AM	36	113	0	0	0	0	0	0	0	0	183	64	396
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	417	1411	0	0	0	0	0	0	0	0	3577	514	5919
APPROACH %'s :	22.81%	77.19%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	87.44%	12.56%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	165	477	0	0	0	0	0	0	0	0	1446	174	2262
PEAK HR FACTOR :		0.902			0.000			0.000			0.884		0.927

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-012

Day: Thursday

TOTALS

City: Los Angeles

Date: 3/23/2017

PM

NS/EW Streets:	Main St			Main St			3rd St			3rd St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	4	0	0	0	0	0	0	0	0	3	1	
3:00 PM	41	177	0	0	0	0	0	0	0	0	147	77	442
3:15 PM	38	182	0	0	0	0	0	0	0	0	141	69	430
3:30 PM	47	222	0	0	0	0	0	0	0	0	152	60	481
3:45 PM	42	242	0	0	0	0	0	0	0	0	202	56	542
4:00 PM	35	248	0	0	0	0	0	0	0	0	200	53	536
4:15 PM	36	256	0	0	0	0	0	0	0	0	227	80	599
4:30 PM	55	283	0	0	0	0	0	0	0	0	245	92	675
4:45 PM	43	242	0	0	0	0	0	0	0	0	248	91	624
5:00 PM	53	303	0	0	0	0	0	0	0	0	252	75	683
5:15 PM	38	273	0	0	0	0	0	0	0	0	196	126	633
5:30 PM	52	246	0	0	0	0	0	0	0	0	198	87	583
5:45 PM	40	276	0	0	0	0	0	0	0	0	243	90	649
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	520	2950	0	0	0	0	0	0	0	0	2451	956	6877
APPROACH %'s :	14.99%	85.01%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	71.94%	28.06%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	189	1101	0	0	0	0	0	0	0	0	941	384	2615
PEAK HR FACTOR :		0.906			0.000			0.000			0.977		0.957

CONTROL : Signalized

WILTEC

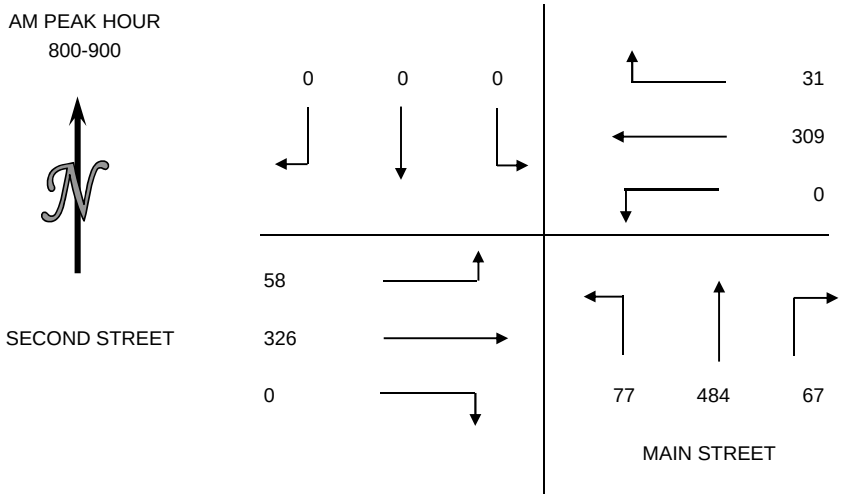
Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: INTUEOR
PROJECT: DOWNTOWN LOS ANGELES TRAFFIC COUNTS
DATE: WEDNESDAY APRIL 22, 2009
PERIOD: 7:00 AM TO 9:00 AM
INTERSECTION: N/S MAIN STREET
E/W SECOND STREET

15 MIN COUNTS PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
700-715	0	0	0	5	47	0	12	84	6	0	56	15	225
715-730	0	0	0	9	50	0	13	88	15	0	70	10	255
730-745	0	0	0	2	59	0	14	96	19	0	75	10	275
745-800	0	0	0	2	89	0	12	94	12	0	81	11	301
800-815	0	0	0	6	88	0	15	117	22	0	79	14	341
815-830	0	0	0	5	79	0	16	148	20	0	91	17	376
830-845	0	0	0	12	67	0	17	103	18	0	78	16	311
845-900	0	0	0	8	75	0	19	116	17	0	78	11	324
HOUR TOTALS													
700-800	0	0	0	18	245	0	51	362	52	0	282	46	1056
715-815	0	0	0	19	286	0	54	395	68	0	305	45	1172
730-830	0	0	0	15	315	0	57	455	73	0	326	52	1293
745-845	0	0	0	25	323	0	60	462	72	0	329	58	1329
800-900	0	0	0	31	309	0	67	484	77	0	326	58	1352

AM PEAK HOUR
800-900



PEDESTRIAN COUNTS PERIOD 15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
700-715	8	12	16	11
715-730	18	26	23	19
730-745	17	16	24	22
745-800	12	18	23	15
800-815	8	27	22	13
815-830	10	20	27	17
830-845	16	21	17	17
845-900	23	28	31	26
HOUR TOTALS				
700-800	55	72	86	67
715-815	55	87	92	69
730-830	47	81	96	67
745-845	46	86	89	62
800-900	57	96	97	73

WILTEC

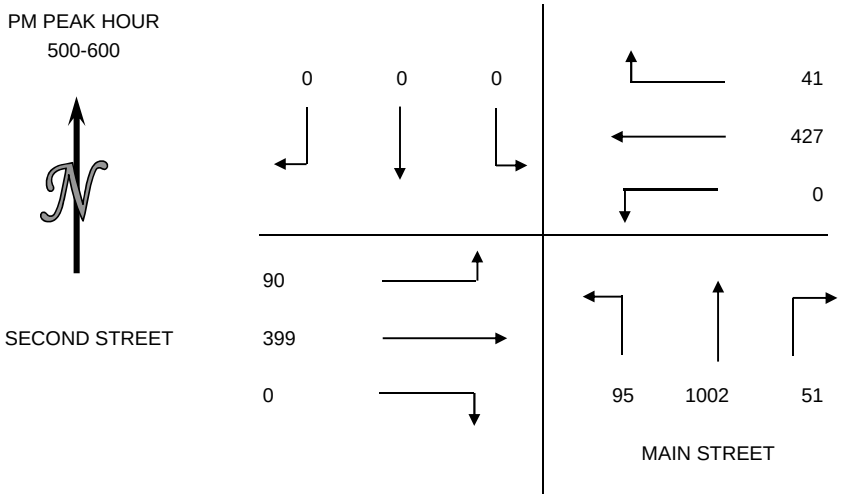
Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: INTUEOR
PROJECT: DOWNTOWN LOS ANGELES TRAFFIC COUNTS
DATE: WEDNESDAY APRIL 22, 2009
PERIOD: 7:00 AM TO 9:00 AM
INTERSECTION: N/S MAIN STREET
E/W SECOND STREET

15 MIN COUNTS PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
400-415	0	0	0	5	95	0	21	232	21	0	84	13	471
415-430	0	0	0	8	105	0	12	237	17	0	99	17	495
430-445	0	0	0	7	80	0	14	248	21	0	103	20	493
445-500	0	0	0	5	73	0	19	251	20	0	88	19	475
500-515	0	0	0	9	105	0	18	265	18	0	99	27	541
515-530	0	0	0	7	107	0	15	251	29	0	111	23	543
530-545	0	0	0	14	114	0	9	261	25	0	96	26	545
545-600	0	0	0	11	101	0	9	225	23	0	93	14	476
HOUR TOTALS													
400-500	0	0	0	25	353	0	66	968	79	0	374	69	1934
415-515	0	0	0	29	363	0	63	1001	76	0	389	83	2004
430-530	0	0	0	28	365	0	66	1015	88	0	401	89	2052
445-545	0	0	0	35	399	0	61	1028	92	0	394	95	2104
500-600	0	0	0	41	427	0	51	1002	95	0	399	90	2105

PM PEAK HOUR
500-600



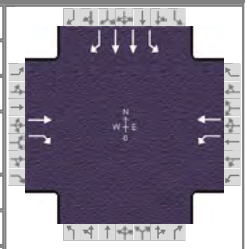
PEDESTRIAN COUNTS PERIOD 15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
400-415	15	17	36	20
415-430	15	30	41	14
430-445	15	15	41	15
445-500	15	17	34	13
500-515	19	11	31	19
515-530	17	7	15	17
530-545	19	18	32	20
545-600	6	12	27	7
HOUR TOTALS				
400-500	60	79	152	62
415-515	64	73	147	61
430-530	66	50	121	64
445-545	70	53	112	69
500-600	61	48	105	63

Overland Traffic Consultants, Inc.

Existing and Existing + Project

HCS7 Signalized Intersection Results Summary

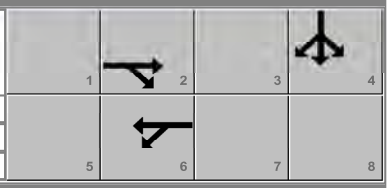
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	existing am peak hour	PHF	1.00
Urban Street	Second Street	Analysis Year	2021	Analysis Period	1> 7:00
Intersection	Spring Street	File Name	1 AM EXISTING.xus		
Project Description	existing am peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		377	331	113	363					26	1154	89

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	65.8	46.2	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6				4
Case Number		7.0		6.0				9.0
Phase Duration, s		69.8		69.8				50.2
Change Period, ($Y+R_c$), s		4.0		4.0				4.0
Max Allow Headway (*MAH*), s		0.0		0.0				3.1
Queue Clearance Time (g_s), s								42.5
Green Extension Time (g_e), s		0.0		0.0				3.8
Phase Call Probability								1.00
Max Out Probability								0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6					7	4	14
Adjusted Flow Rate (*v*), veh/h		377	331	113	363					26	1154	89
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1710	1325	884	1710					1470	1628	672
Queue Service Time (g_s), s		15.3	18.1	10.2	14.6					1.3	40.5	11.3
Cycle Queue Clearance Time (g_c), s		15.3	18.1	25.5	14.6					1.3	40.5	11.3
Green Ratio (*g/C*)		0.55	0.55	0.55	0.55					0.39	0.39	0.39
Capacity (*c*), veh/h		937	726	432	937					567	1255	259
Volume-to-Capacity Ratio (*X*)		0.402	0.456	0.262	0.387					0.046	0.920	0.344
Back of Queue (*Q*), ft/ln (50 th percentile)		152.9	142.3	56.9	145.8					11.5	393.8	45.1
Back of Queue (*Q*), veh/ln (50 th percentile)		6.1	5.7	2.3	5.8					0.5	15.8	1.8
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	0.71	0.57	0.00					0.10	0.00	0.00
Uniform Delay (d_1), s/veh		15.7	16.3	23.1	15.6					23.1	35.1	26.1
Incremental Delay (d_2), s/veh		1.3	2.1	1.5	1.2					0.0	1.3	0.3
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Control Delay (*d*), s/veh		17.0	18.4	24.6	16.8					23.1	36.4	26.4
Level of Service (LOS)		B	B	C	B					C	D	C
Approach Delay, s/veh / LOS	17.7	B		18.6	B		0.0			35.4	D	
Intersection Delay, s/veh / LOS	27.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.67	B	2.09	B	1.96	B	1.96	B
Bicycle LOS Score / LOS	1.66	B	1.27	A			1.53	B

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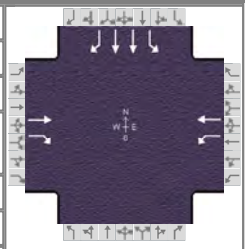
HCS7 Signalized Intersection Results Summary

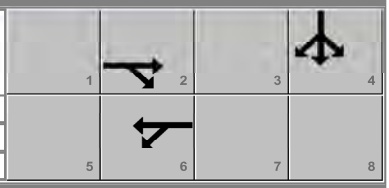
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	existing PLUS am peak hour	PHF	1.00
Urban Street	Second Street	Analysis Year	2021	Analysis Period	1> 7:00
Intersection	Spring Street	File Name	1 AM EXISTING PLUS.xus		
Project Description	existing PLUS am peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		377	331	118	376					26	1154	89

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	65.8	46.2	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6				4
Case Number		7.0		6.0				9.0
Phase Duration, s		69.8		69.8				50.2
Change Period, ($Y+R_c$), s		4.0		4.0				4.0
Max Allow Headway (*MAH*), s		0.0		0.0				3.1
Queue Clearance Time (g_s), s								42.5
Green Extension Time (g_e), s		0.0		0.0				3.8
Phase Call Probability								1.00
Max Out Probability								0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6					7	4	14
Adjusted Flow Rate (*v*), veh/h		377	331	118	376					26	1154	89
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1710	1325	884	1710					1470	1628	672
Queue Service Time (g_s), s		15.3	18.1	10.7	15.3					1.3	40.5	11.3
Cycle Queue Clearance Time (g_c), s		15.3	18.1	26.1	15.3					1.3	40.5	11.3
Green Ratio (*g/C*)		0.55	0.55	0.55	0.55					0.39	0.39	0.39
Capacity (*c*), veh/h		937	726	432	937					567	1255	259
Volume-to-Capacity Ratio (*X*)		0.402	0.456	0.273	0.401					0.046	0.920	0.344
Back of Queue (*Q*), ft/ln (50 th percentile)		152.9	142.3	59.8	152.5					11.5	393.8	45.1
Back of Queue (*Q*), veh/ln (50 th percentile)		6.1	5.7	2.4	6.1					0.5	15.8	1.8
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	0.71	0.60	0.00					0.10	0.00	0.00
Uniform Delay (d_1), s/veh		15.7	16.3	23.3	15.7					23.1	35.1	26.1
Incremental Delay (d_2), s/veh		1.3	2.1	1.6	1.3					0.0	1.3	0.3
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Control Delay (*d*), s/veh		17.0	18.4	24.9	17.0					23.1	36.4	26.4
Level of Service (LOS)		B	B	C	B					C	D	C
Approach Delay, s/veh / LOS	17.7	B		18.9	B		0.0			35.4	D	
Intersection Delay, s/veh / LOS	27.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.67	B	2.09	B	1.96	B	1.96	B
Bicycle LOS Score / LOS	1.66	B	1.30	A			1.53	B

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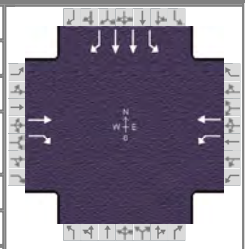
HCS7 Signalized Intersection Results Summary

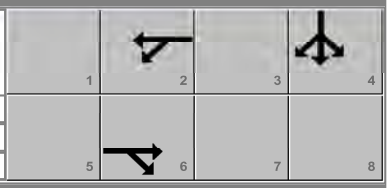
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	existing pm peak hour	PHF	1.00
Urban Street	Second Street	Analysis Year	2021	Analysis Period	1> 7:00
Intersection	Spring Street	File Name	1 pM EXISTING.xus		
Project Description	existing pm peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		506	184	59	556					16	522	25

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	89.9	22.1	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6		2				4
Case Number		7.0		6.0				9.0
Phase Duration, s		93.9		93.9				26.1
Change Period, ($Y+R_c$), s		4.0		4.0				4.0
Max Allow Headway (*MAH*), s		0.0		0.0				3.2
Queue Clearance Time (g_s), s								20.7
Green Extension Time (g_e), s		0.0		0.0				1.4
Phase Call Probability								1.00
Max Out Probability								0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		6	16	5	2					7	4	14
Adjusted Flow Rate (*v*), veh/h		506	184	59	556					16	522	25
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1710	1328	790	1710					1395	1628	597
Queue Service Time (g_s), s		12.7	4.8	3.5	14.5					1.1	18.7	4.3
Cycle Queue Clearance Time (g_c), s		12.7	4.8	16.1	14.5					1.1	18.7	4.3
Green Ratio (*g/C*)		0.75	0.75	0.75	0.75					0.18	0.18	0.18
Capacity (*c*), veh/h		1281	995	568	1281					257	601	110
Volume-to-Capacity Ratio (*X*)		0.395	0.185	0.104	0.434					0.062	0.869	0.227
Back of Queue (*Q*), ft/ln (50 th percentile)		102.7	30.9	15.5	118					9.8	190.3	16
Back of Queue (*Q*), veh/ln (50 th percentile)		4.1	1.2	0.6	4.7					0.4	7.6	0.6
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	0.15	0.15	0.00					0.08	0.00	0.00
Uniform Delay (d_1), s/veh		5.4	4.4	8.3	5.6					40.4	47.5	41.7
Incremental Delay (d_2), s/veh		0.9	0.4	0.4	1.1					0.0	1.6	0.4
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Control Delay (*d*), s/veh		6.3	4.8	8.6	6.7					40.4	49.1	42.0
Level of Service (LOS)		A	A	A	A					D	D	D
Approach Delay, s/veh / LOS	5.9	A		6.9	A		0.0			48.5	D	
Intersection Delay, s/veh / LOS	19.1						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.63	B	2.04	B	1.96	B	1.96	B
Bicycle LOS Score / LOS	1.63	B	1.50	B			0.95	A

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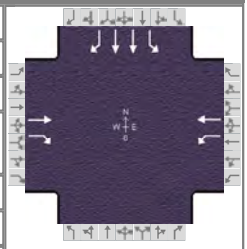
HCS7 Signalized Intersection Results Summary

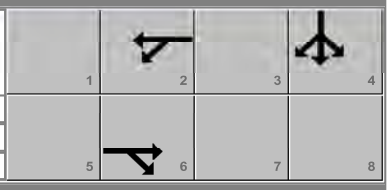
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	existing PLUS pm peak hour	PHF	1.00
Urban Street	Second Street	Analysis Year	2021	Analysis Period	1> 7:00
Intersection	Spring Street	File Name	1 PM PLUS EXISTING.xus		
Project Description	existing PLUS pm peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		506	184	61	561					16	522	25

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	89.9	22.1	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6		2				4
Case Number		7.0		6.0				9.0
Phase Duration, s		93.9		93.9				26.1
Change Period, ($Y+R_c$), s		4.0		4.0				4.0
Max Allow Headway (*MAH*), s		0.0		0.0				3.2
Queue Clearance Time (g_s), s								20.7
Green Extension Time (g_e), s		0.0		0.0				1.4
Phase Call Probability								1.00
Max Out Probability								0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		6	16	5	2					7	4	14
Adjusted Flow Rate (*v*), veh/h		506	184	61	561					16	522	25
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1710	1328	790	1710					1395	1628	597
Queue Service Time (g_s), s		12.7	4.8	3.6	14.7					1.1	18.7	4.3
Cycle Queue Clearance Time (g_c), s		12.7	4.8	16.3	14.7					1.1	18.7	4.3
Green Ratio (*g/C*)		0.75	0.75	0.75	0.75					0.18	0.18	0.18
Capacity (*c*), veh/h		1281	995	568	1281					257	601	110
Volume-to-Capacity Ratio (*X*)		0.395	0.185	0.107	0.438					0.062	0.869	0.227
Back of Queue (*Q*), ft/ln (50 th percentile)		102.7	30.9	16	119.6					9.8	190.3	16
Back of Queue (*Q*), veh/ln (50 th percentile)		4.1	1.2	0.6	4.8					0.4	7.6	0.6
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	0.15	0.16	0.00					0.08	0.00	0.00
Uniform Delay (d_1), s/veh		5.4	4.4	8.3	5.6					40.4	47.5	41.7
Incremental Delay (d_2), s/veh		0.9	0.4	0.4	1.1					0.0	1.6	0.4
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Control Delay (*d*), s/veh		6.3	4.8	8.7	6.7					40.4	49.1	42.0
Level of Service (LOS)		A	A	A	A					D	D	D
Approach Delay, s/veh / LOS	5.9	A		6.9	A		0.0			48.5	D	
Intersection Delay, s/veh / LOS	19.0						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.63	B	2.04	B	1.96	B	1.96	B
Bicycle LOS Score / LOS	1.63	B	1.51	B			0.95	A

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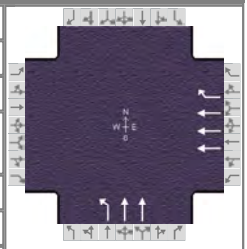
HCS7 Signalized Intersection Results Summary

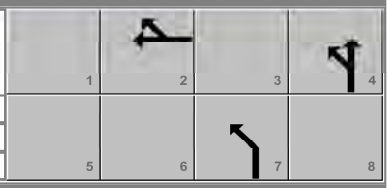
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	existing am peak hour	PHF	1.00
Urban Street	Third Street	Analysis Year	2021	Analysis Period	1> 7:00
Intersection	Main Street	File Name	2 AM EXISTING.xus		
Project Description	existing am peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h					1505	181	172	496				

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	90.7	21.3	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				2		4		
Case Number				7.0		10.0		
Phase Duration, s				94.7		25.3		
Change Period, ($Y+R_c$), s				4.0		4.0		
Max Allow Headway (*MAH*), s				0.0		3.1		
Queue Clearance Time (g_s), s						19.7		
Green Extension Time (g_e), s				0.0		1.5		
Phase Call Probability						1.00		
Max Out Probability						0.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement					2	12	7	4				
Adjusted Flow Rate (*v*), veh/h					1505	181	172	496				
Adjusted Saturation Flow Rate (*s*), veh/h/ln					1553	1403	1538	1628				
Queue Service Time (g_s), s					14.0	4.3	12.4	17.7				
Cycle Queue Clearance Time (g_c), s					14.0	4.3	12.4	17.7				
Green Ratio (*g/C*)					0.76	0.76	0.18	0.18				
Capacity (*c*), veh/h					3522	1061	272	577				
Volume-to-Capacity Ratio (*X*)					0.427	0.171	0.631	0.860				
Back of Queue (*Q*), ft/ln (50 th percentile)					96.1	28.6	119.5	180.9				
Back of Queue (*Q*), veh/ln (50 th percentile)					3.8	1.1	4.8	7.2				
Queue Storage Ratio (*RQ*) (50 th percentile)					0.00	0.24	0.70	0.00				
Uniform Delay (d_1), s/veh					5.3	4.1	45.7	47.9				
Incremental Delay (d_2), s/veh					0.4	0.3	0.9	1.5				
Initial Queue Delay (d_3), s/veh					0.0	0.0	0.0	0.0				
Control Delay (*d*), s/veh					5.7	4.4	46.6	49.4				
Level of Service (LOS)					A	A	D	D				
Approach Delay, s/veh / LOS	0.0			5.5		A	48.7		D	0.0		
Intersection Delay, s/veh / LOS	17.8						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.96	B	1.62	B	2.16	B	1.96	B
Bicycle LOS Score / LOS			1.41	A	1.04	A		

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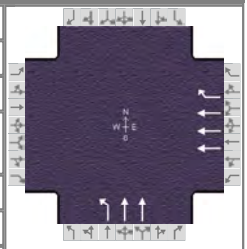
HCS7 Signalized Intersection Results Summary

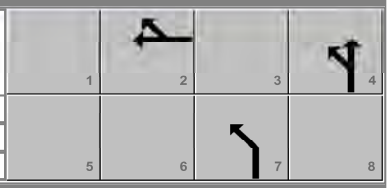
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	Other
Jurisdiction	LADOT	Time Period	existing PLUS am peak hour	PHF	1.00
Urban Street	Third Street	Analysis Year	2021	Analysis Period	1> 7:00
Intersection	Main Street	File Name	2 AM EXISTING PLUS.xus		
Project Description	existing PLUS am peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h					1509	181	176	496				

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	92.5	19.5	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				2		4		
Case Number				7.0		10.0		
Phase Duration, s				96.5		23.5		
Change Period, ($Y+R_c$), s				4.0		4.0		
Max Allow Headway (*MAH*), s				0.0		3.1		
Queue Clearance Time (g_s), s						18.0		
Green Extension Time (g_e), s				0.0		1.5		
Phase Call Probability						1.00		
Max Out Probability						0.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement					2	12	7	4				
Adjusted Flow Rate (*v*), veh/h					1509	181	176	496				
Adjusted Saturation Flow Rate (*s*), veh/h/ln					1725	1560	1699	1809				
Queue Service Time (g_s), s					11.3	3.6	11.6	16.0				
Cycle Queue Clearance Time (g_c), s					11.3	3.6	11.6	16.0				
Green Ratio (*g/C*)					0.77	0.77	0.16	0.16				
Capacity (*c*), veh/h					3990	1202	276	588				
Volume-to-Capacity Ratio (*X*)					0.378	0.151	0.637	0.844				
Back of Queue (*Q*), ft/ln (50 th percentile)					82.9	25.3	123.6	181.1				
Back of Queue (*Q*), veh/ln (50 th percentile)					3.3	1.0	4.9	7.2				
Queue Storage Ratio (*RQ*) (50 th percentile)					0.00	0.21	0.73	0.00				
Uniform Delay (d_1), s/veh					4.4	3.6	46.9	48.8				
Incremental Delay (d_2), s/veh					0.3	0.3	0.9	1.3				
Initial Queue Delay (d_3), s/veh					0.0	0.0	0.0	0.0				
Control Delay (*d*), s/veh					4.7	3.8	47.9	50.1				
Level of Service (LOS)					A	A	D	D				
Approach Delay, s/veh / LOS	0.0			4.6		A	49.5		D	0.0		
Intersection Delay, s/veh / LOS	17.4						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.96	B	1.62	B	2.16	B	1.96	B
Bicycle LOS Score / LOS			1.42	A	1.04	A		

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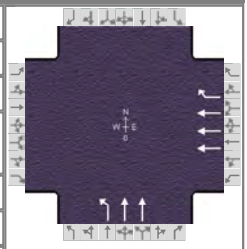
HCS7 Signalized Intersection Results Summary

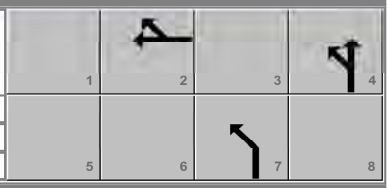
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	existing pm peak hour	PHF	1.00
Urban Street	Third Street	Analysis Year	2021	Analysis Period	1> 7:00
Intersection	Main Street	File Name	2 PM EXISTING.xus		
Project Description	existing pm peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h					951	400	197	1146				

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	66.1	45.9	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				2		4		
Case Number				7.0		10.0		
Phase Duration, s				70.1		49.9		
Change Period, ($Y+R_c$), s				4.0		4.0		
Max Allow Headway (*MAH*), s				0.0		3.1		
Queue Clearance Time (g_s), s						42.2		
Green Extension Time (g_e), s				0.0		3.7		
Phase Call Probability						1.00		
Max Out Probability						0.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement					2	12	7	4				
Adjusted Flow Rate (*v*), veh/h					951	400	197	1146				
Adjusted Saturation Flow Rate (*s*), veh/h/ln					1553	1405	1542	1628				
Queue Service Time (g_s), s					13.8	21.5	10.9	40.2				
Cycle Queue Clearance Time (g_c), s					13.8	21.5	10.9	40.2				
Green Ratio (*g/C*)					0.55	0.55	0.38	0.38				
Capacity (*c*), veh/h					2566	774	590	1246				
Volume-to-Capacity Ratio (*X*)					0.371	0.517	0.334	0.920				
Back of Queue (*Q*), ft/ln (50 th percentile)					120.7	179.3	99.1	391.6				
Back of Queue (*Q*), veh/ln (50 th percentile)					4.8	7.2	4.0	15.7				
Queue Storage Ratio (*RQ*) (50 th percentile)					0.00	1.49	0.58	0.00				
Uniform Delay (d_1), s/veh					15.2	16.9	26.2	35.3				
Incremental Delay (d_2), s/veh					0.4	2.5	0.1	1.3				
Initial Queue Delay (d_3), s/veh					0.0	0.0	0.0	0.0				
Control Delay (*d*), s/veh					15.6	19.4	26.3	36.6				
Level of Service (LOS)					B	B	C	D				
Approach Delay, s/veh / LOS	0.0			16.7		B	35.1		D	0.0		
Intersection Delay, s/veh / LOS	25.9						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.96	B	1.67	B	2.16	B	1.96	B
Bicycle LOS Score / LOS			1.23	A	1.60	B		

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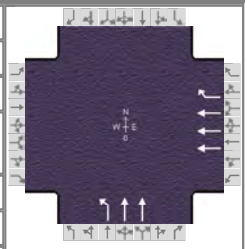
HCS7 Signalized Intersection Results Summary

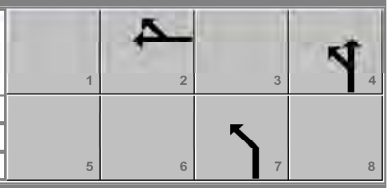
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	existing PLUS pm peak hour	PHF	1.00
Urban Street	Third Street	Analysis Year	2021	Analysis Period	1> 7:00
Intersection	Main Street	File Name	2 PM PLUS EXISTING.xus		
Project Description	existing PLUS pm peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h					967	400	214	1146				

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	66.1	45.9	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				2		4		
Case Number				7.0		10.0		
Phase Duration, s				70.1		49.9		
Change Period, ($Y+R_c$), s				4.0		4.0		
Max Allow Headway (*MAH*), s				0.0		3.1		
Queue Clearance Time (g_s), s						42.2		
Green Extension Time (g_e), s				0.0		3.7		
Phase Call Probability						1.00		
Max Out Probability						0.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement					2	12	7	4				
Adjusted Flow Rate (*v*), veh/h					967	400	214	1146				
Adjusted Saturation Flow Rate (*s*), veh/h/ln					1553	1405	1542	1628				
Queue Service Time (g_s), s					14.1	21.5	11.9	40.2				
Cycle Queue Clearance Time (g_c), s					14.1	21.5	11.9	40.2				
Green Ratio (*g/C*)					0.55	0.55	0.38	0.38				
Capacity (*c*), veh/h					2564	773	590	1246				
Volume-to-Capacity Ratio (*X*)					0.377	0.517	0.363	0.919				
Back of Queue (*Q*), ft/ln (50 th percentile)					123.4	179.4	109.1	391.5				
Back of Queue (*Q*), veh/ln (50 th percentile)					4.9	7.2	4.4	15.7				
Queue Storage Ratio (*RQ*) (50 th percentile)					0.00	1.49	0.64	0.00				
Uniform Delay (d_1), s/veh					15.3	16.9	26.5	35.3				
Incremental Delay (d_2), s/veh					0.4	2.5	0.1	1.3				
Initial Queue Delay (d_3), s/veh					0.0	0.0	0.0	0.0				
Control Delay (*d*), s/veh					15.7	19.4	26.7	36.5				
Level of Service (LOS)					B	B	C	D				
Approach Delay, s/veh / LOS	0.0			16.8		B	35.0		C	0.0		
Intersection Delay, s/veh / LOS	25.9						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.96	B	1.67	B	2.16	B	1.96	B
Bicycle LOS Score / LOS			1.24	A	1.61	B		

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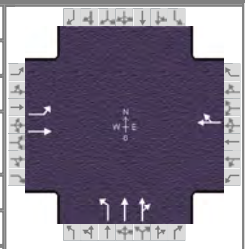
HCS7 Signalized Intersection Results Summary

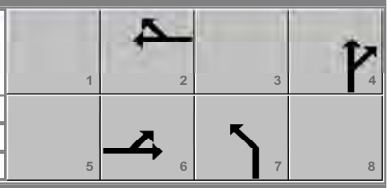
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	existing am peak hour	PHF	1.00
Urban Street	Second Street	Analysis Year	2021	Analysis Period	1> 7:00
Intersection	Main Street	File Name	3 AM EXISTING.xus		
Project Description	existing am peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	65	367			348	35	87	545	75			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	85.4	26.6	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6		2		4		
Case Number		6.0		8.0		10.0		
Phase Duration, s		89.4		89.4		30.6		
Change Period, ($Y+R_c$), s		4.0		4.0		4.0		
Max Allow Headway (*MAH*), s		0.0		0.0		3.3		
Queue Clearance Time (g_s), s						25.0		
Green Extension Time (g_e), s		0.0		0.0		1.6		
Phase Call Probability						1.00		
Max Out Probability						0.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6			2	12	7	4	14			
Adjusted Flow Rate (*v*), veh/h	65	367			383		87	332	288			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	889	1710			1670		1066	1710	1459			
Queue Service Time (g_s), s	3.5	9.5			10.3		8.3	22.5	23.0			
Cycle Queue Clearance Time (g_c), s	13.8	9.5			10.3		8.3	22.5	23.0			
Green Ratio (*g/C*)	0.71	0.71			0.71		0.22	0.22	0.22			
Capacity (*c*), veh/h	616	1217			1189		236	379	323			
Volume-to-Capacity Ratio (*X*)	0.105	0.302			0.322		0.368	0.875	0.892			
Back of Queue (*Q*), ft/ln (50 th percentile)	17.9	81.1			86.5		54.7	241.5	213.1			
Back of Queue (*Q*), veh/ln (50 th percentile)	0.7	3.2			3.5		2.2	9.7	8.5			
Queue Storage Ratio (*RQ*) (50 th percentile)	0.12	0.00			0.00		0.46	0.00	0.00			
Uniform Delay (d_1), s/veh	9.1	6.3			6.5		39.6	45.1	45.3			
Incremental Delay (d_2), s/veh	0.3	0.6			0.7		0.4	2.6	3.4			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0		0.0	0.0	0.0			
Control Delay (*d*), s/veh	9.4	7.0			7.2		39.9	47.6	48.8			
Level of Service (LOS)	A	A			A		D	D	D			
Approach Delay, s/veh / LOS	7.3	A		7.2	A		47.2	D		0.0		
Intersection Delay, s/veh / LOS	25.8						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.86	B	1.64	B	1.74	B	1.96	B
Bicycle LOS Score / LOS	1.20	A	1.12	A	1.07	A		

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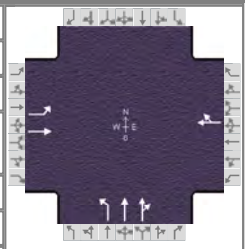
HCS7 Signalized Intersection Results Summary

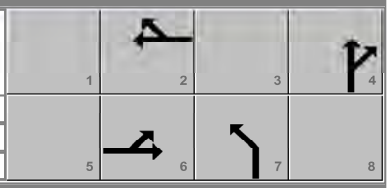
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	existing PLUS am peak hour	PHF	1.00
Urban Street	Second Street	Analysis Year	2021	Analysis Period	1> 7:00
Intersection	Main Street	File Name	3 AM PLUS EXISTING.xus		
Project Description	existing PLUS am peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	78	370			348	35	87	545	75			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	85.4	26.6	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6		2		4		
Case Number		6.0		8.0		10.0		
Phase Duration, s		89.4		89.4		30.6		
Change Period, ($Y+R_c$), s		4.0		4.0		4.0		
Max Allow Headway (*MAH*), s		0.0		0.0		3.3		
Queue Clearance Time (g_s), s						25.0		
Green Extension Time (g_e), s		0.0		0.0		1.6		
Phase Call Probability						1.00		
Max Out Probability						0.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6			2	12	7	4	14			
Adjusted Flow Rate (*v*), veh/h	78	370			383		87	332	288			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	889	1710			1670		1066	1710	1459			
Queue Service Time (g_s), s	4.3	9.6			10.3		8.3	22.5	23.0			
Cycle Queue Clearance Time (g_c), s	14.6	9.6			10.3		8.3	22.5	23.0			
Green Ratio (*g/C*)	0.71	0.71			0.71		0.22	0.22	0.22			
Capacity (*c*), veh/h	616	1217			1189		236	379	323			
Volume-to-Capacity Ratio (*X*)	0.127	0.304			0.322		0.368	0.875	0.892			
Back of Queue (*Q*), ft/ln (50 th percentile)	21.8	82			86.5		54.7	241.5	213.1			
Back of Queue (*Q*), veh/ln (50 th percentile)	0.9	3.3			3.5		2.2	9.7	8.5			
Queue Storage Ratio (*RQ*) (50 th percentile)	0.15	0.00			0.00		0.46	0.00	0.00			
Uniform Delay (d_1), s/veh	9.2	6.4			6.5		39.6	45.1	45.3			
Incremental Delay (d_2), s/veh	0.4	0.6			0.7		0.4	2.6	3.4			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0		0.0	0.0	0.0			
Control Delay (*d*), s/veh	9.6	7.0			7.2		39.9	47.6	48.8			
Level of Service (LOS)	A	A			A		D	D	D			
Approach Delay, s/veh / LOS	7.5	A		7.2	A		47.2	D		0.0		
Intersection Delay, s/veh / LOS	25.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.86	B	1.64	B	1.74	B	1.96	B
Bicycle LOS Score / LOS	1.23	A	1.12	A	1.07	A		

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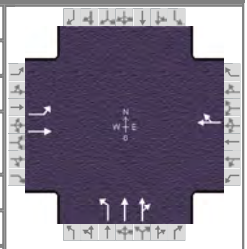
HCS7 Signalized Intersection Results Summary

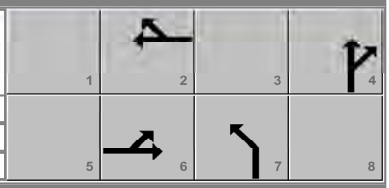
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	existing pm peak hour	PHF	1.00
Urban Street	Second Street	Analysis Year	2021	Analysis Period	1> 7:00
Intersection	Main Street	File Name	3 PM EXISTING.xus		
Project Description	existing pm peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	101	450			481	46	107	1129	57			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	66.4	45.6	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6		2		4		
Case Number		6.0		8.0		10.0		
Phase Duration, s		70.4		70.4		49.6		
Change Period, ($Y+R_c$), s		4.0		4.0		4.0		
Max Allow Headway (*MAH*), s		0.0		0.0		3.1		
Queue Clearance Time (g_s), s						42.7		
Green Extension Time (g_e), s		0.0		0.0		2.9		
Phase Call Probability						1.00		
Max Out Probability						0.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6			2	12	7	4	14			
Adjusted Flow Rate (*v*), veh/h	101	450			527		107	603	583			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	777	1710			1667		1221	1710	1649			
Queue Service Time (g_s), s	11.7	19.1			24.8		7.1	40.6	40.7			
Cycle Queue Clearance Time (g_c), s	36.5	19.1			24.8		7.1	40.6	40.7			
Green Ratio (*g/C*)	0.55	0.55			0.55		0.38	0.38	0.38			
Capacity (*c*), veh/h	330	946			923		464	650	626			
Volume-to-Capacity Ratio (*X*)	0.306	0.475			0.571		0.231	0.929	0.930			
Back of Queue (*Q*), ft/ln (50 th percentile)	59.6	190.9			243		51.8	421.8	408.4			
Back of Queue (*Q*), veh/ln (50 th percentile)	2.4	7.6			9.7		2.1	16.9	16.3			
Queue Storage Ratio (*RQ*) (50 th percentile)	0.40	0.00			0.00		0.43	0.00	0.00			
Uniform Delay (d_1), s/veh	29.4	16.2			17.5		25.3	35.7	35.7			
Incremental Delay (d_2), s/veh	2.4	1.7			2.6		0.1	2.7	2.8			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0		0.0	0.0	0.0			
Control Delay (*d*), s/veh	31.8	17.9			20.1		25.4	38.3	38.5			
Level of Service (LOS)	C	B			C		C	D	D			
Approach Delay, s/veh / LOS	20.5	C		20.1	C		37.3	D		0.0		
Intersection Delay, s/veh / LOS	29.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.90	B	1.67	B	1.74	B	1.96	B
Bicycle LOS Score / LOS	1.40	A	1.36	A	1.55	B		

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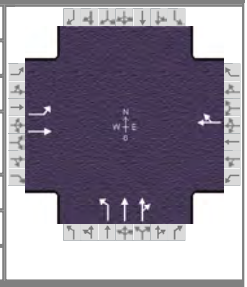
HCS7 Signalized Intersection Results Summary

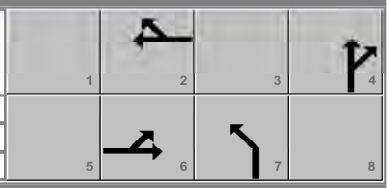
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	existing PLUS pm peak hour	PHF	1.00
Urban Street	Second Street	Analysis Year	2021	Analysis Period	1> 7:00
Intersection	Main Street	File Name	3 PM PLUS EXISTING.xus		
Project Description	existing PLUS pm peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	106	451			481	46	107	1129	57			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	66.4	45.6	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6		2		4		
Case Number		6.0		8.0		10.0		
Phase Duration, s		70.4		70.4		49.6		
Change Period, ($Y+R_c$), s		4.0		4.0		4.0		
Max Allow Headway (*MAH*), s		0.0		0.0		3.1		
Queue Clearance Time (g_s), s						42.7		
Green Extension Time (g_e), s		0.0		0.0		2.9		
Phase Call Probability						1.00		
Max Out Probability						0.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6			2	12	7	4	14			
Adjusted Flow Rate (*v*), veh/h	106	451			527		107	603	583			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	777	1710			1667		1221	1710	1649			
Queue Service Time (g_s), s	12.4	19.2			24.8		7.1	40.6	40.7			
Cycle Queue Clearance Time (g_c), s	37.1	19.2			24.8		7.1	40.6	40.7			
Green Ratio (*g/C*)	0.55	0.55			0.55		0.38	0.38	0.38			
Capacity (*c*), veh/h	330	946			923		464	650	626			
Volume-to-Capacity Ratio (*X*)	0.322	0.477			0.571		0.231	0.929	0.930			
Back of Queue (*Q*), ft/ln (50 th percentile)	63.1	191.4			243		51.8	421.8	408.4			
Back of Queue (*Q*), veh/ln (50 th percentile)	2.5	7.7			9.7		2.1	16.9	16.3			
Queue Storage Ratio (*RQ*) (50 th percentile)	0.42	0.00			0.00		0.43	0.00	0.00			
Uniform Delay (d_1), s/veh	29.6	16.2			17.5		25.3	35.7	35.7			
Incremental Delay (d_2), s/veh	2.6	1.7			2.6		0.1	2.7	2.8			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0		0.0	0.0	0.0			
Control Delay (*d*), s/veh	32.2	18.0			20.1		25.4	38.3	38.5			
Level of Service (LOS)	C	B			C		C	D	D			
Approach Delay, s/veh / LOS	20.7	C		20.1	C		37.3	D		0.0		
Intersection Delay, s/veh / LOS	29.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.90	B	1.67	B	1.74	B	1.96	B
Bicycle LOS Score / LOS	1.41	A	1.36	A	1.55	B		

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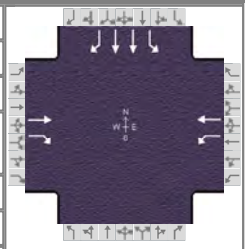
Overland Traffic Consultants, Inc.

Future and Future + Project

HCS7 Signalized Intersection Results Summary

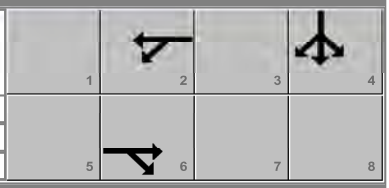
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	Future am peak hour	PHF	1.00
Urban Street	Second Street	Analysis Year	2024	Analysis Period	1> 7:00
Intersection	Spring Street	File Name	1 AM FUTURE WO.xus		
Project Description	future am peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		573	372	200	466					29	1492	95

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	54.8	57.2	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6		2				4
Case Number		7.0		6.0				9.0
Phase Duration, s		58.8		58.8				61.2
Change Period, ($Y+R_c$), s		4.0		4.0				4.0
Max Allow Headway (*MAH*), s		0.0		0.0				3.1
Queue Clearance Time (g_s), s								55.2
Green Extension Time (g_e), s		0.0		0.0				2.0
Phase Call Probability								1.00
Max Out Probability								0.86

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		6	16	5	2					7	4	14
Adjusted Flow Rate (*v*), veh/h		573	372	200	466					29	1492	95
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1710	1304	746	1710					1500	1628	984
Queue Service Time (g_s), s		32.8	26.0	22.0	24.4					1.2	53.2	6.7
Cycle Queue Clearance Time (g_c), s		32.8	26.0	54.8	24.4					1.2	53.2	6.7
Green Ratio (*g/C*)		0.46	0.46	0.46	0.46					0.48	0.48	0.48
Capacity (*c*), veh/h		781	596	197	781					715	1551	469
Volume-to-Capacity Ratio (*X*)		0.733	0.624	1.016	0.596					0.041	0.962	0.203
Back of Queue (*Q*), ft/ln (50 th percentile)		355.8	215.2	242.1	258.3					10.7	570.1	38
Back of Queue (*Q*), veh/ln (50 th percentile)		14.2	8.6	9.7	10.3					0.4	22.8	1.5
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	1.08	2.42	0.00					0.09	0.00	0.00
Uniform Delay (d_1), s/veh		26.6	24.8	52.4	24.3					16.8	30.4	18.2
Incremental Delay (d_2), s/veh		6.0	4.9	68.4	3.3					0.0	14.1	0.1
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Control Delay (*d*), s/veh		32.6	29.6	120.8	27.7					16.8	44.5	18.3
Level of Service (LOS)		C	C	F	C					B	D	B
Approach Delay, s/veh / LOS	31.5	C		55.6	E		0.0			42.4	D	
Intersection Delay, s/veh / LOS	41.9						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.69	B	2.10	B	1.96	B	1.96	B
Bicycle LOS Score / LOS	2.05	B	1.59	B			1.82	B

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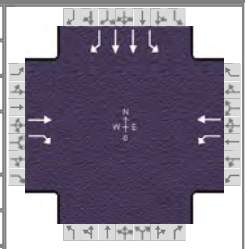
HCS7 Signalized Intersection Results Summary

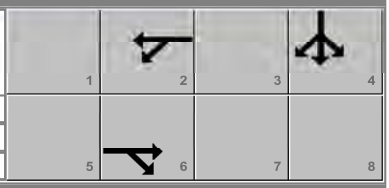
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	Future PLUS am peak hour	PHF	1.00
Urban Street	Second Street	Analysis Year	2024	Analysis Period	1> 7:00
Intersection	Spring Street	File Name	1 AM FUTURE WITH.xus		
Project Description	future PLUS am peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		573	372	205	479					29	1492	95

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	55.5	56.5	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6		2				4
Case Number		7.0		6.0				9.0
Phase Duration, s		59.5		59.5				60.5
Change Period, ($Y+R_c$), s		4.0		4.0				4.0
Max Allow Headway (*MAH*), s		0.0		0.0				3.1
Queue Clearance Time (g_s), s								55.7
Green Extension Time (g_e), s		0.0		0.0				0.8
Phase Call Probability								1.00
Max Out Probability								1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		6	16	5	2					7	4	14
Adjusted Flow Rate (*v*), veh/h		573	372	205	479					29	1492	95
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1710	1306	746	1710					1499	1628	979
Queue Service Time (g_s), s		32.5	25.7	23.0	25.1					1.3	53.7	6.8
Cycle Queue Clearance Time (g_c), s		32.5	25.7	55.5	25.1					1.3	53.7	6.8
Green Ratio (*g/C*)		0.46	0.46	0.46	0.46					0.47	0.47	0.47
Capacity (*c*), veh/h		791	604	203	791					706	1533	461
Volume-to-Capacity Ratio (*X*)		0.724	0.616	1.010	0.606					0.041	0.973	0.206
Back of Queue (*Q*), ft/ln (50 th percentile)		350.1	212	245.9	265					10.8	590	38.5
Back of Queue (*Q*), veh/ln (50 th percentile)		14.0	8.5	9.8	10.6					0.4	23.6	1.5
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	1.06	2.46	0.00					0.09	0.00	0.00
Uniform Delay (d_1), s/veh		26.1	24.2	51.9	24.1					17.1	31.0	18.6
Incremental Delay (d_2), s/veh		5.7	4.7	65.7	3.4					0.0	16.7	0.1
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Control Delay (*d*), s/veh		31.8	28.9	117.6	27.5					17.1	47.8	18.7
Level of Service (LOS)		C	C	F	C					B	D	B
Approach Delay, s/veh / LOS	30.6	C		54.5	D		0.0			45.5	D	
Intersection Delay, s/veh / LOS	43.1						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.69	B	2.10	B	1.96	B	1.96	B
Bicycle LOS Score / LOS	2.05	B	1.62	B			1.82	B

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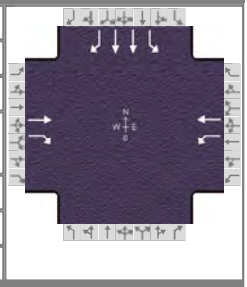
HCS7 Signalized Intersection Results Summary

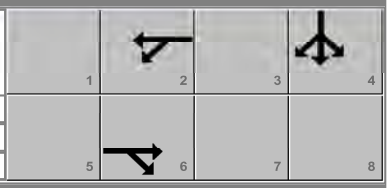
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	Future pm peak hour	PHF	1.00
Urban Street	Second Street	Analysis Year	2024	Analysis Period	1> 7:00
Intersection	Spring Street	File Name	1 PM FUTURE.xus		
Project Description	Future pm peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		678	212	164	730					19	953	73

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	73.3	38.7	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6		2				4
Case Number		7.0		6.0				9.0
Phase Duration, s		77.3		77.3				42.7
Change Period, ($Y+R_c$), s		4.0		4.0				4.0
Max Allow Headway (*MAH*), s		0.0		0.0				3.2
Queue Clearance Time (g_s), s								35.7
Green Extension Time (g_e), s		0.0		0.0				3.0
Phase Call Probability								1.00
Max Out Probability								0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		6	16	5	2					7	4	14
Adjusted Flow Rate (*v*), veh/h		678	212	164	730					19	953	73
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1710	1305	678	1710					1495	1628	760
Queue Service Time (g_s), s		30.6	9.0	24.7	34.8					1.0	33.7	8.6
Cycle Queue Clearance Time (g_c), s		30.6	9.0	55.3	34.8					1.0	33.7	8.6
Green Ratio (*g/C*)		0.61	0.61	0.61	0.61					0.32	0.32	0.32
Capacity (*c*), veh/h		1045	798	301	1045					481	1049	245
Volume-to-Capacity Ratio (*X*)		0.649	0.266	0.545	0.698					0.039	0.909	0.298
Back of Queue (*Q*), ft/ln (50 th percentile)		299.5	66.8	113.9	341.9					9.4	333.1	39.8
Back of Queue (*Q*), veh/ln (50 th percentile)		12.0	2.7	4.6	13.7					0.4	13.3	1.6
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	0.33	1.14	0.00					0.08	0.00	0.00
Uniform Delay (d_1), s/veh		15.0	10.8	32.9	15.8					27.9	39.0	30.5
Incremental Delay (d_2), s/veh		3.1	0.8	6.9	3.9					0.0	1.3	0.3
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Control Delay (*d*), s/veh		18.1	11.6	39.8	19.7					27.9	40.3	30.8
Level of Service (LOS)		B	B	D	B					C	D	C
Approach Delay, s/veh / LOS	16.6	B		23.4	C		0.0			39.4	D	
Intersection Delay, s/veh / LOS	27.2						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.66	B	2.08	B	1.96	B	1.96	B
Bicycle LOS Score / LOS	1.96	B	1.96	B			1.35	A

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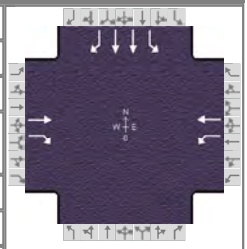
HCS7 Signalized Intersection Results Summary

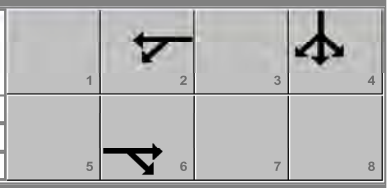
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	Future PLUS pm peak hour	PHF	1.00
Urban Street	Second Street	Analysis Year	2024	Analysis Period	1> 7:00
Intersection	Spring Street	File Name	1 PM PLUS FUTURE.xus		
Project Description	Future PLUS pm peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		678	212	166	735					19	953	73

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	73.3	38.7	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6		2				4
Case Number		7.0		6.0				9.0
Phase Duration, s		77.3		77.3				42.7
Change Period, ($Y+R_c$), s		4.0		4.0				4.0
Max Allow Headway (*MAH*), s		0.0		0.0				3.2
Queue Clearance Time (g_s), s								35.7
Green Extension Time (g_e), s		0.0		0.0				3.0
Phase Call Probability								1.00
Max Out Probability								0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		6	16	5	2					7	4	14
Adjusted Flow Rate (*v*), veh/h		678	212	166	735					19	953	73
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1710	1305	678	1710					1495	1628	760
Queue Service Time (g_s), s		30.6	9.0	25.1	35.2					1.0	33.7	8.6
Cycle Queue Clearance Time (g_c), s		30.6	9.0	55.7	35.2					1.0	33.7	8.6
Green Ratio (*g/C*)		0.61	0.61	0.61	0.61					0.32	0.32	0.32
Capacity (*c*), veh/h		1045	798	301	1045					481	1049	245
Volume-to-Capacity Ratio (*X*)		0.649	0.266	0.551	0.703					0.039	0.909	0.298
Back of Queue (*Q*), ft/ln (50 th percentile)		299.5	66.8	115.8	346.2					9.4	333.1	39.8
Back of Queue (*Q*), veh/ln (50 th percentile)		12.0	2.7	4.6	13.8					0.4	13.3	1.6
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	0.33	1.16	0.00					0.08	0.00	0.00
Uniform Delay (d_1), s/veh		15.0	10.8	33.0	15.9					27.9	39.0	30.5
Incremental Delay (d_2), s/veh		3.1	0.8	7.1	4.0					0.0	1.3	0.3
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Control Delay (*d*), s/veh		18.1	11.6	40.1	19.9					27.9	40.3	30.8
Level of Service (LOS)		B	B	D	B					C	D	C
Approach Delay, s/veh / LOS	16.6	B		23.6	C		0.0			39.4	D	
Intersection Delay, s/veh / LOS	27.2						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.66	B	2.08	B	1.96	B	1.96	B
Bicycle LOS Score / LOS	1.96	B	1.97	B			1.35	A

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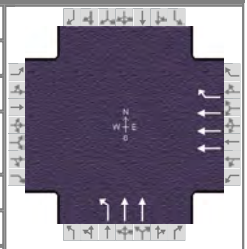
HCS7 Signalized Intersection Results Summary

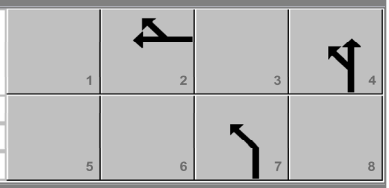
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	existing am peak hour	PHF	1.00
Urban Street	Third Street	Analysis Year	2021	Analysis Period	1> 7:00
Intersection	Main Street	File Name	2 AM FUTURE.xus		
Project Description	Future am peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h					1891	223	221	946				

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.0	0.0	0.0	0.0	0.0	0.0	
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	
Red	0.0	0.0	0.0	0.0	0.0	0.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				2		4		
Case Number				7.0		10.0		
Phase Duration, s				77.6		42.4		
Change Period, ($Y+R_c$), s				4.0		4.0		
Max Allow Headway (*MAH*), s				0.0		3.1		
Queue Clearance Time (g_s), s						35.4		
Green Extension Time (g_e), s				0.0		3.0		
Phase Call Probability						1.00		
Max Out Probability						0.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement					2	12	7	4				
Adjusted Flow Rate (*v*), veh/h					1891	223	221	946				
Adjusted Saturation Flow Rate (*s*), veh/h/ln					1553	1397	1578	1628				
Queue Service Time (g_s), s					31.7	8.8	13.3	33.4				
Cycle Queue Clearance Time (g_c), s					31.7	8.8	13.3	33.4				
Green Ratio (*g/C*)					0.61	0.61	0.32	0.32				
Capacity (*c*), veh/h					2857	857	505	1042				
Volume-to-Capacity Ratio (*X*)					0.662	0.260	0.438	0.908				
Back of Queue (*Q*), ft/ln (50 th percentile)					267.2	69.1	126.5	331				
Back of Queue (*Q*), veh/ln (50 th percentile)					10.7	2.8	5.1	13.2				
Queue Storage Ratio (*RQ*) (50 th percentile)					0.00	0.58	0.74	0.00				
Uniform Delay (d_1), s/veh					15.1	10.7	32.3	39.1				
Incremental Delay (d_2), s/veh					1.2	0.7	0.2	1.3				
Initial Queue Delay (d_3), s/veh					0.0	0.0	0.0	0.0				
Control Delay (*d*), s/veh					16.3	11.4	32.5	40.4				
Level of Service (LOS)					B	B	C	D				
Approach Delay, s/veh / LOS	0.0			15.8		B	38.9		D	0.0		
Intersection Delay, s/veh / LOS	24.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.96	B	1.66	B	2.16	B	1.96	B
Bicycle LOS Score / LOS			1.65	B	1.45	A		

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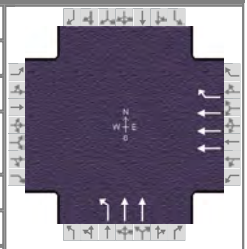
HCS7 Signalized Intersection Results Summary

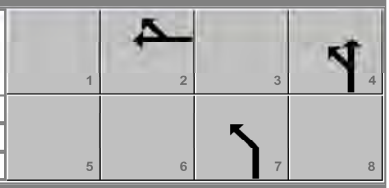
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	Future PLUS am peak hour	PHF	1.00
Urban Street	Third Street	Analysis Year	2024	Analysis Period	1> 7:00
Intersection	Main Street	File Name	2 AM FUTURE PLUS.xus		
Project Description	Future PLUS am peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h					1895	223	225	946				

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	73.6	38.4	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				2		4		
Case Number				7.0		10.0		
Phase Duration, s				77.6		42.4		
Change Period, ($Y+R_c$), s				4.0		4.0		
Max Allow Headway (*MAH*), s				0.0		3.1		
Queue Clearance Time (g_s), s						35.4		
Green Extension Time (g_e), s				0.0		3.0		
Phase Call Probability						1.00		
Max Out Probability						0.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement					2	12	7	4				
Adjusted Flow Rate (*v*), veh/h					1895	223	225	946				
Adjusted Saturation Flow Rate (*s*), veh/h/ln					1553	1397	1578	1628				
Queue Service Time (g_s), s					31.8	8.8	13.6	33.4				
Cycle Queue Clearance Time (g_c), s					31.8	8.8	13.6	33.4				
Green Ratio (*g/C*)					0.61	0.61	0.32	0.32				
Capacity (*c*), veh/h					2857	857	505	1042				
Volume-to-Capacity Ratio (*X*)					0.663	0.260	0.446	0.908				
Back of Queue (*Q*), ft/ln (50 th percentile)					268.3	69.1	129.2	331				
Back of Queue (*Q*), veh/ln (50 th percentile)					10.7	2.8	5.2	13.2				
Queue Storage Ratio (*RQ*) (50 th percentile)					0.00	0.58	0.76	0.00				
Uniform Delay (d_1), s/veh					15.1	10.7	32.4	39.1				
Incremental Delay (d_2), s/veh					1.2	0.7	0.2	1.3				
Initial Queue Delay (d_3), s/veh					0.0	0.0	0.0	0.0				
Control Delay (*d*), s/veh					16.4	11.4	32.6	40.4				
Level of Service (LOS)					B	B	C	D				
Approach Delay, s/veh / LOS	0.0			15.8		B	38.9		D	0.0		
Intersection Delay, s/veh / LOS	24.1						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.96	B	1.66	B	2.16	B	1.96	B
Bicycle LOS Score / LOS			1.65	B	1.45	A		

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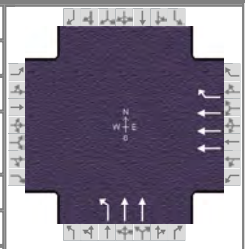
HCS7 Signalized Intersection Results Summary

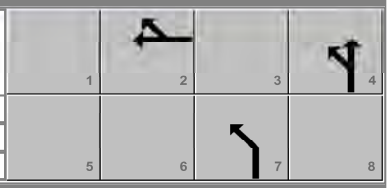
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	future pm peak hour	PHF	1.00
Urban Street	Third Street	Analysis Year	2024	Analysis Period	1> 7:00
Intersection	Main Street	File Name	2 PM FUTURE.xus		
Project Description	Future pm peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h					1498	434	263	1540				

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	51.2	60.8	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				2		4		
Case Number				7.0		10.0		
Phase Duration, s				55.2		64.8		
Change Period, ($Y+R_c$), s				4.0		4.0		
Max Allow Headway (*MAH*), s				0.0		3.1		
Queue Clearance Time (g_s), s						55.1		
Green Extension Time (g_e), s				0.0		5.7		
Phase Call Probability						1.00		
Max Out Probability						0.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement					2	12	7	4				
Adjusted Flow Rate (*v*), veh/h					1498	434	263	1540				
Adjusted Saturation Flow Rate (*s*), veh/h/ln					1553	1397	1563	1628				
Queue Service Time (g_s), s					32.6	31.0	12.0	53.1				
Cycle Queue Clearance Time (g_c), s					32.6	31.0	12.0	53.1				
Green Ratio (*g/C*)					0.43	0.43	0.51	0.51				
Capacity (*c*), veh/h					1987	596	792	1650				
Volume-to-Capacity Ratio (*X*)					0.754	0.728	0.332	0.933				
Back of Queue (*Q*), ft/ln (50 th percentile)					307.2	283.8	105.9	506.1				
Back of Queue (*Q*), veh/ln (50 th percentile)					12.3	11.4	4.2	20.2				
Queue Storage Ratio (*RQ*) (50 th percentile)					0.00	2.37	0.62	0.00				
Uniform Delay (d_1), s/veh					29.1	28.6	17.5	27.7				
Incremental Delay (d_2), s/veh					2.7	7.6	0.1	3.4				
Initial Queue Delay (d_3), s/veh					0.0	0.0	0.0	0.0				
Control Delay (*d*), s/veh					31.8	36.2	17.6	31.1				
Level of Service (LOS)					C	D	B	C				
Approach Delay, s/veh / LOS	0.0			32.8		C	29.1		C	0.0		
Intersection Delay, s/veh / LOS	31.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.96	B	1.69	B	2.16	B	1.96	B
Bicycle LOS Score / LOS			1.55	B	1.98	B		

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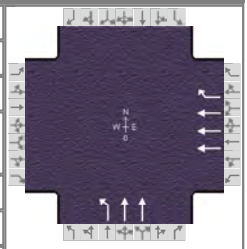
HCS7 Signalized Intersection Results Summary

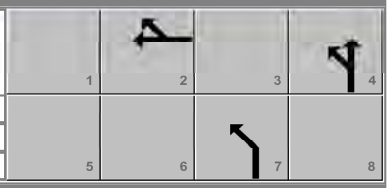
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	future PLUS pm peak hour	PHF	1.00
Urban Street	Third Street	Analysis Year	2024	Analysis Period	1> 7:00
Intersection	Main Street	File Name	2 PM PLUS FUTURE.xus		
Project Description	Future PLUS pm peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h					1514	434	280	1540				

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	51.1	60.9	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				2		4		
Case Number				7.0		10.0		
Phase Duration, s				55.1		64.9		
Change Period, ($Y+R_c$), s				4.0		4.0		
Max Allow Headway (*MAH*), s				0.0		3.1		
Queue Clearance Time (g_s), s						55.1		
Green Extension Time (g_e), s				0.0		5.8		
Phase Call Probability						1.00		
Max Out Probability						0.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement					2	12	7	4				
Adjusted Flow Rate (*v*), veh/h					1514	434	280	1540				
Adjusted Saturation Flow Rate (*s*), veh/h/ln					1553	1397	1563	1628				
Queue Service Time (g_s), s					33.2	31.0	12.9	53.1				
Cycle Queue Clearance Time (g_c), s					33.2	31.0	12.9	53.1				
Green Ratio (*g/C*)					0.43	0.43	0.51	0.51				
Capacity (*c*), veh/h					1985	595	793	1651				
Volume-to-Capacity Ratio (*X*)					0.763	0.729	0.353	0.933				
Back of Queue (*Q*), ft/ln (50 th percentile)					312.3	283.9	114.1	503.6				
Back of Queue (*Q*), veh/ln (50 th percentile)					12.5	11.4	4.6	20.1				
Queue Storage Ratio (*RQ*) (50 th percentile)					0.00	2.37	0.67	0.00				
Uniform Delay (d_1), s/veh					29.3	28.7	17.8	27.7				
Incremental Delay (d_2), s/veh					2.8	7.6	0.1	3.0				
Initial Queue Delay (d_3), s/veh					0.0	0.0	0.0	0.0				
Control Delay (*d*), s/veh					32.1	36.3	17.9	30.6				
Level of Service (LOS)					C	D	B	C				
Approach Delay, s/veh / LOS	0.0			33.0		C	28.7		C	0.0		
Intersection Delay, s/veh / LOS	30.9						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.96	B	1.69	B	2.16	B	1.96	B
Bicycle LOS Score / LOS			1.56	B	1.99	B		

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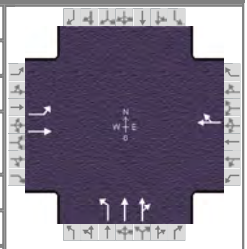
HCS7 Signalized Intersection Results Summary

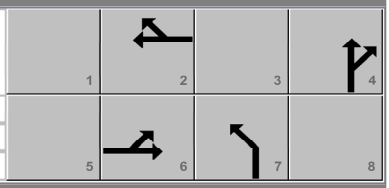
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	Future am peak hour	PHF	1.00
Urban Street	Second Street	Analysis Year	2024	Analysis Period	1> 7:00
Intersection	Main Street	File Name	3 AM FUTURE.xus		
Project Description	Future am peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	72	559			501	37	184	861	156			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.0	0.0	0.0	0.0	0.0	0.0	
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	
Red	0.0	0.0	0.0	0.0	0.0	0.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6		2		4		
Case Number		6.0		8.0		10.0		
Phase Duration, s		74.5		74.5		45.5		
Change Period, ($Y+R_c$), s		4.0		4.0		4.0		
Max Allow Headway (*MAH*), s		0.0		0.0		3.2		
Queue Clearance Time (g_s), s						38.7		
Green Extension Time (g_e), s		0.0		0.0		2.9		
Phase Call Probability						1.00		
Max Out Probability						0.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6			2	12	7	4	14			
Adjusted Flow Rate (*v*), veh/h	72	559			538		184	544	473			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	774	1710			1678		1269	1710	1484			
Queue Service Time (g_s), s	7.5	24.1			23.4		13.3	36.7	36.7			
Cycle Queue Clearance Time (g_c), s	30.9	24.1			23.4		13.3	36.7	36.7			
Green Ratio (*g/C*)	0.59	0.59			0.59		0.35	0.35	0.35			
Capacity (*c*), veh/h	364	1004			986		439	592	513			
Volume-to-Capacity Ratio (*X*)	0.198	0.557			0.546		0.419	0.920	0.920			
Back of Queue (*Q*), ft/ln (50 th percentile)	37.1	236.8			226		101.3	384	334.6			
Back of Queue (*Q*), veh/ln (50 th percentile)	1.5	9.5			9.0		4.1	15.4	13.4			
Queue Storage Ratio (*RQ*) (50 th percentile)	0.25	0.00			0.00		0.84	0.00	0.00			
Uniform Delay (d_1), s/veh	24.4	15.2			15.0		30.0	37.6	37.7			
Incremental Delay (d_2), s/veh	1.2	2.2			2.2		0.2	2.6	3.0			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0		0.0	0.0	0.0			
Control Delay (*d*), s/veh	25.6	17.4			17.2		30.3	40.3	40.7			
Level of Service (LOS)	C	B			B		C	D	D			
Approach Delay, s/veh / LOS	18.3	B		17.2	B		38.9	D		0.0		
Intersection Delay, s/veh / LOS	28.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.89	B	1.67	B	1.74	B	1.96	B
Bicycle LOS Score / LOS	1.53	B	1.38	A	1.48	A		

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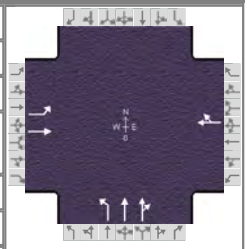
HCS7 Signalized Intersection Results Summary

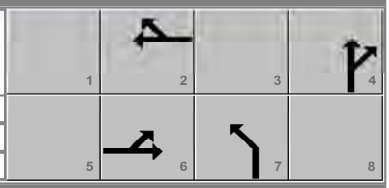
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	Future PLUS am peak hour	PHF	1.00
Urban Street	Second Street	Analysis Year	2024	Analysis Period	1> 7:00
Intersection	Main Street	File Name	3 AM PLUS FUTURE.xus		
Project Description	Future PLUS am peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	85	562			501	37	184	861	156			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	70.5	41.5	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6		2		4		
Case Number		6.0		8.0		10.0		
Phase Duration, s		74.5		74.5		45.5		
Change Period, ($Y+R_c$), s		4.0		4.0		4.0		
Max Allow Headway (*MAH*), s		0.0		0.0		3.2		
Queue Clearance Time (g_s), s						38.7		
Green Extension Time (g_e), s		0.0		0.0		2.9		
Phase Call Probability						1.00		
Max Out Probability						0.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6			2	12	7	4	14			
Adjusted Flow Rate (*v*), veh/h	85	562			538		184	544	473			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	774	1710			1678		1269	1710	1484			
Queue Service Time (g_s), s	9.0	24.2			23.4		13.3	36.7	36.7			
Cycle Queue Clearance Time (g_c), s	32.4	24.2			23.4		13.3	36.7	36.7			
Green Ratio (*g/C*)	0.59	0.59			0.59		0.35	0.35	0.35			
Capacity (*c*), veh/h	364	1004			986		439	592	513			
Volume-to-Capacity Ratio (*X*)	0.234	0.560			0.546		0.419	0.920	0.920			
Back of Queue (*Q*), ft/ln (50 th percentile)	44.7	238.6			226		101.3	384	334.6			
Back of Queue (*Q*), veh/ln (50 th percentile)	1.8	9.5			9.0		4.1	15.4	13.4			
Queue Storage Ratio (*RQ*) (50 th percentile)	0.30	0.00			0.00		0.84	0.00	0.00			
Uniform Delay (d_1), s/veh	24.9	15.2			15.0		30.0	37.6	37.7			
Incremental Delay (d_2), s/veh	1.5	2.3			2.2		0.2	2.6	3.0			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0		0.0	0.0	0.0			
Control Delay (*d*), s/veh	26.4	17.5			17.2		30.3	40.3	40.7			
Level of Service (LOS)	C	B			B		C	D	D			
Approach Delay, s/veh / LOS	18.6	B		17.2	B		38.9	D		0.0		
Intersection Delay, s/veh / LOS	28.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.89	B	1.67	B	1.74	B	1.96	B
Bicycle LOS Score / LOS	1.56	B	1.38	A	1.48	A		

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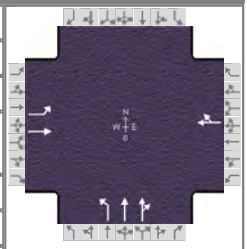
HCS7 Signalized Intersection Results Summary

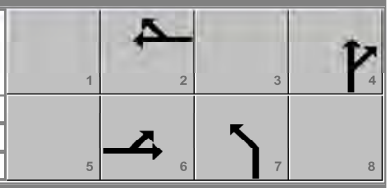
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	Future pm peak hour	PHF	1.00
Urban Street	Second Street	Analysis Year	2024	Analysis Period	1> 7:00
Intersection	Main Street	File Name	3 PM FUTURE.xus		
Project Description	Future pm peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	104	620			673	52	195	1419	111			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	56.0	56.0	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6		2		4		
Case Number		6.0		8.0		10.0		
Phase Duration, s		60.0		60.0		60.0		
Change Period, ($Y+R_c$), s		4.0		4.0		4.0		
Max Allow Headway (*MAH*), s		0.0		0.0		3.1		
Queue Clearance Time (g_s), s						57.0		
Green Extension Time (g_e), s		0.0		0.0		0.0		
Phase Call Probability						1.00		
Max Out Probability						1.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6			2	12	7	4	14			
Adjusted Flow Rate (*v*), veh/h	104	620			725		195	778	752			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	654	1710			1672		1297	1710	1627			
Queue Service Time (g_s), s	7.0	36.4			49.0		11.3	53.4	55.0			
Cycle Queue Clearance Time (g_c), s	56.0	36.4			49.0		11.3	53.4	55.0			
Green Ratio (*g/C*)	0.47	0.47			0.47		0.47	0.47	0.47			
Capacity (*c*), veh/h	98	798			780		605	798	759			
Volume-to-Capacity Ratio (*X*)	1.059	0.777			0.929		0.322	0.975	0.990			
Back of Queue (*Q*), ft/ln (50 th percentile)	147.5	397.1			571.9		84.6	664.5	671.3			
Back of Queue (*Q*), veh/ln (50 th percentile)	5.9	15.9			22.9		3.4	26.6	26.9			
Queue Storage Ratio (*RQ*) (50 th percentile)	0.98	0.00			0.00		0.70	0.00	0.00			
Uniform Delay (d_1), s/veh	58.6	26.8			30.1		20.1	31.3	31.7			
Incremental Delay (d_2), s/veh	107.6	7.3			19.0		0.1	25.6	30.1			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0		0.0	0.0	0.0			
Control Delay (*d*), s/veh	166.2	34.1			49.1		20.2	56.9	61.9			
Level of Service (LOS)	F	C			D		C	E	E			
Approach Delay, s/veh / LOS	53.1	D		49.1	D		54.9	D		0.0		
Intersection Delay, s/veh / LOS	53.2						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.91	B	1.69	B	1.74	B	1.96	B
Bicycle LOS Score / LOS	1.68	B	1.68	B	1.91	B		

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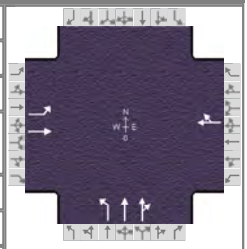
HCS7 Signalized Intersection Results Summary

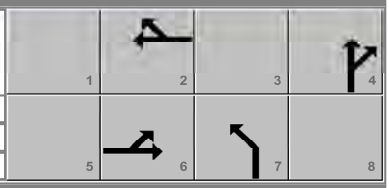
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	Future PLUS pm peak hour	PHF	1.00
Urban Street	Second Street	Analysis Year	2024	Analysis Period	1> 7:00
Intersection	Main Street	File Name	3 PM PLUS FUTURE.xus		
Project Description	Future PLUS pm peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	109	621			673	52	195	1419	111			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	56.0	56.0	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6		2		4		
Case Number		6.0		8.0		10.0		
Phase Duration, s		60.0		60.0		60.0		
Change Period, ($Y+R_c$), s		4.0		4.0		4.0		
Max Allow Headway (MAH), s		0.0		0.0		3.1		
Queue Clearance Time (g_s), s						57.0		
Green Extension Time (g_e), s		0.0		0.0		0.0		
Phase Call Probability						1.00		
Max Out Probability						1.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6			2	12	7	4	14			
Adjusted Flow Rate (v), veh/h	109	621			725		195	778	752			
Adjusted Saturation Flow Rate (s), veh/h/ln	654	1710			1672		1297	1710	1627			
Queue Service Time (g_s), s	7.0	36.5			49.0		11.3	53.4	55.0			
Cycle Queue Clearance Time (g_c), s	56.0	36.5			49.0		11.3	53.4	55.0			
Green Ratio (g/C)	0.47	0.47			0.47		0.47	0.47	0.47			
Capacity (c), veh/h	98	798			780		605	798	759			
Volume-to-Capacity Ratio (X)	1.110	0.778			0.929		0.322	0.975	0.990			
Back of Queue (Q), ft/ln (50 th percentile)	158.4	398.3			571.9		84.6	664.5	671.3			
Back of Queue (Q), veh/ln (50 th percentile)	6.3	15.9			22.9		3.4	26.6	26.9			
Queue Storage Ratio (RQ) (50 th percentile)	1.06	0.00			0.00		0.70	0.00	0.00			
Uniform Delay (d_1), s/veh	58.6	26.8			30.1		20.1	31.3	31.7			
Incremental Delay (d_2), s/veh	123.4	7.4			19.0		0.1	25.6	30.1			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0		0.0	0.0	0.0			
Control Delay (d), s/veh	182.1	34.2			49.1		20.2	56.9	61.9			
Level of Service (LOS)	F	C			D		C	E	E			
Approach Delay, s/veh / LOS	56.3	E		49.1	D		54.9	D		0.0		
Intersection Delay, s/veh / LOS	53.9						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.91	B	1.69	B	1.74	B	1.96	B
Bicycle LOS Score / LOS	1.69	B	1.68	B	1.91	B		

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ATTACHMENT 3

Noise Monitoring Data and Calculations Worksheets

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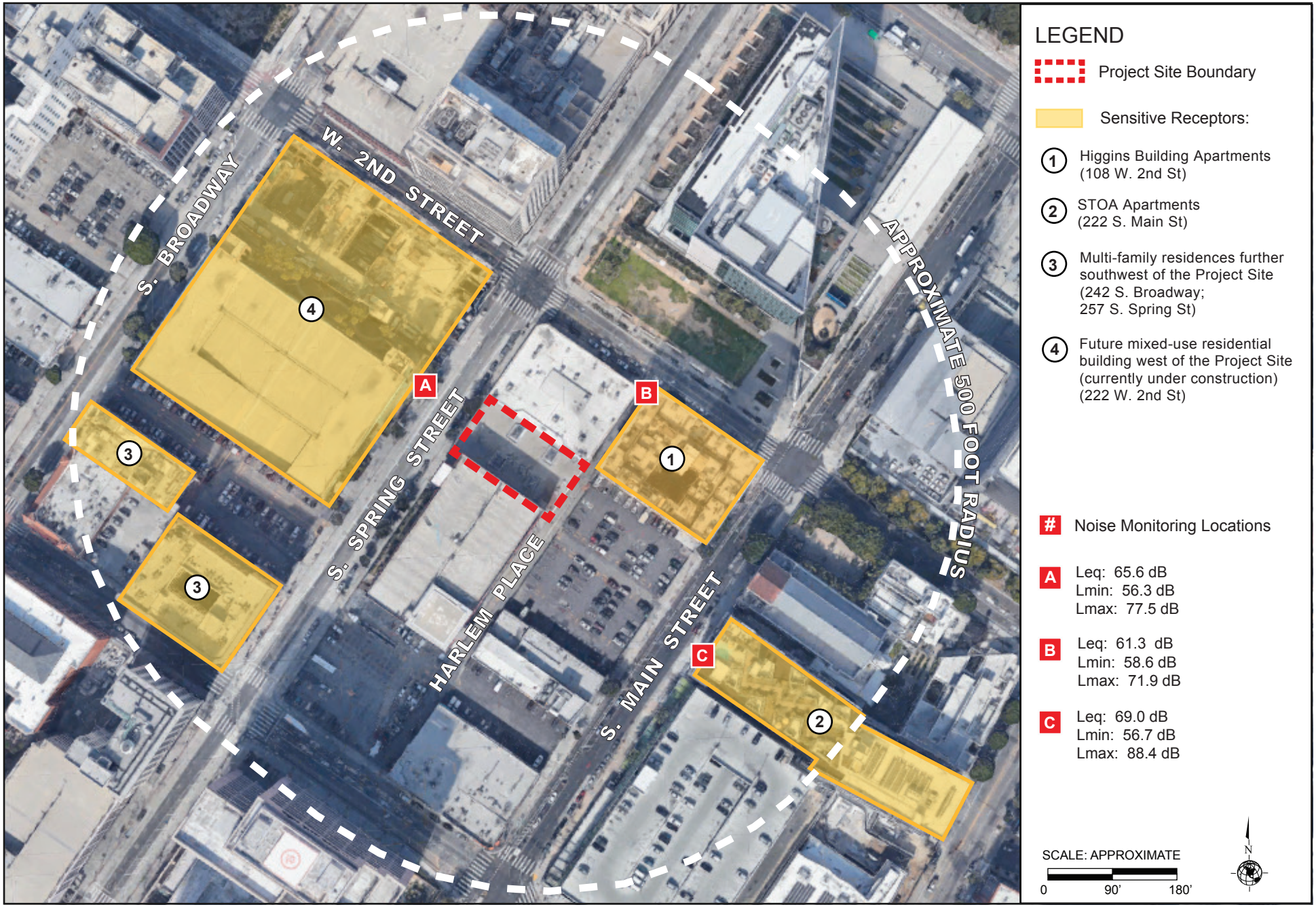


Source: Google Earth, Aerial View, 2021.

PARKER ENVIRONMENTAL CONSULTANTS

Figure 1
Noise Monitoring and Sensitive Receptor Location Map

June 11, 2021

Summary

File Name on Meter	831_Data.042.s
Serial Number	0010304
Model	SoundAdvisor™ Model 831C
Firmware Version	04.5.1R0
User	Ryan Morrison
Job Description	216 Spring Street Project

Location A: On the west side of Spring Street

Noise Sources: Vehicle traffic, pedestrian traffic, construction, buses

Measurement

Description	
Latitude	GPS Not Synchronized
Longitude	GPS Not Synchronized
Elevation	GPS Not Synchronized
Start	2021-06-11 14:07:42
Stop	2021-06-11 14:22:42
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2021-02-04 10:56:30
Post-Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting		
Peak Weight	A Weighting		
Detector	Slow		
Preamplifier	PRM831		
Microphone Correction	Off		
Integration Method	Linear		
Gain	0.0 dB		
Overload	144.7 dB		
	A	**C**	**Z**
Under Range Peak	**66.4**	67.4	69.4 dB
Under Range Limit	**25.7**	26.4	37.4 dB
Noise Floor	16.6	17.2	25.0 dB

Results

LAeq	65.6		
LAE	95.1		
EA	359.763 µPa²h		
LApeak (max)	2021-06-11 14:21:48	101.7 dB	
LASmax	2021-06-11 14:21:48	77.5 dB	
LASmin	2021-06-11 14:18:47	56.3 dB	
SEA	-99.94 dB		
LAFTM5	70.2 dB		
LAS > 65.0 dB (Exceedance Counts / Duration)	28	435.2 s	
LAS > 85.0 dB (Exceedance Counts / Duration)	0	0.0 s	
LApeak > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s	
LApeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s	
LApeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s	

Community Noise	**Ldn**	**LDay 07:00-22:00**	**Lden**	**LDay 07:00-19:00**
	65.6	65.6	65.6	65.6

LCeq	77.3 dB
LAeq	65.6 dB
LCeq - LAeq	11.7 dB
LAIeq	67.8 dB
LAeq	65.6 dB
LAIeq - LAeq	2.2 dB

June 11, 2021

	A	
	dB	Time Stamp
L_{eq}	65.6	
$L_{S(max)}$	77.5	2021/06/11 14:21:48
$L_{F(max)}$	84.3	2021/06/11 14:21:48
$L_{I(max)}$	87.5	2021/06/11 14:21:48
$L_{S(min)}$	56.3	2021/06/11 14:18:47
$L_{F(min)}$	55.8	2021/06/11 14:18:37
$L_{I(min)}$	56.1	2021/06/11 14:18:47
$L_{Peak(max)}$	101.7	2021/06/11 14:21:48

Overload Count	0	
Overload Duration	0.0	s

Statistics		
LAI5.00	70.4	dB
LAI10.00	68.4	dB
LAI33.30	65.0	dB
LAI50.00	63.5	dB
LAI66.60	62.4	dB
LAI90.00	59.3	dB

June 11, 2021

Summary

File Name on Meter	831_Data.043.s
Serial Number	0010304
Model	SoundAdvisor™ Model 831C
Firmware Version	04.5.1R0
User	Ryan Morrison
Job Description	216 Spring Street Project

Location B: On the south side of 2nd Street
Noise Sources: Vehicle traffic, pedestrian traffic

Measurement

Description	
Latitude	GPS Not Synchronized
Longitude	GPS Not Synchronized
Elevation	GPS Not Synchronized
Start	2021-06-11 14:26:33
Stop	2021-06-11 14:41:33
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2021-02-04 10:56:30
Post-Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRM831
Microphone Correction	Off
Integration Method	Linear
Gain	0.0 dB
Overload	144.7 dB

	A	C	Z
Under Range Peak	**66.4**	67.4	69.4 dB
Under Range Limit	**25.7**	26.4	37.4 dB
Noise Floor	16.6	17.2	25.0 dB

Results

LAeq	61.3	
LAE	90.9	
EA	135.247 µPa²h	
LApeak (max)	2021-06-11 14:30:53	93.2 dB
LASmax	2021-06-11 14:30:53	71.9 dB
LASmin	2021-06-11 14:33:56	58.6 dB
SEA	-99.94 dB	
LAFTM5	64.9 dB	
LAS > 65.0 dB (Exceedance Counts / Duration)	9	56.0 s
LAS > 85.0 dB (Exceedance Counts / Duration)	0	0.0 s
LApeak > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
LApeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
LApeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s

Community Noise	**Ldn**	**LDay 07:00-22:00**	**Lden**	**LDay 07:00-19:00**
	61.3	61.3	61.3	61.3

LCeq	74.8 dB
LAeq	61.3 dB
LCeq - LAeq	13.5 dB
LAIeq	63.0 dB
LAeq	61.3 dB
LAIeq - LAeq	1.7 dB

June 11, 2021

	A	
	dB	Time Stamp
Leq	61.3	
LS(max)	71.9	2021/06/11 14:30:53
LF(max)	78.0	2021/06/11 14:30:53
LI(max)	80.5	2021/06/11 14:30:53
LS(min)	58.6	2021/06/11 14:33:56
LF(min)	58.0	2021/06/11 14:33:53
LI(min)	58.4	2021/06/11 14:33:54
LPeak(max)	93.2	2021/06/11 14:30:53

Overload Count	0	
Overload Duration	0.0	s

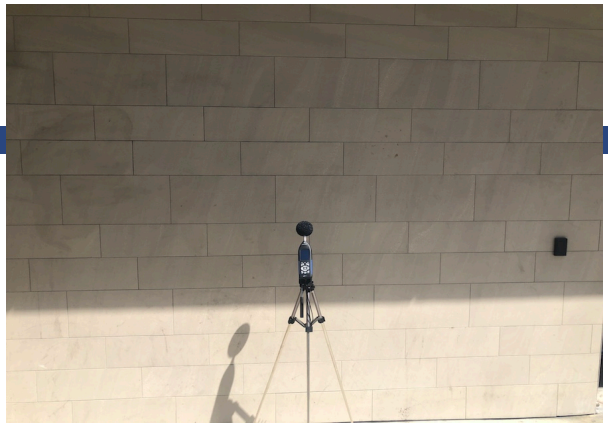
Statistics		
LAI5.00	64.3	dB
LAI10.00	63.1	dB
LAI33.30	61.0	dB
LAI50.00	60.4	dB
LAI66.60	60.1	dB
LAI90.00	59.5	dB

June 11, 2021

Summary

File Name on Meter	831_Data.044.s
Serial Number	0010304
Model	SoundAdvisor™ Model 831C
Firmware Version	04.5.1R0
User	Ryan Morrison
Job Description	216 Spring Street Project

Location C: On the east side of Main Street
Noise Sources: Vehicle traffic, pedestrian traffic



Measurement

Description	
Latitude	GPS Not Synchronized
Longitude	GPS Not Synchronized
Elevation	GPS Not Synchronized
Start	2021-06-11 14:59:59
Stop	2021-06-11 15:14:59
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2021-02-04 10:56:30
Post-Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting		
Peak Weight	A Weighting		
Detector	Slow		
Preamplifier	PRM831		
Microphone Correction	Off		
Integration Method	Linear		
Gain	0.0 dB		
Overload	144.7 dB		
	A	**C**	**Z**
Under Range Peak	**66.4**	67.4	69.4 dB
Under Range Limit	**25.7**	26.4	37.4 dB
Noise Floor	16.6	17.2	25.0 dB

Results

LAeq	69.0		
LAE	98.6		
EA	802.196 µPa²h		
LApeak (max)	2021-06-11 15:06:29	101.4 dB	
LASmax	2021-06-11 15:04:40	88.4 dB	
LASmin	2021-06-11 15:11:28	56.7 dB	
SEA	-99.94 dB		
LAFTM5	75.7 dB		
LAS > 65.0 dB (Exceedance Counts / Duration)	32	572.2 s	
LAS > 85.0 dB (Exceedance Counts / Duration)	1	3.7 s	
LApeak > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s	
LApeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s	
LApeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s	

Community Noise	**Ldn**	**LDay 07:00-22:00**	**Lden**	**LDay 07:00-19:00**
	69.0	69.0	69.0	69.0

LCeq	78.9 dB
LAeq	69.0 dB
LCeq - LAeq	9.9 dB
LAIeq	72.8 dB
LAeq	69.0 dB
LAIeq - LAeq	3.8 dB

June 11, 2021

	A	
	dB	Time Stamp
L_{eq}	69.0	
$L_{S(max)}$	88.4	2021/06/11 15:04:40
$L_{F(max)}$	91.9	2021/06/11 15:04:40
$L_{I(max)}$	92.5	2021/06/11 15:04:40
$L_{S(min)}$	56.7	2021/06/11 15:11:28
$L_{F(min)}$	55.8	2021/06/11 15:11:40
$L_{I(min)}$	56.5	2021/06/11 15:11:27
$L_{Peak(max)}$	101.4	2021/06/11 15:06:29

Overload Count	0	
Overload Duration	0.0	s

Statistics		
LAI5.00	73.0	dB
LAI10.00	71.3	dB
LAI33.30	68.0	dB
LAI50.00	65.6	dB
LAI66.60	63.2	dB
LAI90.00	59.0	dB

Report date: 6/14/21
Project: 216 Spring Street
Phase: Demolition

RECEPTOR #1

Description	Land Use	Ambient/Baseline (dBA) Daytime
Residential immediately NE of Project Site	Residential	61.3

Equipment							Without Attenuation			With Attenuation		
Description	Impact Device	Usage(%)	Spec. Max (dBA)	Actual Max (dBA)	Receptor Distance to Project Site (Feet)	Receptor Distance to Centerline of Project Site (Feet)	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq
Concrete/Industrial Saw	No	20	90	90	20	80	0	85.9	78.9	15	70.9	63.9
Dozer	No	40	85	82	20	80	0	80.9	76.9	15	65.9	61.9
							Construction Noise Level (dBA Leq)		81.1		Results	66.1
							Noise Level Above Ambient		19.8		Noise Level Above Ambient	4.8

RECEPTOR #2

Description	Land Use	Ambient/Baseline (dBA) Daytime
Residential east of P.S.; 222 S. Main Street	Residential	69

Equipment							Without Attenuation			With Attenuation		
Description	Impact Device	Usage(%)	Spec. Max (dBA)	Actual Max (dBA)	Receptor Distance to Project Site (Feet)	Receptor Distance to Centerline of Project Site (Feet)	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq
Concrete/Industrial Saw	No	20	90	90	260	340	10	63.3	56.4	15	48.3	41.4
Dozer	No	40	85	82	260	340	10	58.3	54.4	15	43.3	39.4
							Construction Noise Level (dBA Leq)		58.5		Results	43.5
							Noise Level Above Ambient		-10.5		Noise Level Above Ambient	-25.5

RECEPTOR #3

Description	Land Use	Ambient/Baseline (dBA) Daytime
Residential west of P.S.; 242 S. Broadway	Residential	65.6

Equipment							Without Attenuation			With Attenuation		
Description	Impact Device	Usage(%)	Spec. Max (dBA)	Actual Max (dBA)	Receptor Distance to Project Site (Feet)	Receptor Distance to Centerline of Project Site (Feet)	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq
Concrete/Industrial Saw	No	20	90	90	320	380	10	62.4	55.4	15	47.4	40.4
Dozer	No	40	85	82	320	380	10	57.4	53.4	15	42.4	38.4
							Construction Noise Level (dBA Leq)		57.5		Results	42.5
							Noise Level Above Ambient		-8.1		Noise Level Above Ambient	-23.1

RECEPTOR #4

Description	Land Use	Ambient/Baseline (dBA) Daytime
Future mixed-use residential; 222 W. 2nd Street.	Residential	65.6

Equipment							Without Attenuation			With Attenuation		
Description	Impact Device	Usage(%)	Spec. Max (dBA)	Actual Max (dBA)	Receptor Distance to Project Site (Feet)	Receptor Distance to Centerline of Project Site (Feet)	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq
Concrete/Industrial Saw	No	20	90	90	100	160	0	79.9	72.9	15	64.9	57.9
Dozer	No	40	85	82	100	160	0	74.9	70.9	15	59.9	55.9
							Construction Noise Level (dBA Leq)		75.0		Results	60.0
							Noise Level Above Ambient		9.4		Noise Level Above Ambient	-5.6

Notes:
1. Daytime noise levels are based on actual noise measurements taken at the Project Site vicinity.
2. An attenuation factor was applied for sensitive receptors where buildings separate the Project Site and the associated senstive receptor.
3. Calculations based on the loudest two pieces of heavy construction equipment specific to each phase.

Source: Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 6/14/21
Project: 216 Spring Street
Phase: Grading

RECEPTOR #1

Description	Land Use	Ambient/Baseline (dBA) Daytime
Residential immediately west and east of Project Site	Residential	61.3

Equipment							Without Attenuation			With Attenuation		
Description	Impact Device	Usage(%)	Spec. Max (dBA)	Actual Max (dBA)	Receptor Distance to Project Site (Feet)	Receptor Distance to Centerline of Project Site (Feet)	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq
Grader	No	40	85	85	20	80	0	80.9	76.9	15	65.9	61.9
Tractor/Backhoe	No	40	85	82	20	80	0	80.9	76.9	15	65.9	61.9
							Construction Noise Level (dBA Leq)		79.9		Results	64.9
							Noise Level Above Ambient		18.6		Noise Level Above Ambient	3.6

RECEPTOR #2

Description	Land Use	Ambient/Baseline (dBA) Daytime
Residential further east and west fronting W. 28th Street	Residential	69

Equipment							Without Attenuation			With Attenuation		
Description	Impact Device	Usage(%)	Spec. Max (dBA)	Actual Max (dBA)	Receptor Distance to Project Site (Feet)	Receptor Distance to Centerline of Project Site (Feet)	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq
Grader	No	40	85	85	260	340	10	58.3	54.4	15	43.3	39.4
Tractor/Backhoe	No	40	85	82	260	340	10	58.3	54.4	15	43.3	39.4
							Construction Noise Level (dBA Leq)		57.4		Results	42.4
							Noise Level Above Ambient		-11.6		Noise Level Above Ambient	-26.6

RECEPTOR #3

Description	Land Use	Ambient/Baseline (dBA) Daytime
Residential south of Project Site, fronting 28th Street	Residential	65.6

Equipment							Without Attenuation			With Attenuation		
Description	Impact Device	Usage(%)	Spec. Max (dBA)	Actual Max (dBA)	Receptor Distance to Project Site (Feet)	Receptor Distance to Centerline of Project Site (Feet)	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq
Grader	No	40	85	85	320	380	10	57.4	53.4	15	42.4	38.4
Tractor/Backhoe	No	40	85	82	320	380	10	57.4	53.4	15	42.4	38.4
							Construction Noise Level (dBA Leq)		56.4		Results	41.4
							Noise Level Above Ambient		-9.2		Noise Level Above Ambient	-24.2

RECEPTOR #4

Description	Land Use	Ambient/Baseline (dBA) Daytime
Residential north of Project Site, fronting 27th Street	Residential	65.6

Equipment							Without Attenuation			With Attenuation		
Description	Impact Device	Usage(%)	Spec. Max (dBA)	Actual Max (dBA)	Receptor Distance to Project Site (Feet)	Receptor Distance to Centerline of Project Site (Feet)	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq
Grader	No	40	85	85	100	160	0	74.9	70.9	15	59.9	55.9
Tractor/Backhoe	No	40	85	82	100	160	0	74.9	70.9	15	59.9	55.9
							Construction Noise Level (dBA Leq)		73.9		Results	58.9
							Noise Level Above Ambient		8.3		Noise Level Above Ambient	-6.7

Notes:
1. Daytime noise levels are based on actual noise measurements taken at the Project Site vicinity.
2. An attenuation factor was applied for sensitive receptors where buildings separate the Project Site and the associated senstive receptor.
3. Calculations based on the loudest two pieces of heavy construction equipment specific to each phase.

Source: Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 6/14/21
Project: 216 Spring Street
Phase: Building Construction

RECEPTOR #1

Description	Land Use	Ambient/Baseline (dBA) Daytime
Residential immediately west and east of Project Site	Residential	61.3

Equipment							Without Mitigation			With Mitigation		
Description	Impact Device	Usage(%)	Spec. Max (dBA)	Actual Max (dBA)	Receptor Distance to Project Site (Feet)	Receptor Distance to Centerline of Project Site (Feet)	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq
Roller	No	20	85	80	20	80	0	75.9	68.9	15	60.9	53.9
Generator	No	50	82	81	20	80	0	76.9	73.9	15	61.9	58.9
							Construction Noise Level (dBA Leq)		75.1	Results		60.1
							Noise Level Above Ambient		13.8	Noise Level Above Ambient		-1.2

RECEPTOR #2

Description	Land Use	Ambient/Baseline (dBA) Daytime
Residential further east and west fronting W. 28th Street	Residential	69

Equipment							Without Attenuation			With Attenuation		
Description	Impact Device	Usage(%)	Spec. Max (dBA)	Actual Max (dBA)	Receptor Distance to Project Site (Feet)	Receptor Distance to Centerline of Project Site (Feet)	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq
Roller	No	20	85	80	260	340	10	53.3	46.4	15	38.3	31.4
Generator	No	50	82	81	260	340	10	54.3	51.3	15	39.3	36.3
							Construction Noise Level (dBA Leq)		52.5	Results		37.5
							Noise Level Above Ambient		-16.5	Noise Level Above Ambient		-31.5

RECEPTOR #3

Description	Land Use	Ambient/Baseline (dBA) Daytime
Residential south of Project Site, fronting 28th Street	Residential	65.6

Equipment							Without Attenuation			With Attenuation		
Description	Impact Device	Usage(%)	Spec. Max (dBA)	Actual Max (dBA)	Receptor Distance to Project	Receptor Distance to Centerline of	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq
Roller	No	20	85	80	320	380	10	52.4	45.4	15	37.4	30.4
Generator	No	50	82	81	320	380	10	53.4	50.4	15	38.4	35.4
							Construction Noise Level (dBA Leq)		51.6	Results		36.6
							Noise Level Above Ambient		-14.0	Noise Level Above Ambient		-29.0

RECEPTOR #4

Description	Land Use	Ambient/Baseline (dBA) Daytime
Residential north of Project Site, fronting 27th Street	Residential	65.6

Equipment							Without Attenuation			With Attenuation		
Description	Impact Device	Usage(%)	Spec. Max (dBA)	Actual Max (dBA)	Receptor Distance to Project	Receptor Distance to Centerline of	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq
Roller	No	20	85	80	100	160	0	69.9	62.9	15	54.9	47.9
Generator	No	50	82	81	100	160	0	70.9	67.9	15	55.9	52.9
							Construction Noise Level (dBA Leq)		69.1	Results		54.1
							Noise Level Above Ambient		3.5	Noise Level Above Ambient		-11.5

Notes:
1. Daytime noise levels are based on actual noise measurements taken at the Project Site vicinity.
2. An attenuation factor was applied for sensitive receptors where buildings separate the Project Site and the associated senstive receptor.
3. Calculations based on the loudest two pieces of heavy construction equipment specific to each phase.

Source: Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 6/14/21
Project: 216 Spring Street
Phase: Architectural Coating

RECEPTOR #1

Description	Land Use	Ambient/Baseline (dBA) Daytime
Residential immediately west and east of Project Site	Residential	61.3

Equipment							Without Attenuation			With Attenuation		
Description	Impact Device	Usage(%)	Spec. Max (dBA)	Actual Max (dBA)	Receptor Distance to Project Site (Feet)	Receptor Distance to Centerline of Project Site (Feet)	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq
Air Compressor	No	50	80	78	20	80	0	73.9	70.9	15	58.9	55.9
Air Compressor	No	50	80	78	20	80	0	73.9	70.9	15	58.9	55.9
							Construction Noise Level (dBA Leq)		73.9		Results	58.9
							Noise Level Above Ambient		12.6	Noise Level Above Ambient		-2.4

RECEPTOR #2

Description	Land Use	Ambient/Baseline (dBA) Daytime
Residential further east and west fronting W. 28th Street	Residential	69

Equipment							Without Attenuation			With Attenuation		
Description	Impact Device	Usage(%)	Spec. Max (dBA)	Actual Max (dBA)	Receptor Distance to Project Site (Feet)	Receptor Distance to Centerline of Project Site (Feet)	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq
Air Compressor	No	50	80	78	260	340	10	51.3	48.3	15	36.3	33.3
Air Compressor	No	50	80	78	260	340	10	51.3	48.3	15	36.3	33.3
							Construction Noise Level (dBA Leq)		51.3		Results	36.3
							Noise Level Above Ambient		-17.7	Noise Level Above Ambient		-32.7

RECEPTOR #3

Description	Land Use	Ambient/Baseline (dBA) Daytime
Residential south of Project Site, fronting 28th Street	Residential	65.6

Equipment							Without Attenuation			With Attenuation		
Description	Impact Device	Usage(%)	Spec. Max (dBA)	Actual Max (dBA)	Receptor Distance to Project Site (Feet)	Receptor Distance to Centerline of Project Site (Feet)	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq
Air Compressor	No	50	80	78	320	380	10	50.4	47.4	15	35.4	32.4
Air Compressor	No	50	80	78	320	380	10	50.4	47.4	15	35.4	32.4
							Construction Noise Level (dBA Leq)		50.4		Results	35.4
							Noise Level Above Ambient		-15.2	Noise Level Above Ambient		-30.2

RECEPTOR #4

Description	Land Use	Ambient/Baseline (dBA) Daytime
Residential north of Project Site, fronting 27th Street	Residential	65.6

Equipment							Without Attenuation			With Attenuation		
Description	Impact Device	Usage(%)	Spec. Max (dBA)	Actual Max (dBA)	Receptor Distance to Project Site (Feet)	Receptor Distance to Centerline of Project Site (Feet)	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq
Air Compressor	No	50	80	78	100	160	0	67.9	64.9	15	52.9	49.9
Air Compressor	No	50	80	78	100	160	0	67.9	64.9	15	52.9	49.9
							Construction Noise Level (dBA Leq)		67.9		Results	52.9
							Noise Level Above Ambient		2.3	Noise Level Above Ambient		-12.7

Notes:
1. Daytime noise levels are based on actual noise measurements taken at the Project Site vicinity.
2. An attenuation factor was applied for sensitive receptors where buildings separate the Project Site and the associated senstive receptor.
3. Calculations based on the loudest two pieces of heavy construction equipment specific to each phase.

Source: Roadway Construction Noise Model (RCNM),Version 1.1

Construction Noise Impact Summary With Project Design Features

Address		Ambient Noise (dBA Leq)	Noise Level Impact (dBA Leq) by Phase: Demolition	Grading	Building Construction	Architectural Coating	Threshold (dBA Leq)**	Construction Noise Above Threshold
RECEPTOR #1	Residential immediately NE of Project Site	61.3	66.1	64.9	60.1	58.9	66.3	0.0
RECEPTOR #2	Residential east of P.S.; 222 S. Main Street	69.0	43.5	42.4	37.5	36.3	74.0	0.0
RECEPTOR #3	Residential west of P.S.; 242 S. Broadway	65.6	42.5	41.4	36.6	35.4	70.6	0.0
RECEPTOR #4	Future mixed-use residential; 222 W. 2nd Street.	65.6	60.0	58.9	54.1	52.9	70.6	0.0

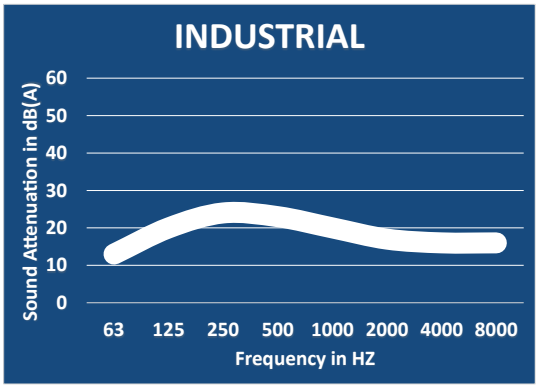
** Significance criteria is based on a 5- dBA noise increase above ambient threshold .

NETT TECHNOLOGIES INC.
www.nettinc.com sales@nettinc.com +1 (905) 672-5453

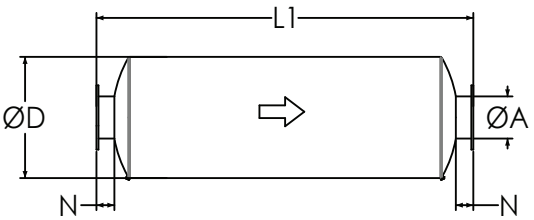
Industrial Grade Silencers

Model NTIN-C (Cylindrical), 15-20 dBA

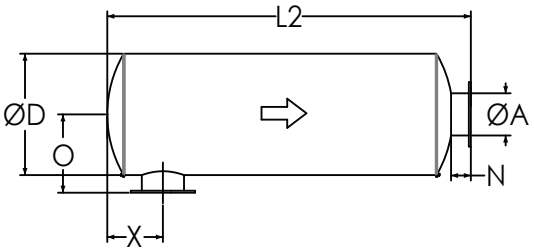
TYPICAL ATTENUATION CURVE



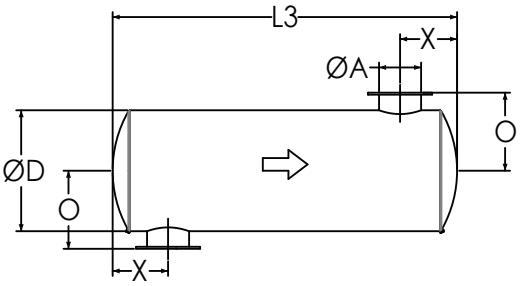
TYPICAL CONFIGURATIONS



END IN END OUT (EI-EO)



SIDE IN END OUT (SI-EO)



SIDE IN SIDE OUT (SI-SO)

Nett Technologies' Industrial Grade Silencers are designed to achieve maximum performance with the least amount of backpressure.
The silencers are Reactive Silencers and are typically used for reciprocating or positive displacement engines where noise level regulations are low.

FEATURES & BENEFITS

- Over 25 years of excellence in manufacturing noise and emission control solutions
- Compact modular designs providing ease of installations, less weight and less foot-print
- Responsive lead time for both standard and custom designs to meet your needs
- Customized engineered systems solutions to meet challenging integration and engine requirements

Contact Nett Technologies with your projects design requirements and specifications for optimized noise control solutions.

OPTIONS

- Versatile connections including ANSI pattern flanges, NPT, slip-on, engine flange, schedule 40 and others
- Aluminized Steel, Stainless Steel 304 or 316 construction
- Horizontal or vertical mounting brackets and lifting lugs

ACCESSORIES

- Hardware Kits
- Flexible connectors and expansion joints
- Elbows
- Thimbles
- Raincaps
- Thermal insulation: integrated or with thermal insulation blankets
- Please see our accessories catalog for a complete listing

PRODUCT DIMENSIONS (in)

Model*	A	D	L1	L2	L3	X**	X	N	O
	Outlet	Dia	EI-EO	SI-EO	SI-SO	Min	Max	Nipple	O
NTIN-C1	1	4	20	18	16	3	7	2	4
NTIN-C1.5	1.5	6	22	20	18	3	8	2	5
NTIN-C2	2	6	22	19	16	3	8	3	6
NTIN-C2.5	2.5	6	24	21	18	4	9	3	6
NTIN-C3	3	8	26	23	20	5	10	3	7
NTIN-C3.5	3.5	9	28	25	22	5	11	3	8
NTIN-C4	4	10	32	29	26	5	12	3	8
NTIN-C5	5	12	36	33	30	6	14	3	9
NTIN-C6	6	14	40	36	32	7	16	4	11
NTIN-C8	8	16	50	46	42	8	21	4	12
NTIN-C10	10	20	52	48	44	11	21	4	14
NTIN-C12	12	24	62	58	54	12	26	4	16
NTIN-C14	14	30	74	69	64	15	31	5	20
NTIN-C16	16	36	82	77	72	18	35	5	23
NTIN-C18	18	40	94	89	84	18	42	5	25
NTIN-C20	20	40	110	105	100	19	52	5	25
NTIN-C22	22	48	118	113	108	22	56	5	29
NTIN-C24	24	48	130	125	120	24	62	5	29

* Other models and custom designs are available upon request. Dimensions subject to change without notice. All silencers are equipped with drain ports on inlet side. The silencer is all welded construction and coated with high heat black paint for maximum durability.

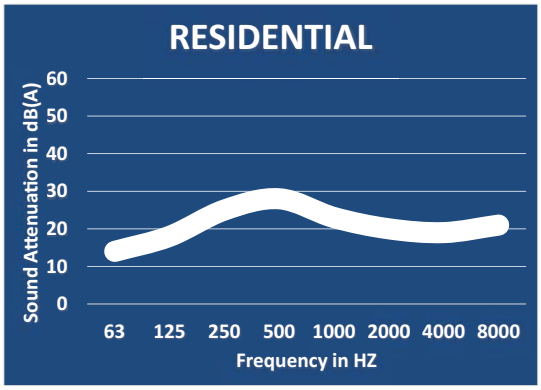
** Standard inlet/outlet position.

NETT TECHNOLOGIES INC.
www.nettinc.com sales@nettinc.com +1 (905) 672-5453

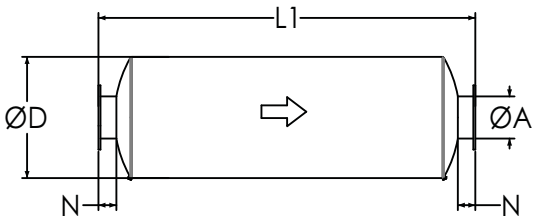
Residential Grade Silencers

Model NTRS-C (Cylindrical), 20-25 dBA

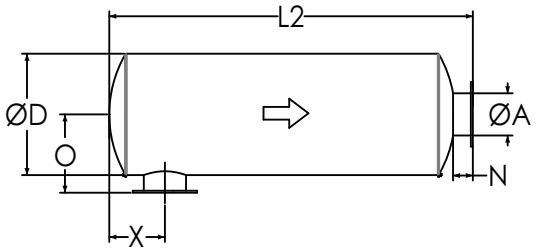
TYPICAL ATTENUATION CURVE



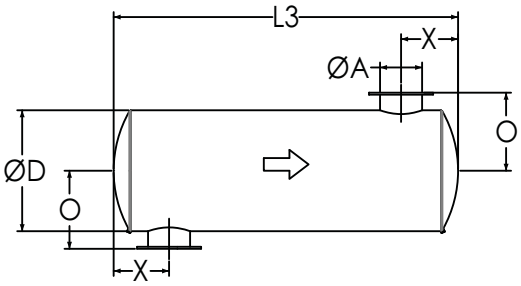
TYPICAL CONFIGURATIONS



END IN END OUT (EI-EO)



SIDE IN END OUT (SI-EO)



SIDE IN SIDE OUT (SI-SO)

Nett Technologies' Residential Grade Silencers are designed to achieve maximum performance with the least amount of backpressure. The silencers are Reactive Silencers and are typically used for reciprocating or positive displacement engines where noise level regulations are medium-low.

FEATURES & BENEFITS

- Over 25 years of excellence in manufacturing noise and emission control solutions
- Compact modular designs providing ease of installations, less weight and less foot-print
- Responsive lead time for both standard and custom designs to meet your needs
- Customized engineered systems solutions to meet challenging integration and engine requirements

Contact Nett Technologies with your projects design requirements and specifications for optimized noise control solutions.

OPTIONS

- Versatile connections including ANSI pattern flanges, NPT, slip-on, engine flange, schedule 40 and others
- Aluminized Steel, Stainless Steel 304 or 316 construction
- Horizontal or vertical mounting brackets and lifting lugs

ACCESSORIES

- Hardware Kits
- Flexible connectors and expansion joints
- Elbows
- Thimbles
- Raincaps
- Thermal insulation: integrated or with thermal insulation blankets
- Please see our accessories catalog for a complete listing

PRODUCT DIMENSIONS (in)

Model*	A	D	L1	L2	L3	X**	X	N	O
	Outlet	Dia	EI-EO	SI-EO	SI-SO	Min	Max	Nipple	O
NTRS-C1	1	4	20	18	16	3	10	2	4
NTRS-C1.5	1.5	6	28	26	24	3	12	2	5
NTRS-C2	2	6	28	25	22	4	12	3	6
NTRS-C2.5	2.5	6	32	29	26	4	14	3	6
NTRS-C3	3	6	34	31	28	5	15	3	6
NTRS-C3.5	3.5	9	36	33	30	5	16	3	8
NTRS-C4	4	10	40	37	34	5	17	3	8
NTRS-C5	5	12	42	39	36	6	18	3	9
NTRS-C6	6	14	44	40	36	7	19	4	11
NTRS-C8	8	16	56	52	48	9	24	4	12
NTRS-C10	10	20	58	54	50	11	24	4	14
NTRS-C12	12	24	70	66	62	13	31	4	16
NTRS-C14	14	30	80	75	70	17	35	5	20
NTRS-C16	16	36	90	85	80	17	40	5	23
NTRS-C18	18	40	102	97	92	18	47	5	25
NTRS-C20	20	42	108	103	98	21	50	5	26
NTRS-C22	22	48	116	111	106	23	54	5	29
NTRS-C24	24	48	130	125	120	26	61	5	29

* Other models and custom designs are available upon request. Dimensions subject to change without notice. All silencers are equipped with drain ports on inlet side. The silencer is all welded construction and coated with high heat black paint for maximum durability.

** Standard inlet/outlet position.

Acoustical Surfaces, Inc.

SOUNDPROOFING, ACOUSTICS, NOISE & VIBRATION CONTROL SPECIALISTS

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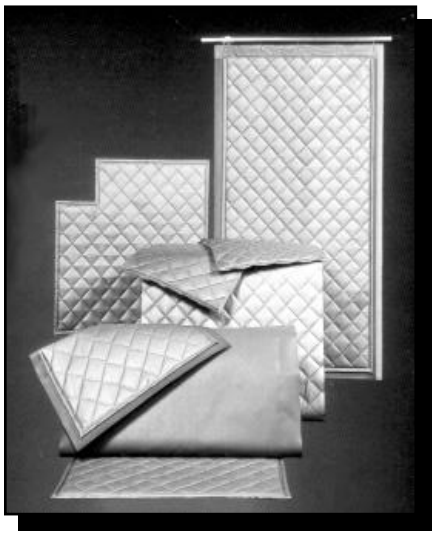
We Identify and S.T.O.P. Your Noise Problems



QUILTED CURTAIN S.T.O.P.

Absorptive/Noise Barrier Quilted Curtains

- ***For Unusual Conditions***
- ***Cost Effective***
- ***Water & Chemical Resistant***
- ***Exterior Applications***

MATERIAL: Foam or fiberglass core, faced with quilted aluminized fabric.

PATTERN: Quilted pattern.

FEATURES: Effective and durable absorber with mass loaded vinyl barrier option.

APPLICATIONS: Effective solution to a wide range of noise control problems. Machinery and work area enclosures.

THICKNESS: 1" & 2".

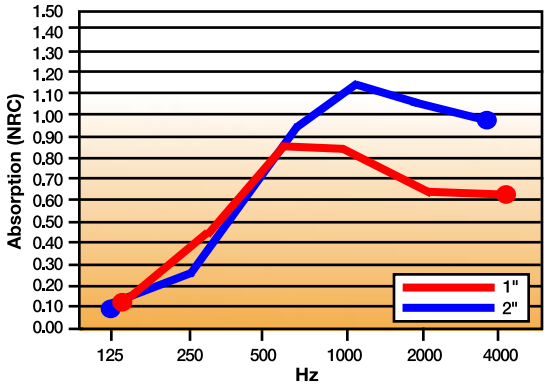
NOM SIZES: BSC-25 Curtain (Quilting on both sides) standard: 48" wide and Lengths up to 25'.
BBC-13 Curtain (Quilting on one side) standard: 54" wide and Lengths up to 25'. Custom sizes also available.

COLOR: Silver (Other colors available upon request).

FLAMMABILITY: ASTM E-84, Class A. Flame Spread: 23, Smoke Developed: 30.

INSTALLATION: Hook and loop fasteners, grommet hangers, curtain support hardware.

–



CURTAIN S.T.O.P. Sound Transmission Loss - ASTM E90 /a/ /b/

Frequency	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	STC
BSC-25 w/ 1 lb. Barrier	12	10	27	40	44	43	29
BSC-25 w/ 2 lb. Barrier	19	22	28	40	56	61	33
BBC-13 w/ 1 lb. Barrier	11	10	24	30	35	35	27
BBC-13 w/ 2 lb. Barrier	19	22	28	40	56	61	33

CURTAIN S.T.O.P. Sound Absorption Coefficients

Frequency	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	NRC
1" Fiberglass	.12	.47	.85	.84	.64	.62	.70
2" Fiberglass	.19	.99	.96	.80	.57	.33	.85

/a/ Sound transmission loss is the decibel reduction achieved at different frequencies. Construction noise occurs throughout the frequency spectrum. An example of high frequency noise is the whining sound from a concrete saw or jackhammering, low frequency noise can be usually attributed to equipment such as the humming of a generator.
/b/ Sound Transmission Class (STC) is the integer rating of how well a material attenuates airborne sound. It is however a rough idea of sound reduction versus the transmission loss calculated at different frequencies.

• Soundproofing Products • Sonex™ Ceiling & Wall Panels • Sound Control Curtains • Equipment Enclosures • Acoustical Baffles & Banners • Solid Wood & Veneer Acoustical Ceiling & Wall Systems • Professional Audio Acoustics • Vibration & Damping Control • Fire Retardant Acoustics • Hearing Protection • Moisture & Impact Resistant Products • Floor Impact Noise Reduction • Sound Absorbers • Noise Barriers • Fabric Wrapped Wall Panels • Acoustical Foam (Egg Crate) • Acoustical Sealants & Adhesives • Outdoor Noise Control • Assistive Listening Devices • OSHA, FDA, ADA Compliance • On-Site Acoustical Analysis • Acoustical Design & Consulting • Large Inventory • Fast Shipment • No Project too Large or Small • Major Credit Cards Accepted

Acoustical Surfaces, Inc.

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We Identify and S.T.O.P. Your Noise Problems

Echo Barrier™

The Industry's First Reusable, Indoor/ Outdoor Noise Barrier/Absorber

- Superior acoustic performance
- Industrial durability
- Simple and quick installation system
- Lightweight for easy handling
- Unique roll-up design for compact storage and transportation
- Double or triple up for noise 'hot spots'
- Ability to add branding or messages
- Range of accessories available
- Weatherproof – absorbs sound but not water
- Fire retardant
- 1 person can do the job of 2 or 3 people

Why is it all too often we see construction sites with fencing but no regard for sound issues created from the construction that is taking place? This is due to the fact that there has not been an efficient means of treating this type of noise that was cost effective ***until now.***

Echo Barrier temporary fencing is a reusable, outdoor noise barrier. Designed to fit on all types of temporary fencing. Echo Barrier absorbs sound while remaining quick to install, light to carry and tough to last.

BENEFITS: Echo Barrier can help reduce noise complaints, enhance your company reputation, extend site operating hours, reduce project timescales & costs, and improve working conditions.

APPLICATIONS: Echo Barrier works great for construction & demolition sites; rail maintenance & replacement; music, sports and other public events; road construction; utility/maintenance sites; loading and unloading areas; outdoor gun ranges.

DIMENSIONS: 6.56' × 4.49'.

WEIGHT: 13 lbs.

ACOUSTIC PERFORMANCE: 10-20dB noise reduction (greater if barrier is doubled up).

INSTALLATION: The Echo Barrier is easily installed using our quick hook system and specially designed elastic ties.

Echo Barrier Transmission Loss Field Data

	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz
Single Layer	6	12	16	23	28	30	30
Double Layer	7	19	24	28	32	31	32

• Soundproofing Products • Sonex™ Ceiling & Wall Panels • Sound Control Curtains • Equipment Enclosures • Acoustical Baffles & Banners • Solid Wood & Veneer Acoustical Ceiling & Wall Systems • Professional Audio Acoustics • Vibration & Damping Control • Fire Retardant Acoustics • Hearing Protection • Moisture & Impact Resistant Products • Floor Impact Noise Reduction • Sound Absorbers • Noise Barriers • Fabric Wrapped Wall Panels • Acoustical Foam (Egg Crate) • Acoustical Sealants & Adhesives • Outdoor Noise Control • Assistive Listening Devices • OSHA, FDA, ADA Compliance • On-Site Acoustical Analysis • Acoustical Design & Consulting • Large Inventory • Fast Shipment • No Project too Large or Small • Major Credit Cards Accepted

ATTACHMENT 4

Air Quality Modeling Worksheets

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

216 Spring Street - Existing Conditions

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	14.00	1000sqft	0.29	14,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2021
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	691.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Existing 14,000 sf commercial office building on 0.29-acre site.

Construction Phase - IGNORE CONSTRUCTION EMISSIONS FOR EXISTING CONDITIONS SCENARIO.

Vehicle Trips - Trip rates adjusted based on Transportation Assessment (September 2021).

Energy Use - Assumes historical Title 24 for existing conditions scenario.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	100.00	10.00
tblLandUse	LotAcreage	0.32	0.29
tblVehicleTrips	CC_TL	8.40	8.08
tblVehicleTrips	CC_TTP	48.00	100.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PR_TP	77.00	100.00
tblVehicleTrips	ST_TR	2.21	6.43
tblVehicleTrips	SU_TR	0.70	6.43
tblVehicleTrips	WD_TR	9.74	6.43

2.0 Emissions Summary

216 Spring Street - Existing Conditions - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	13.2006	8.1064	7.4668	0.0122	0.0575	0.4496	0.5071	0.0156	0.4137	0.4292	0.0000	1,187.6970	1,187.6970	0.3594	7.1800e-003	1,198.8253
Maximum	**13.2006**	**8.1064**	**7.4668**	**0.0122**	**0.0575**	**0.4496**	**0.5071**	**0.0156**	**0.4137**	**0.4292**	**0.0000**	**1,187.6970**	**1,187.6970**	**0.3594**	**7.1800e-003**	**1,198.8253**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	13.2006	8.1064	7.4668	0.0122	0.0575	0.4496	0.5071	0.0156	0.4137	0.4292	0.0000	1,187.6970	1,187.6970	0.3594	7.1800e-003	1,198.8253
Maximum	**13.2006**	**8.1064**	**7.4668**	**0.0122**	**0.0575**	**0.4496**	**0.5071**	**0.0156**	**0.4137**	**0.4292**	**0.0000**	**1,187.6970**	**1,187.6970**	**0.3594**	**7.1800e-003**	**1,198.8253**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

216 Spring Street - Existing Conditions - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.3129	1.0000e-005	1.4300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.0600e-003	3.0600e-003	1.0000e-005		3.2700e-003
Energy	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003		56.1354	56.1354	1.0800e-003	1.0300e-003	56.4690
Mobile	0.2826	0.3495	2.7960	5.8600e-003	0.5579	5.9200e-003	0.5639	0.1487	5.5500e-003	0.1542		596.8094	596.8094	0.0388	0.0261	605.5612
Total	**0.6006**	**0.3963**	**2.8367**	**6.1400e-003**	**0.5579**	**9.4900e-003**	**0.5674**	**0.1487**	**9.1200e-003**	**0.1578**		**652.9478**	**652.9478**	**0.0398**	**0.0272**	**662.0334**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.3129	1.0000e-005	1.4300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.0600e-003	3.0600e-003	1.0000e-005		3.2700e-003
Energy	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003		56.1354	56.1354	1.0800e-003	1.0300e-003	56.4690
Mobile	0.2826	0.3495	2.7960	5.8600e-003	0.5579	5.9200e-003	0.5639	0.1487	5.5500e-003	0.1542		596.8094	596.8094	0.0388	0.0261	605.5612
Total	**0.6006**	**0.3963**	**2.8367**	**6.1400e-003**	**0.5579**	**9.4900e-003**	**0.5674**	**0.1487**	**9.1200e-003**	**0.1578**		**652.9478**	**652.9478**	**0.0398**	**0.0272**	**662.0334**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	IGNORE Building Construction	Building Construction	10/22/2021	11/4/2021	5	10	
2	IGNORE Architectural Coating	Architectural Coating	11/5/2021	11/18/2021	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 21,000; Non-Residential Outdoor: 7,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
IGNORE Building Construction	Cranes	1	4.00	231	0.29
IGNORE Building Construction	Forklifts	2	6.00	89	0.20
IGNORE Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
IGNORE Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
IGNORE Building Construction	5	4.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

IGNORE Architectural Coating	1	1.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 IGNORE Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7750	7.9850	7.2637	0.0114		0.4475	0.4475		0.4117	0.4117		1,103.2158	1,103.2158	0.3568		1,112.1358
Total	**0.7750**	**7.9850**	**7.2637**	**0.0114**		**0.4475**	**0.4475**		**0.4117**	**0.4117**		**1,103.2158**	**1,103.2158**	**0.3568**		**1,112.1358**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 IGNORE Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.1200e-003	0.1104	0.0365	3.9000e-004	0.0128	1.7700e-003	0.0146	3.6900e-003	1.7000e-003	5.3800e-003		42.2633	42.2633	1.4400e-003	6.1200e-003	44.1245
Worker	0.0149	0.0110	0.1666	4.2000e-004	0.0447	2.9000e-004	0.0450	0.0119	2.6000e-004	0.0121		42.2179	42.2179	1.1900e-003	1.0600e-003	42.5650
Total	**0.0200**	**0.1214**	**0.2031**	**8.1000e-004**	**0.0575**	**2.0600e-003**	**0.0596**	**0.0156**	**1.9600e-003**	**0.0175**		**84.4812**	**84.4812**	**2.6300e-003**	**7.1800e-003**	**86.6894**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7750	7.9850	7.2637	0.0114		0.4475	0.4475		0.4117	0.4117	0.0000	1,103.2158	1,103.2158	0.3568		1,112.1358
Total	**0.7750**	**7.9850**	**7.2637**	**0.0114**		**0.4475**	**0.4475**		**0.4117**	**0.4117**	**0.0000**	**1,103.2158**	**1,103.2158**	**0.3568**		**1,112.1358**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 IGNORE Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.1200e-003	0.1104	0.0365	3.9000e-004	0.0128	1.7700e-003	0.0146	3.6900e-003	1.7000e-003	5.3800e-003		42.2633	42.2633	1.4400e-003	6.1200e-003	44.1245
Worker	0.0149	0.0110	0.1666	4.2000e-004	0.0447	2.9000e-004	0.0450	0.0119	2.6000e-004	0.0121		42.2179	42.2179	1.1900e-003	1.0600e-003	42.5650
Total	**0.0200**	**0.1214**	**0.2031**	**8.1000e-004**	**0.0575**	**2.0600e-003**	**0.0596**	**0.0156**	**1.9600e-003**	**0.0175**		**84.4812**	**84.4812**	**2.6300e-003**	**7.1800e-003**	**86.6894**

3.3 IGNORE Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	12.9780					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**13.1969**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 IGNORE Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7300e-003	2.7500e-003	0.0417	1.0000e-004	0.0112	7.0000e-005	0.0113	2.9600e-003	7.0000e-005	3.0300e-003		10.5545	10.5545	3.0000e-004	2.7000e-004	10.6412
Total	**3.7300e-003**	**2.7500e-003**	**0.0417**	**1.0000e-004**	**0.0112**	**7.0000e-005**	**0.0113**	**2.9600e-003**	**7.0000e-005**	**3.0300e-003**		**10.5545**	**10.5545**	**3.0000e-004**	**2.7000e-004**	**10.6412**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	12.9780					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**13.1969**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

216 Spring Street - Existing Conditions - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 IGNORE Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7300e-003	2.7500e-003	0.0417	1.0000e-004	0.0112	7.0000e-005	0.0113	2.9600e-003	7.0000e-005	3.0300e-003		10.5545	10.5545	3.0000e-004	2.7000e-004	10.6412
Total	**3.7300e-003**	**2.7500e-003**	**0.0417**	**1.0000e-004**	**0.0112**	**7.0000e-005**	**0.0113**	**2.9600e-003**	**7.0000e-005**	**3.0300e-003**		**10.5545**	**10.5545**	**3.0000e-004**	**2.7000e-004**	**10.6412**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2826	0.3495	2.7960	5.8600e-003	0.5579	5.9200e-003	0.5639	0.1487	5.5500e-003	0.1542		596.8094	596.8094	0.0388	0.0261	605.5612
Unmitigated	0.2826	0.3495	2.7960	5.8600e-003	0.5579	5.9200e-003	0.5639	0.1487	5.5500e-003	0.1542		596.8094	596.8094	0.0388	0.0261	605.5612

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	90.02	90.02	90.02	264,760	264,760
Total	90.02	90.02	90.02	264,760	264,760

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	0.00	8.08	0.00	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.543593	0.059173	0.184074	0.132247	0.023864	0.006129	0.012170	0.009151	0.000841	0.000521	0.023543	0.000746	0.003947

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003		56.1354	56.1354	1.0800e-003	1.0300e-003	56.4690
NaturalGas Unmitigated	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003		56.1354	56.1354	1.0800e-003	1.0300e-003	56.4690

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	477.151	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003		56.1354	56.1354	1.0800e-003	1.0300e-003	56.4690
Total		**5.1500e-003**	**0.0468**	**0.0393**	**2.8000e-004**		**3.5600e-003**	**3.5600e-003**		**3.5600e-003**	**3.5600e-003**		**56.1354**	**56.1354**	**1.0800e-003**	**1.0300e-003**	**56.4690**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	0.477151	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003		56.1354	56.1354	1.0800e-003	1.0300e-003	56.4690
Total		**5.1500e-003**	**0.0468**	**0.0393**	**2.8000e-004**		**3.5600e-003**	**3.5600e-003**		**3.5600e-003**	**3.5600e-003**		**56.1354**	**56.1354**	**1.0800e-003**	**1.0300e-003**	**56.4690**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3129	1.0000e-005	1.4300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.0600e-003	3.0600e-003	1.0000e-005		3.2700e-003
Unmitigated	0.3129	1.0000e-005	1.4300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.0600e-003	3.0600e-003	1.0000e-005		3.2700e-003

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0356					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2772					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.3000e-004	1.0000e-005	1.4300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.0600e-003	3.0600e-003	1.0000e-005		3.2700e-003
Total	**0.3129**	**1.0000e-005**	**1.4300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**3.0600e-003**	**3.0600e-003**	**1.0000e-005**		**3.2700e-003**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0356					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2772					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.3000e-004	1.0000e-005	1.4300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.0600e-003	3.0600e-003	1.0000e-005		3.2700e-003
Total	**0.3129**	**1.0000e-005**	**1.4300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**3.0600e-003**	**3.0600e-003**	**1.0000e-005**		**3.2700e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

216 Spring Street - Existing Conditions

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	14.00	1000sqft	0.29	14,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2021
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	691.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Existing 14,000 sf commercial office building on 0.29-acre site.

Construction Phase - IGNORE CONSTRUCTION EMISSIONS FOR EXISTING CONDITIONS SCENARIO.

Vehicle Trips - Trip rates adjusted based on Transportation Assessment (September 2021).

Energy Use - Assumes historical Title 24 for existing conditions scenario.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	100.00	10.00
tblLandUse	LotAcreage	0.32	0.29
tblVehicleTrips	CC_TL	8.40	8.08
tblVehicleTrips	CC_TTP	48.00	100.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PR_TP	77.00	100.00
tblVehicleTrips	ST_TR	2.21	6.43
tblVehicleTrips	SU_TR	0.70	6.43
tblVehicleTrips	WD_TR	9.74	6.43

2.0 Emissions Summary

216 Spring Street - Existing Conditions - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	13.2008	8.1121	7.4518	0.0122	0.0575	0.4496	0.5071	0.0156	0.4137	0.4292	0.0000	1,185.2427	1,185.2427	0.3595	7.2600e-003	1,196.3925
Maximum	**13.2008**	**8.1121**	**7.4518**	**0.0122**	**0.0575**	**0.4496**	**0.5071**	**0.0156**	**0.4137**	**0.4292**	**0.0000**	**1,185.2427**	**1,185.2427**	**0.3595**	**7.2600e-003**	**1,196.3925**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	13.2008	8.1121	7.4518	0.0122	0.0575	0.4496	0.5071	0.0156	0.4137	0.4292	0.0000	1,185.2427	1,185.2427	0.3595	7.2600e-003	1,196.3925
Maximum	**13.2008**	**8.1121**	**7.4518**	**0.0122**	**0.0575**	**0.4496**	**0.5071**	**0.0156**	**0.4137**	**0.4292**	**0.0000**	**1,185.2427**	**1,185.2427**	**0.3595**	**7.2600e-003**	**1,196.3925**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

216 Spring Street - Existing Conditions - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.3129	1.0000e-005	1.4300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.0600e-003	3.0600e-003	1.0000e-005		3.2700e-003
Energy	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003		56.1354	56.1354	1.0800e-003	1.0300e-003	56.4690
Mobile	0.2722	0.3741	2.6922	5.5800e-003	0.5579	5.9200e-003	0.5639	0.1487	5.5500e-003	0.1542		568.9208	568.9208	0.0400	0.0272	578.0253
Total	**0.5903**	**0.4209**	**2.7329**	**5.8600e-003**	**0.5579**	**9.4900e-003**	**0.5674**	**0.1487**	**9.1200e-003**	**0.1578**		**625.0593**	**625.0593**	**0.0411**	**0.0282**	**634.4975**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.3129	1.0000e-005	1.4300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.0600e-003	3.0600e-003	1.0000e-005		3.2700e-003
Energy	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003		56.1354	56.1354	1.0800e-003	1.0300e-003	56.4690
Mobile	0.2722	0.3741	2.6922	5.5800e-003	0.5579	5.9200e-003	0.5639	0.1487	5.5500e-003	0.1542		568.9208	568.9208	0.0400	0.0272	578.0253
Total	**0.5903**	**0.4209**	**2.7329**	**5.8600e-003**	**0.5579**	**9.4900e-003**	**0.5674**	**0.1487**	**9.1200e-003**	**0.1578**		**625.0593**	**625.0593**	**0.0411**	**0.0282**	**634.4975**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	IGNORE Building Construction	Building Construction	10/22/2021	11/4/2021	5	10	
2	IGNORE Architectural Coating	Architectural Coating	11/5/2021	11/18/2021	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 21,000; Non-Residential Outdoor: 7,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
IGNORE Building Construction	Cranes	1	4.00	231	0.29
IGNORE Building Construction	Forklifts	2	6.00	89	0.20
IGNORE Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
IGNORE Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
IGNORE Building Construction	5	4.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

IGNORE Architectural Coating	1	1.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 IGNORE Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7750	7.9850	7.2637	0.0114		0.4475	0.4475		0.4117	0.4117		1,103.2158	1,103.2158	0.3568		1,112.1358
Total	**0.7750**	**7.9850**	**7.2637**	**0.0114**		**0.4475**	**0.4475**		**0.4117**	**0.4117**		**1,103.2158**	**1,103.2158**	**0.3568**		**1,112.1358**

216 Spring Street - Existing Conditions - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 IGNORE Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0700e-003	0.1151	0.0377	3.9000e-004	0.0128	1.7800e-003	0.0146	3.6900e-003	1.7000e-003	5.3900e-003		42.2692	42.2692	1.4400e-003	6.1300e-003	44.1321
Worker	0.0156	0.0121	0.1505	3.9000e-004	0.0447	2.9000e-004	0.0450	0.0119	2.6000e-004	0.0121		39.7577	39.7577	1.2100e-003	1.1300e-003	40.1246
Total	**0.0207**	**0.1271**	**0.1881**	**7.8000e-004**	**0.0575**	**2.0700e-003**	**0.0596**	**0.0156**	**1.9600e-003**	**0.0175**		**82.0269**	**82.0269**	**2.6500e-003**	**7.2600e-003**	**84.2567**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7750	7.9850	7.2637	0.0114		0.4475	0.4475		0.4117	0.4117	0.0000	1,103.2158	1,103.2158	0.3568		1,112.1358
Total	**0.7750**	**7.9850**	**7.2637**	**0.0114**		**0.4475**	**0.4475**		**0.4117**	**0.4117**	**0.0000**	**1,103.2158**	**1,103.2158**	**0.3568**		**1,112.1358**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 IGNORE Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0700e-003	0.1151	0.0377	3.9000e-004	0.0128	1.7800e-003	0.0146	3.6900e-003	1.7000e-003	5.3900e-003		42.2692	42.2692	1.4400e-003	6.1300e-003	44.1321
Worker	0.0156	0.0121	0.1505	3.9000e-004	0.0447	2.9000e-004	0.0450	0.0119	2.6000e-004	0.0121		39.7577	39.7577	1.2100e-003	1.1300e-003	40.1246
Total	**0.0207**	**0.1271**	**0.1881**	**7.8000e-004**	**0.0575**	**2.0700e-003**	**0.0596**	**0.0156**	**1.9600e-003**	**0.0175**		**82.0269**	**82.0269**	**2.6500e-003**	**7.2600e-003**	**84.2567**

3.3 IGNORE Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	12.9780					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**13.1969**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 IGNORE Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9100e-003	3.0100e-003	0.0376	1.0000e-004	0.0112	7.0000e-005	0.0113	2.9600e-003	7.0000e-005	3.0300e-003		9.9394	9.9394	3.0000e-004	2.8000e-004	10.0312
Total	**3.9100e-003**	**3.0100e-003**	**0.0376**	**1.0000e-004**	**0.0112**	**7.0000e-005**	**0.0113**	**2.9600e-003**	**7.0000e-005**	**3.0300e-003**		**9.9394**	**9.9394**	**3.0000e-004**	**2.8000e-004**	**10.0312**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	12.9780					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**13.1969**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

216 Spring Street - Existing Conditions - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 IGNORE Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9100e-003	3.0100e-003	0.0376	1.0000e-004	0.0112	7.0000e-005	0.0113	2.9600e-003	7.0000e-005	3.0300e-003		9.9394	9.9394	3.0000e-004	2.8000e-004	10.0312
Total	**3.9100e-003**	**3.0100e-003**	**0.0376**	**1.0000e-004**	**0.0112**	**7.0000e-005**	**0.0113**	**2.9600e-003**	**7.0000e-005**	**3.0300e-003**		**9.9394**	**9.9394**	**3.0000e-004**	**2.8000e-004**	**10.0312**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2722	0.3741	2.6922	5.5800e-003	0.5579	5.9200e-003	0.5639	0.1487	5.5500e-003	0.1542		568.9208	568.9208	0.0400	0.0272	578.0253
Unmitigated	0.2722	0.3741	2.6922	5.5800e-003	0.5579	5.9200e-003	0.5639	0.1487	5.5500e-003	0.1542		568.9208	568.9208	0.0400	0.0272	578.0253

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	90.02	90.02	90.02	264,760	264,760
Total	90.02	90.02	90.02	264,760	264,760

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	0.00	8.08	0.00	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.543593	0.059173	0.184074	0.132247	0.023864	0.006129	0.012170	0.009151	0.000841	0.000521	0.023543	0.000746	0.003947

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003		56.1354	56.1354	1.0800e-003	1.0300e-003	56.4690
NaturalGas Unmitigated	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003		56.1354	56.1354	1.0800e-003	1.0300e-003	56.4690

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	477.151	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003		56.1354	56.1354	1.0800e-003	1.0300e-003	56.4690
Total		**5.1500e-003**	**0.0468**	**0.0393**	**2.8000e-004**		**3.5600e-003**	**3.5600e-003**		**3.5600e-003**	**3.5600e-003**		**56.1354**	**56.1354**	**1.0800e-003**	**1.0300e-003**	**56.4690**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	0.477151	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003		56.1354	56.1354	1.0800e-003	1.0300e-003	56.4690
Total		**5.1500e-003**	**0.0468**	**0.0393**	**2.8000e-004**		**3.5600e-003**	**3.5600e-003**		**3.5600e-003**	**3.5600e-003**		**56.1354**	**56.1354**	**1.0800e-003**	**1.0300e-003**	**56.4690**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3129	1.0000e-005	1.4300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.0600e-003	3.0600e-003	1.0000e-005		3.2700e-003
Unmitigated	0.3129	1.0000e-005	1.4300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.0600e-003	3.0600e-003	1.0000e-005		3.2700e-003

216 Spring Street - Existing Conditions - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0356					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2772					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.3000e-004	1.0000e-005	1.4300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.0600e-003	3.0600e-003	1.0000e-005		3.2700e-003
Total	**0.3129**	**1.0000e-005**	**1.4300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**3.0600e-003**	**3.0600e-003**	**1.0000e-005**		**3.2700e-003**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0356					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2772					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.3000e-004	1.0000e-005	1.4300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.0600e-003	3.0600e-003	1.0000e-005		3.2700e-003
Total	**0.3129**	**1.0000e-005**	**1.4300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**3.0600e-003**	**3.0600e-003**	**1.0000e-005**		**3.2700e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

216 Spring Street - Proposed Project

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments High Rise	120.00	Dwelling Unit	0.50	100,525.00	343
Regional Shopping Center	1.03	1000sqft	0.00	1,033.00	0
Quality Restaurant	1.99	1000sqft	0.00	1,992.00	0
Enclosed Parking with Elevator	69.00	Space	0.00	27,600.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2024
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	691.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project Data per June 2021 Site Plans.

Construction Phase - Assumes approximate 24-month construction schedule.

Off-road Equipment - Construction equipment use on worst-case day.

Off-road Equipment - Equipment use on worst-case day.

Off-road Equipment - Equipment use on worst-case day.

Grading - Estimates approx. 15,000 cy soil export for 3-level subterranean parking structure.

Demolition - Demolish existing 14,000 sf office building.

Trips and VMT - Assume 14-cy haul truck capacity and average 30-mile trip to disposal site.

216 Spring Street - Proposed Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Vehicle Trips - Trip rates adjusted based on Transportation Assessment (September 2021).

Woodstoves - No woodstoves or fireplaces proposed.

Stationary Sources - Emergency Generators and Fire Pumps -

Sequestration - Minimum 30 trees required per LAMC.

Construction Off-road Equipment Mitigation -

Area Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	88.00
tblConstructionPhase	NumDays	100.00	346.00
tblConstructionPhase	NumDays	10.00	22.00
tblConstructionPhase	NumDays	2.00	66.00
tblConstructionPhase	PhaseEndDate	12/20/2022	7/2/2024
tblConstructionPhase	PhaseEndDate	12/6/2022	2/28/2024
tblConstructionPhase	PhaseEndDate	7/14/2022	8/1/2022
tblConstructionPhase	PhaseEndDate	7/19/2022	11/1/2022
tblConstructionPhase	PhaseStartDate	12/14/2022	3/1/2024
tblConstructionPhase	PhaseStartDate	7/20/2022	11/2/2022
tblConstructionPhase	PhaseStartDate	7/16/2022	8/2/2022
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	102.00	0.00
tblFireplaces	NumberNoFireplace	12.00	0.00
tblFireplaces	NumberWood	6.00	0.00
tblGrading	MaterialExported	0.00	15,000.00
tblLandUse	LandUseSquareFeet	120,000.00	100,525.00

216 Spring Street - Proposed Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblLandUse	LotAcreage	1.94	0.50
tblLandUse	LotAcreage	0.02	0.00
tblLandUse	LotAcreage	0.05	0.00
tblLandUse	LotAcreage	0.62	0.00
tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Pavers
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblSequestration	NumberOfNewTrees	0.00	30.00
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,000.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	12.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripNumber	1,875.00	2,143.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	69.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	CC_TTP	64.70	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	12.00	0.00
tblVehicleTrips	CW_TTP	16.30	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	18.00	0.00
tblVehicleTrips	DV_TP	35.00	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HW_TL	14.70	6.75
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	44.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	38.00	0.00
tblVehicleTrips	PR_TP	54.00	0.00
tblVehicleTrips	ST_TR	4.53	3.56
tblVehicleTrips	ST_TR	90.04	0.00
tblVehicleTrips	ST_TR	46.12	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	SU_TR	3.59	3.56
tblVehicleTrips	SU_TR	71.97	0.00
tblVehicleTrips	SU_TR	21.10	0.00
tblVehicleTrips	WD_TR	4.45	3.56
tblVehicleTrips	WD_TR	83.84	0.00
tblVehicleTrips	WD_TR	37.75	0.00
tblWoodstoves	NumberCatalytic	6.00	0.00
tblWoodstoves	NumberNoncatalytic	6.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

216 Spring Street - Proposed Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.8177	23.5920	19.8870	0.0534	6.3345	0.8105	7.1450	2.8444	0.7600	3.6044	0.0000	5,538.8798	5,538.8798	0.7348	0.5088	5,708.8753
2023	1.6744	13.8198	19.4852	0.0389	1.2219	0.6479	1.8698	0.3267	0.6076	0.9343	0.0000	3,811.8416	3,811.8416	0.6523	0.0735	3,850.0392
2024	8.5860	12.9603	19.2150	0.0386	1.2219	0.5773	1.7991	0.3267	0.5412	0.8679	0.0000	3,778.4829	3,778.4829	0.6480	0.0713	3,815.9158
Maximum	**8.5860**	**23.5920**	**19.8870**	**0.0534**	**6.3345**	**0.8105**	**7.1450**	**2.8444**	**0.7600**	**3.6044**	**0.0000**	**5,538.8798**	**5,538.8798**	**0.7348**	**0.5088**	**5,708.8753**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.8177	23.5920	19.8870	0.0534	3.3988	0.8105	4.2093	1.4295	0.7600	2.1895	0.0000	5,538.8798	5,538.8798	0.7348	0.5088	5,708.8753
2023	1.6744	13.8198	19.4852	0.0389	1.2219	0.6479	1.8698	0.3267	0.6076	0.9343	0.0000	3,811.8416	3,811.8416	0.6523	0.0735	3,850.0392
2024	8.5860	12.9603	19.2150	0.0386	1.2219	0.5773	1.7991	0.3267	0.5412	0.8679	0.0000	3,778.4829	3,778.4829	0.6480	0.0713	3,815.9158
Maximum	**8.5860**	**23.5920**	**19.8870**	**0.0534**	**3.3988**	**0.8105**	**4.2093**	**1.4295**	**0.7600**	**2.1895**	**0.0000**	**5,538.8798**	**5,538.8798**	**0.7348**	**0.5088**	**5,708.8753**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**33.44**	**0.00**	**27.15**	**40.45**	**0.00**	**26.17**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.5404	0.1141	9.9033	5.2000e-004		0.0549	0.0549		0.0549	0.0549	0.0000	17.8420	17.8420	0.0172	0.0000	18.2707
Energy	0.0518	0.4496	0.2426	2.8200e-003		0.0358	0.0358		0.0358	0.0358		564.5094	564.5094	0.0108	0.0104	567.8640
Mobile	1.0818	1.0461	9.7566	0.0213	2.2116	0.0153	2.2269	0.5894	0.0142	0.6036		2,165.8263	2,165.8263	0.1424	0.0943	2,197.4898
Stationary	0.8204	3.6694	2.0922	3.9400e-003		0.1207	0.1207		0.1207	0.1207		419.7571	419.7571	0.0589		421.2283
Total	**4.4944**	**5.2792**	**21.9947**	**0.0285**	**2.2116**	**0.2266**	**2.4382**	**0.5894**	**0.2256**	**0.8149**	**0.0000**	**3,167.9348**	**3,167.9348**	**0.2292**	**0.1047**	**3,204.8528**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.5404	0.1141	9.9033	5.2000e-004		0.0549	0.0549		0.0549	0.0549	0.0000	17.8420	17.8420	0.0172	0.0000	18.2707
Energy	0.0518	0.4496	0.2426	2.8200e-003		0.0358	0.0358		0.0358	0.0358		564.5094	564.5094	0.0108	0.0104	567.8640
Mobile	1.0818	1.0461	9.7566	0.0213	2.2116	0.0153	2.2269	0.5894	0.0142	0.6036		2,165.8263	2,165.8263	0.1424	0.0943	2,197.4898
Stationary	0.8204	3.6694	2.0922	3.9400e-003		0.1207	0.1207		0.1207	0.1207		419.7571	419.7571	0.0589		421.2283
Total	**4.4944**	**5.2792**	**21.9947**	**0.0285**	**2.2116**	**0.2266**	**2.4382**	**0.5894**	**0.2256**	**0.8149**	**0.0000**	**3,167.9348**	**3,167.9348**	**0.2292**	**0.1047**	**3,204.8528**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/1/2022	8/1/2022	5	22	
2	Grading	Grading	8/2/2022	11/1/2022	5	66	
3	Building Construction	Building Construction	11/2/2022	2/28/2024	5	346	
4	Architectural Coating	Architectural Coating	3/1/2024	7/2/2024	5	88	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 49.5

Acres of Paving: 0

Residential Indoor: 203,563; Residential Outdoor: 67,854; Non-Residential Indoor: 4,538; Non-Residential Outdoor: 1,513; Striped Parking Area: 1,656 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	5	6.00	78	0.48
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Grading	Graders	1	6.00	187	0.41
Building Construction	Cement and Mortar Mixers	1	8.00	9	0.56
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Pavers	1	8.00	130	0.42
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Rollers	1	8.00	80	0.38
Architectural Coating	Aerial Lifts	2	8.00	63	0.31

Trips and VMT

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	64.00	14.70	6.90	30.00	LD_Mix	HDT_Mix	HHDT
Grading	5	13.00	0.00	2,143.00	14.70	6.90	30.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	99.00	18.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	7	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6264	0.0000	0.6264	0.0948	0.0000	0.0948			0.0000			0.0000
Off-Road	0.7094	6.4138	7.4693	0.0120		0.3375	0.3375		0.3225	0.3225		1,147.9025	1,147.9025	0.2119		1,153.2001
Total	**0.7094**	**6.4138**	**7.4693**	**0.0120**	**0.6264**	**0.3375**	**0.9639**	**0.0948**	**0.3225**	**0.4174**		**1,147.9025**	**1,147.9025**	**0.2119**		**1,153.2001**

216 Spring Street - Proposed Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0168	0.6530	0.1421	2.6000e-003	0.0763	5.6700e-003	0.0820	0.0209	5.4300e-003	0.0263		285.3464	285.3464	0.0154	0.0453	299.2323
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0344	0.0242	0.3812	1.0100e-003	0.1118	6.7000e-004	0.1124	0.0296	6.1000e-004	0.0303		102.2532	102.2532	2.6700e-003	2.4500e-003	103.0491
Total	**0.0513**	**0.6772**	**0.5233**	**3.6100e-003**	**0.1881**	**6.3400e-003**	**0.1944**	**0.0506**	**6.0400e-003**	**0.0566**		**387.5996**	**387.5996**	**0.0181**	**0.0478**	**402.2813**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2819	0.0000	0.2819	0.0427	0.0000	0.0427			0.0000			0.0000
Off-Road	0.7094	6.4138	7.4693	0.0120		0.3375	0.3375		0.3225	0.3225	0.0000	1,147.9025	1,147.9025	0.2119		1,153.2001
Total	**0.7094**	**6.4138**	**7.4693**	**0.0120**	**0.2819**	**0.3375**	**0.6194**	**0.0427**	**0.3225**	**0.3652**	**0.0000**	**1,147.9025**	**1,147.9025**	**0.2119**		**1,153.2001**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0168	0.6530	0.1421	2.6000e-003	0.0763	5.6700e-003	0.0820	0.0209	5.4300e-003	0.0263		285.3464	285.3464	0.0154	0.0453	299.2323
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0344	0.0242	0.3812	1.0100e-003	0.1118	6.7000e-004	0.1124	0.0296	6.1000e-004	0.0303		102.2532	102.2532	2.6700e-003	2.4500e-003	103.0491
Total	**0.0513**	**0.6772**	**0.5233**	**3.6100e-003**	**0.1881**	**6.3400e-003**	**0.1944**	**0.0506**	**6.0400e-003**	**0.0566**		**387.5996**	**387.5996**	**0.0181**	**0.0478**	**402.2813**

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.3376	0.0000	5.3376	2.5724	0.0000	2.5724			0.0000			0.0000
Off-Road	1.5850	16.2720	11.5589	0.0231		0.7463	0.7463		0.6986	0.6986		2,221.0685	2,221.0685	0.5590		2,235.0432
Total	**1.5850**	**16.2720**	**11.5589**	**0.0231**	**5.3376**	**0.7463**	**6.0840**	**2.5724**	**0.6986**	**3.2711**		**2,221.0685**	**2,221.0685**	**0.5590**		**2,235.0432**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1879	7.2885	1.5858	0.0290	0.8516	0.0633	0.9149	0.2334	0.0606	0.2940		3,184.8820	3,184.8820	0.1724	0.5056	3,339.8683
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0448	0.0315	0.4955	1.3200e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		132.9292	132.9292	3.4800e-003	3.1800e-003	133.9638
Total	**0.2326**	**7.3200**	**2.0814**	**0.0304**	**0.9969**	**0.0642**	**1.0611**	**0.2719**	**0.0614**	**0.3333**		**3,317.8112**	**3,317.8112**	**0.1758**	**0.5088**	**3,473.8321**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.4019	0.0000	2.4019	1.1576	0.0000	1.1576			0.0000			0.0000
Off-Road	1.5850	16.2720	11.5589	0.0231		0.7463	0.7463		0.6986	0.6986	0.0000	2,221.0685	2,221.0685	0.5590		2,235.0432
Total	**1.5850**	**16.2720**	**11.5589**	**0.0231**	**2.4019**	**0.7463**	**3.1483**	**1.1576**	**0.6986**	**1.8562**	**0.0000**	**2,221.0685**	**2,221.0685**	**0.5590**		**2,235.0432**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1879	7.2885	1.5858	0.0290	0.8516	0.0633	0.9149	0.2334	0.0606	0.2940		3,184.8820	3,184.8820	0.1724	0.5056	3,339.8683
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0448	0.0315	0.4955	1.3200e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		132.9292	132.9292	3.4800e-003	3.1800e-003	133.9638
Total	**0.2326**	**7.3200**	**2.0814**	**0.0304**	**0.9969**	**0.0642**	**1.0611**	**0.2719**	**0.0614**	**0.3333**		**3,317.8112**	**3,317.8112**	**0.1758**	**0.5088**	**3,473.8321**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4439	14.1022	15.8262	0.0259		0.7300	0.7300		0.6845	0.6845		2,478.6561	2,478.6561	0.6187		2,494.1224
Total	**1.4439**	**14.1022**	**15.8262**	**0.0259**		**0.7300**	**0.7300**		**0.6845**	**0.6845**		**2,478.6561**	**2,478.6561**	**0.6187**		**2,494.1224**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0328	0.8376	0.2872	3.4400e-003	0.1153	8.7600e-003	0.1240	0.0332	8.3800e-003	0.0416		370.2048	370.2048	0.0124	0.0537	386.5092
Worker	0.3409	0.2398	3.7736	0.0100	1.1066	6.6000e-003	1.1132	0.2935	6.0800e-003	0.2996		1,012.3070	1,012.3070	0.0265	0.0242	1,020.1859
Total	**0.3737**	**1.0773**	**4.0607**	**0.0135**	**1.2219**	**0.0154**	**1.2372**	**0.3267**	**0.0145**	**0.3411**		**1,382.5118**	**1,382.5118**	**0.0389**	**0.0779**	**1,406.6951**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4439	14.1022	15.8262	0.0259		0.7300	0.7300		0.6845	0.6845	0.0000	2,478.6561	2,478.6561	0.6187		2,494.1224
Total	**1.4439**	**14.1022**	**15.8262**	**0.0259**		**0.7300**	**0.7300**		**0.6845**	**0.6845**	**0.0000**	**2,478.6561**	**2,478.6561**	**0.6187**		**2,494.1224**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0328	0.8376	0.2872	3.4400e-003	0.1153	8.7600e-003	0.1240	0.0332	8.3800e-003	0.0416		370.2048	370.2048	0.0124	0.0537	386.5092
Worker	0.3409	0.2398	3.7736	0.0100	1.1066	6.6000e-003	1.1132	0.2935	6.0800e-003	0.2996		1,012.3070	1,012.3070	0.0265	0.0242	1,020.1859
Total	**0.3737**	**1.0773**	**4.0607**	**0.0135**	**1.2219**	**0.0154**	**1.2372**	**0.3267**	**0.0145**	**0.3411**		**1,382.5118**	**1,382.5118**	**0.0389**	**0.0779**	**1,406.6951**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3385	12.9543	15.7552	0.0259		0.6379	0.6379		0.5983	0.5983		2,479.2893	2,479.2893	0.6167		2,494.7059
Total	**1.3385**	**12.9543**	**15.7552**	**0.0259**		**0.6379**	**0.6379**		**0.5983**	**0.5983**		**2,479.2893**	**2,479.2893**	**0.6167**		**2,494.7059**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0199	0.6534	0.2572	3.2800e-003	0.1153	3.8000e-003	0.1191	0.0332	3.6400e-003	0.0368		352.8557	352.8557	0.0119	0.0511	368.3748
Worker	0.3161	0.2121	3.4728	9.6900e-003	1.1066	6.2100e-003	1.1128	0.2935	5.7200e-003	0.2992		979.6966	979.6966	0.0238	0.0224	986.9585
Total	**0.3360**	**0.8655**	**3.7300**	**0.0130**	**1.2219**	**0.0100**	**1.2319**	**0.3267**	**9.3600e-003**	**0.3360**		**1,332.5523**	**1,332.5523**	**0.0356**	**0.0735**	**1,355.3333**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3385	12.9543	15.7552	0.0259		0.6379	0.6379		0.5983	0.5983	0.0000	2,479.2893	2,479.2893	0.6167		2,494.7059
Total	**1.3385**	**12.9543**	**15.7552**	**0.0259**		**0.6379**	**0.6379**		**0.5983**	**0.5983**	**0.0000**	**2,479.2893**	**2,479.2893**	**0.6167**		**2,494.7059**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0199	0.6534	0.2572	3.2800e-003	0.1153	3.8000e-003	0.1191	0.0332	3.6400e-003	0.0368		352.8557	352.8557	0.0119	0.0511	368.3748
Worker	0.3161	0.2121	3.4728	9.6900e-003	1.1066	6.2100e-003	1.1128	0.2935	5.7200e-003	0.2992		979.6966	979.6966	0.0238	0.0224	986.9585
Total	**0.3360**	**0.8655**	**3.7300**	**0.0130**	**1.2219**	**0.0100**	**1.2319**	**0.3267**	**9.3600e-003**	**0.3360**		**1,332.5523**	**1,332.5523**	**0.0356**	**0.0735**	**1,355.3333**

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2643	12.1145	15.7278	0.0259		0.5675	0.5675		0.5321	0.5321		2,479.6468	2,479.6468	0.6146		2,495.0115
Total	**1.2643**	**12.1145**	**15.7278**	**0.0259**		**0.5675**	**0.5675**		**0.5321**	**0.5321**		**2,479.6468**	**2,479.6468**	**0.6146**		**2,495.0115**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0194	0.6564	0.2530	3.2300e-003	0.1153	3.8100e-003	0.1191	0.0332	3.6500e-003	0.0368		347.7795	347.7795	0.0119	0.0504	363.1018
Worker	0.2950	0.1895	3.2342	9.4100e-003	1.1066	5.9400e-003	1.1125	0.2935	5.4700e-003	0.2989		951.0566	951.0566	0.0215	0.0208	957.8025
Total	**0.3144**	**0.8459**	**3.4872**	**0.0126**	**1.2219**	**9.7500e-003**	**1.2316**	**0.3267**	**9.1200e-003**	**0.3358**		**1,298.8361**	**1,298.8361**	**0.0334**	**0.0713**	**1,320.9043**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2643	12.1145	15.7278	0.0259		0.5675	0.5675		0.5321	0.5321	0.0000	2,479.6468	2,479.6468	0.6146		2,495.0115
Total	**1.2643**	**12.1145**	**15.7278**	**0.0259**		**0.5675**	**0.5675**		**0.5321**	**0.5321**	**0.0000**	**2,479.6468**	**2,479.6468**	**0.6146**		**2,495.0115**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0194	0.6564	0.2530	3.2300e-003	0.1153	3.8100e-003	0.1191	0.0332	3.6500e-003	0.0368		347.7795	347.7795	0.0119	0.0504	363.1018
Worker	0.2950	0.1895	3.2342	9.4100e-003	1.1066	5.9400e-003	1.1125	0.2935	5.4700e-003	0.2989		951.0566	951.0566	0.0215	0.0208	957.8025
Total	**0.3144**	**0.8459**	**3.4872**	**0.0126**	**1.2219**	**9.7500e-003**	**1.2316**	**0.3267**	**9.1200e-003**	**0.3358**		**1,298.8361**	**1,298.8361**	**0.0334**	**0.0713**	**1,320.9043**

3.5 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	7.5538					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.9726	7.1405	11.2235	0.0182		0.3227	0.3227		0.3213	0.3213		1,730.5915	1,730.5915	0.1838		1,735.1869
Total	**8.5264**	**7.1405**	**11.2235**	**0.0182**		**0.3227**	**0.3227**		**0.3213**	**0.3213**		**1,730.5915**	**1,730.5915**	**0.1838**		**1,735.1869**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0596	0.0383	0.6534	1.9000e-003	0.2236	1.2000e-003	0.2248	0.0593	1.1100e-003	0.0604		192.1326	192.1326	4.3500e-003	4.2100e-003	193.4955
Total	**0.0596**	**0.0383**	**0.6534**	**1.9000e-003**	**0.2236**	**1.2000e-003**	**0.2248**	**0.0593**	**1.1100e-003**	**0.0604**		**192.1326**	**192.1326**	**4.3500e-003**	**4.2100e-003**	**193.4955**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	7.5538					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.9726	7.1405	11.2235	0.0182		0.3227	0.3227		0.3213	0.3213	0.0000	1,730.5915	1,730.5915	0.1838		1,735.1869
Total	**8.5264**	**7.1405**	**11.2235**	**0.0182**		**0.3227**	**0.3227**		**0.3213**	**0.3213**	**0.0000**	**1,730.5915**	**1,730.5915**	**0.1838**		**1,735.1869**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0596	0.0383	0.6534	1.9000e-003	0.2236	1.2000e-003	0.2248	0.0593	1.1100e-003	0.0604		192.1326	192.1326	4.3500e-003	4.2100e-003	193.4955
Total	**0.0596**	**0.0383**	**0.6534**	**1.9000e-003**	**0.2236**	**1.2000e-003**	**0.2248**	**0.0593**	**1.1100e-003**	**0.0604**		**192.1326**	**192.1326**	**4.3500e-003**	**4.2100e-003**	**193.4955**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

216 Spring Street - Proposed Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0818	1.0461	9.7566	0.0213	2.2116	0.0153	2.2269	0.5894	0.0142	0.6036		2,165.8263	2,165.8263	0.1424	0.0943	2,197.4898
Unmitigated	1.0818	1.0461	9.7566	0.0213	2.2116	0.0153	2.2269	0.5894	0.0142	0.6036		2,165.8263	2,165.8263	0.1424	0.0943	2,197.4898

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	427.20	427.20	427.20	1,049,630	1,049,630
Enclosed Parking with Elevator	0.00	0.00	0.00		
Quality Restaurant	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Total	427.20	427.20	427.20	1,049,630	1,049,630

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	6.75	0.00	0.00	100.00	0.00	0.00	100	0	0
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Quality Restaurant	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Regional Shopping Center	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Enclosed Parking with Elevator	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Quality Restaurant	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Regional Shopping Center	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0518	0.4496	0.2426	2.8200e-003		0.0358	0.0358		0.0358	0.0358		564.5094	564.5094	0.0108	0.0104	567.8640
NaturalGas Unmitigated	0.0518	0.4496	0.2426	2.8200e-003		0.0358	0.0358		0.0358	0.0358		564.5094	564.5094	0.0108	0.0104	567.8640

216 Spring Street - Proposed Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	3536.68	0.0381	0.3259	0.1387	2.0800e-003		0.0264	0.0264		0.0264	0.0264		416.0803	416.0803	7.9700e-003	7.6300e-003	418.5529
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	1257.03	0.0136	0.1232	0.1035	7.4000e-004		9.3700e-003	9.3700e-003		9.3700e-003	9.3700e-003		147.8863	147.8863	2.8300e-003	2.7100e-003	148.7652
Regional Shopping Center	4.61312	5.0000e-005	4.5000e-004	3.8000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.5427	0.5427	1.0000e-005	1.0000e-005	0.5460
Total		**0.0518**	**0.4496**	**0.2426**	**2.8200e-003**		**0.0358**	**0.0358**		**0.0358**	**0.0358**		**564.5094**	**564.5094**	**0.0108**	**0.0104**	**567.8640**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	3.53668	0.0381	0.3259	0.1387	2.0800e-003		0.0264	0.0264		0.0264	0.0264		416.0803	416.0803	7.9700e-003	7.6300e-003	418.5529
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	1.25703	0.0136	0.1232	0.1035	7.4000e-004		9.3700e-003	9.3700e-003		9.3700e-003	9.3700e-003		147.8863	147.8863	2.8300e-003	2.7100e-003	148.7652
Regional Shopping Center	0.00461312	5.0000e-005	4.5000e-004	3.8000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.5427	0.5427	1.0000e-005	1.0000e-005	0.5460
Total		**0.0518**	**0.4496**	**0.2426**	**2.8200e-003**		**0.0358**	**0.0358**		**0.0358**	**0.0358**		**564.5094**	**564.5094**	**0.0108**	**0.0104**	**567.8640**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

Use Low VOC Cleaning Supplies

216 Spring Street - Proposed Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.5404	0.1141	9.9033	5.2000e-004		0.0549	0.0549		0.0549	0.0549	0.0000	17.8420	17.8420	0.0172	0.0000	18.2707
Unmitigated	2.5404	0.1141	9.9033	5.2000e-004		0.0549	0.0549		0.0549	0.0549	0.0000	17.8420	17.8420	0.0172	0.0000	18.2707

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1821					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0601					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.2982	0.1141	9.9033	5.2000e-004		0.0549	0.0549		0.0549	0.0549		17.8420	17.8420	0.0172		18.2707
Total	**2.5404**	**0.1141**	**9.9033**	**5.2000e-004**		**0.0549**	**0.0549**		**0.0549**	**0.0549**	**0.0000**	**17.8420**	**17.8420**	**0.0172**	**0.0000**	**18.2707**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1821					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0601					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.2982	0.1141	9.9033	5.2000e-004		0.0549	0.0549		0.0549	0.0549		17.8420	17.8420	0.0172		18.2707
Total	**2.5404**	**0.1141**	**9.9033**	**5.2000e-004**		**0.0549**	**0.0549**		**0.0549**	**0.0549**	**0.0000**	**17.8420**	**17.8420**	**0.0172**	**0.0000**	**18.2707**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	12	1000	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (750 - 9999 HP)	0.8204	3.6694	2.0922	3.9400e-003		0.1207	0.1207		0.1207	0.1207		419.7571	419.7571	0.0589		421.2283
Total	**0.8204**	**3.6694**	**2.0922**	**3.9400e-003**		**0.1207**	**0.1207**		**0.1207**	**0.1207**		**419.7571**	**419.7571**	**0.0589**		**421.2283**

11.0 Vegetation

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

216 Spring Street - Proposed Project

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments High Rise	120.00	Dwelling Unit	0.50	100,525.00	343
Regional Shopping Center	1.03	1000sqft	0.00	1,033.00	0
Quality Restaurant	1.99	1000sqft	0.00	1,992.00	0
Enclosed Parking with Elevator	69.00	Space	0.00	27,600.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2024
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	691.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project Data per June 2021 Site Plans.

Construction Phase - Assumes approximate 24-month construction schedule.

Off-road Equipment - Construction equipment use on worst-case day.

Off-road Equipment - Equipment use on worst-case day.

Off-road Equipment - Equipment use on worst-case day.

Grading - Estimates approx. 15,000 cy soil export for 3-level subterranean parking structure.

Demolition - Demolish existing 14,000 sf office building.

Trips and VMT - Assume 14-cy haul truck capacity and average 30-mile trip to disposal site.

216 Spring Street - Proposed Project - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Vehicle Trips - Trip rates adjusted based on Transportation Assessment (September 2021).

Woodstoves - No woodstoves or fireplaces proposed.

Stationary Sources - Emergency Generators and Fire Pumps -

Sequestration - Minimum 30 trees required per LAMC.

Construction Off-road Equipment Mitigation -

Area Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	88.00
tblConstructionPhase	NumDays	100.00	346.00
tblConstructionPhase	NumDays	10.00	22.00
tblConstructionPhase	NumDays	2.00	66.00
tblConstructionPhase	PhaseEndDate	12/20/2022	7/2/2024
tblConstructionPhase	PhaseEndDate	12/6/2022	2/28/2024
tblConstructionPhase	PhaseEndDate	7/14/2022	8/1/2022
tblConstructionPhase	PhaseEndDate	7/19/2022	11/1/2022
tblConstructionPhase	PhaseStartDate	12/14/2022	3/1/2024
tblConstructionPhase	PhaseStartDate	7/20/2022	11/2/2022
tblConstructionPhase	PhaseStartDate	7/16/2022	8/2/2022
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	102.00	0.00
tblFireplaces	NumberNoFireplace	12.00	0.00
tblFireplaces	NumberWood	6.00	0.00
tblGrading	MaterialExported	0.00	15,000.00
tblLandUse	LandUseSquareFeet	120,000.00	100,525.00

216 Spring Street - Proposed Project - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblLandUse	LotAcreage	1.94	0.50
tblLandUse	LotAcreage	0.02	0.00
tblLandUse	LotAcreage	0.05	0.00
tblLandUse	LotAcreage	0.62	0.00
tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Pavers
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblSequestration	NumberOfNewTrees	0.00	30.00
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,000.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	12.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripNumber	1,875.00	2,143.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	69.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	CC_TTP	64.70	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	12.00	0.00
tblVehicleTrips	CW_TTP	16.30	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	18.00	0.00
tblVehicleTrips	DV_TP	35.00	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HW_TL	14.70	6.75
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	44.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	38.00	0.00
tblVehicleTrips	PR_TP	54.00	0.00
tblVehicleTrips	ST_TR	4.53	3.56
tblVehicleTrips	ST_TR	90.04	0.00
tblVehicleTrips	ST_TR	46.12	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	SU_TR	3.59	3.56
tblVehicleTrips	SU_TR	71.97	0.00
tblVehicleTrips	SU_TR	21.10	0.00
tblVehicleTrips	WD_TR	4.45	3.56
tblVehicleTrips	WD_TR	83.84	0.00
tblVehicleTrips	WD_TR	37.75	0.00
tblWoodstoves	NumberCatalytic	6.00	0.00
tblWoodstoves	NumberNoncatalytic	6.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

216 Spring Street - Proposed Project - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.8347	23.9113	19.5350	0.0534	6.3345	0.8106	7.1451	2.8444	0.7601	3.6044	0.0000	5,531.9439	5,531.9439	0.7347	0.5091	5,702.0344
2023	1.6911	13.8721	19.1635	0.0384	1.2219	0.6479	1.8698	0.3267	0.6076	0.9343	0.0000	3,755.6272	3,755.6272	0.6525	0.0750	3,794.2771
2024	8.5895	13.0106	18.9171	0.0380	1.2219	0.5773	1.7991	0.3267	0.5412	0.8679	0.0000	3,723.9676	3,723.9676	0.6482	0.0727	3,761.8211
Maximum	**8.5895**	**23.9113**	**19.5350**	**0.0534**	**6.3345**	**0.8106**	**7.1451**	**2.8444**	**0.7601**	**3.6044**	**0.0000**	**5,531.9439**	**5,531.9439**	**0.7347**	**0.5091**	**5,702.0344**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.8347	23.9113	19.5350	0.0534	3.3988	0.8106	4.2094	1.4295	0.7601	2.1896	0.0000	5,531.9439	5,531.9439	0.7347	0.5091	5,702.0344
2023	1.6911	13.8721	19.1635	0.0384	1.2219	0.6479	1.8698	0.3267	0.6076	0.9343	0.0000	3,755.6272	3,755.6272	0.6525	0.0750	3,794.2771
2024	8.5895	13.0106	18.9171	0.0380	1.2219	0.5773	1.7991	0.3267	0.5412	0.8679	0.0000	3,723.9676	3,723.9676	0.6482	0.0727	3,761.8211
Maximum	**8.5895**	**23.9113**	**19.5350**	**0.0534**	**3.3988**	**0.8106**	**4.2094**	**1.4295**	**0.7601**	**2.1896**	**0.0000**	**5,531.9439**	**5,531.9439**	**0.7347**	**0.5091**	**5,702.0344**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**33.44**	**0.00**	**27.15**	**40.45**	**0.00**	**26.17**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.5404	0.1141	9.9033	5.2000e-004		0.0549	0.0549		0.0549	0.0549	0.0000	17.8420	17.8420	0.0172	0.0000	18.2707
Energy	0.0518	0.4496	0.2426	2.8200e-003		0.0358	0.0358		0.0358	0.0358		564.5094	564.5094	0.0108	0.0104	567.8640
Mobile	1.0357	1.1241	9.5261	0.0203	2.2116	0.0153	2.2269	0.5894	0.0142	0.6036		2,066.6234	2,066.6234	0.1476	0.0981	2,099.5490
Stationary	0.8204	3.6694	2.0922	3.9400e-003		0.1207	0.1207		0.1207	0.1207		419.7571	419.7571	0.0589		421.2283
Total	**4.4483**	**5.3572**	**21.7642**	**0.0276**	**2.2116**	**0.2266**	**2.4382**	**0.5894**	**0.2256**	**0.8149**	**0.0000**	**3,068.7319**	**3,068.7319**	**0.2344**	**0.1085**	**3,106.9120**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.5404	0.1141	9.9033	5.2000e-004		0.0549	0.0549		0.0549	0.0549	0.0000	17.8420	17.8420	0.0172	0.0000	18.2707
Energy	0.0518	0.4496	0.2426	2.8200e-003		0.0358	0.0358		0.0358	0.0358		564.5094	564.5094	0.0108	0.0104	567.8640
Mobile	1.0357	1.1241	9.5261	0.0203	2.2116	0.0153	2.2269	0.5894	0.0142	0.6036		2,066.6234	2,066.6234	0.1476	0.0981	2,099.5490
Stationary	0.8204	3.6694	2.0922	3.9400e-003		0.1207	0.1207		0.1207	0.1207		419.7571	419.7571	0.0589		421.2283
Total	**4.4483**	**5.3572**	**21.7642**	**0.0276**	**2.2116**	**0.2266**	**2.4382**	**0.5894**	**0.2256**	**0.8149**	**0.0000**	**3,068.7319**	**3,068.7319**	**0.2344**	**0.1085**	**3,106.9120**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/1/2022	8/1/2022	5	22	
2	Grading	Grading	8/2/2022	11/1/2022	5	66	
3	Building Construction	Building Construction	11/2/2022	2/28/2024	5	346	
4	Architectural Coating	Architectural Coating	3/1/2024	7/2/2024	5	88	

216 Spring Street - Proposed Project - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 49.5

Acres of Paving: 0

Residential Indoor: 203,563; Residential Outdoor: 67,854; Non-Residential Indoor: 4,538; Non-Residential Outdoor: 1,513; Striped Parking Area: 1,656 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	5	6.00	78	0.48
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Grading	Graders	1	6.00	187	0.41
Building Construction	Cement and Mortar Mixers	1	8.00	9	0.56
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Pavers	1	8.00	130	0.42
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Rollers	1	8.00	80	0.38
Architectural Coating	Aerial Lifts	2	8.00	63	0.31

Trips and VMT

216 Spring Street - Proposed Project - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	64.00	14.70	6.90	30.00	LD_Mix	HDT_Mix	HHDT
Grading	5	13.00	0.00	2,143.00	14.70	6.90	30.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	99.00	18.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	7	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6264	0.0000	0.6264	0.0948	0.0000	0.0948			0.0000			0.0000
Off-Road	0.7094	6.4138	7.4693	0.0120		0.3375	0.3375		0.3225	0.3225		1,147.9025	1,147.9025	0.2119		1,153.2001
Total	**0.7094**	**6.4138**	**7.4693**	**0.0120**	**0.6264**	**0.3375**	**0.9639**	**0.0948**	**0.3225**	**0.4174**		**1,147.9025**	**1,147.9025**	**0.2119**		**1,153.2001**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0165	0.6814	0.1441	2.6000e-003	0.0763	5.6800e-003	0.0820	0.0209	5.4300e-003	0.0263		285.4175	285.4175	0.0154	0.0453	299.3066
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0362	0.0265	0.3446	9.5000e-004	0.1118	6.7000e-004	0.1124	0.0296	6.1000e-004	0.0303		96.3077	96.3077	2.7000e-003	2.6000e-003	97.1489
Total	**0.0527**	**0.7079**	**0.4887**	**3.5500e-003**	**0.1881**	**6.3500e-003**	**0.1944**	**0.0506**	**6.0400e-003**	**0.0566**		**381.7252**	**381.7252**	**0.0181**	**0.0479**	**396.4555**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2819	0.0000	0.2819	0.0427	0.0000	0.0427			0.0000			0.0000
Off-Road	0.7094	6.4138	7.4693	0.0120		0.3375	0.3375		0.3225	0.3225	0.0000	1,147.9025	1,147.9025	0.2119		1,153.2001
Total	**0.7094**	**6.4138**	**7.4693**	**0.0120**	**0.2819**	**0.3375**	**0.6194**	**0.0427**	**0.3225**	**0.3652**	**0.0000**	**1,147.9025**	**1,147.9025**	**0.2119**		**1,153.2001**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0165	0.6814	0.1441	2.6000e-003	0.0763	5.6800e-003	0.0820	0.0209	5.4300e-003	0.0263		285.4175	285.4175	0.0154	0.0453	299.3066
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0362	0.0265	0.3446	9.5000e-004	0.1118	6.7000e-004	0.1124	0.0296	6.1000e-004	0.0303		96.3077	96.3077	2.7000e-003	2.6000e-003	97.1489
Total	**0.0527**	**0.7079**	**0.4887**	**3.5500e-003**	**0.1881**	**6.3500e-003**	**0.1944**	**0.0506**	**6.0400e-003**	**0.0566**		**381.7252**	**381.7252**	**0.0181**	**0.0479**	**396.4555**

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.3376	0.0000	5.3376	2.5724	0.0000	2.5724			0.0000			0.0000
Off-Road	1.5850	16.2720	11.5589	0.0231		0.7463	0.7463		0.6986	0.6986		2,221.0685	2,221.0685	0.5590		2,235.0432
Total	**1.5850**	**16.2720**	**11.5589**	**0.0231**	**5.3376**	**0.7463**	**6.0840**	**2.5724**	**0.6986**	**3.2711**		**2,221.0685**	**2,221.0685**	**0.5590**		**2,235.0432**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1841	7.6049	1.6082	0.0290	0.8516	0.0634	0.9150	0.2334	0.0607	0.2940		3,185.6753	3,185.6753	0.1722	0.5058	3,340.6977
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0471	0.0344	0.4480	1.2400e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		125.2000	125.2000	3.5200e-003	3.3700e-003	126.2936
Total	**0.2312**	**7.6393**	**2.0561**	**0.0303**	**0.9969**	**0.0643**	**1.0612**	**0.2719**	**0.0615**	**0.3334**		**3,310.8753**	**3,310.8753**	**0.1757**	**0.5091**	**3,466.9912**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.4019	0.0000	2.4019	1.1576	0.0000	1.1576			0.0000			0.0000
Off-Road	1.5850	16.2720	11.5589	0.0231		0.7463	0.7463		0.6986	0.6986	0.0000	2,221.0685	2,221.0685	0.5590		2,235.0432
Total	**1.5850**	**16.2720**	**11.5589**	**0.0231**	**2.4019**	**0.7463**	**3.1483**	**1.1576**	**0.6986**	**1.8562**	**0.0000**	**2,221.0685**	**2,221.0685**	**0.5590**		**2,235.0432**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1841	7.6049	1.6082	0.0290	0.8516	0.0634	0.9150	0.2334	0.0607	0.2940		3,185.6753	3,185.6753	0.1722	0.5058	3,340.6977
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0471	0.0344	0.4480	1.2400e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		125.2000	125.2000	3.5200e-003	3.3700e-003	126.2936
Total	**0.2312**	**7.6393**	**2.0561**	**0.0303**	**0.9969**	**0.0643**	**1.0612**	**0.2719**	**0.0615**	**0.3334**		**3,310.8753**	**3,310.8753**	**0.1757**	**0.5091**	**3,466.9912**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4439	14.1022	15.8262	0.0259		0.7300	0.7300		0.6845	0.6845		2,478.6561	2,478.6561	0.6187		2,494.1224
Total	**1.4439**	**14.1022**	**15.8262**	**0.0259**		**0.7300**	**0.7300**		**0.6845**	**0.6845**		**2,478.6561**	**2,478.6561**	**0.6187**		**2,494.1224**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0322	0.8741	0.2975	3.4400e-003	0.1153	8.7900e-003	0.1241	0.0332	8.4100e-003	0.0416		370.3902	370.3902	0.0124	0.0537	386.7143
Worker	0.3586	0.2623	3.4113	9.4300e-003	1.1066	6.6000e-003	1.1132	0.2935	6.0800e-003	0.2996		953.4462	953.4462	0.0268	0.0257	961.7740
Total	**0.3908**	**1.1364**	**3.7088**	**0.0129**	**1.2219**	**0.0154**	**1.2372**	**0.3267**	**0.0145**	**0.3411**		**1,323.8364**	**1,323.8364**	**0.0391**	**0.0794**	**1,348.4883**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4439	14.1022	15.8262	0.0259		0.7300	0.7300		0.6845	0.6845	0.0000	2,478.6561	2,478.6561	0.6187		2,494.1224
Total	**1.4439**	**14.1022**	**15.8262**	**0.0259**		**0.7300**	**0.7300**		**0.6845**	**0.6845**	**0.0000**	**2,478.6561**	**2,478.6561**	**0.6187**		**2,494.1224**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0322	0.8741	0.2975	3.4400e-003	0.1153	8.7900e-003	0.1241	0.0332	8.4100e-003	0.0416		370.3902	370.3902	0.0124	0.0537	386.7143
Worker	0.3586	0.2623	3.4113	9.4300e-003	1.1066	6.6000e-003	1.1132	0.2935	6.0800e-003	0.2996		953.4462	953.4462	0.0268	0.0257	961.7740
Total	**0.3908**	**1.1364**	**3.7088**	**0.0129**	**1.2219**	**0.0154**	**1.2372**	**0.3267**	**0.0145**	**0.3411**		**1,323.8364**	**1,323.8364**	**0.0391**	**0.0794**	**1,348.4883**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3385	12.9543	15.7552	0.0259		0.6379	0.6379		0.5983	0.5983		2,479.2893	2,479.2893	0.6167		2,494.7059
Total	**1.3385**	**12.9543**	**15.7552**	**0.0259**		**0.6379**	**0.6379**		**0.5983**	**0.5983**		**2,479.2893**	**2,479.2893**	**0.6167**		**2,494.7059**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0191	0.6858	0.2655	3.2800e-003	0.1153	3.8200e-003	0.1191	0.0332	3.6600e-003	0.0368		353.4936	353.4936	0.0118	0.0512	369.0521
Worker	0.3336	0.2320	3.1428	9.1300e-003	1.1066	6.2100e-003	1.1128	0.2935	5.7200e-003	0.2992		922.8443	922.8443	0.0241	0.0237	930.5191
Total	**0.3527**	**0.9178**	**3.4083**	**0.0124**	**1.2219**	**0.0100**	**1.2319**	**0.3267**	**9.3800e-003**	**0.3360**		**1,276.3379**	**1,276.3379**	**0.0359**	**0.0750**	**1,299.5713**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3385	12.9543	15.7552	0.0259		0.6379	0.6379		0.5983	0.5983	0.0000	2,479.2893	2,479.2893	0.6167		2,494.7059
Total	**1.3385**	**12.9543**	**15.7552**	**0.0259**		**0.6379**	**0.6379**		**0.5983**	**0.5983**	**0.0000**	**2,479.2893**	**2,479.2893**	**0.6167**		**2,494.7059**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0191	0.6858	0.2655	3.2800e-003	0.1153	3.8200e-003	0.1191	0.0332	3.6600e-003	0.0368		353.4936	353.4936	0.0118	0.0512	369.0521
Worker	0.3336	0.2320	3.1428	9.1300e-003	1.1066	6.2100e-003	1.1128	0.2935	5.7200e-003	0.2992		922.8443	922.8443	0.0241	0.0237	930.5191
Total	**0.3527**	**0.9178**	**3.4083**	**0.0124**	**1.2219**	**0.0100**	**1.2319**	**0.3267**	**9.3800e-003**	**0.3360**		**1,276.3379**	**1,276.3379**	**0.0359**	**0.0750**	**1,299.5713**

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2643	12.1145	15.7278	0.0259		0.5675	0.5675		0.5321	0.5321		2,479.6468	2,479.6468	0.6146		2,495.0115
Total	**1.2643**	**12.1145**	**15.7278**	**0.0259**		**0.5675**	**0.5675**		**0.5321**	**0.5321**		**2,479.6468**	**2,479.6468**	**0.6146**		**2,495.0115**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0186	0.6889	0.2612	3.2300e-003	0.1153	3.8300e-003	0.1191	0.0332	3.6700e-003	0.0369		348.4186	348.4186	0.0118	0.0506	363.7793
Worker	0.3123	0.2071	2.9282	8.8600e-003	1.1066	5.9400e-003	1.1125	0.2935	5.4700e-003	0.2989		895.9022	895.9022	0.0218	0.0221	903.0304
Total	**0.3309**	**0.8961**	**3.1894**	**0.0121**	**1.2219**	**9.7700e-003**	**1.2316**	**0.3267**	**9.1400e-003**	**0.3358**		**1,244.3208**	**1,244.3208**	**0.0336**	**0.0727**	**1,266.8096**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2643	12.1145	15.7278	0.0259		0.5675	0.5675		0.5321	0.5321	0.0000	2,479.6468	2,479.6468	0.6146		2,495.0115
Total	**1.2643**	**12.1145**	**15.7278**	**0.0259**		**0.5675**	**0.5675**		**0.5321**	**0.5321**	**0.0000**	**2,479.6468**	**2,479.6468**	**0.6146**		**2,495.0115**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0186	0.6889	0.2612	3.2300e-003	0.1153	3.8300e-003	0.1191	0.0332	3.6700e-003	0.0369		348.4186	348.4186	0.0118	0.0506	363.7793
Worker	0.3123	0.2071	2.9282	8.8600e-003	1.1066	5.9400e-003	1.1125	0.2935	5.4700e-003	0.2989		895.9022	895.9022	0.0218	0.0221	903.0304
Total	**0.3309**	**0.8961**	**3.1894**	**0.0121**	**1.2219**	**9.7700e-003**	**1.2316**	**0.3267**	**9.1400e-003**	**0.3358**		**1,244.3208**	**1,244.3208**	**0.0336**	**0.0727**	**1,266.8096**

3.5 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	7.5538					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.9726	7.1405	11.2235	0.0182		0.3227	0.3227		0.3213	0.3213		1,730.5915	1,730.5915	0.1838		1,735.1869
Total	**8.5264**	**7.1405**	**11.2235**	**0.0182**		**0.3227**	**0.3227**		**0.3213**	**0.3213**		**1,730.5915**	**1,730.5915**	**0.1838**		**1,735.1869**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0631	0.0419	0.5916	1.7900e-003	0.2236	1.2000e-003	0.2248	0.0593	1.1100e-003	0.0604		180.9903	180.9903	4.4100e-003	4.4600e-003	182.4304
Total	**0.0631**	**0.0419**	**0.5916**	**1.7900e-003**	**0.2236**	**1.2000e-003**	**0.2248**	**0.0593**	**1.1100e-003**	**0.0604**		**180.9903**	**180.9903**	**4.4100e-003**	**4.4600e-003**	**182.4304**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	7.5538					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.9726	7.1405	11.2235	0.0182		0.3227	0.3227		0.3213	0.3213	0.0000	1,730.5915	1,730.5915	0.1838		1,735.1869
Total	**8.5264**	**7.1405**	**11.2235**	**0.0182**		**0.3227**	**0.3227**		**0.3213**	**0.3213**	**0.0000**	**1,730.5915**	**1,730.5915**	**0.1838**		**1,735.1869**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0631	0.0419	0.5916	1.7900e-003	0.2236	1.2000e-003	0.2248	0.0593	1.1100e-003	0.0604		180.9903	180.9903	4.4100e-003	4.4600e-003	182.4304
Total	**0.0631**	**0.0419**	**0.5916**	**1.7900e-003**	**0.2236**	**1.2000e-003**	**0.2248**	**0.0593**	**1.1100e-003**	**0.0604**		**180.9903**	**180.9903**	**4.4100e-003**	**4.4600e-003**	**182.4304**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

216 Spring Street - Proposed Project - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0357	1.1241	9.5261	0.0203	2.2116	0.0153	2.2269	0.5894	0.0142	0.6036		2,066.6234	2,066.6234	0.1476	0.0981	2,099.5490
Unmitigated	1.0357	1.1241	9.5261	0.0203	2.2116	0.0153	2.2269	0.5894	0.0142	0.6036		2,066.6234	2,066.6234	0.1476	0.0981	2,099.5490

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	427.20	427.20	427.20	1,049,630	1,049,630
Enclosed Parking with Elevator	0.00	0.00	0.00		
Quality Restaurant	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Total	427.20	427.20	427.20	1,049,630	1,049,630

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	6.75	0.00	0.00	100.00	0.00	0.00	100	0	0
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Quality Restaurant	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Regional Shopping Center	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Enclosed Parking with Elevator	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Quality Restaurant	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Regional Shopping Center	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0518	0.4496	0.2426	2.8200e-003		0.0358	0.0358		0.0358	0.0358		564.5094	564.5094	0.0108	0.0104	567.8640
NaturalGas Unmitigated	0.0518	0.4496	0.2426	2.8200e-003		0.0358	0.0358		0.0358	0.0358		564.5094	564.5094	0.0108	0.0104	567.8640

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	3536.68	0.0381	0.3259	0.1387	2.0800e-003		0.0264	0.0264		0.0264	0.0264		416.0803	416.0803	7.9700e-003	7.6300e-003	418.5529
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	1257.03	0.0136	0.1232	0.1035	7.4000e-004		9.3700e-003	9.3700e-003		9.3700e-003	9.3700e-003		147.8863	147.8863	2.8300e-003	2.7100e-003	148.7652
Regional Shopping Center	4.61312	5.0000e-005	4.5000e-004	3.8000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.5427	0.5427	1.0000e-005	1.0000e-005	0.5460
Total		**0.0518**	**0.4496**	**0.2426**	**2.8200e-003**		**0.0358**	**0.0358**		**0.0358**	**0.0358**		**564.5094**	**564.5094**	**0.0108**	**0.0104**	**567.8640**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	3.53668	0.0381	0.3259	0.1387	2.0800e-003		0.0264	0.0264		0.0264	0.0264		416.0803	416.0803	7.9700e-003	7.6300e-003	418.5529
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	1.25703	0.0136	0.1232	0.1035	7.4000e-004		9.3700e-003	9.3700e-003		9.3700e-003	9.3700e-003		147.8863	147.8863	2.8300e-003	2.7100e-003	148.7652
Regional Shopping Center	0.00461312	5.0000e-005	4.5000e-004	3.8000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.5427	0.5427	1.0000e-005	1.0000e-005	0.5460
Total		**0.0518**	**0.4496**	**0.2426**	**2.8200e-003**		**0.0358**	**0.0358**		**0.0358**	**0.0358**		**564.5094**	**564.5094**	**0.0108**	**0.0104**	**567.8640**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

Use Low VOC Cleaning Supplies

216 Spring Street - Proposed Project - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.5404	0.1141	9.9033	5.2000e-004		0.0549	0.0549		0.0549	0.0549	0.0000	17.8420	17.8420	0.0172	0.0000	18.2707
Unmitigated	2.5404	0.1141	9.9033	5.2000e-004		0.0549	0.0549		0.0549	0.0549	0.0000	17.8420	17.8420	0.0172	0.0000	18.2707

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1821					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0601					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.2982	0.1141	9.9033	5.2000e-004		0.0549	0.0549		0.0549	0.0549		17.8420	17.8420	0.0172		18.2707
Total	**2.5404**	**0.1141**	**9.9033**	**5.2000e-004**		**0.0549**	**0.0549**		**0.0549**	**0.0549**	**0.0000**	**17.8420**	**17.8420**	**0.0172**	**0.0000**	**18.2707**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1821					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0601					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.2982	0.1141	9.9033	5.2000e-004		0.0549	0.0549		0.0549	0.0549		17.8420	17.8420	0.0172		18.2707
Total	**2.5404**	**0.1141**	**9.9033**	**5.2000e-004**		**0.0549**	**0.0549**		**0.0549**	**0.0549**	**0.0000**	**17.8420**	**17.8420**	**0.0172**	**0.0000**	**18.2707**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	12	1000	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (750 - 9999 HP)	0.8204	3.6694	2.0922	3.9400e-003		0.1207	0.1207		0.1207	0.1207		419.7571	419.7571	0.0589		421.2283
Total	**0.8204**	**3.6694**	**2.0922**	**3.9400e-003**		**0.1207**	**0.1207**		**0.1207**	**0.1207**		**419.7571**	**419.7571**	**0.0589**		**421.2283**

11.0 Vegetation

ATTACHMENT 5

Greenhouse Gas Emissions Worksheets

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

216 Spring Street - Existing Conditions

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	14.00	1000sqft	0.29	14,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2021
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	691.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Existing 14,000 sf commercial office building on 0.29-acre site.

Construction Phase - IGNORE CONSTRUCTION EMISSIONS FOR EXISTING CONDITIONS SCENARIO.

Vehicle Trips - Trip rates adjusted based on Transportation Assessment (September 2021).

Energy Use - Assumes historical Title 24 for existing conditions scenario.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	100.00	10.00
tblLandUse	LotAcreage	0.32	0.29
tblVehicleTrips	CC_TL	8.40	8.08
tblVehicleTrips	CC_TTP	48.00	100.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PR_TP	77.00	100.00
tblVehicleTrips	ST_TR	2.21	6.43
tblVehicleTrips	SU_TR	0.70	6.43
tblVehicleTrips	WD_TR	9.74	6.43

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0700	0.0482	0.0466	8.0000e-005	3.4000e-004	2.7200e-003	3.0600e-003	9.0000e-005	2.5400e-003	2.6300e-003	0.0000	6.7013	6.7013	1.7200e-003	3.0000e-005	6.7546
Maximum	**0.0700**	**0.0482**	**0.0466**	**8.0000e-005**	**3.4000e-004**	**2.7200e-003**	**3.0600e-003**	**9.0000e-005**	**2.5400e-003**	**2.6300e-003**	**0.0000**	**6.7013**	**6.7013**	**1.7200e-003**	**3.0000e-005**	**6.7546**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0700	0.0482	0.0466	8.0000e-005	3.4000e-004	2.7200e-003	3.0600e-003	9.0000e-005	2.5400e-003	2.6300e-003	0.0000	6.7013	6.7013	1.7200e-003	3.0000e-005	6.7545
Maximum	**0.0700**	**0.0482**	**0.0466**	**8.0000e-005**	**3.4000e-004**	**2.7200e-003**	**3.0600e-003**	**9.0000e-005**	**2.5400e-003**	**2.6300e-003**	**0.0000**	**6.7013**	**6.7013**	**1.7200e-003**	**3.0000e-005**	**6.7545**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0571	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.5000e-004	3.5000e-004	0.0000	0.0000	3.7000e-004
Energy	9.4000e-004	8.5400e-003	7.1700e-003	5.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004	0.0000	76.2626	76.2626	3.3700e-003	5.6000e-004	76.5130
Mobile	0.0487	0.0691	0.4960	1.0300e-003	0.0997	1.0800e-003	0.1008	0.0266	1.0100e-003	0.0276	0.0000	94.9628	94.9628	6.5700e-003	4.5200e-003	96.4735
Waste						0.0000	0.0000		0.0000	0.0000	2.6429	0.0000	2.6429	0.1562	0.0000	6.5478
Water						0.0000	0.0000		0.0000	0.0000	0.7894	15.4877	16.2771	0.0818	2.0000e-003	18.9198
Total	**0.1068**	**0.0776**	**0.5033**	**1.0800e-003**	**0.0997**	**1.7300e-003**	**0.1014**	**0.0266**	**1.6600e-003**	**0.0283**	**3.4324**	**186.7135**	**190.1458**	**0.2480**	**7.0800e-003**	**198.4545**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0571	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.5000e-004	3.5000e-004	0.0000	0.0000	3.7000e-004
Energy	9.4000e-004	8.5400e-003	7.1700e-003	5.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004	0.0000	76.2626	76.2626	3.3700e-003	5.6000e-004	76.5130
Mobile	0.0487	0.0691	0.4960	1.0300e-003	0.0997	1.0800e-003	0.1008	0.0266	1.0100e-003	0.0276	0.0000	94.9628	94.9628	6.5700e-003	4.5200e-003	96.4735
Waste						0.0000	0.0000		0.0000	0.0000	2.6429	0.0000	2.6429	0.1562	0.0000	6.5478
Water						0.0000	0.0000		0.0000	0.0000	0.7894	15.4877	16.2771	0.0818	2.0000e-003	18.9198
Total	**0.1068**	**0.0776**	**0.5033**	**1.0800e-003**	**0.0997**	**1.7300e-003**	**0.1014**	**0.0266**	**1.6600e-003**	**0.0283**	**3.4324**	**186.7135**	**190.1458**	**0.2480**	**7.0800e-003**	**198.4545**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	IGNORE Building Construction	Building Construction	10/22/2021	11/4/2021	5	10	
2	IGNORE Architectural Coating	Architectural Coating	11/5/2021	11/18/2021	5	10	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 21,000; Non-Residential Outdoor: 7,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
IGNORE Building Construction	Cranes	1	4.00	231	0.29
IGNORE Building Construction	Forklifts	2	6.00	89	0.20
IGNORE Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
IGNORE Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
IGNORE Building Construction	5	4.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
IGNORE Architectural Coating	1	1.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 IGNORE Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.8700e-003	0.0399	0.0363	6.0000e-005		2.2400e-003	2.2400e-003		2.0600e-003	2.0600e-003	0.0000	5.0041	5.0041	1.6200e-003	0.0000	5.0446
Total	**3.8700e-003**	**0.0399**	**0.0363**	**6.0000e-005**		**2.2400e-003**	**2.2400e-003**		**2.0600e-003**	**2.0600e-003**	**0.0000**	**5.0041**	**5.0041**	**1.6200e-003**	**0.0000**	**5.0446**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-005	5.8000e-004	1.9000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.1917	0.1917	1.0000e-005	3.0000e-005	0.2002
Worker	7.0000e-005	6.0000e-005	7.7000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1831	0.1831	1.0000e-005	1.0000e-005	0.1848
Total	**1.0000e-004**	**6.4000e-004**	**9.6000e-004**	**0.0000**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**8.0000e-005**	**1.0000e-005**	**9.0000e-005**	**0.0000**	**0.3748**	**0.3748**	**2.0000e-005**	**4.0000e-005**	**0.3850**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 IGNORE Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.8700e-003	0.0399	0.0363	6.0000e-005		2.2400e-003	2.2400e-003		2.0600e-003	2.0600e-003	0.0000	5.0041	5.0041	1.6200e-003	0.0000	5.0446
Total	**3.8700e-003**	**0.0399**	**0.0363**	**6.0000e-005**		**2.2400e-003**	**2.2400e-003**		**2.0600e-003**	**2.0600e-003**	**0.0000**	**5.0041**	**5.0041**	**1.6200e-003**	**0.0000**	**5.0446**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-005	5.8000e-004	1.9000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.1917	0.1917	1.0000e-005	3.0000e-005	0.2002
Worker	7.0000e-005	6.0000e-005	7.7000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1831	0.1831	1.0000e-005	1.0000e-005	0.1848
Total	**1.0000e-004**	**6.4000e-004**	**9.6000e-004**	**0.0000**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**8.0000e-005**	**1.0000e-005**	**9.0000e-005**	**0.0000**	**0.3748**	**0.3748**	**2.0000e-005**	**4.0000e-005**	**0.3850**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 IGNORE Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0649					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0900e-003	7.6300e-003	9.0900e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	1.2766	1.2766	9.0000e-005	0.0000	1.2788
Total	**0.0660**	**7.6300e-003**	**9.0900e-003**	**1.0000e-005**		**4.7000e-004**	**4.7000e-004**		**4.7000e-004**	**4.7000e-004**	**0.0000**	**1.2766**	**1.2766**	**9.0000e-005**	**0.0000**	**1.2788**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	2.0000e-005	1.9000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0458	0.0458	0.0000	0.0000	0.0462
Total	**2.0000e-005**	**2.0000e-005**	**1.9000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**6.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0458**	**0.0458**	**0.0000**	**0.0000**	**0.0462**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 IGNORE Architectural Coating - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0649					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0900e-003	7.6300e-003	9.0900e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	1.2766	1.2766	9.0000e-005	0.0000	1.2788
Total	**0.0660**	**7.6300e-003**	**9.0900e-003**	**1.0000e-005**		**4.7000e-004**	**4.7000e-004**		**4.7000e-004**	**4.7000e-004**	**0.0000**	**1.2766**	**1.2766**	**9.0000e-005**	**0.0000**	**1.2788**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	2.0000e-005	1.9000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0458	0.0458	0.0000	0.0000	0.0462
Total	**2.0000e-005**	**2.0000e-005**	**1.9000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**6.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0458**	**0.0458**	**0.0000**	**0.0000**	**0.0462**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0487	0.0691	0.4960	1.0300e-003	0.0997	1.0800e-003	0.1008	0.0266	1.0100e-003	0.0276	0.0000	94.9628	94.9628	6.5700e-003	4.5200e-003	96.4735
Unmitigated	0.0487	0.0691	0.4960	1.0300e-003	0.0997	1.0800e-003	0.1008	0.0266	1.0100e-003	0.0276	0.0000	94.9628	94.9628	6.5700e-003	4.5200e-003	96.4735

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	90.02	90.02	90.02	264,760	264,760
Total	90.02	90.02	90.02	264,760	264,760

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	0.00	8.08	0.00	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.543593	0.059173	0.184074	0.132247	0.023864	0.006129	0.012170	0.009151	0.000841	0.000521	0.023543	0.000746	0.003947

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	66.9688	66.9688	3.1900e-003	3.9000e-004	67.1640
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	66.9688	66.9688	3.1900e-003	3.9000e-004	67.1640
NaturalGas Mitigated	9.4000e-004	8.5400e-003	7.1700e-003	5.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004	0.0000	9.2938	9.2938	1.8000e-004	1.7000e-004	9.3491
NaturalGas Unmitigated	9.4000e-004	8.5400e-003	7.1700e-003	5.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004	0.0000	9.2938	9.2938	1.8000e-004	1.7000e-004	9.3491

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	174160	9.4000e-004	8.5400e-003	7.1700e-003	5.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004	0.0000	9.2938	9.2938	1.8000e-004	1.7000e-004	9.3491
Total		**9.4000e-004**	**8.5400e-003**	**7.1700e-003**	**5.0000e-005**		**6.5000e-004**	**6.5000e-004**		**6.5000e-004**	**6.5000e-004**	**0.0000**	**9.2938**	**9.2938**	**1.8000e-004**	**1.7000e-004**	**9.3491**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	174160	9.4000e-004	8.5400e-003	7.1700e-003	5.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004	0.0000	9.2938	9.2938	1.8000e-004	1.7000e-004	9.3491
Total		**9.4000e-004**	**8.5400e-003**	**7.1700e-003**	**5.0000e-005**		**6.5000e-004**	**6.5000e-004**		**6.5000e-004**	**6.5000e-004**	**0.0000**	**9.2938**	**9.2938**	**1.8000e-004**	**1.7000e-004**	**9.3491**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	213360	66.9688	3.1900e-003	3.9000e-004	67.1640
Total		**66.9688**	**3.1900e-003**	**3.9000e-004**	**67.1640**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	213360	66.9688	3.1900e-003	3.9000e-004	67.1640
Total		**66.9688**	**3.1900e-003**	**3.9000e-004**	**67.1640**

6.0 Area Detail

6.1 Mitigation Measures Area

216 Spring Street - Existing Conditions - South Coast AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0571	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.5000e-004	3.5000e-004	0.0000	0.0000	3.7000e-004
Unmitigated	0.0571	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.5000e-004	3.5000e-004	0.0000	0.0000	3.7000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	6.4900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0506					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.5000e-004	3.5000e-004	0.0000	0.0000	3.7000e-004
Total	**0.0571**	**0.0000**	**1.8000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**3.5000e-004**	**3.5000e-004**	**0.0000**	**0.0000**	**3.7000e-004**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	6.4900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0506					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.5000e-004	3.5000e-004	0.0000	0.0000	3.7000e-004
Total	**0.0571**	**0.0000**	**1.8000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**3.5000e-004**	**3.5000e-004**	**0.0000**	**0.0000**	**3.7000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	16.2771	0.0818	2.0000e-003	18.9198
Unmitigated	16.2771	0.0818	2.0000e-003	18.9198

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	2.48827 / 1.52507	16.2771	0.0818	2.0000e-003	18.9198
Total		**16.2771**	**0.0818**	**2.0000e-003**	**18.9198**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	2.48827 / 1.52507	16.2771	0.0818	2.0000e-003	18.9198
Total		**16.2771**	**0.0818**	**2.0000e-003**	**18.9198**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2.6429	0.1562	0.0000	6.5478
Unmitigated	2.6429	0.1562	0.0000	6.5478

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	13.02	2.6429	0.1562	0.0000	6.5478
Total		**2.6429**	**0.1562**	**0.0000**	**6.5478**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	13.02	2.6429	0.1562	0.0000	6.5478
Total		**2.6429**	**0.1562**	**0.0000**	**6.5478**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

216 Spring Street - Proposed Project

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments High Rise	120.00	Dwelling Unit	0.50	100,525.00	343
Regional Shopping Center	1.03	1000sqft	0.00	1,033.00	0
Quality Restaurant	1.99	1000sqft	0.00	1,992.00	0
Enclosed Parking with Elevator	69.00	Space	0.00	27,600.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2024
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	691.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project Data per June 2021 Site Plans.

Construction Phase - Assumes approximate 24-month construction schedule.

Off-road Equipment - Construction equipment use on worst-case day.

Off-road Equipment - Equipment use on worst-case day.

Off-road Equipment - Equipment use on worst-case day.

Grading - Estimates approx. 15,000 cy soil export for 3-level subterranean parking structure.

Demolition - Demolish existing 14,000 sf office building.

Trips and VMT - Assume 14-cy haul truck capacity and average 30-mile trip to disposal site.

216 Spring Street - Proposed Project - South Coast AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Vehicle Trips - Trip rates adjusted based on Transportation Assessment (September 2021).

Woodstoves - No woodstoves or fireplaces proposed.

Stationary Sources - Emergency Generators and Fire Pumps -

Sequestration - Minimum 30 trees required per LAMC.

Construction Off-road Equipment Mitigation -

Area Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	88.00
tblConstructionPhase	NumDays	100.00	346.00
tblConstructionPhase	NumDays	10.00	22.00
tblConstructionPhase	NumDays	2.00	66.00
tblConstructionPhase	PhaseEndDate	12/20/2022	7/2/2024
tblConstructionPhase	PhaseEndDate	12/6/2022	2/28/2024
tblConstructionPhase	PhaseEndDate	7/14/2022	8/1/2022
tblConstructionPhase	PhaseEndDate	7/19/2022	11/1/2022
tblConstructionPhase	PhaseStartDate	12/14/2022	3/1/2024
tblConstructionPhase	PhaseStartDate	7/20/2022	11/2/2022
tblConstructionPhase	PhaseStartDate	7/16/2022	8/2/2022
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	102.00	0.00
tblFireplaces	NumberNoFireplace	12.00	0.00
tblFireplaces	NumberWood	6.00	0.00
tblGrading	MaterialExported	0.00	15,000.00
tblLandUse	LandUseSquareFeet	120,000.00	100,525.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblLandUse	LotAcreage	1.94	0.50
tblLandUse	LotAcreage	0.02	0.00
tblLandUse	LotAcreage	0.05	0.00
tblLandUse	LotAcreage	0.62	0.00
tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Pavers
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblSequestration	NumberOfNewTrees	0.00	30.00
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,000.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	12.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripNumber	1,875.00	2,143.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	69.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	CC_TTP	64.70	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	12.00	0.00
tblVehicleTrips	CW_TTP	16.30	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	18.00	0.00
tblVehicleTrips	DV_TP	35.00	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HW_TL	14.70	6.75
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	44.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	38.00	0.00
tblVehicleTrips	PR_TP	54.00	0.00
tblVehicleTrips	ST_TR	4.53	3.56
tblVehicleTrips	ST_TR	90.04	0.00
tblVehicleTrips	ST_TR	46.12	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	SU_TR	3.59	3.56
tblVehicleTrips	SU_TR	71.97	0.00
tblVehicleTrips	SU_TR	21.10	0.00
tblVehicleTrips	WD_TR	4.45	3.56
tblVehicleTrips	WD_TR	83.84	0.00
tblVehicleTrips	WD_TR	37.75	0.00
tblWoodstoves	NumberCatalytic	6.00	0.00
tblWoodstoves	NumberNoncatalytic	6.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.1071	1.1981	0.9589	2.7700e-003	0.2432	0.0466	0.2898	0.1022	0.0437	0.1460	0.0000	255.3815	255.3815	0.0371	0.0173	261.4582
2023	0.2166	1.8040	2.5021	5.0000e-003	0.1560	0.0842	0.2402	0.0418	0.0790	0.1208	0.0000	444.5381	444.5381	0.0770	8.8800e-003	449.1076
2024	0.4115	0.5959	0.9290	1.7000e-003	0.0355	0.0267	0.0621	9.4700e-003	0.0258	0.0353	0.0000	149.3074	149.3074	0.0202	1.6000e-003	150.2891
Maximum	**0.4115**	**1.8040**	**2.5021**	**5.0000e-003**	**0.2432**	**0.0842**	**0.2898**	**0.1022**	**0.0790**	**0.1460**	**0.0000**	**444.5381**	**444.5381**	**0.0770**	**0.0173**	**449.1076**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.1071	1.1981	0.9589	2.7700e-003	0.1426	0.0466	0.1891	0.0550	0.0437	0.0987	0.0000	255.3813	255.3813	0.0371	0.0173	261.4581
2023	0.2166	1.8040	2.5021	5.0000e-003	0.1560	0.0842	0.2402	0.0418	0.0790	0.1208	0.0000	444.5378	444.5378	0.0770	8.8800e-003	449.1072
2024	0.4115	0.5959	0.9290	1.7000e-003	0.0355	0.0267	0.0621	9.4700e-003	0.0258	0.0353	0.0000	149.3072	149.3072	0.0202	1.6000e-003	150.2890
Maximum	**0.4115**	**1.8040**	**2.5021**	**5.0000e-003**	**0.1560**	**0.0842**	**0.2402**	**0.0550**	**0.0790**	**0.1208**	**0.0000**	**444.5378**	**444.5378**	**0.0770**	**0.0173**	**449.1072**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**23.16**	**0.00**	**17.00**	**30.80**	**0.00**	**15.65**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**7-1-2022**	**9-30-2022**	0.6342	0.6342
2	**10-1-2022**	**12-31-2022**	0.6599	0.6599
3	**1-1-2023**	**3-31-2023**	0.5002	0.5002
4	**4-1-2023**	**6-30-2023**	0.5036	0.5036
5	**7-1-2023**	**9-30-2023**	0.5091	0.5091
6	**10-1-2023**	**12-31-2023**	0.5114	0.5114
7	**1-1-2024**	**3-31-2024**	0.4824	0.4824
8	**4-1-2024**	**6-30-2024**	0.5124	0.5124
9	**7-1-2024**	**9-30-2024**	0.0113	0.0113
		Highest	0.6599	0.6599

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4465	0.0143	1.2379	7.0000e-005		6.8600e-003	6.8600e-003		6.8600e-003	6.8600e-003	0.0000	2.0233	2.0233	1.9400e-003	0.0000	2.0719
Energy	9.4400e-003	0.0821	0.0443	5.2000e-004		6.5200e-003	6.5200e-003		6.5200e-003	6.5200e-003	0.0000	316.9099	316.9099	0.0125	3.0100e-003	318.1166
Mobile	0.1853	0.2068	1.7495	3.7300e-003	0.3952	2.7800e-003	0.3979	0.1055	2.5900e-003	0.1080	0.0000	344.8496	344.8496	0.0242	0.0163	350.3034
Stationary	9.8500e-003	0.0440	0.0251	5.0000e-005		1.4500e-003	1.4500e-003		1.4500e-003	1.4500e-003	0.0000	4.5696	4.5696	6.4000e-004	0.0000	4.5856
Waste						0.0000	0.0000		0.0000	0.0000	11.7938	0.0000	11.7938	0.6970	0.0000	29.2186
Water						0.0000	0.0000		0.0000	0.0000	2.6963	52.2205	54.9168	0.2794	6.8400e-003	63.9410
Total	**0.6511**	**0.3471**	**3.0568**	**4.3700e-003**	**0.3952**	**0.0176**	**0.4128**	**0.1055**	**0.0174**	**0.1229**	**14.4901**	**720.5728**	**735.0629**	**1.0157**	**0.0261**	**768.2369**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4465	0.0143	1.2379	7.0000e-005		6.8600e-003	6.8600e-003		6.8600e-003	6.8600e-003	0.0000	2.0233	2.0233	1.9400e-003	0.0000	2.0719
Energy	9.4400e-003	0.0821	0.0443	5.2000e-004		6.5200e-003	6.5200e-003		6.5200e-003	6.5200e-003	0.0000	316.9099	316.9099	0.0125	3.0100e-003	318.1166
Mobile	0.1853	0.2068	1.7495	3.7300e-003	0.3952	2.7800e-003	0.3979	0.1055	2.5900e-003	0.1080	0.0000	344.8496	344.8496	0.0242	0.0163	350.3034
Stationary	9.8500e-003	0.0440	0.0251	5.0000e-005		1.4500e-003	1.4500e-003		1.4500e-003	1.4500e-003	0.0000	4.5696	4.5696	6.4000e-004	0.0000	4.5856
Waste						0.0000	0.0000		0.0000	0.0000	3.5381	0.0000	3.5381	0.2091	0.0000	8.7656
Water						0.0000	0.0000		0.0000	0.0000	2.1570	41.7764	43.9334	0.2235	5.4700e-003	51.1528
Total	**0.6511**	**0.3471**	**3.0568**	**4.3700e-003**	**0.3952**	**0.0176**	**0.4128**	**0.1055**	**0.0174**	**0.1229**	**5.6952**	**710.1287**	**715.8239**	**0.4719**	**0.0248**	**734.9957**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**60.70**	**1.45**	**2.62**	**53.54**	**5.25**	**4.33**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	21.2400
Total	**21.2400**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/1/2022	8/1/2022	5	22	
2	Grading	Grading	8/2/2022	11/1/2022	5	66	
3	Building Construction	Building Construction	11/2/2022	2/28/2024	5	346	
4	Architectural Coating	Architectural Coating	3/1/2024	7/2/2024	5	88	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 49.5

Acres of Paving: 0

Residential Indoor: 203,563; Residential Outdoor: 67,854; Non-Residential Indoor: 4,538; Non-Residential Outdoor: 1,513; Striped Parking Area: 1,656 (Architectural Coating – sqft)

OffRoad Equipment

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	5	6.00	78	0.48
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Grading	Graders	1	6.00	187	0.41
Building Construction	Cement and Mortar Mixers	1	8.00	9	0.56
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Pavers	1	8.00	130	0.42
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Rollers	1	8.00	80	0.38
Architectural Coating	Aerial Lifts	2	8.00	63	0.31

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	64.00	14.70	6.90	30.00	LD_Mix	HDT_Mix	HHDT
Grading	5	13.00	0.00	2,143.00	14.70	6.90	30.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	99.00	18.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	7	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.8900e-003	0.0000	6.8900e-003	1.0400e-003	0.0000	1.0400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.8000e-003	0.0706	0.0822	1.3000e-004		3.7100e-003	3.7100e-003		3.5500e-003	3.5500e-003	0.0000	11.4550	11.4550	2.1100e-003	0.0000	11.5078
Total	**7.8000e-003**	**0.0706**	**0.0822**	**1.3000e-004**	**6.8900e-003**	**3.7100e-003**	**0.0106**	**1.0400e-003**	**3.5500e-003**	**4.5900e-003**	**0.0000**	**11.4550**	**11.4550**	**2.1100e-003**	**0.0000**	**11.5078**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.8000e-004	7.5800e-003	1.5700e-003	3.0000e-005	8.3000e-004	6.0000e-005	8.9000e-004	2.3000e-004	6.0000e-005	2.9000e-004	0.0000	2.8478	2.8478	1.5000e-004	4.5000e-004	2.9864
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	3.0000e-004	3.9000e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9758	0.9758	3.0000e-005	3.0000e-005	0.9843
Total	**5.5000e-004**	**7.8800e-003**	**5.4700e-003**	**4.0000e-005**	**2.0400e-003**	**7.0000e-005**	**2.1000e-003**	**5.5000e-004**	**7.0000e-005**	**6.2000e-004**	**0.0000**	**3.8236**	**3.8236**	**1.8000e-004**	**4.8000e-004**	**3.9707**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.1000e-003	0.0000	3.1000e-003	4.7000e-004	0.0000	4.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.8000e-003	0.0706	0.0822	1.3000e-004		3.7100e-003	3.7100e-003		3.5500e-003	3.5500e-003	0.0000	11.4549	11.4549	2.1100e-003	0.0000	11.5078
Total	**7.8000e-003**	**0.0706**	**0.0822**	**1.3000e-004**	**3.1000e-003**	**3.7100e-003**	**6.8100e-003**	**4.7000e-004**	**3.5500e-003**	**4.0200e-003**	**0.0000**	**11.4549**	**11.4549**	**2.1100e-003**	**0.0000**	**11.5078**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.8000e-004	7.5800e-003	1.5700e-003	3.0000e-005	8.3000e-004	6.0000e-005	8.9000e-004	2.3000e-004	6.0000e-005	2.9000e-004	0.0000	2.8478	2.8478	1.5000e-004	4.5000e-004	2.9864
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	3.0000e-004	3.9000e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9758	0.9758	3.0000e-005	3.0000e-005	0.9843
Total	**5.5000e-004**	**7.8800e-003**	**5.4700e-003**	**4.0000e-005**	**2.0400e-003**	**7.0000e-005**	**2.1000e-003**	**5.5000e-004**	**7.0000e-005**	**6.2000e-004**	**0.0000**	**3.8236**	**3.8236**	**1.8000e-004**	**4.8000e-004**	**3.9707**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1761	0.0000	0.1761	0.0849	0.0000	0.0849	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0523	0.5370	0.3814	7.6000e-004		0.0246	0.0246		0.0231	0.0231	0.0000	66.4923	66.4923	0.0167	0.0000	66.9107
Total	**0.0523**	**0.5370**	**0.3814**	**7.6000e-004**	**0.1761**	**0.0246**	**0.2008**	**0.0849**	**0.0231**	**0.1079**	**0.0000**	**66.4923**	**66.4923**	**0.0167**	**0.0000**	**66.9107**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.1500e-003	0.2537	0.0526	9.6000e-004	0.0277	2.0900e-003	0.0297	7.5900e-003	2.0000e-003	9.5900e-003	0.0000	95.3561	95.3561	5.1600e-003	0.0151	99.9965
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4400e-003	1.1600e-003	0.0152	4.0000e-005	4.7100e-003	3.0000e-005	4.7400e-003	1.2500e-003	3.0000e-005	1.2800e-003	0.0000	3.8056	3.8056	1.1000e-004	1.0000e-004	3.8389
Total	**7.5900e-003**	**0.2548**	**0.0678**	**1.0000e-003**	**0.0324**	**2.1200e-003**	**0.0345**	**8.8400e-003**	**2.0300e-003**	**0.0109**	**0.0000**	**99.1617**	**99.1617**	**5.2700e-003**	**0.0152**	**103.8353**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0793	0.0000	0.0793	0.0382	0.0000	0.0382	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0523	0.5370	0.3814	7.6000e-004		0.0246	0.0246		0.0231	0.0231	0.0000	66.4923	66.4923	0.0167	0.0000	66.9106
Total	**0.0523**	**0.5370**	**0.3814**	**7.6000e-004**	**0.0793**	**0.0246**	**0.1039**	**0.0382**	**0.0231**	**0.0613**	**0.0000**	**66.4923**	**66.4923**	**0.0167**	**0.0000**	**66.9106**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.1500e-003	0.2537	0.0526	9.6000e-004	0.0277	2.0900e-003	0.0297	7.5900e-003	2.0000e-003	9.5900e-003	0.0000	95.3561	95.3561	5.1600e-003	0.0151	99.9965
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4400e-003	1.1600e-003	0.0152	4.0000e-005	4.7100e-003	3.0000e-005	4.7400e-003	1.2500e-003	3.0000e-005	1.2800e-003	0.0000	3.8056	3.8056	1.1000e-004	1.0000e-004	3.8389
Total	**7.5900e-003**	**0.2548**	**0.0678**	**1.0000e-003**	**0.0324**	**2.1200e-003**	**0.0345**	**8.8400e-003**	**2.0300e-003**	**0.0109**	**0.0000**	**99.1617**	**99.1617**	**5.2700e-003**	**0.0152**	**103.8353**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0310	0.3032	0.3403	5.6000e-004		0.0157	0.0157		0.0147	0.0147	0.0000	48.3449	48.3449	0.0121	0.0000	48.6465
Total	**0.0310**	**0.3032**	**0.3403**	**5.6000e-004**		**0.0157**	**0.0157**		**0.0147**	**0.0147**	**0.0000**	**48.3449**	**48.3449**	**0.0121**	**0.0000**	**48.6465**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.0000e-004	0.0189	6.2700e-003	7.0000e-005	2.4400e-003	1.9000e-004	2.6300e-003	7.0000e-004	1.8000e-004	8.8000e-004	0.0000	7.2222	7.2222	2.4000e-004	1.0500e-003	7.5405
Worker	7.1500e-003	5.7700e-003	0.0754	2.1000e-004	0.0234	1.4000e-004	0.0235	6.2000e-003	1.3000e-004	6.3300e-003	0.0000	18.8818	18.8818	5.2000e-004	5.1000e-004	19.0466
Total	**7.8500e-003**	**0.0247**	**0.0817**	**2.8000e-004**	**0.0258**	**3.3000e-004**	**0.0261**	**6.9000e-003**	**3.1000e-004**	**7.2100e-003**	**0.0000**	**26.1040**	**26.1040**	**7.6000e-004**	**1.5600e-003**	**26.5872**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0310	0.3032	0.3403	5.6000e-004		0.0157	0.0157		0.0147	0.0147	0.0000	48.3448	48.3448	0.0121	0.0000	48.6465
Total	**0.0310**	**0.3032**	**0.3403**	**5.6000e-004**		**0.0157**	**0.0157**		**0.0147**	**0.0147**	**0.0000**	**48.3448**	**48.3448**	**0.0121**	**0.0000**	**48.6465**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.0000e-004	0.0189	6.2700e-003	7.0000e-005	2.4400e-003	1.9000e-004	2.6300e-003	7.0000e-004	1.8000e-004	8.8000e-004	0.0000	7.2222	7.2222	2.4000e-004	1.0500e-003	7.5405
Worker	7.1500e-003	5.7700e-003	0.0754	2.1000e-004	0.0234	1.4000e-004	0.0235	6.2000e-003	1.3000e-004	6.3300e-003	0.0000	18.8818	18.8818	5.2000e-004	5.1000e-004	19.0466
Total	**7.8500e-003**	**0.0247**	**0.0817**	**2.8000e-004**	**0.0258**	**3.3000e-004**	**0.0261**	**6.9000e-003**	**3.1000e-004**	**7.2100e-003**	**0.0000**	**26.1040**	**26.1040**	**7.6000e-004**	**1.5600e-003**	**26.5872**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1740	1.6841	2.0482	3.3700e-003		0.0829	0.0829		0.0778	0.0778	0.0000	292.3925	292.3925	0.0727	0.0000	294.2107
Total	**0.1740**	**1.6841**	**2.0482**	**3.3700e-003**		**0.0829**	**0.0829**		**0.0778**	**0.0778**	**0.0000**	**292.3925**	**292.3925**	**0.0727**	**0.0000**	**294.2107**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5300e-003	0.0891	0.0339	4.3000e-004	0.0148	5.0000e-004	0.0153	4.2600e-003	4.7000e-004	4.7300e-003	0.0000	41.6454	41.6454	1.4000e-003	6.0300e-003	43.4784
Worker	0.0401	0.0308	0.4200	1.2100e-003	0.1412	8.1000e-004	0.1420	0.0375	7.4000e-004	0.0382	0.0000	110.5002	110.5002	2.8400e-003	2.8400e-003	111.4185
Total	**0.0426**	**0.1200**	**0.4539**	**1.6400e-003**	**0.1560**	**1.3100e-003**	**0.1573**	**0.0418**	**1.2100e-003**	**0.0430**	**0.0000**	**152.1456**	**152.1456**	**4.2400e-003**	**8.8700e-003**	**154.8969**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1740	1.6841	2.0482	3.3700e-003		0.0829	0.0829		0.0778	0.0778	0.0000	292.3922	292.3922	0.0727	0.0000	294.2103
Total	**0.1740**	**1.6841**	**2.0482**	**3.3700e-003**		**0.0829**	**0.0829**		**0.0778**	**0.0778**	**0.0000**	**292.3922**	**292.3922**	**0.0727**	**0.0000**	**294.2103**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5300e-003	0.0891	0.0339	4.3000e-004	0.0148	5.0000e-004	0.0153	4.2600e-003	4.7000e-004	4.7300e-003	0.0000	41.6454	41.6454	1.4000e-003	6.0300e-003	43.4784
Worker	0.0401	0.0308	0.4200	1.2100e-003	0.1412	8.1000e-004	0.1420	0.0375	7.4000e-004	0.0382	0.0000	110.5002	110.5002	2.8400e-003	2.8400e-003	111.4185
Total	**0.0426**	**0.1200**	**0.4539**	**1.6400e-003**	**0.1560**	**1.3100e-003**	**0.1573**	**0.0418**	**1.2100e-003**	**0.0430**	**0.0000**	**152.1456**	**152.1456**	**4.2400e-003**	**8.8700e-003**	**154.8969**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0272	0.2605	0.3382	5.6000e-004		0.0122	0.0122		0.0114	0.0114	0.0000	48.3642	48.3642	0.0120	0.0000	48.6639
Total	**0.0272**	**0.2605**	**0.3382**	**5.6000e-004**		**0.0122**	**0.0122**		**0.0114**	**0.0114**	**0.0000**	**48.3642**	**48.3642**	**0.0120**	**0.0000**	**48.6639**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.1000e-004	0.0148	5.5200e-003	7.0000e-005	2.4400e-003	8.0000e-005	2.5200e-003	7.0000e-004	8.0000e-005	7.8000e-004	0.0000	6.7885	6.7885	2.3000e-004	9.8000e-004	7.0878
Worker	6.2000e-003	4.5500e-003	0.0647	1.9000e-004	0.0234	1.3000e-004	0.0235	6.2000e-003	1.2000e-004	6.3200e-003	0.0000	17.7413	17.7413	4.3000e-004	4.4000e-004	17.8823
Total	**6.6100e-003**	**0.0194**	**0.0702**	**2.6000e-004**	**0.0258**	**2.1000e-004**	**0.0260**	**6.9000e-003**	**2.0000e-004**	**7.1000e-003**	**0.0000**	**24.5298**	**24.5298**	**6.6000e-004**	**1.4200e-003**	**24.9701**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0272	0.2605	0.3382	5.6000e-004		0.0122	0.0122		0.0114	0.0114	0.0000	48.3641	48.3641	0.0120	0.0000	48.6638
Total	**0.0272**	**0.2605**	**0.3382**	**5.6000e-004**		**0.0122**	**0.0122**		**0.0114**	**0.0114**	**0.0000**	**48.3641**	**48.3641**	**0.0120**	**0.0000**	**48.6638**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.1000e-004	0.0148	5.5200e-003	7.0000e-005	2.4400e-003	8.0000e-005	2.5200e-003	7.0000e-004	8.0000e-005	7.8000e-004	0.0000	6.7885	6.7885	2.3000e-004	9.8000e-004	7.0878
Worker	6.2000e-003	4.5500e-003	0.0647	1.9000e-004	0.0234	1.3000e-004	0.0235	6.2000e-003	1.2000e-004	6.3200e-003	0.0000	17.7413	17.7413	4.3000e-004	4.4000e-004	17.8823
Total	**6.6100e-003**	**0.0194**	**0.0702**	**2.6000e-004**	**0.0258**	**2.1000e-004**	**0.0260**	**6.9000e-003**	**2.0000e-004**	**7.1000e-003**	**0.0000**	**24.5298**	**24.5298**	**6.6000e-004**	**1.4200e-003**	**24.9701**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3324					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0428	0.3142	0.4938	8.0000e-004		0.0142	0.0142		0.0141	0.0141	0.0000	69.0785	69.0785	7.3400e-003	0.0000	69.2619
Total	**0.3752**	**0.3142**	**0.4938**	**8.0000e-004**		**0.0142**	**0.0142**		**0.0141**	**0.0141**	**0.0000**	**69.0785**	**69.0785**	**7.3400e-003**	**0.0000**	**69.2619**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5600e-003	1.8800e-003	0.0268	8.0000e-005	9.6500e-003	5.0000e-005	9.7100e-003	2.5600e-003	5.0000e-005	2.6100e-003	0.0000	7.3349	7.3349	1.8000e-004	1.8000e-004	7.3932
Total	**2.5600e-003**	**1.8800e-003**	**0.0268**	**8.0000e-005**	**9.6500e-003**	**5.0000e-005**	**9.7100e-003**	**2.5600e-003**	**5.0000e-005**	**2.6100e-003**	**0.0000**	**7.3349**	**7.3349**	**1.8000e-004**	**1.8000e-004**	**7.3932**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3324					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0428	0.3142	0.4938	8.0000e-004		0.0142	0.0142		0.0141	0.0141	0.0000	69.0784	69.0784	7.3400e-003	0.0000	69.2619
Total	**0.3752**	**0.3142**	**0.4938**	**8.0000e-004**		**0.0142**	**0.0142**		**0.0141**	**0.0141**	**0.0000**	**69.0784**	**69.0784**	**7.3400e-003**	**0.0000**	**69.2619**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5600e-003	1.8800e-003	0.0268	8.0000e-005	9.6500e-003	5.0000e-005	9.7100e-003	2.5600e-003	5.0000e-005	2.6100e-003	0.0000	7.3349	7.3349	1.8000e-004	1.8000e-004	7.3932
Total	**2.5600e-003**	**1.8800e-003**	**0.0268**	**8.0000e-005**	**9.6500e-003**	**5.0000e-005**	**9.7100e-003**	**2.5600e-003**	**5.0000e-005**	**2.6100e-003**	**0.0000**	**7.3349**	**7.3349**	**1.8000e-004**	**1.8000e-004**	**7.3932**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1853	0.2068	1.7495	3.7300e-003	0.3952	2.7800e-003	0.3979	0.1055	2.5900e-003	0.1080	0.0000	344.8496	344.8496	0.0242	0.0163	350.3034
Unmitigated	0.1853	0.2068	1.7495	3.7300e-003	0.3952	2.7800e-003	0.3979	0.1055	2.5900e-003	0.1080	0.0000	344.8496	344.8496	0.0242	0.0163	350.3034

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	427.20	427.20	427.20	1,049,630	1,049,630
Enclosed Parking with Elevator	0.00	0.00	0.00		
Quality Restaurant	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Total	427.20	427.20	427.20	1,049,630	1,049,630

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	6.75	0.00	0.00	100.00	0.00	0.00	100	0	0
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Quality Restaurant	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Regional Shopping Center	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Enclosed Parking with Elevator	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Quality Restaurant	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Regional Shopping Center	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

216 Spring Street - Proposed Project - South Coast AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	223.4490	223.4490	0.0107	1.2900e-003	224.1004
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	223.4490	223.4490	0.0107	1.2900e-003	224.1004
NaturalGas Mitigated	9.4400e-003	0.0821	0.0443	5.2000e-004		6.5200e-003	6.5200e-003		6.5200e-003	6.5200e-003	0.0000	93.4609	93.4609	1.7900e-003	1.7100e-003	94.0163
NaturalGas Unmitigated	9.4400e-003	0.0821	0.0443	5.2000e-004		6.5200e-003	6.5200e-003		6.5200e-003	6.5200e-003	0.0000	93.4609	93.4609	1.7900e-003	1.7100e-003	94.0163

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	1.29089e+006	6.9600e-003	0.0595	0.0253	3.8000e-004		4.8100e-003	4.8100e-003		4.8100e-003	4.8100e-003	0.0000	68.8868	68.8868	1.3200e-003	1.2600e-003	69.2961
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	458817	2.4700e-003	0.0225	0.0189	1.3000e-004		1.7100e-003	1.7100e-003		1.7100e-003	1.7100e-003	0.0000	24.4842	24.4842	4.7000e-004	4.5000e-004	24.6297
Regional Shopping Center	1683.79	1.0000e-005	8.0000e-005	7.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.0899	0.0899	0.0000	0.0000	0.0904
Total		**9.4400e-003**	**0.0821**	**0.0443**	**5.1000e-004**		**6.5300e-003**	**6.5300e-003**		**6.5300e-003**	**6.5300e-003**	**0.0000**	**93.4609**	**93.4609**	**1.7900e-003**	**1.7100e-003**	**94.0163**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	1.29089e+006	6.9600e-003	0.0595	0.0253	3.8000e-004		4.8100e-003	4.8100e-003		4.8100e-003	4.8100e-003	0.0000	68.8868	68.8868	1.3200e-003	1.2600e-003	69.2961
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	458817	2.4700e-003	0.0225	0.0189	1.3000e-004		1.7100e-003	1.7100e-003		1.7100e-003	1.7100e-003	0.0000	24.4842	24.4842	4.7000e-004	4.5000e-004	24.6297
Regional Shopping Center	1683.79	1.0000e-005	8.0000e-005	7.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.0899	0.0899	0.0000	0.0000	0.0904
Total		**9.4400e-003**	**0.0821**	**0.0443**	**5.1000e-004**		**6.5300e-003**	**6.5300e-003**		**6.5300e-003**	**6.5300e-003**	**0.0000**	**93.4609**	**93.4609**	**1.7900e-003**	**1.7100e-003**	**94.0163**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	462061	145.0303	6.9200e-003	8.4000e-004	145.4531
Enclosed Parking with Elevator	150144	47.1267	2.2500e-003	2.7000e-004	47.2641
Quality Restaurant	86193.8	27.0543	1.2900e-003	1.6000e-004	27.1331
Regional Shopping Center	13501.3	4.2378	2.0000e-004	2.0000e-005	4.2501
Total		**223.4490**	**0.0107**	**1.2900e-003**	**224.1004**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	462061	145.0303	6.9200e-003	8.4000e-004	145.4531
Enclosed Parking with Elevator	150144	47.1267	2.2500e-003	2.7000e-004	47.2641
Quality Restaurant	86193.8	27.0543	1.2900e-003	1.6000e-004	27.1331
Regional Shopping Center	13501.3	4.2378	2.0000e-004	2.0000e-005	4.2501
Total		**223.4490**	**0.0107**	**1.2900e-003**	**224.1004**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

Use Low VOC Cleaning Supplies

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4465	0.0143	1.2379	7.0000e-005		6.8600e-003	6.8600e-003		6.8600e-003	6.8600e-003	0.0000	2.0233	2.0233	1.9400e-003	0.0000	2.0719
Unmitigated	0.4465	0.0143	1.2379	7.0000e-005		6.8600e-003	6.8600e-003		6.8600e-003	6.8600e-003	0.0000	2.0233	2.0233	1.9400e-003	0.0000	2.0719

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0332					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3760					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0373	0.0143	1.2379	7.0000e-005		6.8600e-003	6.8600e-003		6.8600e-003	6.8600e-003	0.0000	2.0233	2.0233	1.9400e-003	0.0000	2.0719
Total	**0.4465**	**0.0143**	**1.2379**	**7.0000e-005**		**6.8600e-003**	**6.8600e-003**		**6.8600e-003**	**6.8600e-003**	**0.0000**	**2.0233**	**2.0233**	**1.9400e-003**	**0.0000**	**2.0719**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0332					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3760					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0373	0.0143	1.2379	7.0000e-005		6.8600e-003	6.8600e-003		6.8600e-003	6.8600e-003	0.0000	2.0233	2.0233	1.9400e-003	0.0000	2.0719
Total	**0.4465**	**0.0143**	**1.2379**	**7.0000e-005**		**6.8600e-003**	**6.8600e-003**		**6.8600e-003**	**6.8600e-003**	**0.0000**	**2.0233**	**2.0233**	**1.9400e-003**	**0.0000**	**2.0719**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	43.9334	0.2235	5.4700e-003	51.1528
Unmitigated	54.9168	0.2794	6.8400e-003	63.9410

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	7.81848 / 4.92904	51.6229	0.2571	6.3000e-003	59.9280
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0.604032 / 0.0385552	2.7948	0.0198	4.8000e-004	3.4329
Regional Shopping Center	0.0762947 / 0.0467613	0.4991	2.5100e-003	6.0000e-005	0.5801
Total		**54.9168**	**0.2794**	**6.8400e-003**	**63.9410**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	6.25479 / 3.94323	41.2984	0.2057	5.0400e-003	47.9424
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0.483226 / 0.0308442	2.2358	0.0159	3.8000e-004	2.7463
Regional Shopping Center	0.0610358 / 0.037409	0.3993	2.0100e-003	5.0000e-005	0.4641
Total		**43.9334**	**0.2236**	**5.4700e-003**	**51.1528**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	3.5381	0.2091	0.0000	8.7656
Unmitigated	11.7938	0.6970	0.0000	29.2186

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	55.2	11.2051	0.6622	0.0000	27.7602
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	1.82	0.3694	0.0218	0.0000	0.9153
Regional Shopping Center	1.08	0.2192	0.0130	0.0000	0.5431
Total		**11.7938**	**0.6970**	**0.0000**	**29.2186**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	16.56	3.3615	0.1987	0.0000	8.3281
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0.546	0.1108	6.5500e-003	0.0000	0.2746
Regional Shopping Center	0.324	0.0658	3.8900e-003	0.0000	0.1629
Total		**3.5381**	**0.2091**	**0.0000**	**8.7656**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	12	1000	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (750 - 9999 HP)	9.8500e-003	0.0440	0.0251	5.0000e-005		1.4500e-003	1.4500e-003		1.4500e-003	1.4500e-003	0.0000	4.5696	4.5696	6.4000e-004	0.0000	4.5856
Total	**9.8500e-003**	**0.0440**	**0.0251**	**5.0000e-005**		**1.4500e-003**	**1.4500e-003**		**1.4500e-003**	**1.4500e-003**	**0.0000**	**4.5696**	**4.5696**	**6.4000e-004**	**0.0000**	**4.5856**

11.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	21.2400	0.0000	0.0000	21.2400

11.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Miscellaneous	30	21.2400	0.0000	0.0000	21.2400
Total		**21.2400**	**0.0000**	**0.0000**	**21.2400**

ATTACHMENT 6

Class One Arboriculture, Inc.,
216 Spring St. Arborist Report,
July 6, 2021.

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216 Spring St. Arborist Report

Prepared for Blaise Fremont
353 S. Broadway, Suite 200
Los Angeles, CA 90013

Prepared by James Komen
BCMA WE-9909B
RCA #555

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Site Map attached separately

Background

In August of 2020, I was contacted by Blaise Fremont. Blaise asked me to prepare a Protected Tree Report per the requirements of the City of Los Angeles planning department. I visited the subject property alone on Wednesday, August 5, 2020 at 12:00pm to collect data for this report.

On July 6, 2021, Blaise contacted me again and asked me to update the report to reflect the newest version of the project plans and the updated tree protection ordinance. He also asked me to remove the word "mitigation" from the report; I have replaced this word with "replacement," referring to the trees that will be planted after the existing ones are removed. No other changes were made to this report.

Project Description

An existing commercial building will be demolished, and a new mixed-use structure will be built in its place.

I recorded data on 2 trees on and around the subject property that could potentially be impacted by the proposed construction activity. Neither of them are protected species per Ordinance 186,873 covering native trees and native shrubs: Native Oaks (*Quercus sp.)*, California Sycamore (*Platanus racemosa*), California Black Walnut (*Juglans californica*), Bay Laurel (*Umbellularia californica*), Toyon (*Heteromeles arbutifolia*), and Elderberry (*Sambucus mexicana*). Both trees are Holly Oak (*Quercus ilex*), which is native to the Mediterranean region.

No protected trees will be removed as a result of this project. No protected trees will be encroached or impacted as a result of this project. No protected trees on neighboring properties will be affected by the proposed project.

The 2 trees in this report are street trees. They are proposed for removal to comply with the Downtown Design Guide §5(A)(9) and §9(F)(2). §5(A)(9) requires bicycle parking, and §9(F)(2) requires tree spacing of "not more than an average of 25 feet on center." 4 street trees will be planted as replacements.

Subject Trees

	Tree 1 *Quercus ilex* – Holly Oak This tree is a street tree. Although it is an oak, it is a not a native oak, so it is not a protected native tree per Ordinance 186,873. This tree will be removed so the street trees fronting this property may be repositioned to comply with Downtown Design Guide §5(A)(9) and §9(F)(2), which require bicycle parking and minimum tree spacing, respectively. This tree is in good health, but it has a few minor problems. I observed symptoms of seasonal Drippy Nut, which is a bacterial infection of the acorns. Though the condition is not detrimental to the health of the tree, it tends to create a sticky mess on the paved surface below. The tree is also drought-stressed, likely due to its limited growing volume. I observed tip dieback near the top of the tree and vigorous watersprout growth along the trunk, indicating the tree was stressed. However, the overall foliage color and density appeared good.

Tree 2
Quercus ilex – Holly Oak

This tree is a street tree. Although it is an oak, it is a not a native oak, so it is not a protected native tree per Ordinance 186,873. This tree will be removed so the street trees fronting this property may be repositioned to comply with Downtown Design Guide §5(A)(9) and §9(F)(2), which require bicycle parking and minimum tree spacing, respectively.

I observed a mechanical injury wound on the southeastern side of the trunk. At some point several years ago, the tree was impacted by a blunt force, perhaps by a cart, shovel, or other tool. The bark underneath the area of impact then died and soughed off, leaving the exposed heartwood. Over time, the tree has begun to roll a response growth callous over the perimeter of this wound site. I did not observe significant degradation of the tree's structural integrity resulting from the wound.

Like Tree 1, this tree is in good health, but it has a few minor problems. I observed symptoms of seasonal Drippy Nut, which is a bacterial infection of the acorns. Though the condition is not detrimental to the health of the tree, it tends to create a sticky mess on the paved surface below.

The tree is also drought-stressed, likely due to its limited growing volume. I observed tip dieback near the top of the tree and vigorous watersprout growth along the trunk, indicating the tree was stressed. However, the overall foliage color and density appeared good.

Matrix of All Trees on Site

Tree #	Tag #	Species	Common Name	DBH	Height	Spread	Condition	Treatment	Rating	Natural?	Protected?	Remove?
1	5821	*Quercus ilex*	Holly Oak	13''	30'	30'	drought stress, drippy nut, minor tip dieback	remove	B-	No	Street	Yes
2	5822	*Quercus ilex*	Holly Oak	9''	24'	24'	mech inj at base, drought stress, drippy nut, minor tip dieback	remove	C+	No	Street	Yes

Protected Tree Matrix

There are no protected trees on site.

Protected Trees to be Removed

There are no protected trees on site. None will be removed.

Protected Trees to Remain

There are no protected trees on site.

Recommendations and Construction Impact Guidelines

No construction impact guidelines are required because all trees on site will be removed.

Replacement Trees

Two street trees will be removed. The City of Los Angeles requires replacement trees to be planted on a 2:1 basis for the removal of street trees. According to this replacement ratio, four replacement trees are required. The replacement plan is to install four replacement trees along Spring Street. The replacement trees will be 36" box size per the Downtown Design Guide §9(F)(7).

Limitations

My observations are based on a strictly visual inspection of the property, and some hidden or buried symptoms and signs may not have been observed. I did not conduct excavation, coring, or climbing inspection to make observations. I relied upon the information provided to me by the client regarding the history of the site and the proposed construction. I relied upon the surveyed site features denoted in the surveys and site plans I was provided. If any part of this information is found to be incorrect, the conclusions in this report may be invalidated.

My analysis is only based on the observations I gathered at the time of inspection. I do not guarantee the safety of the subject trees. There is no warranty or guarantee, expressed or implied, that problems or deficiencies may not arise in the future.

Arborists are tree specialists who use their knowledge, education, training, and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living trees. Clients may choose to accept or disregard the recommendations of the arborist, or to seek additional advice.

Arborists cannot detect every condition that could possibly lead to structural failure of a tree. Trees are living organisms that fail in ways not fully understood. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like any medicine, cannot be guaranteed.

Treatment, pruning, and removal of trees may involve considerations beyond the scope of the arborist's services such as property boundaries, property ownership, locations of surveyed landmarks, disputes between neighbors, and other issues. Arborists cannot take such considerations into account unless complete and accurate information is disclosed to the arborist. An arborist should then be expected to reasonably rely upon the completeness and accuracy of the information provided.

Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.

Site Photos

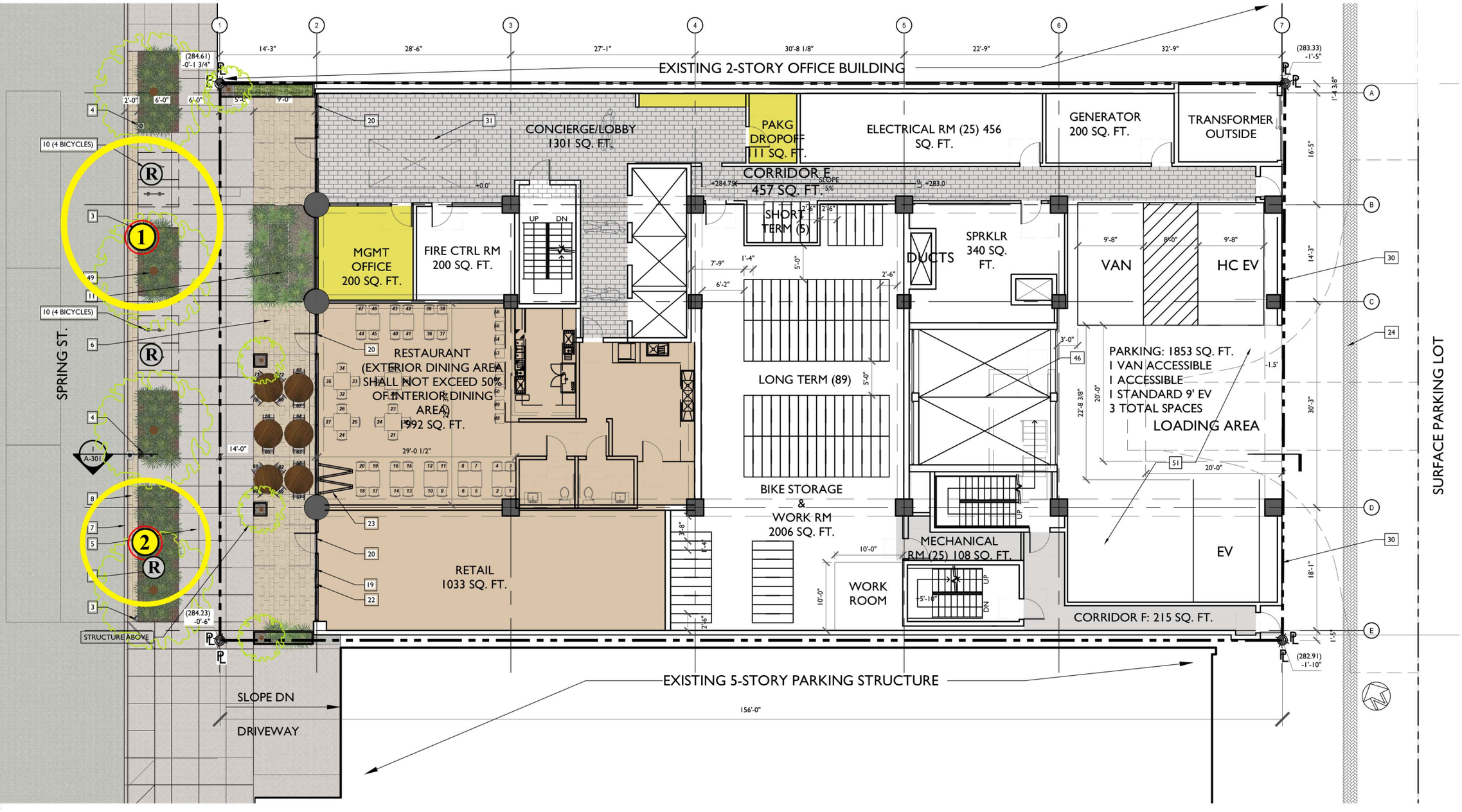
Figure 1: Tree 1 is a street tree. It is proposed for removal.

Figure 2: Tree 2 is a street tree. It is proposed for removal.

Figure 3: The trunk of Tree 2 has a mechanical injury wound.

Figure 4: There are no trees on the eastern side of the property.

Figure 5: Aside from the two street trees, there are no other trees on the property.



- Existing Street Tree (Nonnative Oak)
- Proposed Replacement Tree
- Drip Line
- Proposed for Removal

ATTACHMENT 7

Additional Maps of the Project Site

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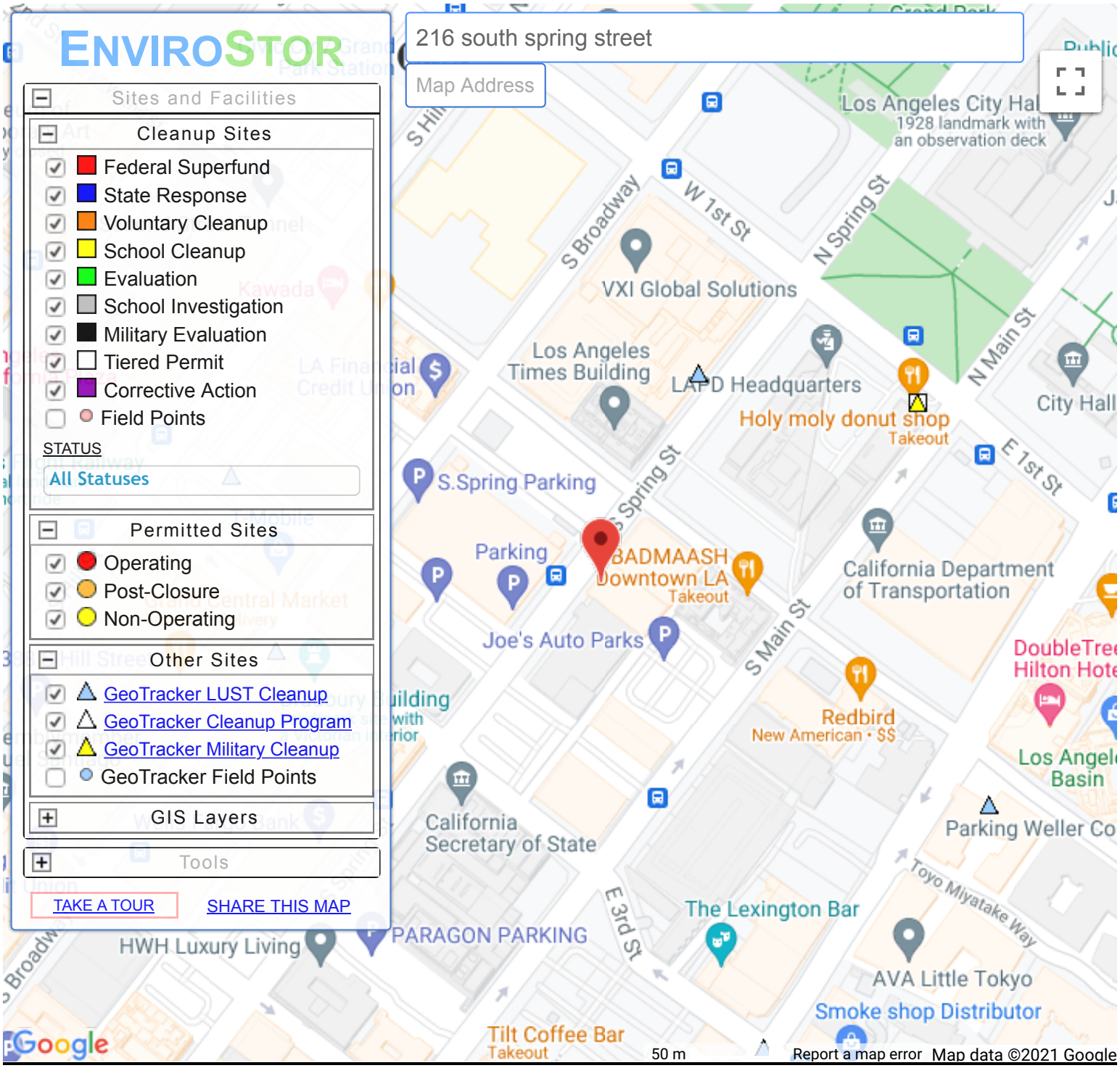
Figure 1: DTSC EnviroStor Map



SITES CURRENTLY VISIBLE ON MAP — 2 SITES LISTED — EXPORT THIS LIST TO EXCEL

PROJECT NAME	STATUS	PROJECT TYPE	ADDRESS	CITY
BARRY AVENUE PLATING CO., INC.	REFER: OTHER AGENCY	TIERED PERMIT	2210 BARRY AVENUE	LOS ANGELES
NEWELL COLOUR	REFER: OTHER AGENCY	TIERED PERMIT	221 N. WESTMORLAND AVENUE	LOS ANGELES

Figure 2 - Stormwater Information Map

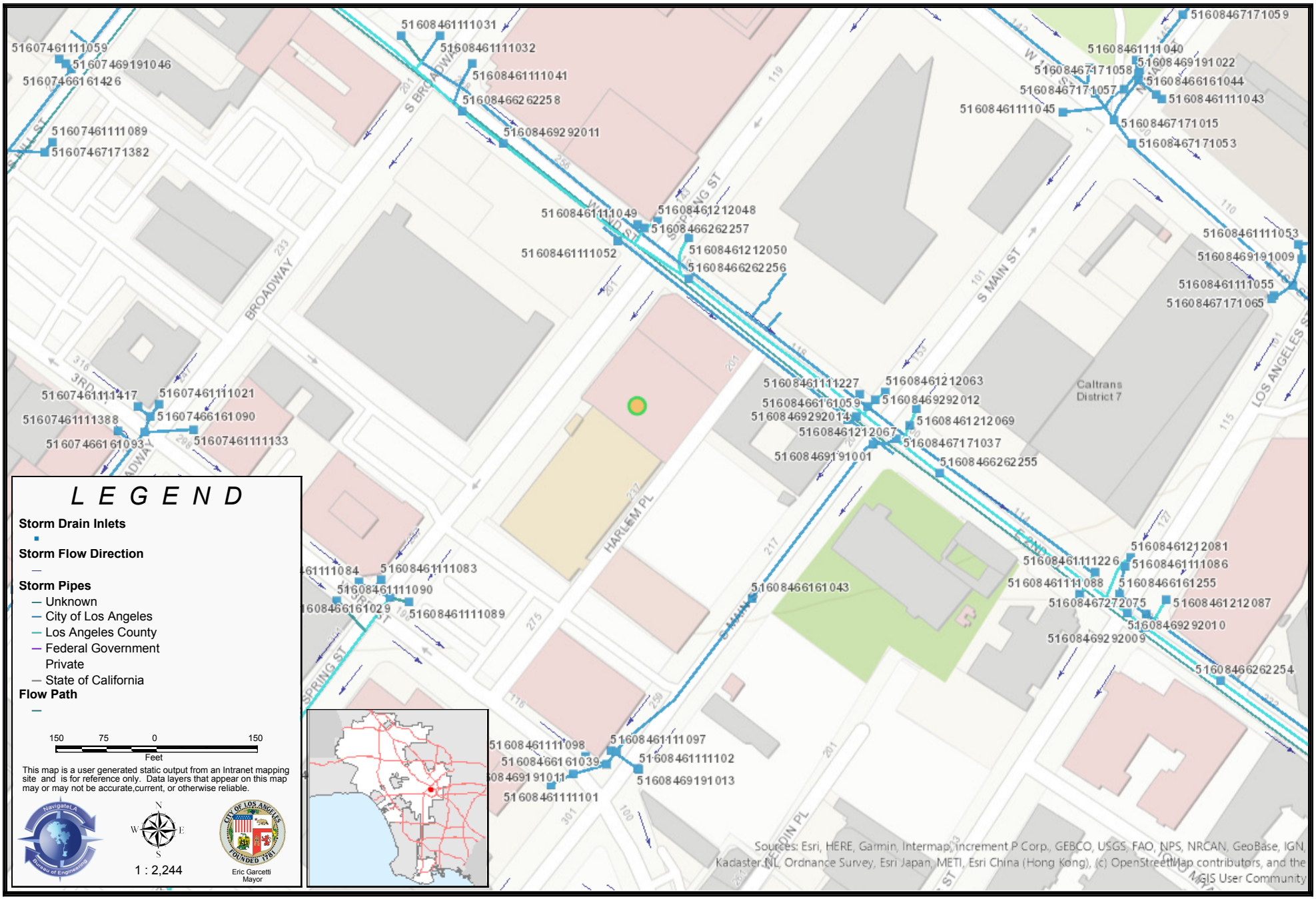
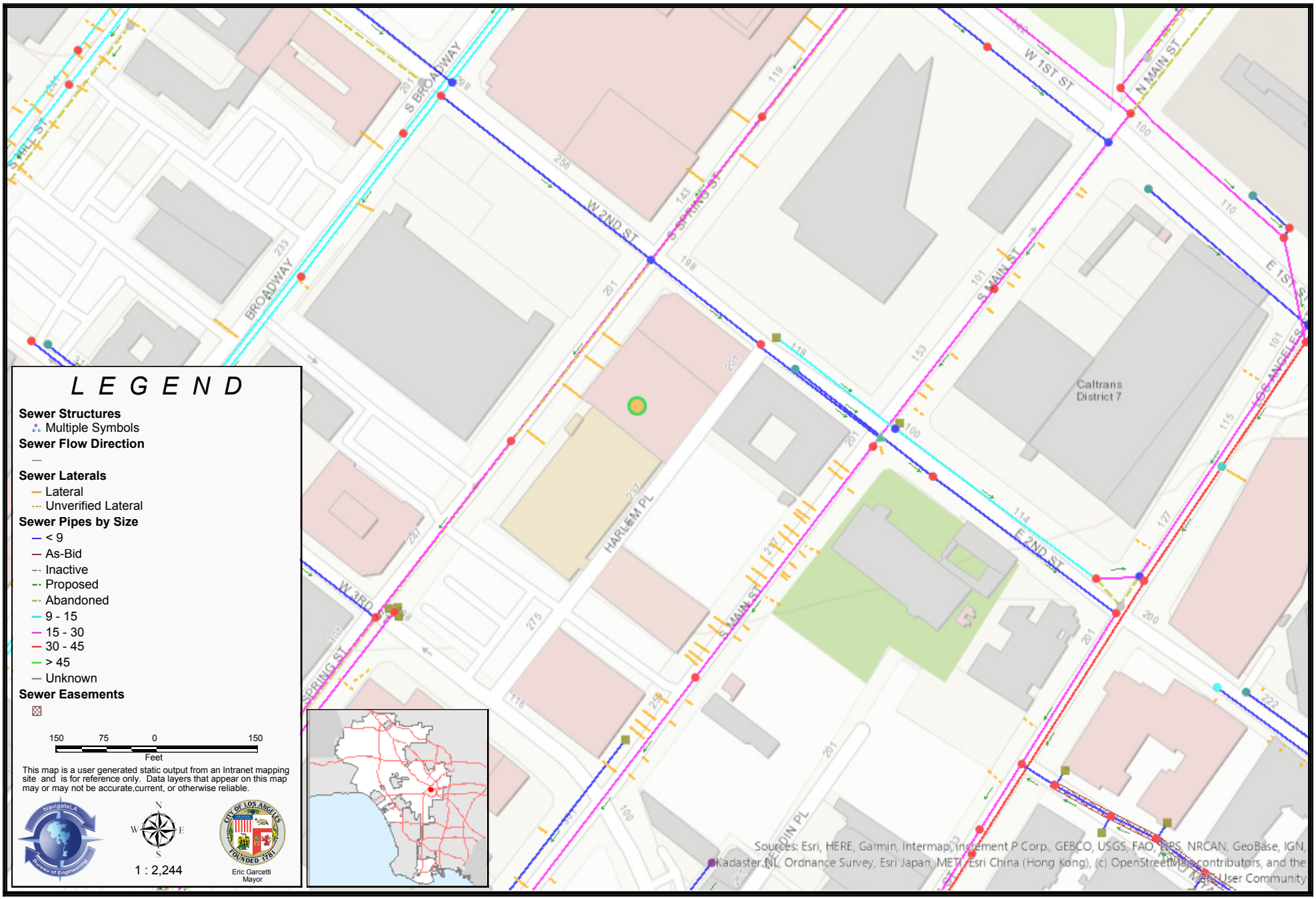


Figure 3 - Sewer Information Map



ATTACHMENT 8

Los Angeles Department of Building and Safety,
Geology and Soils Approval Letter
Log #119255-01, 212, 214, 216, 218, 220 S.
Spring Street,
December 29, 2021.

Irvine Geotechnical, Inc.,
Addendum Geologic and Soils Engineering
Exploration, Proposed Mixed-Use Retail/
Residential Building, Portion Lot 9, Arb. 1, Block 3,
Ord's Survey, 212, 214, 216, 218, 220 S. Spring
Street, Los Angeles, California,
November 22, 2021.

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BUILDING AND SAFETY
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VICE PRESIDENT

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ERIC GARCETTI
MAYOR

DEPARTMENT OF
BUILDING AND SAFETY
201 NORTH FIGUEROA STREET
LOS ANGELES, CA 90012

OSAMA YOUNAN, P.E.
GENERAL MANAGER
SUPERINTENDENT OF BUILDING

JOHN WEIGHT
EXECUTIVE OFFICER

GEOLOGY AND SOILS REPORT APPROVAL LETTER

December 29, 2021

LOG # 119255-01
SOILS/GEOLOGY FILE - 2
LIQ

216 Spring Street, LLC
c/o David Gray
353 S. Broadway, Suite 200
Los Angeles, CA 90013

TRACT:	ORD's SURVEY (M P 53-66/73)
BLOCK:	3
LOT:	FR 9 (Arb-1)
LOCATION:	212, 214, 216, 218, 220 S. Spring Street

CURRENT REFERENCE REPORT/LETTER(S)	REPORT No.	DATE OF DOCUMENT	PREPARED BY
Geology/Soils Report	IC 21149-I	11/22/2021	Irvine Geotechnical

PREVIOUS REFERENCE REPORT/LETTER(S)	REPORT No.	DATE OF DOCUMENT	PREPARED BY
Dept. Review Letter	119255	11/10/2021	LADBS – Grading
Geology/Soils Report	IC 21149-I	10/08/2021	Irvine Geotechnical
Laboratory Test Report	SL21. 3766	09/30/2021	Soil Labworks, LLC

The Grading Division of the Department of Building and Safety has reviewed the referenced reports dated November 22, 2021, and October 8, 2021, that provides recommendations for the proposed mixed use retail/ residential building, consisting of 17 stories over a ground level podium and 3 levels of subterranean parking. Retaining walls up to 33 feet high are planned to support excavations for the basement levels. The consultants note that the natural terrain slopes gently from northeast to southwest, with physical relief across the property of about 12 inches. The subject site development is depicted on the Site Plan and Section A-A of the October 8, 2021, referenced report.

The earth materials at the subsurface exploration locations consist of fill was observed to be approximately 2 feet thick underlain by alluvium from 2 to 15 feet below the ground surface underlain by Fernando Formation massive siltstone and mudstone bedrock to a maximum depth explored of 60 feet below the ground surface. Groundwater was not encountered to the maximum depth explored of 60 feet below the ground surface. Based on offsite borings, water is reported to

AN EQUAL EMPLOYMENT OPPORTUNITY - AFFIRMATIVE ACTION EMPLOYER

be perched on top of the bedrock at depths of 15 to 18 feet. Historic high ground water, from State records, is estimated to be 35 feet below the ground surface.

The consultants recommend to support the proposed structure on conventional or mat-type foundations bearing on competent bedrock.

The site is located in a designated liquefaction hazard zone as shown on the Seismic Hazard Zones map issued by the State of California. The proposed building will have 3 basements extending to a depth of 30 to 33 feet below the ground surface and bedrock is present within 15 to 20 feet of the ground surface. Therefore, the entire the entire building will be supported in the bedrock, which is not subject to liquefaction. It is the finding of Irvine Geotechnical that the liquefaction hazard to the proposed building is nil and the foundations will not be subject to hazards associated with dynamic settlement, ground failure, or lateral spreading, as noted on page 10 of the October 8, 2021, referenced report.

The referenced reports dated November 22, 2021, and October 8, 2021, are acceptable, provided the following conditions are complied with during site development:

(Note: Numbers in parenthesis ( ) refer to applicable sections of the 2020 City of LA Building Code. P/BC numbers refer the applicable Information Bulletin. Information Bulletins can be accessed on the internet at LADBS.ORG.)

1. Approval shall be obtained from the Department of Public Works, Bureau of Engineering, Development Services and Permits Program for the proposed removal of support adjoining to public way (3307.3.2).

   201 N. Figueroa Street 3rd Floor, LA (213) 482-7045

2. Prior to finalizing shoring recommendations, the project consultants' shall provide a supplemental addendum report providing additional geologic structure in the vicinity of the proposed building and area to be shored, particularly in the vicinity of the proposed basements. This geologic data shall be utilized in the final shoring recommendations.

3. Prior to finalizing hydrostatic design considerations, the consultants recommend that one or more groundwater monitoring wells be installed after building demolition to determine the need for dewatering and determining the steady state groundwater level. A supplemental report shall be prepared for hydrostatic design of slabs and retaining walls based upon one or more groundwater monitoring wells placed within the footprint of the proposed building.

4. The geologist and soils engineer shall review and approve the detailed plans prior to issuance of any permits. This approval shall be by signature on the plans that clearly indicates the geologist and soils engineer have reviewed the plans prepared by the design engineer; and, that the plans include the recommendations contained in their reports (7006.1).

5. All recommendations of the report(s) that are in addition to or more restrictive than the conditions contained herein shall be incorporated into the plans.

6. A copy of the subject and appropriate referenced reports and this approval letter shall be attached to the District Office and field set of plans (7006.1). Submit one copy of the above reports to the Building Department Plan Checker prior to issuance of the permit.

7. A grading permit shall be obtained for all structural fill and retaining wall backfill (106.1.2).

8. All man-made fill shall be compacted to a minimum 90 percent of the maximum dry density of the fill material per the latest version of ASTM D 1557. Where cohesionless soil having less than 15 percent finer than 0.005 millimeters is used for fill, it shall be compacted to a minimum of 95 percent relative compaction based on maximum dry density. Placement of gravel in lieu of compacted fill is only allowed if complying with LAMC Section 91.7011.3.

9. Existing uncertified fill shall not be used for support of footings, concrete slabs or new fill (1809.2, 7011.3).

10. Estimated bulking and shrinkage factors to be used in determining earthwork volumes are provided on page12 of the October 8, 2021, referenced report, as recommended.

11. Drainage in conformance with the provisions of the Code shall be maintained during and subsequent to construction (7013.12).

12. Grading shall be scheduled for completion prior to the start of the rainy season, or detailed temporary erosion control plans shall be filed in a manner satisfactory to the Grading Division of the Department and the Department of Public Works, Bureau of Engineering, B-Permit Section, for any grading work in excess of 200 cubic yards (7007.1).

201 N. Figueroa Street 3rd Floor, LA (213) 482-7045

13. All loose foundation excavation material shall be removed prior to commencement of framing. Slopes disturbed by construction activities shall be restored (7005.3).

14. The applicant is advised that the approval of this report does not waive the requirements for excavations contained in the General Safety Orders of the California Department of Industrial Relations (3301.1).

15. Excavations shall not remove lateral support from a public way, adjacent property or an existing structure. Note: Lateral support shall be considered to be removed when the excavation extends below a plane projected downward at an angle of 45 degrees from the bottom of a footing of an existing structure, from the edge of the public way or an adjacent property. (3307.3.1)

16. Where any excavation, not addressed in the approved reports, would remove lateral support (as defined in 3307.3.1) from a public way, adjacent property or structures, a supplemental report shall be submitted to the Grading Division of the Department containing recommendations for shoring, underpinning, and sequence of construction. Shoring recommendations shall include the maximum allowable lateral deflection of shoring system to prevent damage to adjacent structures, properties and/or public ways. Report shall include a plot plan and cross-section(s) showing the construction type, number of stories, and location of adjacent structures, and analysis incorporating all surcharge loads that demonstrate an acceptable factor of safety against failure. (7006.2 & 3307.3.2)

17. Prior to the issuance of any permit that authorizes an excavation where the excavation is to be of a greater depth than are the walls or foundation of any adjoining building or structure and located closer to the property line than the depth of the excavation, the owner of the

subject site shall provide the Department with evidence that the adjacent property owner has been given a 30-day written notice of such intent to make an excavation (3307.1).

18. The soils engineer shall review and approve the shoring plans prior to issuance of the permit (3307.3.2).

19. Prior to the issuance of the permits, the soils engineer and/or the structural designer shall evaluate the surcharge loads used in the report calculations for the design of the retaining walls and shoring. If the surcharge loads used in the calculations do not conform to the actual surcharge loads, the soil engineer shall submit a supplementary report with revised recommendations to the Department for approval.

20. Unsurcharged temporary excavations over 5 feet shall be trimmed back at a gradient not exceeding 1(H):1(V), as recommended.

21. All foundations shall derive entire support from competent bedrock, as recommended and approved by the geologist and soils engineer by inspection.

22. Existing uncertified fill shall not be used for lateral support of deep foundations (1810.2.1).

23. Mat Foundations shall be designed as recommended on page 14 of the October 8, 2021, referenced report.

24. Slabs on uncertified fill shall be designed as a structural slab (7011.3).

25. Slabs placed on approved compacted fill or natural soils shall be at least 4 inches thick and shall be reinforced with ½-inch diameter (#4) reinforcing bars spaced a maximum of 16 inches on center each way. Vapor barriers shall be utilized as recommended.

26. The seismic design shall be based on a Site Class D, as recommended. All other seismic design parameters shall be reviewed by LADBS building plan check. According to ASCE 7-16 Section 11.4.8, the long period coefficient (Fv) may be selected per Table 11.4-2 in ASCE 7-16, provided that the value of the Seismic Response Coefficient (Cs) is determined by Equation 12.8-2 for values of the fundamental period of the building (T) less than or equal to 1.5Ts, and taken as 1.5 times the value computed in accordance with either Equation 12.8-3 for T greater than 1.5Ts and less than or equal to TL or Equation 12.8-4 for T greater than TL. Alternatively, a supplemental report containing a site-specific ground motion hazard analysis in accordance with ASCE 7-16 Section 21.2 shall be submitted for review and approval.

27. Cantilevered retaining walls are anticipated up to 15 feet or less. Restrained basement walls could be up to 33 feet high. Retaining walls / basement walls shall be designed for the minimum equivalent fluid pressures (EFP) as recommended on pages 15 and 16 of the October 8, 2021, referenced report. All surcharge loads shall be incorporated into the design.

28. Retaining walls higher than 6 feet shall be designed for lateral earth pressure due to earthquake motions as specified on pages 15 and 16 of the October 8, 2021, referenced report (1803.5.12).

29. All retaining walls shall be provided with a standard surface backdrain system and all drainage shall be conducted in a non-erosive device to the street in an acceptable manner (7013.11).

30. With the exception of retaining walls designed for hydrostatic pressure, all retaining walls shall be provided with a subdrain system to prevent possible hydrostatic pressure behind the wall. Prior to issuance of any permit, the retaining wall subdrain system recommended in the soils report shall be incorporated into the foundation plan which shall be reviewed and approved by the soils engineer of record (1805.4).

31. Installation of the subdrain system shall be inspected and approved by the soils engineer of record and the City grading/building inspector (108.9).

32. Basement walls and floors shall be waterproofed/damp-proofed with an LA City approved "Below-grade" waterproofing/damp-proofing material with a research report number (104.2.6).

33. Prefabricated drainage composites (Miradrain, Geotextiles) may be only used in addition to traditionally accepted methods of draining retained earth.

34. The structure shall be connected to the public sewer system per P/BC 2020-027.

35. An on-site storm water infiltration system at the subject site shall not be implemented, as recommended on page 24 of the October 8, 2021, referenced report.

36. All concentrated drainage shall be conducted in an approved device and disposed of in a manner approved by the LADBS (7013.10).

37. Any recommendations prepared by the geologist and/or the soils engineer for correction of geological hazards found during grading shall be submitted to the Grading Division of the Department for approval prior to use in the field (7008.2, 7008.3).

38. The geologist and soils engineer shall inspect all excavations to determine that conditions anticipated in the report have been encountered and to provide recommendations for the correction of hazards found during grading (7008, 1705.6 & 1705.8).

39. All friction pile or caisson drilling and excavations shall be performed under the inspection and approval of the geologist and soils engineer. The geologist shall indicate the distance that friction piles or caissons penetrate into competent bedrock in a written field memorandum. (1803.5.5, 1705.1.2)

40. Prior to pouring concrete, a representative of the consulting soils engineer shall inspect and approve the footing excavations. The representative shall post a notice on the job site for the LADBS Inspector and the Contractor stating that the work inspected meets the conditions of the report. No concrete shall be poured until the LADBS Inspector has also inspected and approved the footing excavations. A written certification to this effect shall be filed with the Grading Division of the Department upon completion of the work. (108.9 & 7008.2)

41. Prior to excavation an initial inspection shall be called with the LADBS Inspector. During the initial inspection, the sequence of construction; shoring; pile installation; protection fences; and, dust and traffic control will be scheduled (108.9.1).

42. Installation of shoring, and/or pile excavations shall be performed under the inspection and approval of the soils engineer and deputy grading inspector (1705.6, 1705.8).

43. Prior to the placing of compacted fill, a representative of the soils engineer shall inspect and approve the bottom excavations. The representative shall post a notice on the job site for the LADBS Inspector and the Contractor stating that the soil inspected meets the conditions of the report. No fill shall be placed until the LADBS Inspector has also inspected and approved the bottom excavations. A written certification to this effect shall be included in the final compaction report filed with the Grading Division of the Department. All fill shall be placed under the inspection and approval of the soils engineer. A compaction report together with the approved soil report and Department approval letter shall be submitted to the Grading Division of the Department upon completion of the compaction. In addition, an Engineer's Certificate of Compliance with the legal description as indicated in the grading permit and the permit number shall be included (7011.3).

44. No slab shall be poured until the compaction report is submitted and approved by the Grading Division of the Department.

Jeffrey J. Wilson

JEFFREY J. WILSON
Engineering Geologist I

YING LIU
Geotechnical Engineer II

JTW/YL:jtw/yl
Log No. 119255-01
213-482-0480

cc: Irvine Geotechnical, Project Consultant
Soil Labworks, LLC, Project Consultant
LA District Office

CITY OF LOS ANGELES
DEPARTMENT OF BUILDING AND SAFETY
Grading Division

District	VN	Log No.	119255-1

APPLICATION FOR REVIEW OF TECHNICAL REPORTS

INSTRUCTIONS

A. Address all communications to the Grading Division, LADBS, 221 N. Figueroa St., 12th Fl., Los Angeles, CA 90012 Telephone No. (213)482-0480.
B. Submit two copies (three for subdivisions) of reports, one "pdf" copy of the report on a CD-Rom or flash drive, and one copy of application with items "1" through "10" completed.
C. Check should be made to the City of Los Angeles.

1. LEGAL DESCRIPTION
Tract: Ord Tract (MP 53-66/73)
Block: 3 Lots: 9

2. PROJECT ADDRESS:
212, 214, 216, 218, 220 S. Spring Street

3. OWNER: 216 Spring Street, LLC - c/o David Gray
Address: 353 S. Broadway, Suite 200
City: Los Angeles Zip: 90013
Phone (Daytime):

4. APPLICANT Irvine Geotechnical, Inc.
Address: 145 N. Sierra Madre Blvd. #1
City: Pasadena Zip: 91107
Phone (Daytime): 626-844-6641
E-mail address: mkiechler@irvinegeotech.com

5. Report(s) Prepared by: Irvine Geotechnical, Inc

6. Report Date(s): 11/22/2021

7. Status of project: ☐ Proposed ☑ Under Construction ☐ Storm Damage

8. Previous site reports? ☑ YES if yes, give date(s) of report(s) and name of company who prepared report(s)
10/08/2021

9. Previous Department actions? ☑ YES if yes, provide dates and attach a copy to expedite processing.
Dates: 11/10/2021

10. Applicant Signature: Position: Assistant

(DEPARTMENT USE ONLY)

REVIEW REQUESTED	FEES	REVIEW REQUESTED	FEES
☐ Soils Engineering		No. of Lots	
☐ Geology		No. of Acres	
☒ Combined Soils Engr. & Geol.		☐ Division of Land	
☐ Supplemental		Other	
☐ Combined Supplemental		☑ Expedite	181.50
☐ Import-Export Route		☒ Response to Correction	363.00
Cubic Yards:		☐ Expedite ONLY	
		Sub-total	544.50
		Surcharge	129.80
		TOTAL FEE	674.30

Fee Due: 674.30
Fee Verified By: Am Date: 12/6/21
(Cashier Use Only)

Los Angeles Department of Building and Safety
Metro 4th Floor 12/07/2021 10:03:04 AM
User ID: jbitanscol
Receipt Ref Nbr: 2021341002-40
Transaction ID: 2021341002-40-1
PLAN APPROVAL FEE $181.50
SYSTEMS DEV SURCH $32.67
GEN PLAN MAINT SURCH $38.12
DEV SERV CENTER SURCH $16.34
CITY PLAN SURCH $32.67
GRADING REPORT $363.00
MISC OTHER $10.00
Amount Paid: $674.30
PCIS Number: NA
Job Address: 212, 214, 216, 218, 220 S. SPRING STREET
Owners Name: 216 SPRING STREET, LLC - c/o DAVID GRAY
Grading Section Log Number: 119155

ACTION BY:

THE REPORT IS: ☐ NOT APPROVED

☐ APPROVED WITH CONDITIONS ☐ BELOW ☐ ATTACHED

For Geology Date

For Soils Date

November 22, 2021
IC 21149-I

216 Spring Street LLC
353 S. Broadway, Suite 200
Los Angeles, CA 90013

Subject

Addendum Geologic and Soils Engineering Exploration
Proposed Mixed-Use Retail/Residential Building
Portion Lot 9, Arb. 1, Block 3, Ord's Survey
212, 214, 216, 218, & 220 S. Spring Street
Los Angeles, California

References: Report by Irvine Geotechnical, Inc.:

Geotechnical Engineering Exploration, Proposed Mixed-Use Retail/Residential Building, Lot 9, Block 3, Arb. 1, Ord Tract, 216 S. Spring Street, Los Angeles, California, dated October 8, 2021

City of Los Angeles Department of Building and Safety, Grading Division:

Geology and Soils Report Review Letter, Log #119255, dated November 10, 2021

Dear Gentle Persons,

Irvine Geotechnical has prepared this addendum report to provide additional geotechnical recommendations to the Grading Division for the design and construction of the proposed project. This addendum report follows consultations with the architect and personnel of the Grading Division. Responses to the three items of the Grading Division review letter are provided below. A copy of the November 10, 2021 Department review letter is appended to this report for reference.

Item 1 - It is acknowledged that excavations for the basement level will encounter siltstone bedrock that may contain bedding planes. The Regional Geologic Map within our preliminary report indicates the nearby bedrock strikes east-west and dips steeply toward the south. However because the existing building has a basement that extends beyond the property lines into the front sidewalk and rear alley, and due to numerous active utilities beneath the sidewalk and alley, a large diameter boring is not considered feasible outside the building footprint. Also, the freight elevator and wood flooring of the building are insufficient to support a limited access bucket-auger drill rig.

It is recommended that the large-diameter boring and approval of the shoring design be deferred to after the building has been torn down. A supplemental report will then be prepared based upon downhole logging of large diameter boring(s) drilled within the footprint of the former building.

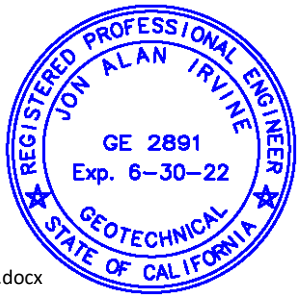
Item 2 - Retaining walls and slabs should be designed for hydrostatic conditions when located below the groundwater table. As discussed in the preliminary report, groundwater was not encountered during our recent exploration and historically high groundwater is estimated to be 35 feet below the ground surface. Water was described perched on top of the bedrock at depths of 15 to 18 feet in nearby geotechnical borings. This perched water and associated seepage was reported to be minor and could be handled through conventional subdrains and sump pumps. It is recommended that one or more groundwater monitoring wells be placed onsite once the building is torn down to determine the steady-state groundwater level.

Similar to Item 1 above, a supplemental report will be prepared for hydrostatic design of slabs and retaining walls based upon one or more groundwater monitoring wells placed within the footprint of the former building.

Item 3 - Groundwater was not encountered in the boring drilled at the site to below the depth of the basement. Based on nearby projects, the water perched on top of bedrock was minor and could be controlled during construction without the need for dewatering. Based on one or more future groundwater monitoring wells that will be placed once the building is torn down, a supplemental report will be prepared describing the need for temporary dewatering. If dewatering is appropriate, the supplemental report will analyze the potential adverse impacts on adjoining buildings and properties.

Irvine Geotechnical appreciates the opportunity to provide our service on this project. Any questions concerning the data or interpretation of this, or the referenced report should be directed to the undersigned.

Respectfully submitted,
Irvine Geotechnical, Inc.



Jon A. Irvine
E.G. 1691/G.E. 2891
y:\icprojects\2021 projects\ic21149 216 spring\ic21149 216 Spring llc addendum.docx

Enc: *Geology and Soils Report Review Letter*, Log #119255, dated November 10, 2021

xc: (3) Addressee

BOARD OF
BUILDING AND SAFETY
COMMISSIONERS

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PRESIDENT

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CITY OF LOS ANGELES

CALIFORNIA

ERIC GARCETTI
MAYOR

DEPARTMENT OF
BUILDING AND SAFETY
201 NORTH FIGUEROA STREET
LOS ANGELES, CA 90012

OSAMA YOUNAN, P.E.
GENERAL MANAGER
SUPERINTENDENT OF BUILDING

JOHN WEIGHT
EXECUTIVE OFFICER

GEOLOGY AND SOILS REPORT REVIEW LETTER

November 10, 2021

LOG # 119255
SOILS/GEOLOGY FILE - 2
LIQ

216 Spring Street, LLC
c/o David Gray
353 S. Broadway, Suite 200
Los Angeles, CA 90013

TRACT:	ORD's SURVEY (M P 53-66/73)
BLOCK:	3
LOT:	FR 9 (Arb-1)
LOCATION:	212, 214, 216, 218, 220 S. Spring Street

CURRENT REFERENCE REPORT/LETTER(S)	REPORT No.	DATE OF DOCUMENT	PREPARED BY
Geology/Soils Report	IC 21149-I	10/08/2021	Irvine Geotechnical
Laboratory Test Report	SL21. 3766	09/30/2021	Soil Labworks, LLC

The Grading Division of the Department of Building and Safety has reviewed the referenced report dated October 8, 2021, that provides recommendations for the proposed mixed-use retail/ residential building, consisting of 17 stories over a ground level podium and 3 levels of subterranean parking. Retaining walls up to 33 feet high are planned to support excavations for the basement levels. The consultants note that the natural terrain slopes gently from northeast to southwest, with physical relief across the property of about 12 inches. The subject site development is depicted on the Site Plan and Section A-A of the October 8, 2021, referenced report.

The earth materials at the subsurface exploration locations consist of fill was observed to be approximately 2 feet thick underlain by alluvium from 2 to 15 feet below the ground surface underlain by Fernando Formation massive siltstone and mudstone bedrock to a maximum depth explored of 60 feet below the ground surface. Groundwater was not encountered to the maximum depth explored of 60 feet below the ground surface. Based on offsite borings, water is reported to be perched on top of the bedrock at depths of 15 to 18 feet. Historic high ground water, from State records, is estimated to be 35 feet below the ground surface.

The consultants recommend to support the proposed structure(s) on conventional or mat-type foundations bearing on competent bedrock.

The site is located in a designated liquefaction hazard zone as shown on the Seismic Hazard Zones map issued by the State of California. The proposed building will have 3 basements extending to a depth of 30 to 33 feet below the ground surface and bedrock is present within 15 to 20 feet of the ground surface. Therefore, the entire the entire building will be supported in the bedrock, which is not subject to liquefaction. It is the finding of Irvine Geotechnical that the liquefaction hazard to the proposed building is

nil and the foundations will not be subject to hazards associated with dynamic settlement, ground failure, or lateral spreading, as noted on page 10 of the October 8, 2021, referenced report.

The review of the subject report dated October 8, 2021, cannot be completed at this time and will be continued upon submittal of an addendum to the report which shall include, but not be limited to, the following:

(Note: Numbers in parenthesis ( ) refer to applicable sections of the 2020 City of LA Building Code. P/BC numbers refer the applicable Information Bulletin. Information Bulletins can be accessed on the internet at LADBS.ORG.)

1. Justify the determination that the siltstone bedrock encountered at the subject site, based on review of offsite reports and narrow hollow stem auger borings, is massive in nature. Also justify the comment that the massive bedrock is typical for this area of downtown. It would appear that borings should be provided that are bucket auger, minimum 24 inches in diameter, to assist in the determination of the geologic structure for the subject site, particularly in the area of the proposed shoring and retaining walls. Geologic structure is critical for the design of the shoring elements and retaining walls. Reports provided by the consultants with bucket auger boring logs appear to have geologic structure while borings with narrow borings have bedrock without geologic structure. In addition, regional geologic maps such as Dibblee appear to depict bedrock in the area as having steeply dipping bedrock beds.

2. The proposed structure and subterranean walls shall be designed to resist uplift and hydrostatic pressures that would develop due to the historic high groundwater level conditions <u>or the current groundwater level, whichever is higher</u>. Revise recommendations accordingly.

3. It appears that temporary groundwater control will be needed for the basement excavation. Note that temporary dewatering shall not adversely impact the adjacent structures / properties. Provide recommendations for temporary groundwater control.

The project engineering geologist and soils engineer shall prepare a report containing an itemized response to the review items indicated in this letter. If clarification concerning the review letter is necessary, the report review engineer and/or geologist may be contacted. Two copies of the response report, including one unbound wet-signed original for archiving purposes, a pdf-copy of the complete report in a flash drive, and the appropriate fees will be required for submittal.

Jeffrey J. Wilson

JEFFREY J. WILSON
Engineering Geologist I

YING LIU
Geotechnical Engineer II

JTW/YL:jtw/yl
Log No. 119255
213-482-0480

cc: Irvine Geotechnical, Project Consultant
Soil Labworks, LLC, Project Consultant
LA District Office

Exhibit E

CREED LA Appeal
Application and Justification

DIR-2020-7846-DB-SPR-HCA-1A

APPLICATIONS:

APPEAL APPLICATION

Instructions and Checklist

Related Code Section: Refer to the City Planning case determination to identify the Zone Code section for the entitlement and the appeal procedure.

Purpose: This application is for the appeal of Department of City Planning determinations authorized by the Los Angeles Municipal Code (LAMC).

A. APPELLATE BODY/CASE INFORMATION

1. APPELLATE BODY

☑ Area Planning Commission ☐ City Planning Commission ☐ City Council ☐ Director of Planning
☐ Zoning Administrator

Regarding Case Number: DIR-2020-7846-DB-SPR-HCA; ENV-2020-7847-CE

Project Address: 212-220 S. Spring Street, Los Angeles CA 90012

Final Date to Appeal: 10/06/2022

2. APPELLANT

Appellant Identity:
(check all that apply)

❒ Representative ❒ Property Owner
❒ Applicant ❒ Operator of the Use/Site

☑ Person, other than the Applicant, Owner or Operator claiming to be aggrieved
Coalition for Responsible Equitable Economic Development Los Angeles (CREED LA)

☐ Person affected by the determination made by the **Department of Building and Safety**

❒ Representative ❒ Owner ❒ Aggrieved Party
❒ Applicant ❒ Operator

3. APPELLANT INFORMATION

Appellant's Name: CREED LA c/o Aidan P. Marshall

Company/Organization: Adams, Broadwell, Joseph & Cardozo

Mailing Address: 601 Gateway Blvd. Ste. 1000

City: South San Francisco State: CA Zip: 94080

Telephone: (650) 589-1660 E-mail: amarshall@adamsbroadwell.com

a. Is the appeal being filed on your behalf or on behalf of another party, organization or company?

☐ Self ☑ Other: CREED LA

b. Is the appeal being filed to support the original applicant's position? ☐ Yes ☑ No

4. REPRESENTATIVE/AGENT INFORMATION

Representative/Agent name (if applicable): Aidan P. Marshall

Company: Adams, Broadwell, Joseph & Cardozo

Mailing Address: 601 Gateway Blvd. Ste. 1000

City: South San Francisco State: CA . Zip: 94080

Telephone: (650) 589-1660 E-mail: amarshall@adamsbroadwell.com

5. JUSTIFICATION/REASON FOR APPEAL

a. Is the entire decision, or only parts of it being appealed? ☑ Entire ☐ Part

b. Are specific conditions of approval being appealed? ☑ Yes ☐ No

If Yes, list the condition number(s) here: All conditions approved by Director

Attach a separate sheet providing your reasons for the appeal. Your reason must state:

- ☑ The reason for the appeal
- ☑ How you are aggrieved by the decision
- ☑ Specifically the points at issue
- ☑ Why you believe the decision-maker erred or abused their discretion

6. APPLICANT'S AFFIDAVIT

I certify that the statements contained in this application are complete and true:

Appellant Signature: _____ Date: October 5, 2022

GENERAL APPEAL FILING REQUIREMENTS

B. ***ALL CASES REQUIRE THE FOLLOWING ITEMS - SEE THE ADDITIONAL INSTRUCTIONS FOR SPECIFIC CASE TYPES***

1. Appeal Documents

a. Three (3) sets - The following documents are required for each appeal filed (1 original and 2 duplicates) Each case being appealed is required to provide three (3) sets of the listed documents.

- ☐ Appeal Application (form CP-7769)
- ☐ Justification/Reason for Appeal
- ☐ Copies of Original Determination Letter

b. Electronic Copy

☐ Provide an electronic copy of your appeal documents on a flash drive (planning staff will upload materials during filing and return the flash drive to you) or a CD (which will remain in the file). The following items must be saved as individual PDFs and labeled accordingly (e.g. "Appeal Form.pdf", "Justification/Reason Statement.pdf", or "Original Determination Letter.pdf" etc.). No file should exceed 9.8 MB in size.

c. Appeal Fee

- ☐ Original Applicant - A fee equal to 85% of the original application fee, provide a copy of the original application receipt(s) to calculate the fee per LAMC Section 19.01B 1.
- ☐ Aggrieved Party - The fee charged shall be in accordance with the LAMC Section 19.01B 1.

d. Notice Requirement

- ☐ Mailing List - All appeals require noticing per the applicable LAMC section(s). Original Applicants must provide noticing per the LAMC
- ☐ Mailing Fee - The appeal notice mailing fee is paid by the project applicant, payment is made to the City Planning's mailing contractor (BTC), a copy of the receipt must be submitted as proof of payment.

SPECIFIC CASE TYPES - APPEAL FILING INFORMATION

C. DENSITY BONUS / TRANSIT ORIENTED COMMUNITES (TOC)

1. Density Bonus/TOC
Appeal procedures for Density Bonus/TOC per LAMC Section 12.22.A 25 (g) f.

NOTE:
- Density Bonus/TOC cases, only the *on menu or additional incentives* items can be appealed.

- Appeals of Density Bonus/TOC cases can only be filed by adjacent owners or tenants (must have documentation), and always only appealable to the Citywide Planning Commission.

☐ Provide documentation to confirm adjacent owner or tenant status, i.e., a lease agreement, rent receipt, utility bill, property tax bill, ZIMAS, drivers license, bill statement etc.

D. WAIVER OF DEDICATION AND OR IMPROVEMENT

Appeal procedure for Waiver of Dedication or Improvement per LAMC Section 12.37 I.

NOTE:
- Waivers for By-Right Projects, can only be appealed by the owner.

- When a Waiver is on appeal and is part of a master land use application request or subdivider's statement for a project, the applicant may appeal pursuant to the procedures that governs the entitlement.

E. TENTATIVE TRACT/VESTING

1. Tentative Tract/Vesting - Appeal procedure for Tentative Tract / Vesting application per LAMC Section 17.54 A.

NOTE: Appeals to the City Council from a determination on a Tentative Tract (TT or VTT) by the Area or City Planning Commission must be filed within 10 days of the date of the written determination of said Commission.

☐ Provide a copy of the written determination letter from Commission.

F. BUILDING AND SAFETY DETERMINATION

☐ **1.** Appeal of the *Department of Building and Safety* determination, per LAMC 12.26 K 1, an appellant is considered the **Original Applicant** and must provide noticing and pay mailing fees.

a. Appeal Fee
☐ Original Applicant - The fee charged shall be in accordance with LAMC Section 19.01B 2, as stated in the Building and Safety determination letter, plus all surcharges. (the fee specified in Table 4-A, Section 98.0403.2 of the City of Los Angeles Building Code)

b. Notice Requirement
☐ Mailing Fee - The applicant must pay mailing fees to City Planning's mailing contractor (BTC) and submit a copy of receipt as proof of payment.

☐ **2.** Appeal of the *Director of City Planning* determination per LAMC Section 12.26 K 6, an applicant or any other aggrieved person may file an appeal, and is appealable to the Area Planning Commission or Citywide Planning Commission as noted in the determination.

a. Appeal Fee
☐ Original Applicant - The fee charged shall be in accordance with the LAMC Section 19.01 B 1 a.

b. Notice Requirement
☐ Mailing List - The appeal notification requirements per LAMC Section 12.26 K 7 apply.
☐ Mailing Fees - The appeal notice mailing fee is made to City Planning's mailing contractor (BTC), a copy of receipt must be submitted as proof of payment.

G. NUISANCE ABATEMENT

1. **Nuisance Abatement -** Appeal procedure for Nuisance Abatement per LAMC Section 12.27.1 C 4

NOTE:
- Nuisance Abatement is only appealable to the City Council.

a. **Appeal Fee**
   ☐ Aggrieved Party the fee charged shall be in accordance with the LAMC Section 19.01 B 1.

2. **Plan Approval/Compliance Review**
   Appeal procedure for Nuisance Abatement Plan Approval/Compliance Review per LAMC Section 12.27.1 C 4.

a. **Appeal Fee**
   ☐ Compliance Review - The fee charged shall be in accordance with the LAMC Section 19.01 B.
   ☐ Modification - The fee shall be in accordance with the LAMC Section 19.01 B.

NOTES

A Certified Neighborhood Council (CNC) or a person identified as a member of a CNC or as representing the CNC may not file an appeal on behalf of the Neighborhood Council; persons affiliated with a CNC may only file as an individual on behalf of self.

***Please note** that the appellate body must act on your appeal within a time period specified in the Section(s) of the Los Angeles Municipal Code (LAMC) pertaining to the type of appeal being filed. The Department of City Planning will make its best efforts to have appeals scheduled prior to the appellate body's last day to act in order to provide due process to the appellant. If the appellate body is unable to come to a consensus or is unable to hear and consider the appeal prior to the last day to act, the appeal is automatically deemed denied, and the original decision will stand. The last day to act as defined in the LAMC may only be extended if formally agreed upon by the applicant.*

This Section for City Planning Staff Use Only		
Base Fee:	Reviewed & Accepted by (DSC Planner):	Date:
Receipt No:	Deemed Complete by (Project Planner):	Date:
☐ Determination authority notified	☐ Original receipt and BTC receipt (if original applicant)	

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October 5, 2022

VIA ONLINE SUBMISSION
Commission President Ilissa Gold and Commission Members
Central Area Planning Commission
Email: apccentral@lacity.org
Online Portal: https://plncts.lacity.org/oas

VIA EMAIL
Vince Bertoni, Director of Planning
Email: vince.bertoni@lacity.org

Yi Lu, City Planner
Email: yi.lu@lacity.org

Re: **Appeal of 216 S. Spring Street Project, Case No. DIR-2020-7846-DB-SPR-HCA, CEQA No. ENV-2020-7847-CE**

Dear President Gold, Commission Members, Mr. Bertoni, and Ms. Lu:

On behalf of the Coalition for Responsible Equitable Economic Development Los Angeles ("CREED LA"), we submit this appeal of the Director's approval of the 216 S. Spring Street Project (Case No. DIR-2020-7846-DB-SPR-HCA, ENV-2020-7847-CE) ("Project"), including approval of Site Plan Review and Density Bonus pursuant to LAMC Sections 12.22 and 16.05, adoption of Findings and Conditions of Approval, and determination that the Project is exempt from the California Environmental Quality Act ("CEQA") pursuant to a Class 32 categorical exemption.[1]

On September 21, 2022, the City of Los Angeles ("City") Director of Planning ("Director") issued a Letter of Determination ("LOD") approving the Project. The LOD approves a Density Bonus and Site Plan Review, adopts Findings and Conditions of Approval, and determines that the Project is exempt from the CEQA pursuant to a Class 32 categorical exemption.[2] The LOD indicates that the appeal period for the determination ends on October 6, 2022. This appeal is timely filed in compliance with the Los Angeles Municipal Code ("LAMC").

[1] CEQA Guidelines, Section 15332.
[2] A copy of the LOD is attached to this Appeal.

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CREED LA hereby appeals the Director's approval of the Site Plan Review, Density Bonus, Findings and Conditions of Approval, and categorical exemption, as described in the LOD dated September 21, 2022. This letter supplements CREED LA's Appeal Application, filed concurrently herewith, and is accompanied by the required appeal fee.

The reasons for this appeal are set forth herein. Our appeal is supported by technical comments provided by air quality and hazards expert James Clark, Ph.D,[3] and noise expert Jack Meighan.[4]

As explained herein and in the attached comments, the Director abused its discretion and failed to proceed in the manner required by law by approving the Project in reliance on a categorical exemption and without substantial evidence to support the approval findings.[5] To qualify for a categorical exemption, a lead agency must provide substantial evidence that the Project will not have a significant effect.[6] But as is explained below, the Project may result in potentially significant public health and noise impacts. Specifically, the Project's construction and operation may result in emissions of toxic air contaminants ("TACs") that would increase health risks to significant levels. And the Project's construction and operation includes noise-generating activities that may result in significant noise impacts on nearby receptors. These impacts are especially severe due to the proximity of residential receptors – four residential buildings are located within 500 feet of the Project site, including one diagonally adjacent to the Project site.[7] As a result, an EIR is the correct form of environmental review for the Project, not a categorical exemption. Due to these significant environmental and public health impacts, and the related failure to prepare the correct form environmental review, the Director also abused its discretion in approving the Site Plan Review and Density Bonus.

Because the Director abused its discretion and failed to proceed in the manner required by law, CREED LA respectfully requests that the City set a hearing on this appeal, and that the Area Planning Commission uphold this appeal,

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[3] Dr. Clark's technical comments and curriculum vitae are attached hereto as Exhibit A ("Clark Comments").
[4] Mr. Meighan's technical comments and curriculum vitae are attached hereto as Exhibit B ("Meighan Comments").
[5] Code Civ. Proc § 1094.5(b); *Topanga Assn. for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 515.
[6] *Banker's Hill, Hillcrest, Park West Community Preservation Group v. City of San Diego* (2006) 139 Cal.App.4th 249, 269.
[7] Higgins Building, 108 W 2nd St, Los Angeles, CA 90012.

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vacate the Director's approval of the Project, and direct staff to prepare an EIR for the Project.

I. STANDING TO APPEAL AND STATEMENT OF INTEREST

The Project's Site Plan Review can be appealed by "[t]he applicant, any officer, board, department, or bureau of the City, **or any interested person** aggrieved by the decision of the Director."[8] The Project's Density Bonus may also be appealed.[9]

CREED LA is an unincorporated association of individuals and labor organizations that may be adversely affected by the potential public and worker health and safety hazards, and the environmental and public service impacts of the Project. The coalition includes City of Los Angeles residents Gerry Kennon, Chris Macias, and John Bustos, the Sheet Metal Workers Local 105, International Brotherhood of Electrical Workers Local 11, Southern California Pipe Trades District Council 16, and District Council of Iron Workers of the State of California, along with their members, their families, and other individuals who live and work in the City of Los Angeles.

Individual members of CREED LA and its member organizations live, work, recreate and raise their families in the City of Los Angeles and surrounding communities. Accordingly, they would be directly affected by the Project's environmental and health and safety impacts. Individual members may also work on the Project itself. They will be first in line to be exposed to any health and safety hazards that exist onsite.

In addition, CREED LA has an interest in enforcing environmental laws that encourage sustainable development and ensure a safe working environment for its members. Environmentally detrimental projects can jeopardize future jobs by making it more difficult and more expensive for business and industry to expand in the region, and by making the area less desirable for new businesses and new residents. Indeed, continued environmental degradation can, and has, caused construction moratoriums and other restrictions on growth that, in turn, reduce future employment opportunities.

CREED LA and its members are aggrieved by the Director's decision to approve the Project and adopt unsupported approval findings in reliance on a CEQA

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[8] LAMC Section 16.05(H); *see* LAMC 12.22 A.25 (g)(2)(f); Section 12.36(c)(4) (collectively providing that the Central Area Planning Commission is the proper appellate body).
[9] LAMC Section 12.22 A.25 (g)(2)(f).

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exemption, without analyzing and mitigating the Project's potentially significant impacts in an EIR.

II. THE PROJECT DOES NOT QUALIFY FOR A CLASS 32 CATEGORICAL EXEMPTION FOR INFILL DEVELOPMENT PROJECTS

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an EIR, except in certain limited circumstances.[10] The EIR is the very heart of CEQA.[11] "The foremost principle in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language."[12]

CEQA has two primary purposes. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a project.[13] "Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. Thus, the EIR 'protects not only the environment but also informed self-government.'"[14] The EIR has been described as "an environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return."[15]

Second, CEQA requires public agencies to avoid or reduce environmental damage when "feasible" by requiring "environmentally superior" alternatives and all feasible mitigation measures.[16] The EIR serves to provide agencies and the public with information about the environmental impacts of a proposed project and to "identify ways that environmental damage can be avoided or significantly reduced."[17] If the project will have a significant effect on the environment, the agency may approve the project only if it finds that it has "eliminated or substantially lessened all significant effects on the environment where feasible" and

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[10] *See, e.g.,* PRC § 21100.
[11] *Dunn-Edwards v. BAAQMD* (1992) 9 Cal.App.4th 644, 652.
[12] *Communities. for a Better Env. v. Cal. Res. Agency* (2002) 103 Cal. App.4th 98, 109 ("*CBE v. CRA*").
[13] 14 Cal. Code Regs. § 15002(a)(1).
[14] *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal. 3d 553, 564.
[15] *Berkeley Keep Jets Over the Bay v. Bd. of Port Comm'rs.* (2001) 91 Cal. App. 4th 1344, 1354 ("*Berkeley Jets*"); *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810.
[16] 14 CCR § 15002(a)(2) and (3); *see also Berkeley Jets*, 91 Cal.App.4th at 1354; *Citizens of Goleta Valley*, 52 Cal.3d at p. 564.
[17] 14 Cal. Code Regs. §15002(a)(2).

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that any unavoidable significant effects on the environment are "acceptable due to overriding concerns."[18]

Under CEQA, mitigation measures must be fully enforceable through permit conditions, agreements or other legally binding instruments.[19] A CEQA lead agency is precluded from making the required CEQA findings to approve a project unless the record shows that all uncertainties regarding the mitigation of impacts have been resolved. For this reason, an agency may not rely on mitigation measures of uncertain efficacy or feasibility.[20] This approach helps "ensure the integrity of the process of decision by precluding stubborn problems or serious criticism from being swept under the rug."[21]

CEQA identifies certain classes of projects which are exempt from the provisions of CEQA, called categorical exemptions.[22] Categorical exemptions apply to certain narrow classes of activities that generally do not have a significant effect on the environment.[23] "Thus an agency's finding that a particular proposed project comes within one of the exempt classes necessarily includes an implied finding that the project has no significant effect on the environment."[24] "It follows that where there is any reasonable possibility that a project or activity may have a significant effect on the environment, an exemption would be improper."[25]

CEQA exemptions must be narrowly construed and are not to be expanded beyond the scope of their plain language.[26] They should not be construed so broadly as to include classes of projects that do not normally satisfy the requirements for a categorical exemption.[27] Erroneous reliance by a lead agency on a categorical exemption constitutes a prejudicial abuse of discretion and a violation of CEQA.[28] "[I]f the court perceives there was substantial evidence that the project might have

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[18] PRC § 21081; 14 CCR § 15092(b)(2)(A) & (B).
[19] CEQA Guidelines, § 15126.4, subd. (a)(2).
[20] *Kings County Farm Bureau v. County of Hanford* (1990) 221 Cal.App.3d 692, 727-28 (a groundwater purchase agreement found to be inadequate mitigation because there was no record evidence that replacement water was available).
[21] *Concerned Citizens of Costa Mesa, Inc. v. 32nd Dist. Agricultural Assn.* (1986) 42 Cal.3d 929, 935.
[22] PRC § 21084(a); 14 CCR §§ 15300, 15354.
[23] PRC § 21084(a); 14 CCR §§ 15300, 15354; *Muzzy Ranch Co. v. Solano County Airport Land Use Com.* (2007) 41 Cal.4th 372, 380.
[24] *Davidon Homes v. City of San Jose* (1997) 54 Cal.App.4th 106, 115.
[25] *Azusa Land Reclamation Co. v. Main San Gabriel Basin Watermaster* (1997) 52 Cal.App.4th 1165, 1191 ("*Azusa Land Reclamation*"), *quoting Wildlife Alive v. Chickering* (1976) 18 Cal.3d 190, 205–206.
[26] *Castaic Lake Water Agency v. City of Santa Clarita* (1995) 41 Cal.App.4th 1257.
[27] *Azusa Land Reclamation* (1997) 52 Cal.App.4th 1165, 1192.
[28] *Azusa*, 52 Cal.App.4th at 1192.

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an adverse impact, but the agency failed to secure preparation of an EIR, the agency's action must be set aside because the agency abused its discretion by failing to follow the law."[29]

To qualify for a categorical exemption, a lead agency must provide "substantial evidence to support [its] finding that the Project will not have a significant effect."[30] "Substantial evidence" means enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached. Whether a fair argument can be made that the project may have a significant effect on the environment is to be determined by examining the whole record before the lead agency.[31] If a court locates substantial evidence in the record to support the agency's conclusion, the agency's decision will be upheld.[32] If, however, the record lacks substantial evidence, as here, a reviewing court will not uphold an exemption determination.

Section 15332 of the CEQA Guidelines provides an exemption from CEQA for projects characterized as in-fill development meeting the conditions:

(a) The project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations.
(b) The proposed development occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses.
(c) The project site has no value as habitat for endangered, rare or threatened species.
(d) Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality.
(e) The site can be adequately served by all required utilities and public services.

CEQA also contains several exceptions to categorical exemptions. In particular, a categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to "unusual circumstances,"[33] or where there is a reasonable

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[29] *Dunn-Edwards Corp. v. Bay Area Air Quality Mgmt. Dist.* (1992) 9 Cal.App.4th 644, 656).
[30] *Banker's Hill, Hillcrest, Park West Community Preservation Group v. City of San Diego* (2006) 139 Cal.App.4th 249, 269.
[31] CEQA Guidelines § 15384.
[32] *Bankers Hill Hillcrest*, 139 Cal.App.4th at 269.
[33] 14 CCR § 15300.2(c).

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possibility that the activity will have a significant effect on the environment, including (1) when "the cumulative impact of successive projects of the same type in the same place, over time is significant."[34] An agency may not rely on a categorical exemption if to do so would require the imposition of mitigation measures to reduce potentially significant effects.[35]

Here, the Class 32 Exemption and any other CEQA exemption are inapplicable to the Project due to its significant effects on air quality, health risk and noise.[36]

A. A CEQA Exemption is Inapplicable Because the Project May Result in Significant Effects Related to Air Quality and Health Risk

1. The City Lacks Substantial Evidence to Conclude that the Project's Health Risk Impacts from Air Emissions are Less Than Significant

The City lacks substantial evidence to support its reliance on an exemption because the City failed to analyze the health risk impacts of Project construction and operation to workers and nearby sensitive receptors.

The Project would increase health risks in the surrounding community by contributing TACs such as Diesel Particulate Matter ("DPM") during construction.[37] During the Project's construction, heavy equipment and diesel trucks would emit DPM, and during operations, the Project's backup generator would emit DPM. DPM has been linked to a range of serious health problems including an increase in respiratory disease, lung damage, cancer, and premature death.[38] The Project's emissions of DPM would impact numerous sensitive receptors, including residents in four residential buildings located within 500 feet of the Project site.[39]

CEQA requires analysis of human health impacts. As the LOD acknowledges, CEQA Guidelines Section 15065(a)(4) provides that the City is required to find a project will have a significant impact on the environment and require an EIR if the environmental effects of a project will cause a substantial adverse effect on human

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[34] 14 CCR § 15300.2(b).
[35] *Salmon Pro. & Watershed Network v. County of Marin* ("*SPAWN*") (2004) 125 Cal.App.4th 1098, 1198-1201.
[36] The Project's significant effects also create exceptions to an exemption under 14 CCR § 15300.2(b), (c).
[37] Clark Comments, pg. 5.
[38] Clark Comments, pg. 3-5.
[39] Categorical Exemption, pg. 65.

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beings.[40] The Supreme Court has also explained that CEQA requires the lead agency to disclose the health consequences that result from exposure to a project's air emissions.[41]

For development projects like this one, the Office of Environmental Health Hazard Assessment's ("OEHHA") risk assessment guidelines recommend a formal health risk analysis ("HRA") for short-term construction exposures to TACs lasting longer than 2 months and exposures from projects lasting more than 6 months should be evaluated for the duration of the project.[42] In an HRA, lead agencies must first quantify the concentration released into the environment at each of the sensitive receptor locations through air dispersion modeling, calculate the dose of each TAC at that location, and quantify the cancer risk and hazard index for each of the chemicals of concern.[43] Following that analysis, then the City can make a determination of the relative significance of the emissions.

The City did not conduct this analysis. Here, the City concludes that the Project would not result in significant health risk impacts without conducting any of the above analytical steps. The City fails to disclose or analyze that the Project's construction and operation would result in emissions of TACs. And the City fails to disclose or analyze the health impacts of exposure to certain concentrations of TACs. And the City fails to quantify the magnitude of TACs emitted by the Project, and fails to model the concentration of TACs at sensitive receptors.[44] In sum, there is no evidence in the Justification to Support a Categorical Exemption ("Categorical Exemption")[45] that the City considered health risks from TACs when determining that the Project qualifies for a categorical exemption.

The City reasons that because the Project's emissions would not exceed Localized Significance Thresholds ("LSTs"), there would not be a significant health risk. LSTs are based on the number of pounds of emissions per day that can be

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[40] LOD, p. 12, citing 14 CCR § 15065(a)(4); PRC § 21083(b)(3), (d).
[41] *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502, 516, 523.
[42] Office of Environmental Health Hazard Assessment (OEHHA), Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments, February 2015 (OEHHA 2015), Section 8.2.10: Cancer Risk Evaluation of Short Term Projects, pp. 8-17/18; https://oehha.ca.gov/air/crnr/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0.
[43] *Id.*
[44] The City's failure to analyze the magnitude and concentration of the Project's TACs also conflicts with the OEHHA recommendations for HRAs. The OEHHA guidelines recommend an HRA be prepared for this Project's construction and operation because its 24-month construction schedule exceeds 2 months, and its operations would last over 6 months.
[45] City of Los Angeles Planning Department, Justification to Support a Categorical Exemption (September 21, 2022).

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generated by a project that would cause or contribute to adverse localized air quality impacts.[46] But LSTs only apply to four pollutants: NO_x, CO, PM_{10}, and $PM_{2.5}$. Dr. Clark explains that LSTs do not apply to DPM and other TACs.[47] Therefore, the City completely failed to analyze health risk impacts from exposure to TACs during Project construction, and thus fails to support its finding of a less-than-significant health risk impact.

2. The Project Has Potentially Significant Health Risk Impacts

Dr. Clark calculates that the Project's emissions of DPM would exceed applicable significance thresholds for health risk.

Using OEHHA's HARP 2 Standalone Risk software, Dr. Clark calculated the cancer risk to the most sensitive population – infants less than 2 years old.[48] The cumulative risk for exposure during the 2 years of construction is 814 in 1,000,000, much greater than the 10 in 1,000,000 threshold set forth by the South Coast Air Quality Management District ("SCAQMD"). For adults, the risk from exposure to DPM from the construction phase of the project is 17.5 in 1,000,0000, which also exceeds the threshold.[49]

As a result of these significant effects, the Project does not qualify for any CEQA exemption, including a Class 32 exemption. The Project's significant impacts must be disclosed and mitigated in an EIR.

3. Project Impacts Associated with Operational Diesel Exhaust from the Backup Generator May be Significant

The City lacks substantial evidence to support its reliance on a categorical exemption because the City failed to adequately analyze the health risk impacts associated with use of the Project's backup generator during Project operation.

Dr. Clark explains that diesel-powered backup generators emit DPM, which poses a public health risk. The City's air quality analysis assumes that the backup generator will only be operated for 12 hours a year for testing and maintenance.[50] But according to SCAQMD Rules 1110.2 and 1470, backup generators are allowed

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[46] Categorical Exemption, pg. 66.
[47] Clark Comments, pg. 3.
[48] Clark Comments, pg. 7.
[49] Clark Comments, pg. 7-8.
[50] Clark Comments, pg. 11.

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to operate for up to 200 hours per year and maintenance cannot exceed more than 50 hours per year. Thus, the Project's back-up generator is permitted to operate up to 250 hours per year. As a result, the City's assumption that the backup generator would be operated for 12 hours a year likely underestimates the Project's emissions.[51]

Dr. Clark further explains that the City's analysis underestimates emissions because use of emergency generators is expected to rise due to climate change and increased instances of Public Safety Power Shutoff ("PSPS") events and extreme heat events.[52] For every PSPS or Extreme Heat Event triggered during the operational phase of the project, significant concentrations of DPM will be released that are not accounted for in the City's analysis, which only assumes the backup generator will be used 12 hours a year for testing and maintenance.

In sum, the City's operational health risk conclusions are not supported by substantial evidence because the City's analysis does not reflect reasonable hours of use of backup generators.

Dr. Clark generated a site-specific screening level HRA for emissions from the back-up generator to assess the health risk impacts on nearby receptors.[53] Assuming the backup generator is limited to maintenance and testing for 12 hours per year or less, the model calculates emissions of DPM of approximately 1.07 lbs per year. This magnitude of emissions results in health risk impacts of 17.3 in 1,000,000 for residents living within 25 meters of the Project site (the nearest residential receptors for this Project are located diagonally adjacent to the Project site.[54] This impact exceeds the 10 in 1,000,000 threshold set forth by SCAQMD, resulting in a significant impact.

Because the Project has a potentially significant health risk impact, the City cannot rely on a categorical exemption. An EIR must be prepared to analyze impacts on sensitive receptors.

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[51] Clark Comments, pg. 8.
[52] Clark Comments, pg. 9.
[53] Clark Comments, pg. 10.
[54] Higgins Building, 108 W 2nd St, Los Angeles, CA 90012.

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B. An Exemption is Inapplicable Because the Project May Result in Significant Noise Impacts Which Require Mitigation

1. The Class 32 Exemption is Inapplicable Because the City Improperly Relies on Noise Mitigation Measures

The Notice of Exemption states that the Project would result in less-than-significant construction noise impacts. According to the Categorical Exemption, the Project's construction noise impacts are significant if they exceed 75 dBA at a distance of 50 feet from the Project site,[55] and would not exceed ambient noise levels by more than 5 dBA at nearby sensitive receptors.[56] In Table 10, the City presents the estimated construction noise impact at the nearest sensitive receptors, and concludes that neither of these significance thresholds are met.[57] But the City incorrectly incorporates noise reductions from mitigation measures – labeled "project design features"[58] – into this significance determination. The City's noise reductions include (1) avoiding conducting demolition and construction activities concurrently, (2) using noise-muffled equipment, (3) implementing a sound barrier at least 8 feet tall that achieves a minimum 15 dBA noise reduction, and (4) using portable barriers during jackhammering and structural framing.[59] These measures are intended to reduce the Project's construction noise levels to less than significant, and are therefore mitigation within the meaning of CEQA.

An agency may not rely on a categorical exemption if to do so would require the imposition of mitigation measures to reduce potentially significant effects.[60] In *Salmon Pro. & Watershed Network v. County of Marin* ("*SPAWN*"), the court held that a single-family residence was improperly approved pursuant to a categorical exemption because the project included mitigation of the project's impacts on a stream.[61] The lead agency concluded that the project was categorically exempt from CEQA because it entailed construction of a single-family residence with no potentially significant impacts on the environment. The agency's conclusion that the project would not result in adverse effects was founded on "dozens of conditions that have been applied to enhance mitigations and reduce to a minimum the possibility of any adverse environmental impacts."[62] The conditions included detailed

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[55] *See* LAMC Section 112.05.
[56] *See* LAMC Section 112.04; Categorical Exemption, pg. 61.
[57] Categorical Exemption, pg. 61.
[58] Categorical Exemption, pg. 57.
[59] Categorical Exemption, pg. 57-58.
[60] *Salmon Pro. & Watershed Network v. County of Marin* ("*SPAWN*") (2004) 125 Cal.App.4th 1098, 1198-1201.
[61] *Id.* at 1103.
[62] *Id.* at 1107.

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construction limitations and incorporation of a riparian protection plan. The riparian protection plan acknowledged that runoff from new rooftops and driveways can erode stream banks, and proposed drainage features for erosion and sediment control. The court held that these conditions were mitigation measures, and that eligibility for a categorical exemption must be determined without reference to mitigation measures. Thus, the categorical exemption was inapplicable.

In *Lotus v. Department of Transportation*,[63] the court addressed the adequacy of an EIR analyzing proposed highway construction adjacent to old-growth redwood trees, as opposed to the approval of a categorical exemption as was the case in *SPAWN*.[64] Like the project in *SPAWN*, however, the *Lotus* construction was found by the reviewing agency not to involve any significant effect on the environment, but only after mitigation measures were made a condition of project approval.[65] The court held that actions such as restorative planting, removal of invasive plants, and the use of an arborist and specialized equipment were "plainly mitigation measures and not part of the project itself," resulting in the improper compression of environmental impacts and mitigation measures into a single issue in the EIR.[66]

Here, the instant Project is ineligible for a categorical exemption for the same reason the project in *SPAWN* was ineligible. In both cases, the lead agency's conclusion that the project would not result in adverse effects was founded on "conditions that have been applied to enhance mitigations and reduce to a minimum the possibility of any adverse environmental impacts."[67] Just as the project in *SPAWN* "detailed construction limitations and incorporation of a riparian protection plan" designed to mitigate impacts from runoff, the instant Project includes noise-reducing construction techniques and devices to mitigate construction noise impacts. Per the court's ruling in *SPAWN*, the Project's noise-reducing measures must be considered mitigation measures. Eligibility for a categorical exemption must be determined without reference to mitigation measures. Thus, the Project's categorical exemption is inapplicable.

And per the *Lotus* decision, the Project is ineligible for a categorical exemption because its mitigation measures are not part of the project design. The Project's measures to reduce construction noise are similar to the plant techniques in *Lotus* because they are designed to mitigate the Project's adverse impacts, and are not part of the Project itself. Mitigation of construction noise is not part of the

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[63] 223 Cal.App.4th 645,
[64] *Id.* at 647–648.
[65] *Id.* at 648–649.
[66] *Id.* at 656, fn. 8.
[67] *SPAWN*, 125 Cal.App.4th 1098, 1107.

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Project design because the Project proposes a mixed-use building – noise-reducing devices and techniques merely reduce noise caused by construction of that building. Thus, the categorical exemption is inapplicable.

The City may attempt to rely on cases such as *Citizens for Environmental Responsibility v. State ex rel. 14th District Agricultural Association* ("*CER v. State*"),[68] *Berkeley Hills Watershed Coalition v. City of Berkeley* ("*Berkeley Hills Watershed*"),[69] or *Berkeley Hillside Preservation v. City of Berkeley* ("*Berkeley Hillside Preservation*")[70] to assert that the Project's noise mitigation does not preclude reliance on an exemption. However, as discussed below, these cases are distinguishable from the instant Project.

In *CER v. State*,[71] the court held that a rodeo project was not precluded from a categorical exemption by its reliance on a manure mitigation plan ("MMP") to prevent riparian impacts. The court distinguished the MMP from the mitigation in *SPAWN* because the MMP was not a new measure proposed for or necessitated by the rodeo project.[72] Rather, it was a preexisting measure previously implemented to address a preexisting concern, which was formalized in writing before the rodeo project was proposed. Thus, the MMP was actually part of the ongoing "normal operations" of the fairground at which the rodeo project was located. The court concludes that use of this measure did not disqualify the rodeo project from a categorical exemption.[73]

In *Berkeley Hills Watershed*,[74] the court held that a housing project was not precluded from an exemption by its reliance on project design measures to address State requirements for investigation and mitigation within a seismic zone.[75] The geotechnical report prepared for the project stated "[a]ll owners or occupants of homes on hillsides should realize that landslide movements are <u>always</u> a possibility, although generally the likelihood is very low that such an event will occur," and recommended suggestions for removing and controlling the landslide.[76] The court explained these measures were not "mitigation measures" because they were developed as part of the project design to meet building code requirements for properties located in seismic zones and address preexisting conditions on the site as

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[68] (2015) 242 Cal.App.4th 555.
[69] (2019) 31 Cal.App.5th 880
[70] (2015) 241 Cal.App.4th 943.
[71] (2015) 242 Cal.App.4th 555.
[72] *Id.* at 569.
[73] *Id.*
[74] (2019) 31 Cal.App.5th 880
[75] *Id.* at 246, fn 9.
[76] *Id.* at 246

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opposed to being "proposed subsequent actions by the project's proponent to mitigate or offset the alleged adverse environmental impacts" of the project.

In *Berkeley Hillside Preservation*,[77] the court rejected an argument that implementation of a traffic-management plan for project construction precluded a categorical exemption. When the lead agency approved the use permit for the project, it included various conditions under Berkeley Municipal Code, including a construction traffic management plan.[78] The court stressed that the conditions of approval for this project were standard conditions imposed on residential development which are not intended to address any specific environmental impacts resulting from construction of this project.[79] This point was supported by the fact that no unique conditions of approval were proposed for the project (aside from one that had no relation to any potential environmental impact).[80] The court held that because "the plan […] is not proposed subsequent action taken to mitigate any significant effect of the project, [it is] therefore is not a mitigation measure that precludes the application of a categorical exemption."[81]

This Project is distinguishable from *CER v. State* because the Project's construction noise measures do not preexist the Project. Whereas the mitigation plan in *CER v. State* was part of the ongoing "normal operations" of the fairground at which the rodeo project was located "for decades,"[82] the noise measures in this case were first proposed in the Categorical Exemption. This fact completely distinguishes this project, as the court italicized the word "proposed" throughout the opinion to emphasize the importance of that factor. Indeed, the Project's construction noise measures are proposed – they are not specifically described or required by any preexisting policy. For example, although LAMC Sections 112.04 and 112.05 set out the applicable construction noise thresholds, they do not call for the specific combination of noise reducing techniques and devices proposed to mitigate the Project's particular construction activities.

This Project is also distinguishable from *Berkeley Hills Watershed* because the measures in *Berkeley Hills Watershed* addressed preexisting conditions on the site – the seismic conditions of the project site – whereas the instant Project's noise measures address impacts *generated by* the Project. And whereas the *Berkeley Hills Watershed* measures were integrated into the design of the building, this Project's

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[77] (2015) 241 Cal.App.4th 943.
[78] *Id.* at 959.
[79] *Id.*
[80] *Id.*
[81] *Id.* at 961.
[82] 242 Cal.App.4th 555, 566.

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construction noise mitigation is not integrated into the design of the apartment building. Instead, the Project's mitigation is designed to resolve its adverse construction noise impacts. Thus, although both projects involve measures designed to meet regulatory requirements – the project in *Berkeley Hills Watershed* aimed to comply with the building code, and here, the Project aims to comply with LAMC noise thresholds – the instant Project is ineligible for a categorical exemption because it mitigates impacts generated by the Project itself.

Finally, this Project is distinguishable from *Berkeley Hillside Preservation*.[83] Whereas the conditions of approval in that case were of standard language, general applicability, and were not designed to mitigate specific adverse impacts, the measures for this Project are bespoke measures designed to mitigate specific construction noise impacts. For instance, the proposed 8-foot-tall sound barrier that reduces noise by 15 dBA is not a preexisting condition of general applicability – it is a unique measure tailored to address the Project's acknowledged noise impacts – the Categorical Exemption acknowledges the Project would require use of heavy equipment that would generate noise of up to 90 dBA at 50 feet.[84] The Project subsequently identifies a combination of mitigation measures to reduce these impacts below LAMC thresholds. Therefore, the Project is precluded from a categorical exemption.

2. The Project's Noise Mitigation Measures Do Not Effectively Mitigate Potentially Significant Construction Noise Impacts

As explained above, the Categorical Exemption states that the Project would not exceed LAMC thresholds[85] due to implementing measures including a sound barrier at least 8 feet tall that achieves a minimum 15 dBA noise reduction, and using portable barriers during jackhammering and structural framing.[86] Mr. Meighan notes that the City's noise calculations incorporate a 15 dBA noise reduction on account of the sound barrier.[87] But Mr. Meighan explains that this barrier would not provide line of sight shielding for sensitive receptors on the second floors and above of neighboring buildings.[88] He states that "assuming the barrier is 8 feet high, receivers on the second floor or above would be able to look

[83] (2015) 241 Cal.App.4th 943.
[84] Categorical Exemption, pg. 59, Table 9.
[85] *See* LAMC Section 112.04; Categorical Exemption, pg. 61.
[86] Categorical Exemption, pg. 57-58.
[87] Meighan Comments, pg. 5.
[88] *Id.*

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directly over the barrier onto the property and receive no benefit from the shielding effects."[89]

Mr. Meighan conducted a calculation of the Project's potential construction noise impacts on 3rd floor receptors using the Roadway Construction Noise Model ("RCNM"), finding that the Project's construction noise impacts exceed the City's 5 dBA threshold.

Table 1: Impact Analysis for Worst-case Construction Scenario on the 3rd Floor of the Higgins Building[90]

Calculated Noise Level (dBA)	Ambient Noise Level (dBA)	Level Above Ambient (dBA)	Impact Threshold (dBA)	Impact?
79.1	61.3	17.8	>5	YES

Mr. Meighan's analysis constitutes substantial evidence demonstrating that the Project may cause a significant construction noise impact. Therefore, the Project does not qualify for a categorical exemption.[91] The Project's significant impacts must be disclosed and mitigated in an EIR.

3. The City's Analysis of Operational and Construction Noise Impacts Are Not Supported by Substantial Evidence

To qualify for a categorical exemption, a lead agency must provide "substantial evidence to support [its] finding that the Project will not have a significant effect."[92] The City bases its noise analysis on a flawed and unsupported analysis. As a result, its conclusions that the Project's noise impacts are less than significant are not supported by substantial evidence.

First, the City fails to adequately establish the baseline noise level. As numerous courts have held, an agency's failure to adequately describe the existing setting contravenes the fundamental purpose of the environmental review process, which is to determine whether there is a potentially substantial, adverse change compared to the existing setting.[93] Here, the noise analysis relies on a short-term

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[89] *Id.*
[90] Meighan Comments, pg. 5, Table 2.
[91] *See Banker's Hill, Hillcrest, Park West Community Preservation Group v. City of San Diego* (2006) 139 Cal.App.4th 249, 269.
[92] *Banker's Hill, Hillcrest, Park West Community Preservation Group v. City of San Diego* (2006) 139 Cal.App.4th 249, 269.
[93] *Save Our Peninsula Com. v. Monterey Bd. of Supervisors* (2001) 87 Cal.App.4th 99, 121-22; *City of Carmel-by-the Sea v. Bd. of Supervisors* (1986) 183 Cal.App.3d 229, 246.

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measurement of 15-minute duration during the day to describe existing conditions. Mr. Meighan explains that, in order to conduct a proper noise analysis, the baseline must also be established for evening, and possibly nighttime conditions.[94] Social events in the roof deck terrace with pool and lounge spaces could occur during evening hours, and rooftop equipment could also operate during evening and nighttime conditions. Without this data, it is not possible to evaluate the significance of noise sources operating during non-daytime hours.

Another flaw Mr. Meighan detected is that the City's analysis assumes only the two loudest pieces of equipment is used per stage of construction, measured at the center of the project site.[95] He explains that this approach may underestimate the Project's noise impacts, which are greater than disclosed by the City when construction equipment is used closer to the borders of the Project site.

Mr. Meighan also explains that the Categorical Exemption erroneously cites an expectation that the Project's HVAC equipment would not cause significant impacts because the HVAC equipment would be similar to equipment on the currently existing building.[96] Mr. Meighan shows that the mechanical units required for a 17-story mixed-use building will likely be larger and louder than a two-story commercial building.

Mr. Meighan states that the Categorical Exemption does not mention whether the Project would use pile driving during construction.[97] He explains that pile driving is a preferred construction technique for large buildings like this, and has the potential for damage to neighboring buildings. A categorical exemption cannot be relied upon if the Project can elect to use pile driving.

Finally, as explained in the preceding section, the Project's proposed sound barriers would not achieve the City's claimed 15 dBA reduction on neighboring residences above the ground floor. The City's reliance on the 15 dBA construction noise reduction violates CEQA's principle against relying on mitigation measures of uncertain efficacy or feasibility.[98] As a result, the City's finding of a less-than-significant construction noise impact is not supported by substantial evidence.

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[94] Meighan Comments, pg. 1.
[95] Meighan Comments, pg. 5.
[96] Categorical Exemption, pg. 63; Meighan Comments, pg. 6.
[97] Meighan Comments, pg. 6.
[98] *Kings County Farm Bureau v. County of Hanford* (1990) 221 Cal.App.3d 692, 727-28 (a groundwater purchase agreement found to be inadequate mitigation because there was no record evidence that replacement water was available).

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Due to these analytical flaws, the City's noise findings are not supported by substantial evidence. Without substantial evidence, the City cannot rely on a categorical exemption.

4. The City's Noise Significance Thresholds Are Not Supported by Substantial Evidence

The Project's operational noise significance thresholds are not supported by substantial evidence because they do not reflect sleep disturbance impacts. The Project includes several sources of potential sleep-disturbing operational noise impacts: the balconies and rooftop area; mechanical equipment including an HVAC; and roadway traffic noise. Compliance with the significance thresholds for these noise impacts does not constitute substantial evidence that sleep disturbance impacts are less-than-significant.

Courts have held that compliance with noise regulations alone is not substantial evidence of a less-than-significant impact.[99] In *Oro Fino Gold Mining Corp. v. County of El Dorado* ("*Oro Fino*"),[100] a mining company applied for a special use permit for drilling holes to explore for minerals.[101] The mining company argued the proposed mitigated negative declaration prohibited noise levels above the applicable county general plan noise standard maximum of 50 dBA and, therefore, there could be no significant noise impact. The court rejected this argument: "we note that conformity with a general plan does not insulate a project from EIR review where it can be fairly argued that the project will generate significant environmental effects."[102] Thus, the court concluded an EIR was required.

In *Citizens for Responsible & Open Government v. City of Grand Terrace* ("*Grand Terrace*"),[103] the city approved a 120-unit senior housing facility based on a mitigated negative declaration.[104] The noise element of the city's general plan stated exterior noise levels in residential areas should be limited to 65 dB

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[99] *King & Gardiner Farms, LLC v. Cnty. of Kern* (2020) 45 Cal.App.5th 814, 865.
[100] (1990) 225 Cal.App.3d 872.
[101] *Id.* at pg. 876; *see also Keep our Mountains Quiet v. County of Santa Clara* (2015) 236 Cal.App.4th 714; *Citizens for Responsible & Open Government v. City of Grand Terrace* (2008) 160 Cal.App.4th 1323, 1338; *Gentry v. City of Murrieta* (1995) 36 Cal.App.4th 1359, 1416 (project's effects can be significant even if "they are not greater than those deemed acceptable in a general plan"); *Environmental Planning & Information Council v. County of El Dorado* (1982) 131 Cal.App.3d 350, 354, ("CEQA nowhere calls for evaluation of the impacts of a proposed project on an existing general plan").
[102] *Id.* at pp. 881–882.
[103] (2008) 160 Cal.App.4th 1323.
[104] *Id.* at 1327.

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CNEL.[105] The initial study concluded the facility's air conditioner units would cause noise impacts, but with mitigating measures the project would operate within the general plan's noise standard. But the court cited *Oro Fino* for the principle that "'conformity with a general plan does not insulate a project from EIR review where it can be fairly argued that the project will generate significant environmental effects.'"[106] A citizen's group provided substantial evidence supporting such a fair argument. This evidence included testimony from an individual in the HVAC industry that the type of air conditioning units proposed by the project "sound like airplanes."[107] And at a city council public hearing, community and city council members expressed concern that the air conditioners would be noisy.[108] The court considered the testimony about the noise generated by the proposed air conditioners, took into account the mitigation measures, and concluded "there is substantial evidence that it can be fairly argued that the Project may have a significant environmental noise impact."[109]

Here, the significance threshold for the Project's mechanical equipment noise impacts is contained in LAMC Section 112.02, which prohibits noise from mechanical equipment, including HVACs, from exceeding 5 decibels at receptors. The Categorical Exemption states that operational traffic noise would be less-than-significant if it would be less than 3 dBA.[110] The City states that adherence to LAMC Section 116.01 is the only applicable criterion for assessing noise impacts from the Project's open space. LAMC Section 116.01 provides: "it shall be unlawful for any person to willfully make or continue, or cause to be made or continued, any loud, unnecessary, and unusual noise which disturbs the peace or quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area."

These significance thresholds do not address the Project's potential for sleep disturbance at nearby residential receptors. The World Health Organization ("WHO") identifies a guidance of 45 dBA Leq (outdoors) to avoid sleep disturbance from a continuous source, and a limit of 60 dBA Lmax for intermittent sources.[111] The significance thresholds summarized above do not necessarily consider noise impacts at WHO levels significant, nor otherwise address potential sleep disturbance impacts. Further, the City's significance thresholds do not identify the unique impacts of speakers on sleep: low frequency bass notes can cause significant

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[105] *Grand Terrace,* 160 Cal.App.4th at 1338.
[106] *Grand Terrace, supra*, at pg. 1338.
[107] *Id.* at 1338-1339.
[108] *Id.* at 1338.
[109] *Id.* at p. 1341.
[110] Categorical Exemption, pg. 64.
[111] Meighan Comments, pg. 4.

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impacts even when the A-weighted level complies with applicable code. This occurs because low frequency bass notes pass through exterior walls and closed windows with little reduction.[112] Accordingly, other agencies, such as the City of San Francisco, limit low frequency noise increase from this type of use on a C-weighted basis.[113]

The Project has potentially significant sleep disturbance impacts on nearby residential receptors. The Project includes 12,692 sf of open space, a majority of which would be concentrated on the 4,237 sf roof deck.[114] Noise would potentially be generated by the up to 60 people that are accommodated on the roof deck. Noise would also potentially be generated by speakers on the roof deck or other open spaces. The Categorical Exemption states that while speakers on the roof deck are not anticipated, there is no condition precluding their use. Thus, there is the potential for low-frequency bass notes to disturb sleep. Accordingly, the Categorical Exemption acknowledges that occupancy of the Project's open spaces may increase ambient noise near the Project site.[115] Mr. Meighan also states that excessive noise from these rooftop activities occurring between 10 PM and 7 AM could cause sleep disturbance and would be potentially significant.[116]

In sum, the City's operational noise thresholds do not account for the Project's potential sleep disturbance impacts. Thus, the City lacks the substantial evidence necessary to rely on a categorical exemption.

III. The Director's Approval of the Project's Site Plan Review Was Contrary to Law and Unsupported by Substantial Evidence

The Director erroneously approved a Site Plan Review for the Project pursuant to LAMC Section 16.05 without substantial evidence to support the required findings. This approval requires making certain environmental findings. LAMC Sec. 16.05(A) provides that:

> The purposes of site plan review are to promote orderly development, **evaluate and mitigate significant environmental impacts**, and promote public safety and the general welfare by ensuring that development projects are properly related to their sites, surrounding properties, traffic circulation, sewers, other infrastructure and environmental setting; and to **control or**

[112] *Id.*
[113] Meighan Comments, pg. 4.
[114] Categorical Exemption, pg. 63.
[115] *Id.*
[116] Meighan Comments, pg. 4.

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> **mitigate the development of projects which are likely to have a significant adverse effect on the environment** as identified in the City's environmental review process, or on surrounding properties by reason of inadequate site planning or improvements. [emphasis added]

LAMC Sec. 16.05(E) further provides that:

> a. In granting site plan approval, the Director may condition and/or modify the project, or select an alternative project, as he or she deems necessary to implement the general or specific plan and to mitigate significant adverse effects of the development project on the environment and surrounding areas.
> b. The Director **shall not approve or conditionally approve a site plan review for a development project unless an appropriate environmental review clearance has been prepared in accordance with the requirements of CEQA.** [emphasis added]

Here, the purposes of site plan review set forth by LAMC Sec. 16.05(A) have not been fulfilled, as the Project's environmental document failed to adequately evaluate and mitigate significant environmental impacts. Further, the appropriate environmental review clearance has not been prepared in accordance with the requirements of CEQA, in violation of LAMC Sec. 16.05(E). As explained above, the appropriate environmental clearance is an EIR, not a categorical exemption. Further, the analysis conducted in the categorical exemption contained flaws in violation of CEQA, as shown in these comments. The findings adopted by the Director in support of the Project's Site Plan Review approval were not supported by substantial evidence, and were therefore contrary to law.[117] The Commission must vacate the Director's approval of the Project's site plan review.

IV. The Director's Approval of the Density Bonus Was Contrary to Law and Unsupported by Substantial Evidence

The Director erroneously approved a Density Bonus for the Project pursuant to LAMC Section 12.22 A.25 without substantial evidence to support the required findings. The LAMC provides that the Director is prohibited from approving a Density Bonus if there is substantial evidence demonstrating that:[118]

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[117] Code Civ. Proc § 1094.5(b); *Topanga Assn. for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 515.
[118] Section 12.22 A.25(g)(2)(i)(c).

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(i) The Incentive is not required in order to provide for affordable housing costs as defined in California Health and Safety Code Section 50052.5, or Section 50053 for rents for the affordable units; or

(ii) The Incentive will have a Specific Adverse Impact upon public health and safety or the physical environment or on any real property that is listed in the California Register of Historical Resources and for which there is no feasible method to satisfactorily mitigate or avoid the Specific Adverse Impact without rendering the development unaffordable to Very Low, Low and Moderate Income households. Inconsistency with the zoning ordinance or general plan land use designation shall not constitute a specific, adverse impact upon the public health or safety.

The Findings state that there is no evidence that the density bonus incentive would have a specific adverse impact. This conclusion is unsupported because the City failed to quantify the health risk from the Project's air emissions on nearby sensitive receptors, and failed to accurately analyze noise impacts. The Director's conclusion is also erroneous, as the analysis presented in this letter shows that, when calculated, the Project will cause potentially significant and unmitigated health risk and noise impacts. These impacts are heightened due to the Project's density bonus: the requested increase in FAR allows the Applicant to expand the building envelope so that additional units can be constructed.[119] The FAR increase allows the Project to construct an additional 26,856 sf.[120] The increased size of the Project results in a longer construction period, which extends the duration of the Project's construction noise and emissions. Since this letter demonstrates that these emissions are potentially significant, this Finding was contrary to law and lacks the support of substantial evidence.

V. CONCLUSION

CREED LA respectfully requests that the City set a hearing on this appeal, and that the Area Planning Commission uphold this appeal, vacate the Director's approval of the Project, and direct staff to prepare an EIR for the Project.

Sincerely,

Aidan P. Marshall

APM:acp

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[119] City of Los Angeles Planning Department, Director's Letter of Determination (September 21, 2022), pg. 11.
[120] *Id.*

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EXHIBIT A

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October 4, 2022

Adams Broadwell Joseph & Cardozo
601 Gateway Boulevard, Suite 1000
South San Francisco, CA 940804

Attn: Mr. Aidan Marshall

Subject: Comments On Proposed Use Development Project Located At 216 South Spring Street (DIR-2020-7846-DB-SPR-RDP-HCA)

Dear Mr. Marshall,

At the request of Adams Broadwell Joseph & Cardozo (ABJC), Clark and Associates (Clark) has reviewed materials related to the 2022 City of Los Angeles (the City) Categorical Exemption of the above referenced project.

Clark's review of the materials in no way constitutes a validation of the conclusions or materials contained within the plan. If we do not comment on a specific item this does not constitute acceptance of the item.

The Project Site occupies approximately 12,784 square feet of lot area (0.29 acres) and is currently developed with a one-story commercial building. The Applicant proposes the demolition of the existing structure for the construction of a 17- story mixed-use building with 120 multi-family dwelling units, 1,032 square feet of retail, and a 1,981 square-foot restaurant. The proposed development would reach a maximum height of 223 feet and 4 inches above grade. The unit mix would include 16 studio units, 89 one-bedroom units, 13 two-bedroom units, and two three-bedroom units. Of the 120 dwelling units, 11 percent of the units (14 units) would be reserved at the "very low income" level. The building would include approximately 12,692 square feet of open space, including an outdoor rooftop deck, common recreation areas, and private balconies. The Proposed Project would include a total of 103,550 square feet of floor area, resulting in an approximate 8.1:1 FAR. The Proposed Project would provide 69 vehicle parking spaces on-site, pursuant to AB 744, in a three-level subterranean parking garage and 102 bicycle parking spaces. There are two non-protective street trees in the public right-of-way which would be removed. The street tree removal is subject to a 2:1

replacement ratio to the satisfaction of the Board of Public Works. There are no existing trees on the Project Site. The Project also proposes to plant 30 24-inch box trees on-site, pursuant to the Los Angeles Municipal Code (LAMC).

Source: Google Earth, Aerial View, 2020.

Figure 3
Aerial Photograph of the Project Site and Surrounding Land Uses

Figure 1: 216 South Spring Street Project Location

According to the Notice of Exemption (NOE), the Proposed Project meets all of the criteria necessary to qualify for a CEQA Exemption as a Class 32 (Infill Development Project) pursuant to CEQA Guideline Sections 15332. A Class 32 Exemption would not be applicable if it can be demonstrated that the project will have significant air quality impacts.

The failure of the City to analyze the health risks from stationary emissions associated with the project require the City to withdraw the NOE and have the Proponent prepare an environmental impact report (EIR)

Specific Comments:

1. The City's Air Quality Analysis Fails To Include A Quantitative Health Risk Analysis Of The Impacts Of Toxic Air Contaminants From The Construction Phase And Operational Phase Of The Project For The Nearest Sensitive Receptor(s)

The City has failed to conduct a numerical health risk analysis (HRA) for Project. The NOE states that, for the purposes of assessing pollution concentrations upon sensitive receptors, the SCAQMD has developed LSTs that are based on the number of pounds of emissions per day that can be generated by a project that would cause or contribute to adverse localized air quality impacts. [1] The nearest sensitive receptors that could potentially be subject to localized air quality impacts associated with construction of the Proposed Project include the residential buildings to the west of the Project Site. For the Criteria Pollutants assessed under CEQA, this is correct. For toxic air contaminants (TACs), there are no LSTs, nor levels of significance based on the pounds per day. Instead, the determination of a significance threshold is based on a ***quantitative risk analysis*** that requires the City to perform a multistep, quantitative health risk analysis.

TACs, including diesel particulate matter (DPM)[2], contribute to a host of respiratory impacts and may lead to the development of various cancers. Failing to quantify those impacts places the community at risk for unwanted adverse health impacts. *Even brief exposures to the TACs could lead to the development of adverse health impacts over the life of an individual*.

Diesel exhaust contains nearly 40 toxic substances, including TACs and may pose a serious public health risk for residents in the vicinity of the facility. TACs are airborne substances that are

[1] City of Los Angeles. 2022. NOE 216 South Spring Street. Pg 66

[2] Because DPM is a TAC, it is a different air pollutant than criteria particulate matter (PM) emissions such as PM10, PM2.5, and fugitive dust. DPM exposure causes acute health effects that are different from the effects of exposure to PM alone.

capable of causing short-term (acute) and/or long-term (chronic or carcinogenic, i.e., cancer causing) adverse human health effects (i.e., injury or illness). TACs include both organic and inorganic chemical substances. The current California list of TACs includes approximately 200 compounds, including particulate emissions from diesel-fueled engines.

Diesel exhaust has been linked to a range of serious health problems including an increase in respiratory disease, lung damage, cancer, and premature death.[3,4,5] Fine DPM is deposited deep in the lungs in the smallest airways and can result in increased respiratory symptoms and disease; decreased lung function, particularly in children and individuals with asthma; alterations in lung tissue and respiratory tract defense mechanisms; and premature death.[6] Exposure to DPM increases the risk of lung cancer. It also causes non-cancer effects including chronic bronchitis, inflammation of lung tissue, thickening of the alveolar walls, immunological allergic reactions, and airway constriction.[7] DPM is a TAC that is recognized by state and federal agencies as causing severe health risk because it contains toxic materials, unlike $PM_{2.5}$ and PM_{10}.[8]

The inherent toxicity of the TACs requires the City to first quantify the concentration released into the environment at each of the sensitive receptor locations through air dispersion modeling, calculate the dose of each TAC at that location, and quantify the cancer risk and hazard index for each of the chemicals of concern. Following that analysis, then the City can make a determination of the relative significance of the emissions.

According to the NOE, the nearest sensitive receptors to the Project site include a mixed-use

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[3] California Air Resources Board, Initial Statement of Reasons for Rulemaking, Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant, Staff Report, June 1998; see also California Air Resources Board, Overview: Diesel Exhaust & Health, https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health#:~:text=Diesel%20Particulate%20Matter%20and%20Health&text=In%201998%2C%20CARB%20identified%20DPM,and%20other%20adverse%20health%20effects.

[4] U.S. EPA, Health Assessment Document for Diesel Engine Exhaust, Report EPA/600/8-90/057F, May 2002.

[5] Environmental Defense Fund, Cleaner Diesel Handbook, Bring Cleaner Fuel and Diesel Retrofits into Your Neighborhood, April 2005; http://www.edf.org/documents/4941_cleanerdieselhandbook.pdf, accessed July 5, 2020.

[6] California Air Resources Board, Initial Statement of Reasons for Rulemaking, Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant, Staff Report, June 1998.

[7] Findings of the Scientific Review Panel on The Report on Diesel Exhaust as adopted at the Panel's April 22, 1998 Meeting.

[8] Health & Safety Code § 39655(a) (defining "toxic air contaminant" as air pollutants "which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health. A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the federal act (42 U.S.C. Sec. 7412 (b)) is a toxic air contaminant.")

residential building located at 108 West 2nd Street. Along with 3 other mixed use sites, they represent the closest sensitive receptors to the Project.

Sensitive receptors identified within 500 feet of the Project Site include:

1) Mixed-use residential building immediately northeast of the Project Site, located at 108 W. 2nd Street;
2) Multi-family residences further east of the Project Site, located at 222 S. Main Street;
3) Multi-family residences further southwest of the Project Site, located at 242 S. Broadway and 257 S. Spring Street; and
4) Future mixed-use residential building west of the Project Site, located at 222 W. 2nd Street (currently under construction).

Figure 2: page 60 of NOE Indicating Closest Sensitive Receptors

These receptors would be exposed to TACs released during Project construction and operation, including DPM. No effort is made in the NOE to quantify the potential health impacts from DPM generated by construction activities or operational activities from the Project on these sensitive receptors. The City's failure to perform such an analysis is clearly a major flaw in the NOE and may be placing the residents of the adjacent structures at risk from the construction and operational phases of the Project.

2. Using The Data From The CalEEMOD Analysis Of The Construction Phase Of The Project, An Air Dispersion Model Of Potential Releases of DPM Show The Annual Average Concentration Of DPM At The Nearest Receptor Would Exceed 2 ug/m3 During The Construction Phase

Using the CalEEMOD analysis supplied in Attachment 4 of the NOE it is possible to calculate potential emissions of DPM at the nearest receptor to the Project site during the construction phase of the Project.

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.8177	23.5920	19.8870	0.0534	3.3988	0.8105	4.2093	1.4295	0.7600	2.1895	0.0000	5,538.8798	5,538.8798	0.7348	0.5088	5,708.8753
2023	1.6744	13.8198	19.4852	0.0389	1.2219	0.6479	1.8698	0.3267	0.6076	0.9343	0.0000	3,811.8416	3,811.8416	0.6523	0.0735	3,850.0392
2024	8.5860	12.9603	19.2150	0.0386	1.2219	0.5773	1.7991	0.3267	0.5412	0.8679	0.0000	3,778.4829	3,778.4829	0.6480	0.0713	3,815.9158
Maximum	**8.5860**	**23.5920**	**19.8870**	**0.0534**	**3.3988**	**0.8105**	**4.2093**	**1.4295**	**0.7600**	**2.1895**	**0.0000**	**5,538.8798**	**5,538.8798**	**0.7348**	**0.5088**	**5,708.8753**

Figure 3: CalEEMOD Analysis Of Construction Phase

Assuming that the emissions are limited to just the on-site emissions of PM10 exhaust, the total amount of emissions over the site is calculated to be approximately 305 lbs of DPM over the construction period.

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/1/2022	8/1/2022	5	22	
2	Grading	Grading	8/2/2022	11/1/2022	5	66	
3	Building Construction	Building Construction	11/2/2022	2/28/2024	5	346	
4	Architectural Coating	Architectural Coating	3/1/2024	7/2/2024	5	88	

Figure 4: Time Line Of Construction Phase

Using the only values for the on-site emissions, the emission rate for the site was calculated below.

Phase	Year	Emissions	Duration	Total Emissions For Phase	Emissions Per Day	Emission Rate Per Hour	Site Wide Annual Emission Rate
		lbs/day	days	lbs	lbs/day	lbs-hour	lbs-hr/ft2
Demolition	2022	0.3375	22	7.425	0.014224138	0.001778017	
Grading	2022	0.7463	66	49.2558	0.09435977	0.011794971	
Building Construction	2022	0.73	40	29.2	0.055938697	0.006992337	
	2023	0.6379	250	159.475	0.305507663	0.038188458	

Phase	Year	Emissions	Duration	Total Emissions For Phase	Emissions Per Day	Emission Rate Per Hour	Site Wide Annual Emission Rate
		lbs/day	days	lbs	lbs/day	lbs-hour	lbs-hr/ft2
	2024	0.5675	56	31.78	0.060881226	0.007610153	
Architectural Coating	2024	0.3227	88	28.3976	0.054401533	0.006800192	
Total			522	305.5334	0.585313027	0.073164128	6.97503E-06

Assuming that emissions will be limited to an eight-hour period during weekdays it is possible to calculate averaged emissions over the whole construction site. Using AERMOD, the US EPA's preferred air dispersion model, it is possible to calculate the concentrations of DPM from the construction area at the closest receptors located at 108 West 2nd Street. AERMOD is an acronym for the American Meteorological Society/Environmental Protection Agency Regulatory Model Improvement Committee's Dispersion Model. AERMOD contains the necessary algorithms to model air concentrations from a wide range of emission source types, including stack-based point sources, fugitive area sources, and volume sources.

Using the meteorological data from SCAQMD for the USC/Downton monitoring station (closest met station to the Project site), limiting the emissions to an 8-hour period on weekdays, the concentrations at the 108 West 2nd Street building were calculated and are summarized below.

X	Y	2012	2013	2014	2015	2016	Average
m	m	ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3
385055	3768512	2.485695	2.575368	2.161039	2.255038	2.439032	2.383234
385072.5	3768497	0.453255	0.4852313	0.3613367	0.4266863	0.4590648	0.437115
385090.8	3768481	0.139004	0.1558533	0.09672991	0.1260649	0.1403288	0.131596
385098.9	3768528	0.353684	0.3685095	0.3430974	0.3342747	0.3823079	0.356375

Using the OEHHA's HARP 2 Standalone Risk software, the cancer risk to the most sensitive population, infants less than 2 years old was calculated. The cumulative risk for exposure during the 2 years of construction is 814 in 1,000,000, much greater than the 10 in 1,000,000 threshold outlined by SCAQMD. For adults, the risk from exposure to DPM from the construction phase

of the project is 17.5 in 1,000,0000. The results of the air model and the health risk analysis are attached as an appendix to this letter.

3. The Air Quality Analysis For The Project Fails To Accurately Assess The Impacts From The Emergency Generator That Will Be Installed Onsite.

In Attachment 4 to the NOE of Project, the air quality analysis assumes that the back up generator (BUG) on site will only be operated for 12 hours a year (testing and maintenance). According to SCAQMD Rules 1110.2, 1470, back-up generators (BUGs) are allowed to operate for up to 200 hours per year and maintenance cannot exceed more than 50 hours per year. The City must revise its air quality analysis to include the use of BUGs onsite in an EIR.

In addition to the testing emissions the air quality analysis must include the substantial increase in operational emissions from BUGs in the Air Basin due to unscheduled events, including but not limited to Public Safety Power Shutoff (PSPS) events and extreme heat events. Extreme heat events are defined as periods where in the temperatures throughout California exceed 100 degrees Fahrenheit.[9] From January, 2019 through December, 2019, Southern California Edison reported 158 of their circuits underwent a PSP event[10]. In Los Angeles County two circuits had 4 PSPS events during that period lasting an average of 35 to 38 hours. The total duration of the PSPS events in Los Angeles lasted between 141 hours to 154 hours in 2019. In 2021, the Governor of California declared that during extreme heat events the use of stationary generators shall be deemed an emergency use under California Code of Regulations (CCR), title 17, section 93115.4 sub. (a) (30) (A)(2). The number of Extreme Heat Events is likely to increase in California with the continuing change in climate the State is currently undergoing.

Power produced during PSPS or extreme heat events is expected to come from engines regulated by CARB and California's 35 air pollution control and air quality management districts (air districts). [11] Of particular concern are health effects related to emissions from diesel back-up engines.

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[9] Governor of California. 2021. Proclamation of a state of emergency. June 17, 2021.

[10] SCAQMD. 2020. Proposed Amendement To Rules (PARS) 1110.2, 1470, and 1472. Dated December 10, 2020. http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1110.2/1110-2_1470_1472/par1110-2_1470_wgm_121020.pdf?sfvrsn=6.

[11] CARB. 2019. Use of Back-up Engines For Electricity Generation During Public Safety Power Shutoff Events. October 25, 2019.

DPM has been identified as a toxic air contaminant, composed of carbon particles and numerous organic compounds, including over forty known cancer-causing organic substances. The majority of DPM is small enough to be inhaled deep into the lungs and make people more susceptible to further injury.

According to the California Public Utilities Commission (CPUC) de-energization report[12] in October 2019, there were almost ***806 PSPS events*** (emphasis added) that impacted almost 973,000 customers (~7.5% of households in California) of which ~854,000 of them were residential customers. CARB's data also indicated that on average each of these customers had about 43 hours of power outage in October 2019. [13] Using the actual emission factors for each diesel BUG engines in the air district's stationary BUGs database, CARB staff calculated that the 1,810 additional stationary generators (like those proposed for the Project) running during a PSPS in October 2019 generated 126 tons of NOx, 8.3 tons or particulate matter, and 8.3 tons of DPM.

For every PSPS or Extreme Heat Event (EHE) triggered during the operational phase of the project, significant concentrations of DPM will be released that are not accounted for in the City's analysis. In 2021, two EHEs were declared. For the June 17, 2021 EHE, stationary generator owners were allowed to use their BUGs for 48 hours. For the July 9, 2021 EHE, the stationary generator owners were allowed to use their BUGs for 72 hours. These two events would have increased 10 fold the calculated DPM emissions from the Project if only the 12 hours of testing claimed in the Categorical Exemption were to be true. An EIR must be written for the Project that includes an analysis of the additional operation of the BUG that will occur at the project site that is not accounted for in the current air quality analysis.

4. Given The Proximity Of Sensitive Receptors To The Site And The Nature of The Toxic Air Contaminants Emitted, The Operational Emissions From The Back Up Generator Will Cause A Significant Health Risk To Residents Near The Project Site.

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[12] https://www.cpuc.ca.gov/deenergization/ as cited in CARB, 2020. Potential Emission Impact of Public Safety Power Shutoff (PSPS), Emission Impact: Additional Generator Usage associated With Power Outage..

[13] CARB, 2020. Potential Emission Impact of Public Safety Power Shutoff (PSPS), Emission Impact: Additional Generator Usage associated With Power Outage.

No attempt is made by the City to assess how the routine testing and maintenance of the diesel emergency generator would affect the identified sensitive receptors. Using the SCAQMD's Rule 1401 Risk Assessment Programs Risk Tool V1.103 software, it is possible to generate a site-specific screening level HRA for emissions from the back-up generator (BUG). Assuming the system is restricted to maintenance and testing for 12 hours per year or less, the model calculates emissions of DPM of approximately 1.07 lbs per year. This value is the same as the amount reported in the NOE for the operational analysis of the site.

Assuming the generator's emissions will be vented at the ground level, the vent to the generator would be approximately 14 feet above grade level. For the Risk Tool inputs, the stack height (exit point of the generator) was set to 14 feet above grade.

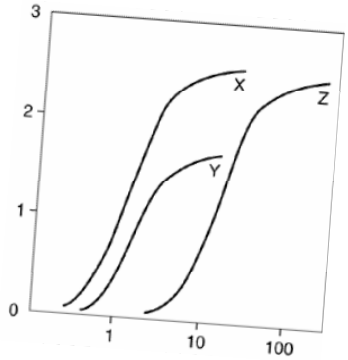
Based on the emission of 1.2 lbs per year of DPM, the SCAQMD Risk Tool calculates a risk of 17.3 in 1,000,000 for residents living within 25 meters of the Project Site. Commercial workers located within 25 meters of the site face a potential health risk of 5.99 in 1,000,000. The model was set to assume T-BACT controls were in place for the generator (control efficiency of 99%).

All of the results for this analysis are presented in Exhibit B to this letter. The City must address this significant error in their air quality analysis and prepare an EIR for the Project.

Conclusion

The facts identified and referenced in this comment letter lead me to reasonably conclude that the Project could result in significant unmitigated impacts if the Categorical Exemption is approved. The City must re-evaluate the significant impacts identified in this letter by requiring the preparation of a revised environmental impact report.

Sincerely,



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James J. J. Clark, Ph.D.

Principal Toxicologist

Toxicology/Exposure Assessment Modeling

Risk Assessment/Analysis/Dispersion Modeling

Education:

Ph.D., Environmental Health Science, University of California, 1995

M.S., Environmental Health Science, University of California, 1993

B.S., Biophysical and Biochemical Sciences, University of Houston, 1987

Professional Experience:

Dr. Clark is a well recognized toxicologist, air modeler, and health scientist. He has 20 years of experience in researching the effects of environmental contaminants on human health including environmental fate and transport modeling (SCREEN3, AEROMOD, ISCST3, Johnson-Ettinger Vapor Intrusion Modeling); exposure assessment modeling (partitioning of contaminants in the environment as well as PBPK modeling); conducting and managing human health risk assessments for regulatory compliance and risk-based clean-up levels; and toxicological and medical literature research.

Significant projects performed by Dr. Clark include the following:

LITIGATION SUPPORT

Case: James Harold Caygle, et al, v. Drummond Company, Inc. Circuit Court for the Tenth Judicial Circuit, Jefferson County, Alabama. Civil Action. CV-2009

Client: Environmental Litgation Group, Birmingham, Alabama

Dr. Clark performed an air quality assessment of emissions from a coke factory located in Tarrant, Alabama. The assessment reviewed include a comprehensive review of air quality standards, measured concentrations of pollutants from factory, an inspection of the facility and detailed assessment of the impacts on the community. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Settlement in favor of plaintiff.

Case: Rose Roper V. Nissan North America, et al. Superior Court of the State Of California for the County Of Los Angeles – Central Civil West. Civil Action. NC041739

Client: Rose, Klein, Marias, LLP, Long Beach, California

Dr. Clark performed a toxicological assessment of an individual occupationally exposed to multiple chemicals, including benzene, who later developed a respiratory distress. A review of the individual's medical and occupational history was performed to prepare an exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to respiratory irritants. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Settlement in favor of plaintiff.

Case: O'Neil V. Sherwin Williams, et al. United States District Court Central District of California

Client: Rose, Klein, Marias, LLP, Long Beach, California

Dr. Clark performed a toxicological assessment of an individual occupationally exposed to petroleum distillates who later developed a bladder cancer. A review of the individual's medical and occupational history was performed to prepare a quantitative exposure assessment. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Summary judgment for defendants.

Case: Moore V., Shell Oil Company, et al. Superior Court of the State Of California for the County Of Los Angeles

Client: Rose, Klein, Marias, LLP, Long Beach, California

Dr. Clark performed a toxicological assessment of an individual occupationally exposed to chemicals while benzene who later developed a leukogenic disease. A review of the individual's medical and occupational history was performed to prepare a quantitative exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to refined petroleum hydrocarbons. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Settlement in favor of plaintiff.

Case: Raymond Saltonstall V. Fuller O'Brien, KILZ, and Zinsser, et al. United States District Court Central District of California

Client: Rose, Klein, Marias, LLP, Long Beach, California

Dr. Clark performed a toxicological assessment of an individual occupationally exposed to benzene who later developed a leukogenic disease. A review of the individual's medical and occupational history was performed to prepare a quantitative exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to refined petroleum hydrocarbons. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Settlement in favor of plaintiff.

Case: Richard Boyer and Elizabeth Boyer, husband and wife, V. DESCO Corporation, et al. Circuit Court of Brooke County, West Virginia. Civil Action Number 04-C-7G.

Client: Frankovitch, Anetakis, Colantonio & Simon, Morgantown, West Virginia.

Dr. Clark performed a toxicological assessment of a family exposed to chlorinated solvents released from the defendant's facility into local drinking water supplies. A review of the individual's medical and occupational history was performed to prepare a qualitative exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to chlorinated solvents. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Settlement in favor of plaintiff.

Case: JoAnne R. Cook, V. DESCO Corporation, et al. Circuit Court of Brooke County, West Virginia. Civil Action Number 04-C-9R

Client: Frankovitch, Anetakis, Colantonio & Simon, Morgantown, West Virginia.

Dr. Clark performed a toxicological assessment of an individual exposed to chlorinated solvents released from the defendant's facility into local drinking water supplies. A review of the individual's medical and occupational history was performed to prepare a qualitative exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to chlorinated solvents. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Settlement in favor of plaintiff.

Case: Patrick Allen And Susan Allen, husband and wife, and Andrew Allen, a minor, V. DESCO Corporation, et al. Circuit Court of Brooke County, West Virginia. Civil Action Number 04-C-W

Client: Frankovitch, Anetakis, Colantonio & Simon, Morgantown, West Virginia.

Dr. Clark performed a toxicological assessment of a family exposed to chlorinated solvents released from the defendant's facility into local drinking water supplies. A review of the individual's medical and occupational history was performed to prepare a qualitative exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to chlorinated solvents. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Settlement in favor of plaintiff.

Case: Michael Fahey, Susan Fahey V. Atlantic Richfield Company, et al. United States District Court Central District of California Civil Action Number CV-06 7109 JCL.

Client: Rose, Klein, Marias, LLP, Long Beach, California

Dr. Clark performed a toxicological assessment of an individual occupationally exposed to refined petroleum hydrocarbons who later developed a leukogenic disease. A review of the individual's medical and occupational history was performed to prepare a qualitative exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to refined petroleum hydrocarbons. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Settlement in favor of plaintiff.

Case: Constance Acevedo, et al., V. California Spray-Chemical Company, et al., Superior Court of the State Of California, County Of Santa Cruz. Case No. CV 146344

Dr. Clark performed a comprehensive exposure assessment of community members exposed to toxic metals from a former lead arsenate manufacturing facility. The former manufacturing site had undergone a DTSC mandated removal action/remediation for the presence of the toxic metals at the site. Opinions were presented regarding the elevated levels of arsenic and lead (in attic dust and soils) found throughout the community and the potential for harm to the plaintiffs in question.

Case Result: Settlement in favor of defendant.

Case: Michael Nawrocki V. The Coastal Corporation, Kurk Fuel Company, Pautler Oil Service, State of New York Supreme Court, County of Erie, Index Number I2001-11247

Client: Richard G. Berger Attorney At Law, Buffalo, New York

Dr. Clark performed a toxicological assessment of an individual occupationally exposed to refined petroleum hydrocarbons who later developed a leukogenic disease. A review of the individual's medical and occupational history was performed to prepare a qualitative exposure assessment. The exposure assessment was evaluated against the

known outcomes in published literature to exposure to refined petroleum hydrocarbons. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Judgement in favor of defendant.

SELECTED AIR MODELING RESEARCH/PROJECTS

Client – Confidential

Dr. Clark performed a comprehensive evaluation of criteria pollutants, air toxins, and particulate matter emissions from a carbon black production facility to determine the impacts on the surrounding communities. The results of the dispersion model will be used to estimate acute and chronic exposure concentrations to multiple contaminants and will be incorporated into a comprehensive risk evaluation.

Client – Confidential

Dr. Clark performed a comprehensive evaluation of air toxins and particulate matter emissions from a railroad tie manufacturing facility to determine the impacts on the surrounding communities. The results of the dispersion model have been used to estimate acute and chronic exposure concentrations to multiple contaminants and have been incorporated into a comprehensive risk evaluation.

Client – Los Angeles Alliance for a New Economy (LAANE), Los Angeles, California

Dr. Clark is advising the LAANE on air quality issues related to current flight operations at the Los Angeles International Airport (LAX) operated by the Los Angeles World Airport (LAWA) Authority. He is working with the LAANE and LAX staff to develop a comprehensive strategy for meeting local community concerns over emissions from flight operations and to engage federal agencies on the issue of local impacts of community airports.

Client – City of Santa Monica, Santa Monica, California

Dr. Clark is advising the City of Santa Monica on air quality issues related to current flight operations at the facility. He is working with the City staff to develop a comprehensive strategy for meeting local community concerns over emissions from flight operations and to engage federal agencies on the issue of local impacts of community airports.

Client: Omnitrans, San Bernardino, California

Dr. Clark managed a public health survey of three communities near transit fueling facilities in San Bernardino and Montclair California in compliance with California Senate Bill 1927. The survey included an epidemiological survey of the effected communities, emission surveys of local businesses, dispersion modeling to determine potential emission concentrations within the communities, and a comprehensive risk assessment of each community. The results of the study were presented to the Governor as mandated by Senate Bill 1927.

Client: Confidential, San Francisco, California

Summarized cancer types associated with exposure to metals and smoking. Researched the specific types of cancers associated with exposure to metals and smoking. Provided causation analysis of the association between cancer types and exposure for use by non-public health professionals.

Client: Confidential, Minneapolis, Minnesota

Prepared human health risk assessment of workers exposed to VOCs from neighboring petroleum storage/transport facility. Reviewed the systems in place for distribution of petroleum hydrocarbons to identify chemicals of concern (COCs), prepared comprehensive toxicological summaries of COCs, and quantified potential risks from carcinogens and non-carcinogens to receptors at or adjacent to site. This evaluation was used in the support of litigation.

Client – United Kingdom Environmental Agency

Dr. Clark is part of team that performed comprehensive evaluation of soil vapor intrusion of VOCs from former landfill adjacent residences for the United Kingdom's Environment

Agency. The evaluation included collection of liquid and soil vapor samples at site, modeling of vapor migration using the Johnson Ettinger Vapor Intrusion model, and calculation of site-specific health based vapor thresholds for chlorinated solvents, aromatic hydrocarbons, and semi-volatile organic compounds. The evaluation also included a detailed evaluation of the use, chemical characteristics, fate and transport, and toxicology of chemicals of concern (COC). The results of the evaluation have been used as a briefing tool for public health professionals.

EMERGING/PERSISTENT CONTAMINANT RESEARCH/PROJECTS

Client: Ameren Services, St. Louis, Missouri

Managed the preparation of a comprehensive human health risk assessment of workers and residents at or near an NPL site in Missouri. The former operations at the Property included the servicing and repair of electrical transformers, which resulted in soils and groundwater beneath the Property and adjacent land becoming impacted with PCB and chlorinated solvent compounds. The results were submitted to U.S. EPA for evaluation and will be used in the final ROD.

Client: City of Santa Clarita, Santa Clarita, California

Dr. Clark is managing the oversight of the characterization, remediation and development activities of a former 1,000 acre munitions manufacturing facility for the City of Santa Clarita. The site is impacted with a number of contaminants including perchlorate, unexploded ordinance, and volatile organic compounds (VOCs). The site is currently under a number of regulatory consent orders, including an Immanent and Substantial Endangerment Order. Dr. Clark is assisting the impacted municipality with the development of remediation strategies, interaction with the responsible parties and stakeholders, as well as interfacing with the regulatory agency responsible for oversight of the site cleanup.

Client: Confidential, Los Angeles, California

Prepared comprehensive evaluation of perchlorate in environment. Dr. Clark evaluated the production, use, chemical characteristics, fate and transport, toxicology, and remediation of perchlorate. Perchlorates form the basis of solid rocket fuels and have recently been detected in water supplies in the United States. The results of this research

were presented to the USEPA, National GroundWater, and ultimately published in a recent book entitled *Perchlorate in the Environment.*

Client – Confidential, Los Angeles, California

Dr. Clark is performing a comprehensive review of the potential for pharmaceuticals and their by-products to impact groundwater and surface water supplies. This evaluation will include a review if available data on the history of pharmaceutical production in the United States; the chemical characteristics of various pharmaceuticals; environmental fate and transport; uptake by xenobiotics; the potential effects of pharmaceuticals on water treatment systems; and the potential threat to public health. The results of the evaluation may be used as a briefing tool for non-public health professionals.

PUBLIC HEALTH/TOXICOLOGY

Client: Brayton Purcell, Novato, California

Dr. Clark performed a toxicological assessment of residents exposed to methyl-tertiary butyl ether (MTBE) from leaking underground storage tanks (LUSTs) adjacent to the subject property. The symptomology of residents and guests of the subject property were evaluated against the known outcomes in published literature to exposure to MTBE. The study found that residents had been exposed to MTBE in their drinking water; that concentrations of MTBE detected at the site were above regulatory guidelines; and, that the symptoms and outcomes expressed by residents and guests were consistent with symptoms and outcomes documented in published literature.

Client: Confidential, San Francisco, California

Identified and analyzed fifty years of epidemiological literature on workplace exposures to heavy metals. This research resulted in a summary of the types of cancer and non-cancer diseases associated with occupational exposure to chromium as well as the mortality and morbidity rates.

Client: Confidential, San Francisco, California

Summarized major public health research in United States. Identified major public health research efforts within United States over last twenty years. Results were used as a briefing tool for non-public health professionals.

Client: Confidential, San Francisco, California

Quantified the potential multi-pathway dose received by humans from a pesticide applied indoors. Part of team that developed exposure model and evaluated exposure concentrations in a comprehensive report on the plausible range of doses received by a specific person. This evaluation was used in the support of litigation.

Client: Covanta Energy, Westwood, California

Evaluated health risk from metals in biosolids applied as soil amendment on agricultural lands. The biosolids were created at a forest waste cogeneration facility using 96% whole tree wood chips and 4 percent green waste. Mass loading calculations were used to estimate Cr(VI) concentrations in agricultural soils based on a maximum loading rate of 40 tons of biomass per acre of agricultural soil. The results of the study were used by the Regulatory agency to determine that the application of biosolids did not constitute a health risk to workers applying the biosolids or to residences near the agricultural lands.

Client – United Kingdom Environmental Agency

Oversaw a comprehensive toxicological evaluation of methyl-*tertiary* butyl ether (M*t*BE) for the United Kingdom's Environment Agency. The evaluation included available data on the production, use, chemical characteristics, fate and transport, toxicology, and remediation of M*t*BE. The results of the evaluation have been used as a briefing tool for public health professionals.

Client – Confidential, Los Angeles, California

Prepared comprehensive evaluation of *tertiary* butyl alcohol (TBA) in municipal drinking water system. TBA is the primary breakdown product of M*t*BE, and is suspected to be the primary cause of M*t*BE toxicity. This evaluation will include available information on the production, use, chemical characteristics, fate and transport in the environment, absorption, distribution, routes of detoxification, metabolites, carcinogenic potential, and remediation of TBA. The results of the evaluation were used as a briefing tool for non-public health professionals.

Client – Confidential, Los Angeles, California

Prepared comprehensive evaluation of methyl *tertiary* butyl ether (MTBE) in municipal drinking water system. MTBE is a chemical added to gasoline to increase the octane

rating and to meet Federally mandated emission criteria. The evaluation included available data on the production, use, chemical characteristics, fate and transport, toxicology, and remediation of MTBE. The results of the evaluation have been were used as a briefing tool for non-public health professionals.

Client – Ministry of Environment, Lands & Parks, British Columbia

Dr. Clark assisted in the development of water quality guidelines for methyl tertiary-butyl ether (MTBE) to protect water uses in British Columbia (BC). The water uses to be considered includes freshwater and marine life, wildlife, industrial, and agricultural (e.g., irrigation and livestock watering) water uses. Guidelines from other jurisdictions for the protection of drinking water, recreation and aesthetics were to be identified.

Client: Confidential, Los Angeles, California

Prepared physiologically based pharmacokinetic (PBPK) assessment of lead risk of receptors at middle school built over former industrial facility. This evaluation is being used to determine cleanup goals and will be basis for regulatory closure of site.

Client: Kaiser Venture Incorporated, Fontana, California

Prepared PBPK assessment of lead risk of receptors at a 1,100-acre former steel mill. This evaluation was used as the basis for granting closure of the site by lead regulatory agency.

RISK ASSESSMENTS/REMEDIAL INVESTIGATIONS

Client: Confidential, Atlanta, Georgia

Researched potential exposure and health risks to community members potentially exposed to creosote, polycyclic aromatic hydrocarbons, pentachlorophenol, and dioxin compounds used at a former wood treatment facility. Prepared a comprehensive toxicological summary of the chemicals of concern, including the chemical characteristics, absorption, distribution, and carcinogenic potential. Prepared risk characterization of the carcinogenic and non-carcinogenic chemicals based on the exposure assessment to quantify the potential risk to members of the surrounding community. This evaluation was used to help settle class-action tort.

Client: Confidential, Escondido, California

Prepared comprehensive Preliminary Endangerment Assessment (PEA) of dense non-aqueous liquid phase hydrocarbon (chlorinated solvents) contamination at a former printed circuit board manufacturing facility. This evaluation was used for litigation support and may be used as the basis for reaching closure of the site with the lead regulatory agency.

Client: Confidential, San Francisco, California

Summarized epidemiological evidence for connective tissue and autoimmune diseases for product liability litigation. Identified epidemiological research efforts on the health effects of medical prostheses. This research was used in a meta-analysis of the health effects and as a briefing tool for non-public health professionals.

Client: Confidential, Bogotá, Columbia

Prepared comprehensive evaluation of the potential health risks associated with the redevelopment of a 13.7 hectares plastic manufacturing facility in Bogotá, Colombia The risk assessment was used as the basis for the remedial goals and closure of the site.

Client: Confidential, Los Angeles, California

Prepared comprehensive human health risk assessment of students, staff, and residents potentially exposed to heavy metals (principally cadmium) and VOCs from soil and soil vapor at 12-acre former crude oilfield and municipal landfill. The site is currently used as a middle school housing approximately 3,000 children. The evaluation determined that the site was safe for the current and future uses and was used as the basis for regulatory closure of site.

Client: Confidential, Los Angeles, California

Managed remedial investigation (RI) of heavy metals and volatile organic chemicals (VOCs) for a 15-acre former manufacturing facility. The RI investigation of the site included over 800 different sampling locations and the collection of soil, soil gas, and groundwater samples. The site is currently used as a year round school housing approximately 3,000 children. The Remedial Investigation was performed in a manner

that did not interrupt school activities and met the time restrictions placed on the project by the overseeing regulatory agency. The RI Report identified the off-site source of metals that impacted groundwater beneath the site and the sources of VOCs in soil gas and groundwater. The RI included a numerical model of vapor intrusion into the buildings at the site from the vadose zone to determine exposure concentrations and an air dispersion model of VOCs from the proposed soil vapor treatment system. The Feasibility Study for the Site is currently being drafted and may be used as the basis for granting closure of the site by DTSC.

Client: Confidential, Los Angeles, California

Prepared comprehensive human health risk assessment of students, staff, and residents potentially exposed to heavy metals (principally lead), VOCs, SVOCs, and PCBs from soil, soil vapor, and groundwater at 15-acre former manufacturing facility. The site is currently used as a year round school housing approximately 3,000 children. The evaluation determined that the site was safe for the current and future uses and will be basis for regulatory closure of site.

Client: Confidential, Los Angeles, California

Prepared comprehensive evaluation of VOC vapor intrusion into classrooms of middle school that was former 15-acre industrial facility. Using the Johnson-Ettinger Vapor Intrusion model, the evaluation determined acceptable soil gas concentrations at the site that did not pose health threat to students, staff, and residents. This evaluation is being used to determine cleanup goals and will be basis for regulatory closure of site.

Client –Dominguez Energy, Carson, California

Prepared comprehensive evaluation of the potential health risks associated with the redevelopment of 6-acre portion of a 500-acre oil and natural gas production facility in Carson, California. The risk assessment was used as the basis for closure of the site.

Kaiser Ventures Incorporated, Fontana, California

Prepared health risk assessment of semi-volatile organic chemicals and metals for a fifty-year old wastewater treatment facility used at a 1,100-acre former steel mill. This evaluation was used as the basis for granting closure of the site by lead regulatory agency.

ANR Freight - Los Angeles, California

Prepared a comprehensive Preliminary Endangerment Assessment (PEA) of petroleum hydrocarbon and metal contamination of a former freight depot. This evaluation was as the basis for reaching closure of the site with lead regulatory agency.

Kaiser Ventures Incorporated, Fontana, California

Prepared comprehensive health risk assessment of semi-volatile organic chemicals and metals for 23-acre parcel of a 1,100-acre former steel mill. The health risk assessment was used to determine clean up goals and as the basis for granting closure of the site by lead regulatory agency. Air dispersion modeling using ISCST3 was performed to determine downwind exposure point concentrations at sensitive receptors within a 1 kilometer radius of the site. The results of the health risk assessment were presented at a public meeting sponsored by the Department of Toxic Substances Control (DTSC) in the community potentially affected by the site.

Unocal Corporation - Los Angeles, California

Prepared comprehensive assessment of petroleum hydrocarbons and metals for a former petroleum service station located next to sensitive population center (elementary school). The assessment used a probabilistic approach to estimate risks to the community and was used as the basis for granting closure of the site by lead regulatory agency.

Client: Confidential, Los Angeles, California

Managed oversight of remedial investigation most contaminated heavy metal site in California. Lead concentrations in soil excess of 68,000,000 parts per billion (ppb) have been measured at the site. This State Superfund Site was a former hard chrome plating operation that operated for approximately 40-years.

Client: Confidential, San Francisco, California

Coordinator of regional monitoring program to determine background concentrations of metals in air. Acted as liaison with SCAQMD and CARB to perform co-location sampling and comparison of accepted regulatory method with ASTM methodology.

Client: Confidential, San Francisco, California

Analyzed historical air monitoring data for South Coast Air Basin in Southern California and potential health risks related to ambient concentrations of carcinogenic metals and volatile organic compounds. Identified and reviewed the available literature and calculated risks from toxins in South Coast Air Basin.

IT Corporation, North Carolina

Prepared comprehensive evaluation of potential exposure of workers to air-borne VOCs at hazardous waste storage facility under SUPERFUND cleanup decree. Assessment used in developing health based clean-up levels.

Professional Associations

American Public Health Association (APHA)
Association for Environmental Health and Sciences (AEHS)
American Chemical Society (ACS)
California Redevelopment Association (CRA)
International Society of Environmental Forensics (ISEF)
Society of Environmental Toxicology and Chemistry (SETAC)

Publications and Presentations:

Books and Book Chapters

Sullivan, P., **J.J. J. Clark,** F.J. Agardy, and P.E. Rosenfeld. (2007). *Synthetic Toxins In The Food, Water and Air of American Cities*. Elsevier, Inc. Burlington, MA.

Sullivan, P. and **J.J. J. Clark**. 2006. *Choosing Safer Foods, A Guide To Minimizing Synthetic Chemicals In Your Diet*. Elsevier, Inc. Burlington, MA.

Sullivan, P., Agardy, F.J., and **J.J.J. Clark**. 2005. *The Environmental Science of Drinking Water*. Elsevier, Inc. Burlington, MA.

Sullivan, P.J., Agardy, F.J., **Clark, J.J.J.** 2002. *America's Threatened Drinking Water: Hazards and Solutions*. Trafford Publishing, Victoria B.C.

Clark, J.J.J. 2001. "TBA: Chemical Properties, Production & Use, Fate and Transport, Toxicology, Detection in Groundwater, and Regulatory Standards" in *Oxygenates in the Environment.* Art Diaz, Ed.. Oxford University Press: New York.

Clark, J.J.J. 2000. "Toxicology of Perchlorate" in *Perchlorate in the Environment.* Edward Urbansky, Ed. Kluwer/Plenum: New York.

Clark, J.J.J. 1995. Probabilistic Forecasting of Volatile Organic Compound Concentrations At The Soil Surface From Contaminated Groundwater. UMI.

Baker, J.; **Clark, J.J.J.**; Stanford, J.T. 1994. Ex Situ Remediation of Diesel Contaminated Railroad Sand by Soil Washing. Principles and Practices for Diesel Contaminated Soils, Volume III. P.T. Kostecki, E.J. Calabrese, and C.P.L. Barkan, eds. Amherst Scientific Publishers, Amherst, MA. pp 89-96.

Journal and Proceeding Articles

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008) A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equialency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. Organohalogen Compounds, Volume 70 (2008) page 002254.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008) Methods For Collect Samples For Assessing Dioxins And Other Environmental Contaminants In Attic Dust: A Review. Organohalogen Compounds, Volume 70 (2008) page 000527

Hensley A.R., Scott, A., Rosenfeld P.E., **Clark, J.J.J.** (2007). "Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility." *Environmental Research.* 105:194-199.

Rosenfeld, P.E., **Clark, J. J.,** Hensley, A.R., and Suffet, I.H. 2007. "The Use Of An Odor Wheel Classification For The Evaluation of Human Health Risk Criteria For Compost Facilities" Water Science & Technology. 55(5): 345-357.

Hensley A.R., Scott, A., Rosenfeld P.E., **Clark, J.J.J.** 2006. "Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility." The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006, August 21 – 25, 2006. Radisson SAS Scandinavia Hotel in Oslo Norway.

Rosenfeld, P.E., **Clark, J. J.** and Suffet, I.H. 2005. "The Value Of An Odor Quality Classification Scheme For Compost Facility Evaluations" The U.S. Composting Council's 13th Annual Conference January 23 - 26, 2005, Crowne Plaza Riverwalk, San Antonio, TX.

Rosenfeld, P.E., **Clark, J. J.** and Suffet, I.H. 2004. "The Value Of An Odor Quality Classification Scheme For Urban Odor" WEFTEC 2004. 77th Annual Technical Exhibition & Conference October 2 - 6, 2004, Ernest N. Morial Convention Center, New Orleans, Louisiana.

Clark, J.J.J. 2003. "Manufacturing, Use, Regulation, and Occurrence of a Known Endocrine Disrupting Chemical (EDC), 2,4-Dichlorophnoxyacetic Acid (2,4-D) in California Drinking Water Supplies." National Groundwater Association Southwest Focus Conference: Water Supply and Emerging Contaminants. Minneapolis, MN. March 20, 2003.

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Browne, T., **Clark, J.J.J.** 1998. Treatment Options For Perchlorate In Drinking Water. Proceedings From the Groundwater Resource Association Seventh Annual Meeting, Walnut Creek, CA, October 23, 1998.

Clark, J.J.J., Brown, A., Rodriguez, R. 1998. The Public Health Implications of MtBE and Perchlorate in Water: Risk Management Decisions for Water Purveyors. Proceedings of the National Ground Water Association, Anaheim, CA, June 3-4, 1998.

Clark J.J.J., Brown, A., Ulrey, A. 1997. Impacts of Perchlorate On Drinking Water In The Western United States. U.S. EPA Symposium on Biological and Chemical Reduction of Chlorate and Perchlorate, Cincinnati, OH, December 5, 1997.

Clark, J.J.J.; Corbett, G.E.; Kerger, B.D.; Finley, B.L.; Paustenbach, D.J. 1996. Dermal Uptake of Hexavalent Chromium In Human Volunteers: Measures of Systemic Uptake From Immersion in Water At 22 PPM. Toxicologist. 30(1):14.

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EXHIBIT B

WILSON IHRIG
ACOUSTICS, NOISE & VIBRATION

CALIFORNIA
WASHINGTON
NEW YORK

WI #22-005.23

October 4th, 2022

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SUBJECT: 216 South Spring Project Categorical Exemption, Comments on the Noise Analysis

Dear Mr. Marshall,

Per your request, I have reviewed the subject matter document for the 216 South Spring Project Categorical Exemption (CatEx) in Los Angeles, California. The proposed Project involves demolition of one existing commercial building and the construction, use and maintenance of a 17-story mixed-use building. The Noise Impact Analysis is contained in Section 4.0, subheading d of the CatEx, with supplemental calculations in Attachment 3.

The Project is surrounded by noise sensitive uses – residences within one block on the northeast, southwest, and east, as well as a church to the east, a (closed) movie theatre to the southeast, and offices to the north. The closest residence is the Higgins Building at 108 W 2nd St, roughly 20 feet across an alley at the closest point

Baseline Noise Level characterizations are Incomplete

The noise analysis relies on short-term measurements of 15-minute duration. In order to conduct the CEQA analysis, the baseline must be established for evening, and possibly nighttime conditions. Social events in the roof deck terrace with pool and lounge spaces could occur during evening hours, and rooftop equipment could also operate during evening and nighttime conditions. Without this data, it is not possible to evaluate the significance of noise sources operating during non-daytime hours.

Furthermore, the noise analysis relies on these short-term measurements without any discussion of how typical these data were for daytime conditions or how they would apply to evening or nighttime conditions. Environmental noise can vary widely throughout the day (perhaps +/-10 dBA or more for areas with intermittent local traffic), and relying on measurements that represent only 2% of the daytime hours (7 AM to 7 PM) leaves quite a lot for interpretation

Thresholds of Significance are Not Properly Developed

Per CEQA[1], the CE can only be applied to projects which have no significant effects:

14 CCR § 15300

§ 15300. Categorical Exemptions.

Section 21084 of the Public Resources Code requires these guidelines to include a list of classes of projects which have been determined not to have a significant effect on the environment and which shall, therefore, be exempt from the provisions of CEQA.
In response to that mandate, the Secretary for Resources has found that the following classes of projects listed in this article do not have a significant effect on the environment, and they are declared to be categorically exempt from the requirement for the preparation of environmental documents.

Note: Authority cited: Section 21083, Public Resources Code. Reference: Section 21084, Public Resources Code.

Figure 1 CEQA Section 15300

Thus, a project that has significant, or **potentially significant**, effects cannot qualify for a categorical exemption. The City of Los Angeles Planning website[2] confirms that infill development projects (Class 32) that have significant noise impacts do not qualify for exemption from CEQA. (See Figure 2 and 3)

WHAT IS A CATEGORICAL EXEMPTION?
Every discretionary action requires environmental review pursuant to CEQA. However, the CEQA Guidelines include a list of classes of projects which have been determined to not have a significant effect on the environment, also known as Categorical Exemptions. If your project falls within one of these classes, it is exempt from the provisions of CEQA and no environmental review is required unless one of the exceptions in CEQA Guideline Section 15300.2 applies (discussed below).

WHAT IS THE CLASS 32 CATEGORICAL EXEMPTION?
The Class 32 "Infill" Categorical Exemption (CEQA Guideline Section 15332), hereafter referred to as the Class 32 Exemption, exempts infill development within urbanized areas if it meets certain criteria. The class consists of environmentally benign infill projects that are consistent with the General Plan and Zoning requirements. This class is not intended for projects that would result in any significant traffic, noise, air quality, or water quality impacts. This exemption is not limited to any use type and may apply to residential, commercial, industrial, public facility, and/or mixed-use projects.

Figure 2 City of LA Planning Document Regarding Class 32 Exemptions [3]

Incomplete CNELs

Based on a recent CEQA document published by the City of Los Angeles[4], these standard Los Angeles CEQA thresholds were omitted from the CE document:

[1] https://opr.ca.gov/ceqa/
[2] https://planning.lacity.org/development-services/environmental-review#
[3] https://planning.lacity.org/odocument/ad70d15e-11b8-49ef-aba3-b168f670a576/Class%2032%20Categorical%20Exemption.pdf
[4] In March 2022, City of Los Angeles Department of City Planning issued an Initial Study/Mitigated Negative Declaration (ISMND) for the Melrose and Seward project citing tiered noise increase thresholds for off-site operational traffic noise, and a 3 dB increase limit in the CNEL for stationary noise. https://planning.lacity.org/odocument/662769bf-8702-4acd-9c2b-d96b9845e464/ENV-2021-2909-MND.pdf

Significance Criteria

Noise impacts shall be considered significant if any of the following occur as a direct result of the Project.

Off-Site Operational Traffic Noise

- When the noise levels at existing and future noise-sensitive land uses (e.g., residential, etc.):

- are less than 60 dBA CNEL and the Project creates a readily perceptible 5 dBA CNEL or greater Project-related noise level increase; or
- range from 60 to 65 dBA CNEL and the Project creates a barely perceptible 3 dBA CNEL or greater Project-related noise level increase; or
- already exceed 65 dBA CNEL, and the Project creates a community noise level impact of greater than 1.5 dBA CNEL (FICON, 1992).

In order to conduct the CEQA analysis, the baseline Ldn or CNEL must be established, and Table 8 (page 58) must provide the Ldn or CNEL.

Sleep Disturbance Threshold is Missing

Any nighttime activities should also be evaluated for potential sleep disturbance which could be caused by social events at the rooftop terrace areas. Sleep disturbance being noises which may not cause a person to become fully awake, but instead change a person's sleep from one deeper level of sleep to a less restful level of sleep. Although the health effects of noise are not taken as seriously in the United States as they are in other countries, they are real and, in many parts of the country, pervasive. Noise can disturb sleep by making it more difficult to fall asleep, by waking someone after they are asleep, or by altering their sleep stage, e.g., reducing the amount of rapid eye movement (REM) sleep. Noise exposure for people who are sleeping has also been linked to increased blood pressure, increased heart rate, increase in body movements, and other physiological effects. Not surprisingly, people whose sleep is disturbed by noise often experience secondary effects such as increased fatigue, depressed mood, and decreased work performance.

Thus, excessive noise from rooftop activities occurring between 10 PM and 7 AM could cause sleep disturbance and would be potentially significant. The World Health Organization[5] identifies a guidance of 45 dBA Leq (outdoors) to avoid sleep disturbance from a continuous source, and a limit of 60 dBA Lmax for intermittent sources[6]. However, it has been our experience that low frequency bass notes, commonly found in music played at lounges, can problematic even when the A-weighted level complies with applicable code. This is partly because the low frequencies pass through the

[5] https://www.who.int/docstore/peh/noise/Comnoise-1.pdf

[6] These outdoor levels assume that the residence reduces noise by 15 dBA with windows open, which is typical for conventional construction.

exterior walls and closed windows with little reduction. The City of San Francisco[7] limits low frequency noise increase from this type of use to 8 dB on a C-weighted basis. To illustrate this issue, Figure 1 shows noise measurement taken when music was playing at a hotel rooftop/poolside lounge. The nearby plaza was at ground level about 150 to 250 ft from the nearest subwoofers. Even several blocks away the low frequency pulse of the music was 6 decibels higher than the non-music ambient.

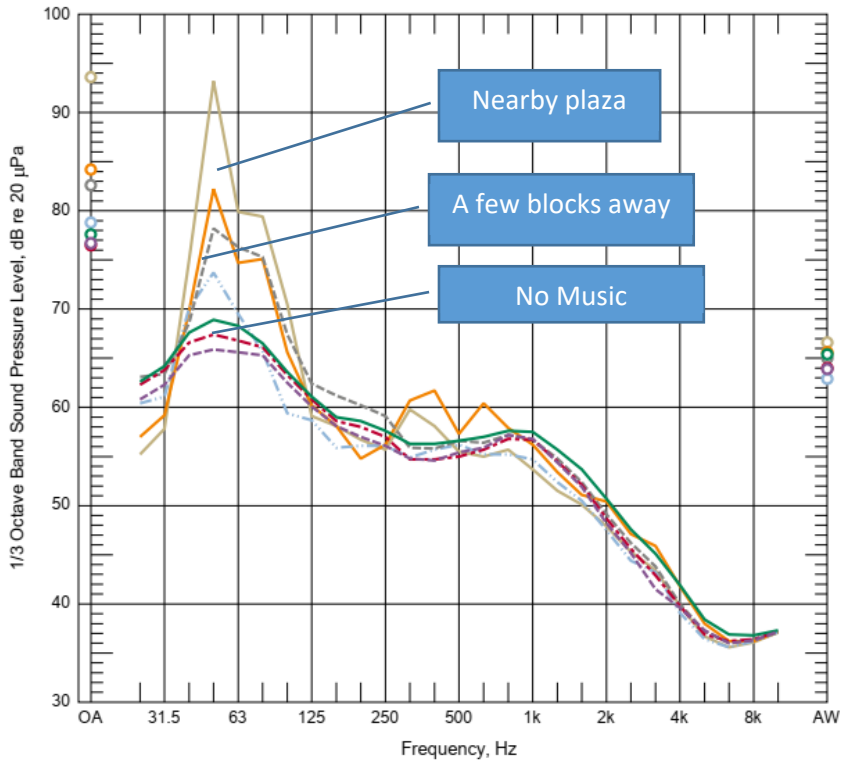

Figure 3 Sample Exterior Noise Near an Urban Hotel Lounge (L_{25})

The document cites no objective criterion to evaluate rooftop noise, and no criteria to evaluate potential sleep disturbance have been presented. A noise increase threshold, for the Project and the cumulative evaluations of nearby noise levels, compounds one on top of another and would potentially lead to a substantial and significant noise impact.

Impact Analyses are Incomplete

Construction Noise

There are a few errors with the construction noise analysis. The first is the aforementioned problem that the sound levels are based on a fifteen-minute sample. This amount of time may not be representative of the loudest times of day, and thus the most sensitive limits.

Another is the assumption of 15 dBA of shielding in the noise calculations. The document explicitly states that this is a "noise barrier" and thus could already be considered mitigation since it is relied upon to reduce construction noise levels. Additionally, even if implemented, this barrier would not

[7] https://codelibrary.amlegal.com/codes/san_francisco/latest/sf_police/0-0-0-6511

provide line of sight shielding for receivers on the top floor of the Higgins Building. Assuming the barrier is 8 feet high, receivers on the second floor or above would be able to look directly over the barrier onto the property and receive no benefit from the shielding effects. A sample calculation, taken from the Roadway Construction Noise Model (RCNM) is presented below. Calculations were performed on the 3rd floor, as a conservative estimate to avoid any barrier effects.

Table 1: RCNM Results for Worst-case Construction Scenario on the 3rd Floor of the Higgins Building

Description	Usage (%)	Spec Max (dBA)	Actual Max (dBA)	Receptor Distance to Project Site (Feet)	Receptor Height Above Project (Feet)	Receptor Distance to Centerline of Project Site (Feet)	Calculated LEQ (dBA)
Concrete / Industrial Saw	20	90	90	20	30	86	77.9
Dozer	40	85	82	20	30	86	73.0

Table 2: Impact Analysis for Worst-case Construction Scenario on the 3rd Floor of the Higgins Building

Calculated Noise Level (dBA)	Ambient Noise Level (dBA)	Level Above Ambient (dBA)	Impact Threshold (dBA)	Impact?
79.1	61.3	17.8	>5	YES

Based on the worst-case scenario, more mitigation would be needed.

Another problem is that the analysis follows the Construction Noise Quantitative General Assessment Guidelines of the FTA Transit Noise and Vibration Impact Manual. As part of this analysis, only the two loudest pieces of equipment are used per stage of construction, measured at the center of the project site. Using all equipment that is planned to be used during each construction stage and assuming the equipment will be moving around the site in different locations, both reasonable and common assumptions based on how construction sites can work, produces significant impacts that exceed the threshold.

Rooftop Deck/Terrace

Similarly, the noise analysis from the rooftop deck/terrace must be reconsidered. The document states that "it is unlikely that the Proposed Project would operate at such full capacity often or for a prolonged period of time that it would result in excessive crowd noise" and states that this area could accommodate "up to 60 people". But the document fails to include analysis quantifying or otherwise characterizing the noise levels generated by use of the rooftop deck.

These noise levels could easily be much more than 5 dBA higher than the daytime noise levels shown in Table 8 (page 58), and in the absence of ambient data during evening (or nighttime) conditions, these could also be much more than 5 dBA higher than the existing evening (or nighttime) ambient. Thus, noise from the rooftop deck/terrace could be potentially significant based on information provided.

Rooftop Equipment

The CatEx cites an expectation that the project HVAC equipment would be similar to what is on site, since the existing site is a two-story commercial building this is not a fair comparison. The existing equipment are very different in size and character from what would be required for a 17-story residential structure. For instance the Project equipment would operate during the nighttime hours, whereas HVAC for commercial office buildings can be shutdown at night.

In our experience, there would be several mechanical units on the rooftop. Such equipment could include air cooled condenser fans with a typical sound rating of 85 sound power level (PWL), and several make up air fans as large as 40,000 cubic feet per minute (CFM) (90 dBA PWL). A combination of two or more fans would generate a noise level on the order of 65 dBA at a distance of 20 ft. In the absence of ambient data during evening (or nighttime) conditions, these could also be much more than 5 dBA higher than the existing evening (or nighttime) ambient. Noise from rooftop equipment would be potentially significant and should be evaluated with more specific information.

Additionally, the document states that "the on-site equipment would be designed and located such that they would be appropriately shielded and fitted with noise muffling devices to reduce operational noise levels" This implies mitigation, which means the project cannot be covered by a categorical exemption.

Structural Groundborune Vibration

This project shares a property line with two adjacent buildings, and as such construction vibration could trigger and impact and should be studied. There is no mention of pile driving, which is a preferred construction technique for large buildings like this. Pile driving would have the potential to cross damage thresholds for nearby buildings, and mitigation methods and possibly measurements would very likely be required.

Conclusions

There are several errors and omissions in the CatEx noise analysis. Correcting these would potentially identify several significant impacts which require mitigation.

Please feel free to contact me with any questions on this information.

Very truly yours,

WILSON IHRIG

Jack Meighan
Associate

216 South Spring Project Categorical Exemption, Comments on the Noise Analysis.docx

WILSON IHRIG
ACOUSTICS, NOISE & VIBRATION

JACK MEIGHAN

Associate

Jack joined Wilson Ihrig in 2021 and is an experienced acoustics engineer with expertise in projects involving rail transit systems, highways, CEQA analysis, environmental noise reduction, mechanical drawing reviews, and construction noise and vibration mitigation. He has hands-on experience with project management, including client coordination and presentations, as well as in designing, developing, and testing MATLAB code used in acoustics applications. Additionally, his expertise includes taking field measurements, developing test plans and specifying, purchasing, setting up and repairing acoustic measurement equipment. He has experience in using Traffic Noise Model (TNM), CadnaA, EASE, Visual Basic, LabView, and CAD software.

Education

- B.S. in Mechanical Engineering, University of Southern California, Los Angeles, CA

Project Experience

Metro Regional Connector, Los Angeles CA
Planned, took, and processed measurements as part of a team to determine the effectiveness of floating slab trackwork for a new subway in downtown Los Angeles that travels below the Walt Disney Concert Hall and the Colburn School of Music.

Rodeo Credit Enterprise CEQA Analysis for New Construction, Palmdale, CA
Wrote an accepted proposal and executed it for a noise study project to determine noise mitigation requirements on a new housing development. Led all aspects of the project and managed the budget during all phases of project completion. Completed 5 separate projects of this type for this developer.

Blackhall Studios, Santa Clarita, CA
Led the vibration measurement effort for a new soundstage directly adjacent to an existing freight and commuter rail line. Tested equipment, processed data, and analyzed results to determine the vibration propagation through the soil to the proposed soundstage locations, and was part of the team that developed mitigation techniques for the office spaces directly next to the rail line.

Octavia Residential Condos CEQA Study, San Francisco, CA
Calculated the STC ratings for the proposed windows to meet Title 24 requirements, modeled the acoustic performance of floor and ceiling structures, researched noise codes, helped with a mechanical design review, and wrote a report summarizing the results for a new Condominium project being developed in San Francisco.

San Diego International Airport Terminal I Replacement, CA
Conducted interior noise and vibration measurements, analyzed measurement data to help determine project criteria, modeled the existing and future terminals in CadnaA, and was part of a team that did a complete HVAC analysis of the entire terminal, as part of a CEQA analysis where a new terminal for the airport is being designed.

Five Points Apartments Noise Study, Whittier, CA
Took measurements, researched sound data and solutions, and recommended mitigation for a new apartment complex that was located next to an existing car wash, as part of a CEQA review.

USC Ellison Vibration Survey, Los Angeles, CA
Conducted vibration measurements as part of a survey to determine the effectiveness of vibration isolation platforms that are used to insulate cell growth in a cancer research facility. Determined the effectiveness and presented this information to the client. Researched and recommended a permanent monitoring system so the client could view data in real time.

TEN50 Condos 'Popping' Noise Investigation, Los Angeles, CA
Was part of a team that investigated the noise source of an unwanted popping noise in luxury condos in Downtown Los Angeles. Helped isolate the noise source location with accelerometers to determine where vibrations were occurring first and used an acoustic camera to determine where in the condo the noise was coming from.

2000 University Project, Berkely, CA
Wrote a construction noise monitoring plan based on environmental noise calculations, wrote a report summarizing the results, and attending a meeting with the client to discuss options.

Bay Area Rapid Transit (BART) On-Track, CA, San Francisco Bay Area, CA*
Day to day project manager, responsible for meetings, presentations, and coordination with the client for an ongoing noise study on the BART system. Developed MATLAB code to process measurements and determine areas where high corrugation was present, contributing to excessively high in-car noise levels. Performed noise measurements inside both the right of way and the vehicle cabin, in addition to rail corrugation measurements.

California I-605/SR-60 Interchange Improvement, Los Angeles, CA*
Developed a noise model of the area that predicted sound levels for abatement design, in addition to conducting noise measurements and analysis. Led the Team in use of the FHWA Traffic Noise Model Software for the project, involving three major highways and two busy interchanges extending over 17 miles in southern California.

Sound Transit On-Track, Seattle, WA*
Took measurements, fixed equipment, and developed software in MATLAB to process Corrugation Analysis Trolley measurements as part of an ongoing noise study on the Sound Transit Link system. Tested vibration data to determine the best measurement and processing techniques to store the data in an online database for in-car measurements.

LA Metro CRRC Railcar Testing, Los Angeles, CA*
Led the effort to plan the measurements, determine measurement locations and finalize the test plan. Formulated a method to capture speed data directly from legacy train vehicles. Executed noise and vibration specification measurements for new rail cars delivered by CRRC.

City of Los Angeles, Pershing Square Station Rehabilitation Noise Monitoring, CA*
Built noise models, wrote a construction noise plan, and assisted in on-site construction noise issues as they arose for a renovation of the Pershing Square metro station in downtown Los

** Work done prior to working for Wilson Ihrig*

Angeles. Trained construction personnel in techniques for noise reduction and how to conduct noise monitoring measurements to meet project specifications.

City of Orange Metrolink Parking Garage Construction Monitoring, CA*
Wrote an adaptive management vibration monitoring plan, set up equipment to monitor live vibration levels, and generated weekly reports as part of an effort to build a new parking garage. Designed, planned, and completed measurements to predict and mitigate pile driving construction impacts at three historic building locations adjacent to the construction site. Coordinated with the client whenever an on-site problem arose.

LA Metro Westside Subway Construction, Los Angeles, CA*
Planned, organized, and processed noise measurements for the Purple Line extension construction. Implemented both long term microphones to measure noise levels and accelerometers to measure vibration levels in existing subway tunnels. Oversaw noise monitoring at sensitive construction sites for the project and worked with the contractor to find ways to reduce construction noise levels by approximately 10dB.

Montreal Réseau Express Métropolitain, Canada*
Conducted vibration propagation measurements used to create models to predict operational vibration levels for an under-construction transit line. Managed equipment, solved problems in the field, and wrote parts of the report summarizing the findings of the acoustic study.

NHCRP Barrier*
Took on-highway measurements and wrote, designed, developed, and tested MATLAB code to identify specific spectrograms to use for analyses for a project evaluating barrier reflected highway traffic noise differences in the presence of a single absorptive or reflective noise barrier.

Siemens Railcar Testing for Sound Transit, Seattle, WA*
Measured in-car noise and vibration for new rail cars delivered by Siemens. Developed new internal techniques for measurements based on the written specifications. Contributed to the team that helped identify issues that new cars had in meeting the Sound Transit specifications for noise and vibration. Participated in developing the test plan and specified then acquired new equipment for the measurement.

Toronto/Ontario Eglinton Crosstown Light Rail, Final Design, Canada*
Assisted in vibration propagation measurements, analysis, and recommendations for mitigation for a 12-mile light-rail line both on and under Eglinton Avenue. Set up and ran equipment for at-grade measurements with an impact hammer for underground measurements with an impact load cell that was used during pre-construction borehole drilling.

** Work done prior to working for Wilson Ihrig*

```
** BREEZE AERMOD
** Trinity Consultants
** VERSION  11.0

CO STARTING
CO TITLEONE  216 Spring Street Construction
CO TITLETWO  DPM Emissions From CALEEMOD Analysis
CO MODELOPT  DFAULT  CONC  NODRYDPLT  NOWETDPLT
CO RUNORNOT  RUN
CO AVERTIME  ANNUAL
CO POLLUTID  OTHER
CO FINISHED

SO STARTING
SO ELEVUNIT  METERS
SO LOCATION  23DC31AV  AREAPOLY  385013.5  3768544.1  87.00
** SRCDESCR  Construction Site
SO SRCPARAM  23DC31AV  9.464083E-06  0  6  0
SO AREAVERT  23DC31AV  385013.5 3768544.1  384998.2 3768527.3  385037.3 3768501.2
385049.5 3768517.3
SO AREAVERT  23DC31AV  385049.5 3768517.3  385013.5 3768544.1
SO EMISFACT  23DC31AV  HRDOW  0  0  0  0  0  0  0  1  1  1  1  1  1  1  1  0  0  0  0
0  0  0  0  0  0  0
SO EMISFACT  23DC31AV  HRDOW  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0
0  0  0  0  0  0  0
SO EMISFACT  23DC31AV  HRDOW  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0
SO SRCGROUP  ALL
SO FINISHED

RE STARTING
RE ELEVUNIT  METERS
RE DISCCART  385055  3768511.8  86.49  86.49
** RCPDESCR  closest ground level
RE DISCCART  385072.5  3768497.3  86.01  86.01
** RCPDESCR  middle building
RE DISCCART  385090.8  3768480.6  85.45  85.45
** RCPDESCR  far edge of bldg
RE DISCCART  385098.9  3768528  86.03  86.03
** RCPDESCR  backside of bldg
RE FINISHED

ME STARTING
ME SURFFILE  "C:\Users\jclar\OneDrive\Clark and Associates\Project 187 - ABJC - 216
Spring Street\KCQT_V9_ADJU\KCQT_v9.SFC"
** SURFFILE  "C:\Users\jclar\OneDrive\Clark and Associates\Project 187 - ABJC - 216
Spring Street\KCQT_V9_ADJU\KCQT_v9.SFC"
ME PROFFILE  "C:\Users\jclar\OneDrive\Clark and Associates\Project 187 - ABJC - 216
Spring Street\KCQT_V9_ADJU\KCQT_v9.PFL"
** PROFFILE  "C:\Users\jclar\OneDrive\Clark and Associates\Project 187 - ABJC - 216
Spring Street\KCQT_V9_ADJU\KCQT_v9.PFL"
ME SURFDATA  93134 2012
ME UAIRDATA  3190 2012
ME PROFBASE  55  METERS
ME FINISHED

OU STARTING
OU FILEFORM  FIX
OU PLOTFILE  ANNUAL  ALL  ALL`ANNUAL.plt  10000
OU POSTFILE  ANNUAL  ALL  UNFORM  ALL`ANNUAL.bin  10001
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

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```
A Total of            0 Fatal Error Message(s)
A Total of            4 Warning Message(s)
A Total of            0 Informational Message(s)


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
ME W186      47       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used           0.50
ME W187      47       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET
OU W565      51       PERPLT: Possible Conflict With Dynamically Allocated FUNIT PLOTFILE
OU W565      52       PERPST: Possible Conflict With Dynamically Allocated FUNIT POSTFILE

***********************************
*** SETUP Finishes Successfully ***
***********************************

FF *** AERMOD - VERSION 22112  ***   ***  216 Spring Street Construction                                      ***        10/04/22
 *** AERMET - VERSION  16216 ***   ***  DPM Emissions From CALEEMOD Analysis                                  ***        13:09:37

                             PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  NODRYDPLT  NOWETDPLT  RURAL  ADJ_U*

                                          ***     MODEL SETUP OPTIONS SUMMARY       ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

** Model Options Selected:
     * Model Uses Regulatory DEFAULT Options
     * Model Is Setup For Calculation of Average CONCentration Values.
     * NO GAS DEPOSITION Data Provided.
     * NO PARTICLE DEPOSITION Data Provided.
     * Model Uses NO DRY DEPLETION. DDPLETE  =  F
     * Model Uses NO WET DEPLETION. WETDPLT  =  F
     * Stack-tip Downwash.
     * Model Accounts for ELEVated Terrain Effects.
     * Use Calms Processing Routine.
     * Use Missing Data Processing Routine.
     * No Exponential Decay.
     * Model Uses RURAL Dispersion Only.
     * ADJ_U*   - Use ADJ_U* option for SBL in AERMET
     * CCVR_Sub - Meteorological data includes CCVR substitutions
     * TEMP_Sub - Meteorological data includes TEMP substitutions
     * Model Assumes No FLAGPOLE Receptor Heights.
     * The User Specified a Pollutant Type of: OTHER

**Model Calculates ANNUAL Averages Only

**This Run Includes:      1 Source(s);       1 Source Group(s); and       4 Receptor(s)

               with:      0 POINT(s), including
                          0 POINTCAP(s) and      0 POINTHOR(s)
                and:      0 VOLUME source(s)
                and:      1 AREA type source(s)
                and:      0 LINE source(s)
                and:      0 RLINE/RLINEXT source(s)
                and:      0 OPENPIT source(s)
                and:      0 BUOYANT LINE source(s) with a total of     0 line(s)
```

```
                  and:      0 SWPOINT source(s)


  **Model Set To Continue RUNning After the Setup Testing.

  **The AERMET Input Meteorological Data Version Date:  16216

  **Output Options Selected:
           Model Outputs Tables of ANNUAL Averages by Receptor
           Model Outputs External File(s) of Concurrent Values for Postprocessing
           (POSTFILE Keyword)
           Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)

  **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                  m for Missing Hours
                                                                  b for Both Calm and
                                                                  Missing Hours

  **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =    55.00 ;  Decay Coef.
  =    0.000     ;  Rot. Angle =     0.0
                   Emission Units = GRAMS/SEC                                ;  Emission
                   Rate Unit Factor =   0.10000E+07
                   Output Units   = MICROGRAMS/M**3

  **Approximate Storage Requirements of Model =      3.5 MB of RAM.

  **Input Runstream File:
  aermod.inp

  **Output Print File:
  aermod.out


  FF *** AERMOD - VERSION 22112  ***   ***  216 Spring Street
  Construction                                        ***        10/04/22
   *** AERMET - VERSION  16216 ***   ***  DPM Emissions From CALEEMOD
   Analysis                                  ***        13:09:37

                                PAGE   2
   *** MODELOPTs:    RegDFAULT  CONC  ELEV  NODRYDPLT  NOWETDPLT  RURAL  ADJ_U*


                                                   *** AREAPOLY SOURCE DATA ***

                 NUMBER EMISSION RATE   LOCATION OF AREA  BASE     RELEASE  NUMBER
                 INIT.   URBAN  EMISSION RATE
     SOURCE       PART.  (GRAMS/SEC       X        Y      ELEV.    HEIGHT  OF VERTS.
     SZ     SOURCE  SCALAR VARY
       ID         CATS.   /METER**2)   (METERS) (METERS) (METERS) (METERS)
       (METERS)              BY
   - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
   - - - - - - - - - - - - - - - - - - -

   23DC31AV         0   0.94641E-05  385013.5 3768544.1    87.0     0.00       6
   0.00     NO    HRDOW
   FF *** AERMOD - VERSION 22112  ***   ***  216 Spring Street
   Construction                                        ***        10/04/22
   *** AERMET - VERSION  16216 ***   ***  DPM Emissions From CALEEMOD
   Analysis                                  ***        13:09:37

                                PAGE   3
   *** MODELOPTs:    RegDFAULT  CONC  ELEV  NODRYDPLT  NOWETDPLT  RURAL  ADJ_U*


                                                     *** SOURCE IDs DEFINING SOURCE GROUPS ***
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 SRCGROUP ID                                                SOURCE IDs
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  ALL        23DC31AV    ,
FF *** AERMOD - VERSION 22112  ***   ***  216 Spring Street
Construction                                          ***        10/04/22
 *** AERMET - VERSION  16216 ***   ***  DPM Emissions From CALEEMOD
 Analysis                                  ***        13:09:37

                              PAGE   4
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  NODRYDPLT  NOWETDPLT  RURAL  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF
                   WEEK (HRDOW) *

 SOURCE ID = 23DC31AV     ; SOURCE TYPE = AREAPOLY :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   ***  216 Spring Street
Construction                                          ***        10/04/22
 *** AERMET - VERSION  16216 ***   ***  DPM Emissions From CALEEMOD
 Analysis                                  ***        13:09:37

                              PAGE   5
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  NODRYDPLT  NOWETDPLT  RURAL  ADJ_U*

                                             *** DISCRETE CARTESIAN RECEPTORS ***
                                            (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                          (METERS)

     ( 385055.0, 3768511.8,      86.5,      86.5,       0.0);         ( 385072.5,
     3768497.3,      86.0,      86.0,       0.0);
     ( 385090.8, 3768480.6,      85.5,      85.5,       0.0);         ( 385098.9,
     3768528.0,      86.0,      86.0,       0.0);
FF *** AERMOD - VERSION 22112  ***   ***  216 Spring Street
Construction                                          ***        10/04/22
 *** AERMET - VERSION  16216 ***   ***  DPM Emissions From CALEEMOD
 Analysis                                  ***        13:09:37

                              PAGE   6
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  NODRYDPLT  NOWETDPLT  RURAL  ADJ_U*

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```
                                        *** METEOROLOGICAL DAYS SELECTED FOR
                                        PROCESSING ***
                                                              (1=YES; 0=NO)

            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
            1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
            1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
            1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
            1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
            1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
            1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
            1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1

                NOTE:  METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT
                IS INCLUDED IN THE DATA FILE.



                                   *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED
                                   CATEGORIES ***
                                                            (METERS/SEC)

                                                  1.54,   3.09,   5.14,   8.23,  10.80,
FF *** AERMOD - VERSION 22112  ***   ***  216 Spring Street
Construction                                        ***       10/04/22
 *** AERMET - VERSION  16216 ***   ***  DPM Emissions From CALEEMOD
 Analysis                                  ***        13:09:37

                              PAGE   7
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  NODRYDPLT  NOWETDPLT  RURAL  ADJ_U*

                                   *** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA
                                   ***

   Surface file:   C:\Users\jclar\OneDrive\Clark and Associates\Project 187 - ABJC - 216
   Spring Str   Met Version:  16216
   Profile file:   C:\Users\jclar\OneDrive\Clark and Associates\Project 187 - ABJC - 216
   Spring Str
   Surface format:
   FREE

   Profile format:
   FREE

   Surface station no.:    93134                  Upper air station no.:     3190
                   Name: UNKNOWN                                     Name:
                   UNKNOWN
                   Year:   2012                                      Year:   2012

 First 24 hours of scalar data
 YR MO DY JDY HR     H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN ALBEDO
 REF WS   WD     HT  REF TA     HT
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
 12 01 01   1 01   -4.2  0.081 -9.000 -9.000 -999.   56.     11.6  0.27   2.83   1.00
 0.64  306.    5.8  283.1    2.0
 12 01 01   1 02   -5.0  0.089 -9.000 -9.000 -999.   63.     12.6  0.27   2.83   1.00
 0.70  334.    5.8  283.1    2.0
 12 01 01   1 03  -10.7  0.131 -9.000 -9.000 -999.  114.     19.1  0.27   2.83   1.00
```

```
1.01  357.    5.8  283.1    2.0
12 01 01   1 04  -18.5  0.186 -9.000 -9.000 -999.  192.     38.0  0.27   2.83   1.00
1.40   15.    5.8  285.4    2.0
12 01 01   1 05  -16.0  0.162 -9.000 -9.000 -999.  157.     28.9  0.27   2.83   1.00
1.23   44.    5.8  284.2    2.0
12 01 01   1 06   -6.9  0.104 -9.000 -9.000 -999.   82.     14.9  0.27   2.83   1.00
0.82    7.    5.8  282.5    2.0
12 01 01   1 07   -3.2  0.071 -9.000 -9.000 -999.   46.     10.4  0.27   2.83   1.00
0.55  282.    5.8  281.4    2.0
12 01 01   1 08   -7.9  0.119 -9.000 -9.000 -999.   99.     19.4  0.27   2.83   0.55
0.92  359.    5.8  282.5    2.0
12 01 01   1 09   38.2  0.213  0.345  0.006   39.  237.    -23.0  0.27   2.83   0.32
1.38    8.    5.8  290.4    2.0
12 01 01   1 10  112.7  0.212  0.730  0.006  125.  235.     -7.7  0.27   2.83   0.24
1.18   14.    5.8  294.9    2.0
12 01 01   1 11  164.8  0.219  1.173  0.005  355.  246.     -5.8  0.27   2.83   0.21
1.16    6.    5.8  297.5    2.0
12 01 01   1 12  191.0  0.225  1.516  0.005  660.  257.     -5.4  0.27   2.83   0.20
1.18   34.    5.8  299.2    2.0
12 01 01   1 13  189.9  0.179  1.806  0.005 1122.  183.     -2.7  0.27   2.83   0.20
0.82  117.    5.8  299.9    2.0
12 01 01   1 14  162.6  0.158  1.858  0.005 1426.  150.     -2.2  0.27   2.83   0.21
0.69  144.    5.8  300.4    2.0
12 01 01   1 15  109.2  0.201  1.670  0.005 1541.  216.     -6.7  0.27   2.83   0.25
1.09  202.    5.8  299.9    2.0
12 01 01   1 16   32.0  0.301  1.113  0.005 1557.  395.    -76.6  0.27   2.83   0.33
2.15  275.    5.8  295.4    2.0
12 01 01   1 17  -16.0  0.187 -9.000 -9.000 -999.  200.     38.3  0.27   2.83   0.60
1.40  287.    5.8  291.4    2.0
12 01 01   1 18  -15.4  0.159 -9.000 -9.000 -999.  153.     27.9  0.27   2.83   1.00
1.21  295.    5.8  288.8    2.0
12 01 01   1 19   -5.2  0.091 -9.000 -9.000 -999.   67.     13.0  0.27   2.83   1.00
0.72  286.    5.8  287.5    2.0
12 01 01   1 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.27   2.83   1.00
0.00    0.    5.8  286.4    2.0
12 01 01   1 21   -2.9  0.069 -9.000 -9.000 -999.   44.     10.3  0.27   2.83   1.00
0.53  319.    5.8  285.9    2.0
12 01 01   1 22   -6.0  0.098 -9.000 -9.000 -999.   73.     14.0  0.27   2.83   1.00
0.77  336.    5.8  285.4    2.0
12 01 01   1 23  -13.5  0.148 -9.000 -9.000 -999.  137.     24.1  0.27   2.83   1.00
1.13  293.    5.8  285.4    2.0
12 01 01   1 24   -8.8  0.118 -9.000 -9.000 -999.   98.     17.1  0.27   2.83   1.00
0.92  315.    5.8  284.9    2.0


First hour of profile data
YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
12 01 01 01    5.8 1  306.    0.64   283.2   99.0  -99.00  -99.00

F indicates top of profile (=1) or below (=0)
FF *** AERMOD - VERSION 22112  ***   ***  216 Spring Street
Construction                                        ***        10/04/22
 *** AERMET - VERSION  16216 ***   ***  DPM Emissions From CALEEMOD
 Analysis                                  ***        13:09:37

                                PAGE   8
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  NODRYDPLT  NOWETDPLT  RURAL  ADJ_U*

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
                   YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     23DC31AV    ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                        ** CONC OF OTHER    IN
                                        MICROGRAMS/M**3                          **
```

```
      X-COORD (M)   Y-COORD (M)        CONC                            X-COORD (M)   Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
        385055.00    3768511.80       2.38323                          385072.50    3768497.30       0.43711
        385090.80    3768480.60       0.13160                          385098.90    3768528.00       0.35637
FF *** AERMOD - VERSION 22112  ***   ***  216 Spring Street Construction                             ***        10/04/22
 *** AERMET - VERSION  16216 ***   ***  DPM Emissions From CALEEMOD Analysis                              ***        13:09:37

                              PAGE   9
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  NODRYDPLT  NOWETDPLT  RURAL  ADJ_U*

                                   *** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER   5 YEARS ***


                                    ** CONC OF OTHER    IN MICROGRAMS/M**3                          **


                     NETWORK
GROUP ID                      AVERAGE CONC                RECEPTOR  (XR, YR, ZELEV, ZHILL, ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

ALL       1ST HIGHEST VALUE IS       2.38323 AT (  385055.00,  3768511.80,    86.49,    86.49,    0.00)  DC
          2ND HIGHEST VALUE IS       0.43711 AT (  385072.50,  3768497.30,    86.01,    86.01,    0.00)  DC
          3RD HIGHEST VALUE IS       0.35637 AT (  385098.90,  3768528.00,    86.03,    86.03,    0.00)  DC
          4TH HIGHEST VALUE IS       0.13160 AT (  385090.80,  3768480.60,    85.45,    85.45,    0.00)  DC
          5TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,     0.00,     0.00,    0.00)
          6TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,     0.00,     0.00,    0.00)
          7TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,     0.00,     0.00,    0.00)
          8TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,     0.00,     0.00,    0.00)
          9TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,     0.00,     0.00,    0.00)
         10TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,     0.00,     0.00,    0.00)


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
FF *** AERMOD - VERSION 22112  ***   ***  216 Spring Street Construction                             ***        10/04/22
 *** AERMET - VERSION  16216 ***   ***  DPM Emissions From CALEEMOD Analysis                              ***        13:09:37

                              PAGE  10
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  NODRYDPLT  NOWETDPLT  RURAL  ADJ_U*

 *** Message Summary : AERMOD Model Execution ***
```

```
 --------- Summary of Total Messages --------

A Total of            0 Fatal Error Message(s)
A Total of            4 Warning Message(s)
A Total of         6278 Informational Message(s)

A Total of        43848 Hours Were Processed

A Total of         5012 Calm Hours Identified

A Total of         1266 Missing Hours Identified (  2.89 Percent)


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
ME W186      47       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold
used           0.50
ME W187      47       MEOPEN: ADJ_U* Option for Stable Low Winds used in
AERMET
OU W565      51       PERPLT: Possible Conflict With Dynamically Allocated FUNIT
PLOTFILE
OU W565      52       PERPST: Possible Conflict With Dynamically Allocated FUNIT
POSTFILE

   ************************************
   *** AERMOD Finishes Successfully ***
   ************************************
```

Fac Name: 216 West Spring Steer A/N: 0

TAC Code	Compound	Emission Rate (lbs/hr)	Molecular Weight	R1 - Uncontrolled (lbs/hr)	Efficiency Factor (Fraction range 0-1)	R2-Controlled (lbs/hr)
P1	Particulate Emissions from Diesel-Fueled Engines	9.91E-02	350	9.91E-02	0.00000	0.0991

EMISSIONS ARE ENTERED ON THE EMISSIONS WORKSHEET OR ON ONE OF EQUIPMENT WORKSHEETS

INPUT PARAMETERS ENTERED ON THE EMISSIONS SHEET ARE USED FOR TIERS 1 AND TIER 2 ANALYSES

TIER 2 SCREENING RISK ASSESSMENT REPORT
(Procedure Version 8.1 & Package N, September 1, 2017) - Risk Tool V1.103

A/N: _____ **Fac:** 216 West Spring Steer **Application deemed complete date:** 1/1/2022

1. Stack Data

Equipment Type	Generator	
Combustion Eff	0.0	
	No T-BACT	
Operation Schedule	0.5	hrs/day
	1	days/week
	24	weeks/year
Stack Height	14	ft
Distance to Residential	25	m
Distance to Commercial	25	m
Meteorological Station	Central L.A.	

2. Tier 2 Data

Dispersion Factors tables	Point Source
For Chronic X/Q	Table 6
For Acute X/Q max	Table 6.4

Dilution Factors

Receptor	X/Q (µg/m³)/(tons/yr)	X/Qmax (µg/m³)/(lbs/hr)
Residential	39.03	676.64
Commercial - Worker	39.03	676.64

Intake and Adjustment Factors

	Residential	Worker
Year of Exposure	30	
Combined Exposure Factor (CEF) - Table 4	677.40	55.86
Worker Adjustment Factor (WAF) - Table 5	1	4.20

A/N: _____ Application deemed complete date: 01/01/22

3. Rule 1401 Compound Data

Compound	R1 - Uncontrolled (lbs/hr)	R2 - Controlled (lbs/hr)	CP $(mg/kg\text{-}day)^{-1}$	MP MICR Resident	MP MICR Worker	MP Chronic Resident	MP Chronic Worker	REL Chronic (µg/m³)	REL 8-hr Chronic (µg/m³)	REL Acute (µg/m³)	MWAF
Particulate Emissions from Diesel-Fueled Eng	9.91E-02	9.91E-02	1.10E+00	1.00	1.00	1.00	1.00	5.00E+00			1

A/N: ______________ **Application deemed complete date:** 01/01/22

4. Emission Calculations

Compound	R1 (lbs/hr)	R2 (lbs/hr)	R1 (lbs/day)	R2 (lbs/day)	R2 (lbs/yr)	R2 (tons/yr)
Particulate Emissions from Diesel-Fueled Eng	9.91E-02	9.91E-02	4.96E-02	4.96E-02	1.19E+00	5.95E-04
Total	**9.91E-02**	**9.91E-02**	**4.96E-02**	**4.96E-02**	**1.19E+00**	**5.95E-04**

TIER 2 RESULTS

A/N: ______________ **Application deemed complete date:** 01/01/22

5a. MICR

MICR Resident = CP (mg/(kg-day))^-1 * Q (ton/yr) * (X/Q) Resident * CEF Resident * MP Resident * 1e-6 * MWAF

MICR Worker = CP (mg/(kg-day))^-1 * Q (ton/yr) * (X/Q) Worker * CEF Worker* MP Worker* WAF Worker* 1e-6 * MWAF

Compound	Residential	Commercial
Particulate Emissions from Diesel-Fueled Eng	1.73E-05	5.99E-06
Total	**1.73E-05**	**5.99E-06**
	FAIL	**FAIL**

5b. Is Cancer Burden Calculation Needed (MICR >1E-6)?	**YES**
New X/Q at which $MICR_{70yr}$ is one-in-a-million [(µg/m³)/(tons/yr)]:	1.99E+00
New Distance, interpolated from X/Q table using New X/Q (meter):	109.02
Zone Impact Area (km²):	3.73E-02
Zone of Impact Population (7000 person/km²):	2.61E+02
Cancer Burden:	**5.12E-03**
Cancer Burden is less than or equal to 0.5	**PASS**

6. Hazard Index Summary **A/N:** _____ **Application deemed complete date:** 01/01/22

HIA = [Q(lb/hr) * (X/Q)max * MWAF]/ Acute REL
HIC = [Q(ton/yr) * (X/Q) * MP * MWAF] / Chronic REL
HIC 8-hr= [Q(ton/yr) * (X/Q) * WAF * MWAF] / 8-hr Chronic REL

Target Organs	Acute	Chronic	8-hr Chronic	Acute Pass/Fail	Chronic Pass/Fail	8-hr Chronic Pass/Fail
Alimentary system (liver) - AL			N/A	Pass	Pass	Pass
Bones and teeth - BN			N/A	Pass	Pass	Pass
Cardiovascular system - CV			N/A	Pass	Pass	Pass
Developmental - DEV			N/A	Pass	Pass	Pass
Endocrine system - END			N/A	Pass	Pass	Pass
Eye			N/A	Pass	Pass	Pass
Hematopoietic system - HEM			N/A	Pass	Pass	Pass
Immune system - IMM			N/A	Pass	Pass	Pass
Kidney - KID			N/A	Pass	Pass	Pass
Nervous system - NS			N/A	Pass	Pass	Pass
Reproductive system - REP			N/A	Pass	Pass	Pass
Respiratory system - RESP		4.64E-03	N/A	Pass	Pass	Pass
Skin			N/A	Pass	Pass	Pass

A/N: _____ **Application deemed complete date:** 01/01/22

6a. Hazard Index Acute - Resident

HIA = [Q(lb/hr) * (X/Q)max resident * MWAF] / Acute REL

	HIA - Residential									
Compound	AL	CV	DEV	EYE	HEM	IMM	NS	REP	RESP	SKIN
Particulate Emissions from Diesel-Fueled Eng										
Total										

6a. Hazard Index Acute - Worker **A/N:** _____ **Application deemed complete date:** 01/01/22

HIA = [Q(lb/hr) * (X/Q)max Worker * MWAF] / Acute REL

	HIA - Commercial									
Compound	AL	CV	DEV	EYE	HEM	IMM	NS	REP	RESP	SKIN
Particulate Emissions from Diesel-Fueled Eng										
Total										

A/N: _____ **Application deemed complete date:** 01/01/22

6b. Hazard Index Chronic - Resident

HIC = [Q(ton/yr) * (X/Q) Resident * MP Chronic Resident * MWAF] / Chronic REL

	HIC - Residential												
Compound	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Particulate Emissions from Diesel-Fueled Eng												4.64E-03	
Total												4.64E-03	

A/N: _____ Application deemed complete date: 01/01/22

6b. Hazard Index Chronic - Worker

HIC = [Q(ton/yr) * (X/Q) * MP Chronic Worker * MWAF] / Chronic REL

	HIC - Commercial												
Compound	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Particulate Emissions from Diesel-Fueled Eng												4.64E-03	
Total												4.64E-03	

6c. 8-hour Hazard Index Chronic - Resident **A/N:** _____ **Application deemed complete date:** 01/01/22

HIC 8-hr = [Q(ton/yr) * (X/Q) Resident * WAF Resident * MWAF] / 8-hr Chronic REL

	HIC - Residential												
Compound	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Particulate Emissions from Diesel-Fueled Eng													
Total													

A/N: _____ **Application deemed complete date:** 01/01/22

6c. 8-hour Hazard Index Chronic - Worker

HIC 8-hr = [Q(ton/yr) * (X/Q) Worker * WAF Worker * MWAF] / 8-hr Chronic REL

	HIC - Commercial												
Compound	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Particulate Emissions from Diesel-Fueled Eng													
Total													

Cleaner Diesel Handbook

BRING CLEANER FUEL AND DIESEL RETROFITS INTO YOUR NEIGHBORHOOD

APRIL 2005

ENVIRONMENTAL DEFENSE
finding the ways that work

Cleaner Diesel Handbook

BRING CLEANER FUEL AND DIESEL RETROFITS INTO YOUR NEIGHBORHOOD

APRIL 2005

AUTHORS

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e

ENVIRONMENTAL DEFENSE

finding the ways that work

Cover images: Courtesy of Johnson Matthey (left), Environmental Defense (right).

Our mission
Environmental Defense is dedicated to protecting the environmental rights of all people, including the right to clean air, clean water, healthy food and flourishing ecosystems. Guided by science, we work to create practical solutions that win lasting political, economic and social support because they are nonpartisan, cost-effective and fair.

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The complete report is available online at www.environmentaldefense.org.

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Executive summary

Cost-effective steps to reducing diesel pollution

Environmental Defense's *Cleaner Diesel Handbook* is designed to empower the private sector, public officials and ordinary citizens with the means to reduce harmful pollution from diesel engines. This handbook focuses on methods of reducing pollution created by diesel engines, especially those used in construction and other nonroad sectors. The nonroad sector includes vehicles not typically found on roads, such as agricultural equipment, locomotives, ferries, snowmobiles and airplanes. Construction equipment is part of the nonroad sector. Collectively, nonroad engines discharge more dangerous fine sooty particles than any other source in the transportation sector. The solutions described here can reduce these harmful emissions by up to 90% and are a cost-effective response to the challenge of improving local air quality.

The health imperative: half of Americans live with unhealthy air

Diesel engines emit nearly 40 toxic substances, smog-forming oxides of nitrogen and fine particulate matter, and they contribute to a laundry list of adverse health effects including: asthma, cardiovascular and respiratory problems, strokes, heart attacks, lung cancer and premature death. Diesel exhaust is estimated to contribute to more than 75% of the added cancer risk from air toxics in the United States. Of special concern are two main pollutants: fine particulate matter, which lodges deep in the lungs, and oxides of nitrogen (NO_x), which are precursors to smog. Both can be reduced substantially with the tools described in this handbook.

Recent data from the U.S. Environmental Protection Agency (EPA) shows that about half of all Americans live in places that fail to meet basic health standards for ozone (smog), fine particulates (soot) or both. On April 15, 2004, EPA found 474 counties—home to 159 million Americans—out of full compliance with the health-based eight-hour ozone standard. NO_x is a significant precursor in the formation of ground-level ozone and nonroad engines, as a vehicle class, emit almost one-fifth (more than 4 million tons) of the total national NO_x emissions from all sources.

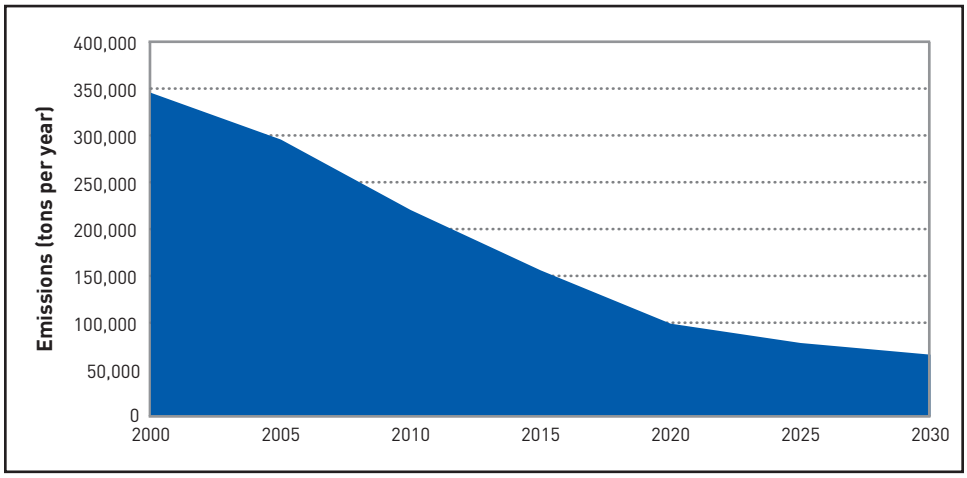
As of April 2005, EPA classified 208 counties spanning 20 states as being out of full compliance with the health-based fine particulate ($PM_{2.5}$) standard. More than 57 million Americans live in counties that are not meeting the health-based particulate pollution standard. For the states and local communities that are struggling to trim every possible ton of pollution to meet federal health-based air quality standards and protect the health of their community, reducing pollution from existing diesel vehicles and equipment now is vitally important.

Cleaner air: bridging the 25-year gap

On May 10, 2004, EPA announced new air pollution regulations that will significantly lower pollution from new nonroad diesel engines used in construction, agriculture, manufacturing and services. As old diesel equipment is replaced over the coming years, this rule will deliver important public health benefits to communities across America. But the full pollution reductions and

FIGURE 1

Particulate pollution under phase-in of federal standards for diesel trucks, buses, and machinery



National $PM_{2.5}$ emissions under phase-in of federal standards for onroad diesel trucks and buses, and nonroad diesel equipment. (Estimated from EPA, 2000 and EPA, 2004a)

public health benefits of this rule will not be realized for more than 20 years due to the lag in time before the emissions standards come into effect and because of the long life spans of heavy-duty diesel engines. Many nonroad engines, like those used on construction or marine vehicles, may have life spans of several decades. A child born today may still be breathing soot from a backhoe in her neighborhood when she graduates from college—unless that backhoe is replaced with a clean one or retrofit with emissions controls.

Figure 1 shows national particulate pollution under the phase-in of the federal emissions standards for diesel trucks, buses and nonroad machinery.

While the health benefits from full implementation of EPA national diesel emissions standards are extremely important, the incremental phase-in of these benefits indicates that thousands of premature deaths each year could be prevented by speeding the cleanup of diesel engines. The shaded area under the curve represents the pollution a retrofit program could prevent.

Cost-effective diesel pollution reduction

This handbook demonstrates that cleaning up diesel engines is a cost-effective way to reduce the adverse health effects of diesel pollution and outlines some simple steps, like enforcing idling laws and using clean fuels—like ultra-low sulfur diesel (ULSD)—with best available retrofit technologies that can cut diesel emissions by up to 90%.

The three "Rs" of emissions reduction

Repower. Replace the engine, or entire vehicle, with newer, cleaner technologies that meet or exceed EPA's newest standards and/or uses alternative fuels.

Refuel. Alternative fuels, ultra-low sulfur diesel fuel and other clean fuels or additives are important first steps.

Retrofit. Reduce diesel exhaust with best available pollution control technology.

The handbook describes the "3Rs" of engine operations, as well as the use of best practices in equipment management. It gives particular attention to the subjects of cleaner fuels and retrofit technologies. The main goal is to reduce emissions of both fine particulate matter and NO_x. Appendices to the handbook will include some information on the manufacturers of retrofit technology and distributors of cleaner fuels. Together, this information is meant to serve as a starting point for anyone seeking to cut harmful diesel pollution.

Right now, there are a variety of cleaner fuels and demonstrated retrofit technologies available to reduce emissions of particulate matter (PM), oxides of nitrogen (NO_x), hydrocarbons (HC), carbon monoxide (CO), smoke and odor from existing diesel engines. It is important to remember that not all technologies and fuels target the same pollutants, and that appropriate technologies or fuels may vary in different contexts. Generally, a combination of multiple technologies and emissions control strategies is necessary for maximum emissions reduction.

In addition to describing the tools available for diesel pollution reduction, this handbook examines a variety of methods for implementing successful retrofit programs. The handbook provides examples of successful programs such as government and private sector efforts, contract specifications, voluntary retrofit programs, and economic or market incentive programs that provide financial support for cleaner technology or fuels.

Ultimately, the handbook demonstrates the need to reduce diesel engine emissions and presents the means to design and implement measures to clean up diesel technology. Together, these tools can be used to build a successful retrofit program in any community.

CHAPTER 1

Introduction: achieving cleaner, healthier air today

Science is very clear that air pollution from diesel engines endangers human health. Fortunately, cost-effective and practical technologies exist to substantially reduce diesel pollution. Across the country, we find successful diesel emissions-reduction programs, from school buses and trucks to construction equipment and ferries. Such programs can cut diesel pollution from targeted fleets by up to 90%. Yet far too many communities still have not taken advantage of these opportunities to win healthier air. This handbook is a guide to how to bring that success to your community, your company and your local government.

The purpose of this handbook is to provide practical information for decision-makers in the public and private sectors to use in creating and implementing effective emissions-reduction projects for construction and other nonroad diesel fleets.[1] Because the nonroad sector is so dirty, and because the emissions-reduction solutions are not yet widely disseminated for this sector, this handbook focuses attention on construction fleets and other nonroad applications. The handbook's basic concepts, however, are applicable across the diesel sector.

This handbook sets forth:

- the health imperative for reducing diesel pollution today;
- an overview of technologies and fuels that can reduce diesel pollution, with detailed follow-up information;
- information about successful retrofit programs;
- examples of contract specifications and other incentives for cleaning diesel engines.

Together, these tools can be used by any citizen concerned about diesel pollution to inform local policymakers and contractors about the benefits of, and the steps involved in, implementing a successful retrofit program.

This handbook focuses on how to reduce pollution from vehicles, engines and equipment used for construction. Construction vehicles are classified as "mobile sources" because they move. Mobile sources are divided into the "onroad" and "nonroad" sectors. The onroad sector includes vehicles used on roads for transportation of passengers or freight.

The nonroad sector includes vehicles that are not typically found on roads, such as agricultural equipment, locomotives, ferries, snowmobiles and airplanes. Construction equipment is part of the nonroad sector. However, the technologies, fuels, and techniques found herein are frequently applicable across the diesel sector (onroad engines and other nonroad engines) as well. For more information, visit the EPA Mobile Source web site at: http://www.epa.gov/otaq/invntory/overview/examples.htm.

Since 1996, EPA has required new nonroad diesel engines to meet specific emissions levels. Until 1996, those standards were not very strong, and as a result they allowed for high levels of pollution. On May 10, 2004, EPA announced air pollution regulations that will lower pollution from *new* nonroad diesel engines used in construction, agriculture, manufacturing and services by more than 90%.

To meet this rigorous emissions standard, EPA requires a combination of cleaner engines, pollution control technology and cleaner fuel. Based on

EPA estimates, when the full inventory of older nonroad engines has been replaced, the nonroad diesel program will annually prevent up to 12,000 premature deaths, one million lost work days, 15,000 heart attacks and 6,000 children's asthma-related emergency room visits.[2] According to EPA, the overall benefits of the nonroad diesel program outweigh the costs by a ratio of 40 to 1.[3]

But the full pollution reduction and public health benefits of the nonroad rule will not be realized for more than 20 years due to the lag in time before the emissions standards come into effect and because of the long life spans of heavy-duty diesel engines. EPA estimates that by 2030 the entire inventory of nonroad vehicles covered by this new rule should be upgraded.[4]

Given that nonroad engines remain in use for a very long time, even decades, strategies to retrofit existing machinery and the use of ultra-low sulfur diesel (ULSD) fuel are extremely important to win public health gains now. Figure 1 (page v) shows the national particulate pollution under the phase-in of the federal emissions standards for diesel trucks and buses, and nonroad machinery.

The public health benefits will likewise be phased in over time. EPA estimates, for example, that only about 30% of the ultimate level of annual benefits under its recently announced standards for nonroad diesel engines will be realized by 2015; just over 50% will be realized by 2020. While the health benefits from full implementation of EPA national diesel emissions standards are extremely important, the incremental phase-in of these benefits indicates that thousands of premature deaths each year, occurring now, could be prevented by accelerating the cleanup of diesel engines.

Right now, there are a variety of demonstrated retrofit technologies available to reduce particulate matter (PM), oxides of nitrogen (NO_x), hydrocarbon (HC), carbon monoxide (CO), smoke and odor created by existing diesel engines. Therefore, programs to reduce pollution from existing diesel engines are critical. This handbook explores a variety of methods for implementing successful retrofit programs.

Children are particularly vulnerable to the harmful health effects of diesel exhaust.

ENVIRONMENTAL DEFENSE

CHAPTER 2

The dangers of diesel emissions

According to recent EPA data, about half of all Americans now live in counties that fail to meet basic healthy air standards. On April 15, 2004, EPA found 474 counties, home to 159 million Americans, out of full compliance with the health-based eight-hour ozone standard.[5] In April 2005, EPA also found 208 counties representing more than 57 million Americans out of full compliance with the health-based particulate pollution standard.[6]

For the states and local communities that are struggling to trim every possible ton of pollution to meet federal health-based air quality standards, reducing pollution from existing diesel vehicles and equipment now is vitally important. Retrofits and the use of clean fuels are one of the most cost-effective ways to reduce diesel emissions and restore healthy air.

Diesel engines, including the construction engines that are the focus of this handbook, emit nearly 40 toxic substances (Table 1), smog-forming oxides of nitrogen and fine particulate matter ($PM_{2.5}$), which can penetrate the lungs and enter the bloodstream. Due to their small size, particulates are easily inhaled and reach deep into the lungs where they can trigger an inflammatory response. Exposure to particulate matter is associated with heart attacks, irregular heartbeat, asthma attacks, reduced lung function and bronchitis.

Several organizations, including EPA, have designated diesel exhaust as a probable or potential human carcinogen (Table 2). It is estimated that diesel exhaust contributes more than 70% of the cancer risk from air toxics in the United States.[7] Diesel emissions are also estimated to be the hazardous air pollutant with the highest contribution to cancer risk in many areas across the country;[8] according to Environmental Defense's Scorecard, this is true in New York, Los Angeles, Houston, Denver, Chicago and Atlanta.[9]

Smog-forming nitrogen oxides

Nitrogen oxides (NO_x) and volatile organic compounds (VOCs) that are created by diesel exhaust are precursors to ground-level ozone, or smog. Non-road engines, as a vehicle class, also emit more than 4 million tons of NO_x each year—this is approximately 19% of the total national NO_x emissions from all sources (22,349,000 tons).[10] As well as being significant contributors to ground-level ozone or smog, nitrogen oxides are also significant contributors to acid deposition, eutrophication of coastal bodies of water, fine particulate emissions and haze.

Fine particulate matter

There is a well-researched body of epidemiological studies from around the world that documents the serious threats associated with exposure to $PM_{2.5}$. These studies have linked $PM_{2.5}$ to adverse health effects, such as asthma, cardiovascular and respiratory problems, strokes, heart attacks[11] and lower birth weight[12] leading to increased use of asthma medications, doctor visits, emergency room visits, hospital admissions, school absenteeism and premature death.[13] Researchers estimate that as many as 60,000 Americans die prematurely each year because of exposure to fine particles.[14] Children, the elderly and the ill are particularly vulnerable. National $PM_{2.5}$ emissions from mobile sources totaled approximately 452,000 short

tons in 2001. Nonroad vehicles created the majority of those emissions, 64%, and almost 50% of total $PM_{2.5}$ emissions originated from nonroad diesel sources (221,000 short tons). Construction and surface mining equipment was the largest contributor (30%) to nonroad diesel source $PM_{2.5}$ emissions.

Asthma

People working at and living near construction sites are especially affected by nonroad vehicles' emissions. In urban areas, overall asthma prevalence has increased dramatically over the past two decades, rising 75% between 1980 and the average in 1993–4. While the highest prevalence of asthma is in children ages 5 to 14, the greatest increase in asthma prevalence has occurred in children ages 0 to 4 which increased 160% over the 15-year period.[15] For example, New York City residents suffer from alarmingly high asthma rates (1 out of every 8 adults has been diagnosed with asthma at some point in their lives[16]) and New York City air fails to meet many basic health standards. To learn about air quality conditions in your area, visit Environmental Defense's Scorecard web site at: http://www.scorecard.org/.

TABLE 1
Toxic air contaminants and hazardous air pollutants found in diesel exhaust

Acetaldehyde*	Chlorine	Methyl ethyl ketone
Acrolein	Chlorobenzene	Naphthalene*
Aluminum	Chromium compounds*	Nickel*
Ammonia	Cobalt compounds*	4-nitrobiphenyl*
Aniline*	Copper	Phenol
Antimony compounds*	Cresol	Phosphorus
Arsenic*	Cyanide compounds	POM (including PAHs)
Barium	Dibenzofuran	Propionaldehyde
Benzene*	Dibutylphthalate compounds*	Selenium
Beryllium compounds*	Ethyl benzene	Silver
Biphenyl	Formaldehyde*	Styrene*
Bis [2-ethylhexyl} phthalate*	Hexane	Sulfuric acid
Bromine	Lead compounds*	Toluene*
1,3-butadiene*	Manganese compounds	Xylene isomers and mixtures
Cadmium*	Mercury compounds*	Zinc
Chlorinated dioxins*	Methanol	

*This compound or class of compounds is known by the state of California to cause cancer or reproductive toxicity. See California EPA, Office of Environmental Health Hazard Assessment, "Chemicals Known to the State to Cause Cancer or Reproductive Toxicity," May 31, 2002.

Note: Toxic air contaminants on this list either have been identified in diesel exhaust or are presumed to be in the exhaust, based on observed chemical reactions or presence in the fuel or oil. See California Air Resources Board, "Toxic Air Contaminant Identification List Summaries, Diesel Exhaust," September 1997, available online at http://www.arb.ca.gov/toxics/tac/factshts/diesex.pdf.

TABLE 2
History of determinations of the carcinogenicity of diesel exhaust

Year	Agency	Determination
1988	National Institute for Occupational Safety and Health (NIOSH)	Potential occupational carcinogen
1989	International Agency for Research on Cancer (IARC)	Probable human carcinogen
1990	State of California (under provisions of Proposition 65)	Known by the state to cause cancer
1995	Health Effects Institute (HEI)	Potential to cause cancer
1996	World Health Organization International Programme on Chemical Safety (WHO-IPCS)	Probable human carcinogen
1998	California Air Resources Board (CARB)	Toxic air contaminant (determination based substantially on the cancer risk to humans)
2000	U.S. Department of Health and Human Services National Toxicology Program (U.S. DHHS/NTP)	Reasonably anticipated to be human carcinogen
2001	American Council of Government Industrial Hygienists (ACGIH) (proposed)	Suspected human carcinogen
2002	U.S. Environmental Protection Agency (EPA)	Probable human carcinogen

Sources:

National Institute for Occupational Safety and Health, "Carcinogenic Effects of Exposure to Diesel Exhaust," Current Intelligence Bulletin 50. August 1988. Available online at http://www.cdc.gov/niosh/88116_50.html . Last accessed August 13, 2004.

International Agency for Research on Cancer (IARC), Diesel and Gasoline Engine Exhausts and Some Nitroarenes. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, no. 46 (Lyons: World Health Organization, 1989), pp. 41-185.

California Environmental Protection Agency, Chemicals Known to the State to Cause Cancer or Reproductive Toxicity (Proposition 65, 1997), revised May 31, 2002.

Health Effects Institute, Diesel Exhaust: A Critical Analysis of Emissions, Exposure and Health Effects. Cambridge, MA: Health Effects Institute, 1995. Online resource, available at: http://www.healtheffects.org/Pubs/diesum.htm Last accessed on August 13, 2004.

American Conference of Governmental Industrial Hygienists, "Documentation of the Threshold Limit Values and Biological Exposure Limits, Notice of Intended Changes," 2001.

International Programme on Chemical Safety, World Health Organization, "Diesel Fuel and Exhaust Emissions," Environmental Health Criteria 171 (1996).

"The Toxic Air Contaminant Identification Process: Toxic Air Contaminant Emissions from Diesel-fueled Engines," fact sheet. Online resource, available at: http://www.arb.ca.gov/toxics/dieseltac/factsht1.pdf Last accessed on August 13, 2004.

U.S. Environmental Protection Agency, Draft Health Assessment Document for Diesel Exhaust, July 2000, EPA/600/8-90/057E.

California Air Resources Board, "Statewide Portable Equipment Registration Program." Online resource, available at: http://www.arb.ca.gov/perp/perp.htm Last accessed on August 13, 2004.

FIGURE 2

National NO_x emissions by source category, 2001 (22.3 million short tons)

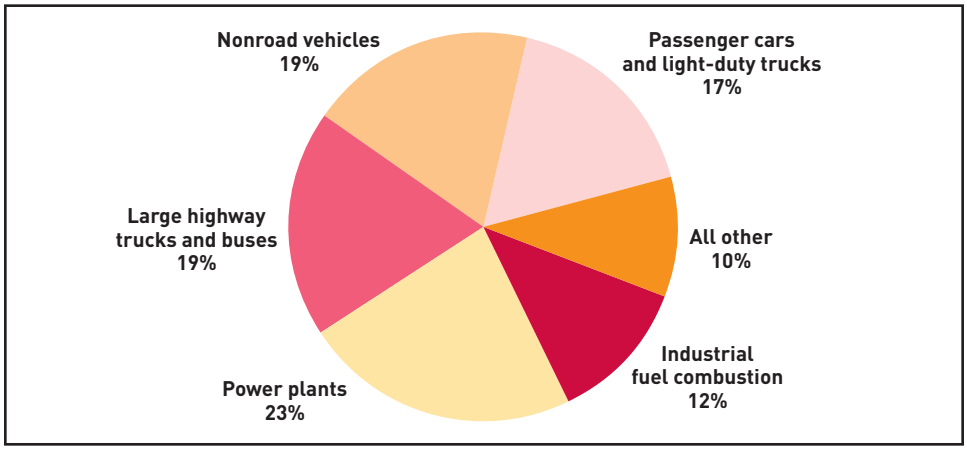
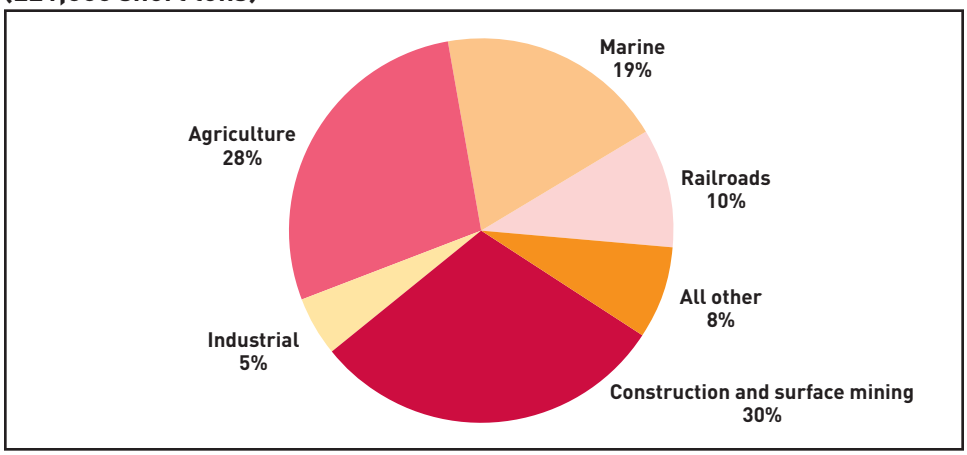


FIGURE 3

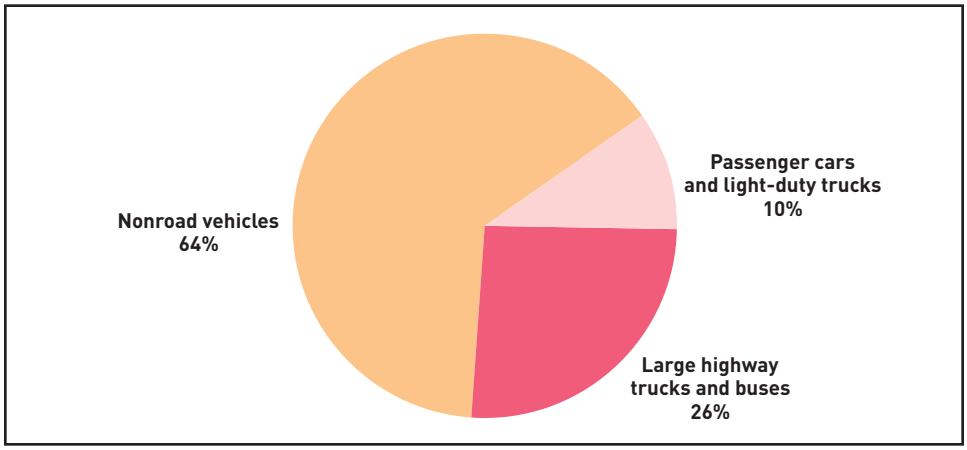
National $PM_{2.5}$ emissions from all nonroad diesel sources, 2001 (221,000 short tons)



Source (Figures 2, 3, 4): National Emission Inventory (NEI): Air Pollutant Emission Trends. 1999 Online resource, available at: http://www.epa.gov/ttn/chief/net/1999inventory.html Last accessed 03/01/05.

FIGURE 4

National $PM_{2.5}$ emissions from all mobile sources, 2001 (452,000 short tons)



CHAPTER 3

Cost-effective ways to reduce health threats

There are many options for reducing pollution from diesel engines in use today. This section describes, first, the "3 R's" for cleaning up diesel engines and, second, behavioral solutions that can help reduce pollution from diesel exhaust. For existing engines, our goal is to substantially reduce pollution today and, as soon as feasible, bring the pollution level down so that it is at least equivalent to the standards for new engines. Until old engines have been replaced with new and regulated technology, these measures are a cost-effective means of reducing diesel pollution.

A systems approach is the most effective way to curb diesel engine pollution. A systems approach takes into account all aspects of engine operations—from fuel type used, to retrofit technologies, to best practices such as anti-idling and proper maintenance practices—all of which are discussed in detail in the next few chapters of the handbook.

Fleet operators should note that, before undertaking any engine modifications, they should determine what effects retrofitting may have on equipment warranties and resolve any issues. Major engine manufacturers have now issued letters and other guidance with respect to warranty implications of cleaner fuels and retrofits, and "in most cases, engine manufacturers will continue to honor engine warranties if emissions control systems are sized, installed and maintained properly."[17]

The "3 R's" for cleaning up diesel engines

The "3 R's" listed below can be used to substantially reduce air pollutant emissions from construction equipment. Environmental Defense strongly encourages combinations of the 3 R's in order to maximize emissions reductions. Neither repowering nor refueling alone can achieve the PM reductions that a retrofit can and, similarly, retrofitting alone cannot achieve the NO_x reductions that many repowers can. Repowering or replacing in addition to retrofitting can maximize reductions in PM and NO_x pollution. In addition, refueling with ULSD fuel can result in even more reductions.

1. REPOWER (OR REPLACE)

One way of ensuring emissions reductions is to replace an entire piece of old construction equipment with a model that meets EPA 2008 standards. Another, less costly, strategy to reduce emissions from older, higher-polluting equipment is the replacement of the in-use engine (i.e., repower) with an emissions-certified engine instead of rebuilding the existing engine to its original specifications. Significant NO_x and PM benefits may be achievable due to the high emissions levels of the uncontrolled engine being replaced.

Depending on the engine and rating of older, higher polluting equipment, average emissions reductions may vary from 25% up to 75%.[18] In some instances, higher emissions reductions may be achievable. For example, replacing a 475 horsepower engine in a MY 1975–1986 Caterpillar 631-D Scraper with a Caterpillar engine meeting EPA Tier One standards[19] would produce a 40% reduction in NO_x and a 62% reduction in PM. Replacing the same engine with one meeting Tier Two standards would produce a 62% reduction in NO_x and an 81% reduction in PM.[20] It is important to note, that while

Environmental Defense strongly encourages repowering where possible, there are significant technical issues that may make it impossible for some older, higher polluting engines (Tier 0 and Tier 1) to be repowered with newer, cleaner engines (Tier 2 and Tier 3).

2. REFUEL

Using alternative fuels or cleaner petroleum-based fuels can also help reduce diesel engine pollution. Alternative fuels are defined in this handbook as any fuel other than petroleum-based fuels such as gasoline or diesel fuel. Emissions reductions can also be achieved by using diesel fuels with very low levels of sulfur, for example ULSD with a maximum sulfur content of 15 parts per million. Fuel emulsifiers, or fuel-borne catalysts are fuel additives that can be added to ULSD to cut emissions even further. In many cases, use of ULSD at 15 parts per million (ppm) of sulfur or less is a prerequisite to effective use of advanced retrofit technologies. Generally, it is not the fuel itself that is "clean", it is the engineered system (i.e. fuel, combustion engineering and exhaust after-treatment). Therefore, to achieve the greatest emissions reductions, a combination of repowered or replaced engines, retrofit technology and cleaner fuels must be used.

3. RETROFIT

"Retrofitting" is incorporating a device into a piece of diesel equipment to reduce pollution.[21] A wide range of pollution-control, or "retrofit" technologies exist today, and can be used in combination with each other and with cleaner fuels to achieve powerful emissions reductions. Different technologies fit different engine operating needs—the key is to select the combination that achieves maximum clean air benefits for a given machine and use.

For example, a retrofit could be a Diesel Particulate Filter (DPF), which traps particles from engine exhaust until the trap becomes loaded to the point that a regeneration cycle is implemented to burn off the trapped particulate matter.[22] DPFs are normally built with a porous ceramic, metal mesh or silicon

A delivery of ultra low sulfur diesel fuel to New York's World Trade Center site. In late 2006, ULSD will be widely available across the United States.

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carbide filter housed in a metal container similar to a muffler. However, DPFs are just one of many technologies available to retrofit diesel engines, and many of these technologies serve different in-use functions. There are other examples of retrofit technologies, in addition to more detail about DPFs, in other sections of this handbook.

A combination of clean fuels and retrofits can reduce some hazardous diesel emissions by up to 90%, improving both environmental conditions and public health. Retrofits are remarkably cost-effective when compared to other means of reducing air pollution. For example, the average cost for most applications of a diesel oxidation catalyst (DOC) is approximately $2,500[23] (excluding installation) and for a DPF between $7,000–12,000[24] (excluding installation). The California Air Resources Board estimates that the average cost of retrofitting an engine of 275 horsepower with a catalyzed diesel particulate filter ranges between $6,900–$9,000.[25] By comparison, the average base price for a 200 to 300 horsepower wheel loader is $275,000.[26] Retrofitting an engine with a catalyzed DPF in this price range or with a $2,500 DOC costs only a small fraction (2.5 to 3.2% and less than 1%, respectively) of the cost of replacing the entire vehicle with one that pollutes less.

Moreover, the use of diesel fuel with 15 ppm of sulfur or less can benefit engine operation and maintenance by reducing wear and tear on heavy equipment. This translates into prolonged engine life and less frequent replacement of parts like pistons and cylinder liners.[27] Fleet operators using ULSD may therefore realize a dividend in avoided maintenance.[28] EPA expects these benefits to be equivalent to reducing the cost of the fuel by 3.3 cents per gallon.[29]

Environmental Defense recommends that construction fleet operators who have decided to take steps towards reducing harmful emissions from their construction vehicles contact their Original Equipment Manufacturer (OEM) or other appropriate technology experts to determine the most effective way to reduce diesel emissions from specific machine models in their fleet. Retrofit technology manufacturers and OEMs will probably need information about the fleet in order to advise construction fleet operators on which retrofit solutions will work best for their individual needs. It is always advisable for construction fleet operators to maintain a full inventory of construction machinery (including model and serial number of equipment, year of manufacture, engine displacement, horsepower and serial number of engine, and engine certification for post-1996 engines) working at a given site. This inventory should also include all machinery used to transport debris and construction material to and from a construction site.

Fleet operators who wish to install retrofit technology should also seek information from manufacturers about the proper monitoring, maintenance and operation of retrofit technology.[30] Finally, fleet operators should check with both OEMs and retrofit technology manufacturers about how installing retrofit equipment or using alternative fuels will affect equipment warranties. Most manufacturers have provided guidance to ensure that warranties are not threatened by any use of clean fuels or retrofits.

Equipment management and behavioral solutions to emissions reductions

In addition to the "3 R's" above, there are fleet management and behavioral solutions that can be implemented to reduce pollution. These common sense practices can be implemented immediately

and can be a good first step in any retrofitting/diesel emissions reduction plan.

Stop engine idling. Users of heavy-duty diesel equipment (both onroad and nonroad) often keep their engines idling when their equipment is not in use. Reducing or eliminating unnecessary idling can save fuel, and therefore money, as well as reduce emissions. According to EPA, a typical heavy-duty truck or bus can burn approximately one gallon of diesel fuel for each hour it idles, generating significant amounts of pollution, wasting fuel, and causing excessive engine wear.[31] Instead of idling, vehicle owners can purchase small generators or auxiliary power units specifically designed for trucks and buses that provide heat, air conditioning and/or power while a vehicle is not in motion.[32] These devices substantially reduce the fuel consumed and emissions generated during long-duration idling. Many communities across the county have anti-idling rules, but there is a need for enforcement and compliance with these rules and a need to develop and enforce worksite specific rules to govern idling.

Improve equipment maintenance and inspection. Proper maintenance, engine tuning and emissions testing is critical to success. This includes replacing worn out parts, cleaning, tuning and generally maintaining the engine. Whether a retrofit device is installed and/or cleaner fuel is being used, it is always important to ensure that the engine is properly tuned and maintained. This is essential not only for the engines to operate efficiently, but also to ensure that emissions reduction technologies can be used effectively. As with onroad vehicles, nonroad equipment should have regular inspections, including smoke testing. Proper maintenance will ensure complete fuel combustion and as a result PM exhaust is minimized. Proper maintenance can also improve fuel economy and extend engine life.

In addition to reducing idling time and instituting inspection and maintenance programs, the following measures can also help reduce exposure to diesel pollution:

- establishing a staging zone for trucks that are waiting to load or unload material at the work zone in a location where diesel emissions from the trucks will have minimum impact on abutters and the general public; and
- locating construction equipment away from sensitive receptors such as fresh air intakes to buildings, air conditioners and operable windows.

The remainder of this handbook focuses on using cleaner fuel and retrofits to reduce pollution from construction equipment. Reducing pollution from existing nonroad diesel equipment is vital to protecting the public from the health and environmental harms caused by hazardous diesel emissions. Even a relatively new engine can reduce pollution by installing a retrofit and using a cleaner fuel. The goal of these retrofit or emissions control technologies is to reduce emissions, up to and beyond what is required by EPA regulation[33] without negatively impairing the performance of the machine for its intended use.

CHAPTER 4

Successes and regional programs

A variety of regional programs have proven successful at reducing harmful diesel pollution. This section of the handbook provides examples of voluntary government or private sector leadership in retrofitting construction equipment, including: New York City's efforts at the World Trade Center and through Local Law 77, Boston's Big Dig Project, Connecticut's New Haven Harbor Crossing Corridor Improvement Program, the Port of Houston Retrofit Program and retrofits at Washington's Puget Sound. Additionally, this section examines examples of successful economic or market incentive programs that provide financial support for cleaner technologies or fuels, such as the Texas Emissions Reduction Plan, the Carl Moyer Program in California, or the EPA Voluntary Diesel Retrofit Program. The diversity of programs described reflects the varying needs of individual projects with respect to equipment, location, fuel availability and other related factors. When planning a retrofit project, it is always important to take individual situation characteristics into account.

"Best available retrofit technologies": New York City

New York City has demonstrated a strong commitment to reducing pollution from diesel engines. This case study discusses three NYC projects:

- the 7 World Trade Center Diesel Emission Reduction project,
- lower Manhattan redevelopment construction commitments, and
- NYC's Local Law 77.

7 WORLD TRADE CENTER SITE[34]

The Clean Air Communities Diesel Emissions Reduction Project at 7 World Trade Center is the first public-private endeavor of its kind in the city. As former Northeast States for Coordinated Air Use Management (NESCAUM) Executive Director, Ken Colburn stated, "through the application of advanced emission control technology and the use of ultra low sulfur diesel fuel, this Clean Air Communities initiative demonstrates that innovative, clean air progress is possible even at large-scale urban construction sites across the nation."[35]

In October of 2002, the site converted to ULSD for all equipment. Six pieces of construction equipment have already been retrofitted, and one electric crane is being used in lieu of the typical diesel engine crane technology. It is important to note that these strategies target PM, HC, and CO reductions, not NO_x.

LOWER MANHATTAN REDEVELOPMENT[36]

Lower Manhattan is a thriving mix of apartments, art galleries, shops and restaurants. More than 4,000 children live throughout lower Manhattan in neighborhoods as diverse as TriBeCa, Chinatown and Battery Park City. With the rebuilding of the World Trade Center site, lower Manhattan will become one of the nation's largest construction sites, teeming with diesel engines. These engines will be operating just steps from school, playgrounds, parks, homes and offices.

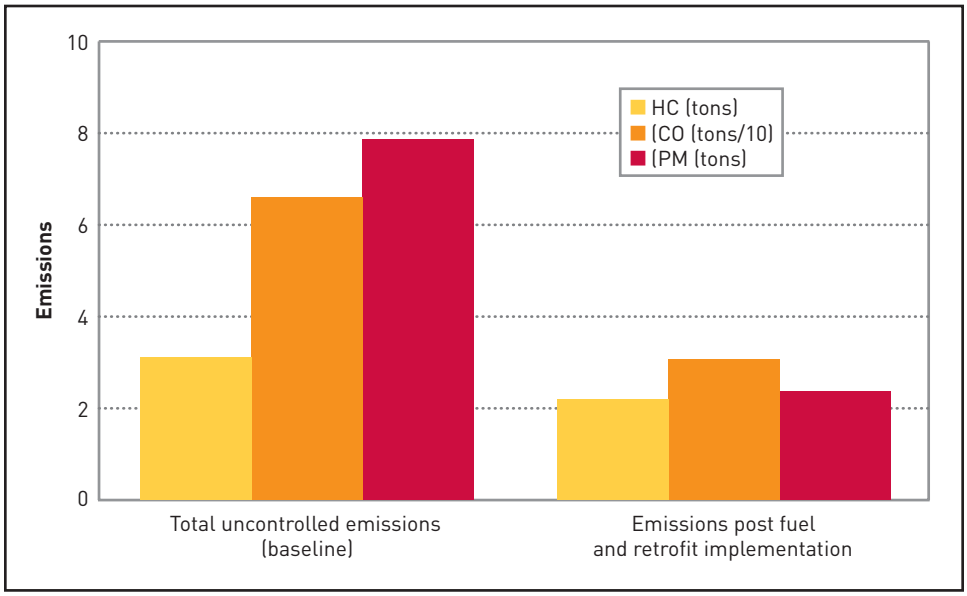
Governor Pataki and New York City have pledged to use the best available retrofits and cleaner diesel fuel in all of the reconstruction efforts. In 2002,

TABLE 3
7 World Trade Center retrofits

Date	Equipment	Retrofit technology
March 2003	Stationary Generator Excavator (CAT 245D, 14.7 l) Excavator (Komatsu PC200, 5.9 l)	DOC DOC DOC
January 2004	Stationary Generator (Rudox, 125 kw, 6.8 l)	Active DPF (Rypos RT500)
May and June 2004	A two-stroke and a four-stroke crane	Metallic High Performance DOC Clean Cat® known by the trade name of "diesel particulate reactors" (by Environmental Solutions Worldwide, Inc.)
Pending	The site has plans to retrofit one more piece of equipment, a concrete pump, with a DOC. Rather than purchasing a new DOC, the retrofit will reuse a high-efficiency DOC from one of the cranes after crane use is finished.	

Source:Information provided by Glenn Goldstein at NESCAUM.

FIGURE 5
Total emissions reductions for 7 World Trade Center project



Courtesy of NESCAUM. Includes emissions from equipment that was not retrofit.

Governor Pataki committed to the use of ULSD and best-available retrofits in all state-controlled lower Manhattan construction projects, including at the World Trade Center site. The New York State Assembly and Senate followed Governor Pataki's lead and passed legislation on June 22, 2004 codifying Governor Pataki's commitment.[37] The law was unanimously approved in both the House and the Senate and was recently signed into effect by the governor.[38] It requires contractors and subcontractors using diesel-powered nonroad vehicles with an engine horsepower rating of 60 HP and above to use only ULSD and to retrofit, where practicable, their equipment with oxidation catalysts, particulate filters or technology with "comparable or better effectiveness."[39]

The pollution reduction efforts at 7 World Trade Center have been paralleled at other redevelopment sites in lower Manhattan. In the PATH reconstruction project, for example, three pieces of construction equipment were chosen for retrofits: a Caterpillar XQ2000 Genset and two Caterpillar 966G TG-22 Loaders. Caterpillar, the original manufacturer of all of the pieces of equipment, was chosen to perform the retrofits.

Caterpillar chose to utilize a passive DPF, the CRT™, manufactured by Johnson Matthey. The CRT™ particulate filter is a patented emissions control technology that contains both a platinum oxidation catalyst and a particulate filter. Caterpillar specifies the minimum exhaust temperature must be at least 260°C for at least 40% of the operating time. Though loaders met these minimum requirements, a detailed engineering analysis on the generator's exhaust temperature found that it was an unsuitable candidate for a DPF. The generator was only being used consistently at approximately 20% of its rate and thus lacked sufficient exhaust temperature.

In August of 2003, H.O. Penn (Caterpillar's local dealership) and Caterpillar design engineers installed the DPFs on the two 966G Loaders. The installation process took eight to ten hours, which was approximately double the expected installation time. This delay can probably be attributed to these retrofits being the first installations of this kind performed by H.O. Penn as well as the need to modify several brackets/components during installation. During the emissions testing, the time required to remove the original muffler and replace it with the DPF was cut in half.

One concern about using DPF technology is failure of the DPF to regenerate, which could lead to excessive engine backpressure. Backpressure must be checked so that it does not increase to levels that may ultimately damage the engine. For this reason, Caterpillar decided to provide an integrated exhaust backpressure alarm with the retrofits to alert the driver if the backpressure is too much. The alarm, mounted in the cab of the loader, is both visual and audible. If a pre-specified backpressure is exceeded for more than a set time interval the alarm lights up.

The installed cost of the DPFs for the wheel loaders was approximately $15,000 each. This cost is probably higher than the future cost of retrofits of this type because this was the first installation on a Caterpillar 966G loader for both Caterpillar and H.O. Penn. After the first few installations, labor efficiencies are typically realized, as evidenced by the decreased installation time from the initial installation to the emissions testing installation. Further, as market demand increases, capital costs are expected to decrease. Additional project costs came from the April 2005 price premium of $0.01–$0.18 per gallon of ULSD in the New York City area. The use of ULSD is not expected to change maintenance schedules or cost, however, using DPFs is expected to slightly increase maintenance responsibilities and cost. Specifically, the filter technology must be cleaned to maintain emissions reduction benefits. A cleaning contract was not negotiated for this project, but other negotiated contract prices in the New York City area range from $300 to $500 per cleaning event. The DPFs have not yet been in service for a year, and have experienced no operational problems.

To establish the emissions reduction potential of the different strategies (ULSD vs. ULSD/DPF), emissions testing was performed using two different types of portable emissions monitoring systems: the Clean Air Technologies

Construction at the World Trade Center site.

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International Montana system and the Environment Canada DOES2 system. Emissions testing was conducted for two weeks between September and October of 2003; significant PM emissions reductions were documented. Both monitoring systems identified PM emissions reductions of 15 to 20% for the use of ULSD alone, and of greater than 90% when ULSD was combined with the DPF. Additionally, the use of the DPF also produced significant CO emissions reductions. The switch to ULSD alone produced CO emissions reductions in the range of 1 to 10%, and more than 85% reductions were achieved when the DPF technology was used with ULSD.[40]

NEW YORK CITY LOCAL LAW 77

Recently, New York City committed to emissions reduction measures for all city-funded construction. New York City Local Law 77 calls on New York City to use clean fuels and advanced emissions-control technologies in all city construction fleets and contracts. The law requires two fundamental steps.[41] First, it requires the use of ULSD with a maximum sulfur content of 15 ppm in all city contracts, on a schedule set forth in the law. Second, it requires use of "best available" emissions control technology for any class of engine to which the law applies.

Local Law 77 provides a high standard for what shall constitute best available technology, calling on the City to use technologies that reduce both fine particulate matter (PM) and oxides of nitrogen (NO_x). Specifically, Local Law 77 requires that agencies use technologies that "shall be primarily based on the reduction in emissions of particulate matter and secondarily based upon the reduction in emissions of nitrogen oxides."[42] The DEP recently promulgated rules defining "best available technology."[43]

Retrofits and ULSD have been tested at the 7 World Trade Center site, incorporated into Lower Manhattan Development Corporation design guidelines, and now every Environmental Impact Statement for major reconstruction projects in lower Manhattan, from the Fulton Street transit center to Route

Even private NY contractors have joined the diesel retrofit effort. After Pavarini-McGovern Construction Company was found in violation of a local emissions regulation, they retrofit a 1971 380 HP crane with a DOC and committed to using the fuel-borne catalyst Platinum Plus.

9A, has committed to using advanced retrofits in their environmental impact statements. For example, the Fulton Street Transit Center draft environmental impact statement requires the use of Tier 2 compliant equipment with PM emissions reductions at 85%.[44] Additionally, many projects in lower Manhattan are already moving ahead with emissions-reduction strategies based on a wide range of technologies.

The Big Dig[45]

The Central Artery Project in Boston, also known as the "Big Dig," has built 161 lane miles of highway in a 7.5-mile corridor directly through the middle of densely populated downtown. The project, which began in September 1991 and is currently scheduled to be substantially completed by the end of 2005,[46] presented an historic opportunity to test and demonstrate the feasibility of pollution control retrofits. Use of these retrofits helps to minimize the impact of such a large-scale project by reducing air pollution and lessening the health impact of a major construction project on workers, neighborhoods and regional air quality.

The Massachusetts Turnpike Authority (MTA) in collaboration with the Massachusetts Department of Environmental Protection (DEP) and NESCAUM, chose to retrofit construction equipment with diesel oxidation catalysts. Although other technologies achieve higher particulate reduction rates than DOCs, the MTA preferred DOCs for several reasons—primarily because the very clean diesel fuel (15 ppm of sulfur or less) needed to operate other technologies was not available at the time the Big Dig began.

Retrofit requirements were incorporated into Big Dig construction contracts.

MASSACHUSETTS TURNPIKE AUTHORITY

The Big Dig retrofit project has resulted in the installation of DOCs on approximately 200 pieces of construction equipment—this includes small in-tunnel cranes,[47] lifts, excavators, bulldozers, generators and compressors. This effort will achieve air emissions reductions that are the equivalent of removing 1,300 diesel buses off of Boston streets for a full year.[48]

The Big Dig retrofit project is a true success: **No adverse operational problems or additional maintenance costs have been experienced by Big Dig construction equipment retrofitted with DOCs.**[49] Additionally, preliminary estimates of area-wide emissions reductions from the retrofitted equipment amount to approximately 36 tons per year for carbon monoxide, 12 tons per year of hydrocarbons, and 3 tons per year of PM.[50]

The Massachusetts Highway Department provided funding to contractors to purchase the emissions control devices. According to Alex Kasprak, Environmental Engineer, Massachusetts Turnpike Authority, one of the lessons learned from the Big Dig project is that it is best to include the requirement for emissions control equipment as part of the contract's bid package. By doing so, the cost of the retrofit equipment can be included as part of the overall contract cost. This will also ensure that the maximum number of offroad pieces of equipment can be retrofitted.[51] Overall, the Big Dig retrofit program is now being used as a model by regulatory agencies to encourage other construction projects to utilize retrofitted diesel equipment.[52]

I-95 New Haven Harbor Crossing Corridor Improvement (NHCC Project)[53]

Eighty-three diesel oxidation catalysts have successfully been installed at the Connecticut NHCC project. In addition, construction contractors have volunteered to use low sulfur diesel (500 ppm sulfur content) on all their nonroad equipment. The NHCC project is part of Connecticut's Clean Air Construction Initiative and was launched to protect laborers as well as residents from harmful construction emissions along a densely populated corridor. Construction began in 2001.

The Connecticut Clean Air Initiative was a mutual effort of the Connecticut Department of Transportation (ConnDOT), the Connecticut Department of Environmental Protection, the Connecticut Department of Motor Vehicles, and the Connecticut Construction Industry Association to come up with real-world solutions to air quality problems. With compromise, a contract specification was evolved from the above mentioned agencies to improve the quality of life through this long duration construction project.

ConnDOT is requiring all contractors and subcontractors to take part in the Connecticut Clean Air Construction Initiative. The cost to purchase the DOCs and the cleaner fuels was included in the overall contract cost, as bid by each contractor. At present, all contractors have decided to install DOCs. Although other technologies achieve higher particulate reduction rates than DOCs, they were preferred primarily because low sulfur diesel fuel

"The Big Dig diesel construction retrofit program has proven that retrofitting construction equipment with DOCs is very feasible, and provides beneficial air quality improvements in terms of emission reduction and odor control."

—Alex Kasprak, Environmental Engineer, Massachusetts Turnpike Authority, CA/T Project

"I am very proud of Connecticut's success in this Clean Air Construction Initiative. The State of Connecticut's various Departments and the Connecticut Construction Industry Association (CCIA) worked and are still working to benefit the people of Connecticut by trying to improve the quality of life in locations where transportation projects are occurring. We are sensitive to those that live or work in an area were construction is going on, day after day, and how it affects those people's lives. This Initiative is a step in the right direction. As technologies improve, greater air quality can be achieved."

—Donna Weaver, Transportation Planner, Office of Environmental Planning, Connecticut Department of Transportation

(500 ppm sulfur content), rather than the ULSD (15 ppm of sulfur or less) needed to operate other technologies, was used for the project. Estimates for reduced emissions from the program are 20 tons per year for carbon monoxide, 2 tons per year for fine particulate matter (with clean fuels or oxidation catalysts) and 8 tons per year for hydrocarbons (with oxidation catalysts only).[54]

Because of the success of the Connecticut Clean Air Initiative on ConnDOT projects, other agencies such as the Connecticut Department of Public Works and the Connecticut Department of Economic and Community Development are also requiring their construction contractors to follow the ConnDOT specification. Three or four diesel oxidation catalysts have been installed on two projects as a result.

Port of Houston[55]

The Port of Houston is the sixth largest port in the world,[56] and a significant contributor to NO_x emissions in the eight counties of the Houston-Galveston area. All eight counties in this region fail to comply with EPA's health-based eight-hour ozone standards.[57] Although the Port of Houston Authority is not the largest contributor to emissions in the area, they have become the region's leader in emissions reduction activities and commitments.

Through demonstration testing of the alternative fuel PuriNOx™ on rubber-tire gantry crane with a 550 horse-power engine, the Port of Houston Authority (PHA) has reduced NO_x emissions by 25% and PM emissions by 50%.[58] In September of 2003, the Port Authority converted 39 yard tractors and yard cranes to PuriNOx and enacted the requirement that any new equipment purchased be able to use the technology.[59] Approximately 49 pieces of cargo-handling equipment are currently operating on PuriNOx for a NO_x emissions reduction of approximately 21 tons per year at a total cost of $216,000. According to Roger Guenther, container facilities manager at Barbours Cut Container Terminal, "It's just a different fuel, nothing special has to be done to the equipment. I could put diesel back in any of the offroad vehicles and they would run just fine. I can't tell any difference from one to the other."[60]

The PHA also applied for and received $337,000 in state funding (see the Texas Emissions Reduction Program section below) to replace two Fireboat FARNSWORTH propulsion engines with engines that produced 5.6 tons less NO_x per year.[61] Additionally, the PHA has purchased several new yard tractors and container handlers with clean engine technology, resulting in NO_x emissions reductions of 6.9 tons per year at a cost of $21,500.[62] Further, the PHA purchased 33 ultra-low emissions vehicles or propane vehicles for their onroad fleet.[63] The PHA plans to extend its retrofit program (which involves either retrofitting vehicles with oxidation catalysts,

PORT AUTHORITY OF HOUSTON

New equipment purchased by the Port of Houston Authority must run on PuriNox, an alternative fuel that reduces NO_x emissions.

switching their fuel use to PuriNOx, or both) to between 50 and 250 vehicles.[64] In total, the PHA has reduced NO_x emissions by 33.5 tons per year with the assistance of $574,000 in TERP funding.

Puget Sound in Washington[65]

Washington State's Puget Sound Clean Air Agency has formed a coalition, known as Diesel Solutions®, to dramatically reduce diesel engine pollution in the region. The first step in this program was to work with Conoco/Phillips and U.S. Oil to ensure that ULSD was locally available. Since ULSD was made available, 800 school buses have been retrofit, mostly with DOCs.

Approximately two dozen pilot projects used DPFs for the retrofits. The average retrofit cost has been between $1,200 and $8,000 per vehicle, and projects are financed through a statewide retrofit program developed as part of the EPA Voluntary Diesel Retrofit Program. The next step in the program is to retrofit diesel engine construction equipment with pollution control technology. As part of this effort, the Puget Sound Clean Air Agency has requested retrofits in their comments on local project environmental impact statements, and has been speaking with a number of construction companies.[66]

The Texas Emissions Reduction Program[67]

In 2001, the Texas State Legislature established the Texas Emissions Reduction Program, enacted through Senate Bill (SB) 5. The goals of the TERP, as stated in SB 5, are to: "assure that the air in the state is safe to breathe and meets minimum federal standards established under the Federal Clean Air Act (42. U.S.C. Section 4707); develop multi-pollutant approaches to solving the state's environmental problems; and adequately fund research and development that will make the state a leader in new technologies that can solve the state's environmental problems while creating new business and industry in the state."[68]

The TERP covers 41 counties in the state where air quality violates or is close to violating EPA standards.[69] Projects are eligible for financial assistance through a number of programs, including: the Emissions Reduction Initiative Grants Program, which offers incremental funding for NO_x emissions reduction activities; the Small Business Program, which offers grants to small businesses for pollution reduction measures; the Heavy-Duty Motor Vehicle Purchase or Lease Incentive Program, which allows the Texas Com-

mission on Environmental Quality to reimburse a purchaser or lessee of a new onroad heavy-duty vehicle for the difference in price between that vehicle or a higher-emitting diesel-powered vehicle; and the Light-Duty Motor Vehicle Purchase or Lease Incentive Program, which (though currently unfunded) is intended to provide financial incentives for the purchase of light-duty motor vehicles that are EPA-certified at a lower NO_x emissions standard than regular light-duty motor vehicles.

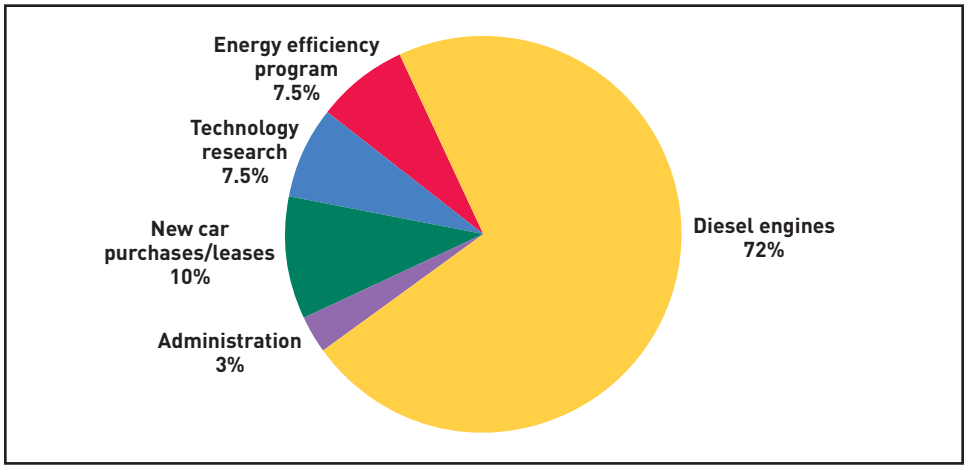
TERP will offer a total of approximately $130 million in funding for emissions reductions programs each year over the next three years.[70]

In the 2004 grant application period, the Texas Commission on Environmental Quality had approximately $127.5 million available for grant programs. Eligible projects include new purchases, replacements, retrofits, repowers, and refueling projects.[71] The projects from the first round of grants are expected to reduce NO_x emissions by over 3,500 tons over their lifetime, at an average cost of about $5,175 per ton reduction.[72] The projects funded by the second round of these grants are expected to reduce NO_x emissions by almost 13,600 tons over the life of the projects, at an average cost of $5,960 per ton reduction.[73] In 2004, the average cost per ton reduction of NO_x emissions was approximately $5,800. This represents a lower average cost per ton NO_x emissions reduction than achieved by 2002-2003 grants funds, which offered over $28 million in funding to reduce NO_x emissions by over 4,100 tons over the life of the projects at an average cost of approximately $8,362 per ton.[74] The Emissions Reduction Grant Incentive Program NO_x cost-effective criteria will be capped at $7,000 per ton reduction in 2005.[75] Grant award details are available at: http://www.tnrcc.state.tx.us/oprd/sips/terp.html and more information can be found at: http://www.tnrcc.state.tx.us/oprd/sips/terp.html.

California's Carl Moyer Program[76]

The Carl Moyer Memorial Air Quality Standards Attainment Program

FIGURE 6
TERP funding distribution, 2001 (approximately $130 million)



When the Texas Emissions Reduction Plan is fully implemented, the majority of funds will go toward replacing older diesel engines with cleaner-burning models.
Source: TNRCC. "Clean Air Incentives." Natural Outlook, Fall 2001. Online resource, available at: http://www.tceq.state.tx.us/assets/public/comm_exec/pubs/pd/020/01-04/clean_air.pdf Last accessed 04/12/05.

provides funds on an incentive basis for the incremental cost of cleaner than required engines and equipment. Funding is available for nonroad equipment 50 hp or greater. Eligible projects include cleaner onroad, offroad, marine, locomotive and stationary agricultural pump engines, as well as forklifts, airport ground support equipment, and auxiliary power units. The program achieves near-term reductions in NO_x emissions, which are necessary for California to meet its clean air commitments under the State Implementation Plan. In addition, local air districts use these NO_x emissions reductions to meet commitments in their conformity plans, thus preventing the loss of federal funding for local areas throughout California. The program also seeks to reduce particulate matter (PM) and hydrocarbons.

The California Air Resources Board (CARB) is responsible for the development and oversight of the majority of the Carl Moyer Program. CARB distributes Carl Moyer funding to California's 35 local air districts, which then screen applications and distribute the funding to diesel engine owners. The program has provided grants for projects such as repowering nonroad equipment, agricultural irrigation pumps, sweepers, tractors and marine vessels. It has also helped to fund the purchase of new natural gas refuse trucks and buses.

Governor Schwarzenegger recently signed AB923, which authorized increasing motor vehicle registration fees and tire fees to support programs, such as the Carl Moyer Program, that reduce air pollution. Through year six of the Carl Moyer Program, it had received approximately $154 million dollars in total funding.[77] With its recent reauthorization, up to $140 million a year of incentive funding is available for air pollution mitigation technologies.[78] More information is available on the Carl Moyer Program web site at: http://www.arb.ca.gov/msprog/moyer/moyer.htm.

The EPA Voluntary Diesel Retrofit Program

The Environmental Protection Agency, through the Office of Transportation and Air Quality, has developed a program to encourage voluntary diesel retrofits. This program uses economic incentives, which can be applied at the federal, regional, state, and local levels, to produce emissions reductions through the use of pollution control technology. One tool used by this program is grants, which have been awarded to various parties to help fund the cost of retrofit projects. Information on recent grants is available on the EPA Voluntary Diesel Retrofit Program web site.

EPA is also in the process of developing a policy to allow diesel engine retrofits to count as credits that can be traded or used to offset stationary source emissions. As a corollary to this program, EPA has developed a verification program to ensure that pollution control technology providers advertised emissions reductions. More information on the EPA verification process is available in the "Onroad and Nonroad EPA/CARB Verification" section of this handbook. Further information on the Voluntary Diesel Retrofit Program, verified technologies, and financial incentives for the use of pollution control technology can be found on the EPA Voluntary Diesel Retrofit web site, at: http://www.epa.gov/otaq/retrofit/index.htm.

Ultra-low sulfur diesel fuel (ULSD)

The sulfur in diesel fuel directly contributes to the amount of pollution emitted, such as engine-out PM emissions[79] and secondary emissions of SO_4.[80] Currently, the EPA standard for onroad diesel fuel is 500 ppm (also referred to as No. 2 Diesel). The current nonroad standard for diesel fuel is 5,000 ppm, but sulfur levels are generally around 3,400 ppm. As of September 2006, 15 ppm sulfur content (ULSD) will become mandatory for all onroad diesel engines[81] and in 2010, 15 ppm sulfur content fuel will become mandatory for many nonroad engines.[82]

Because ULSD is not required nationally until September 2006, its current availability and costs vary depending on location, whether ULSD has to be specially trucked in for a project, and the quantities needed. The map below shows areas within a 250-mile radius of where ULSD is refined,[83] or areas where ULSD should be available as of August 2004. Once ULSD becomes mandatory for the onroad sector in 2006, it will be readily available across the United States and cost differentials between low sulfur diesel (500 ppm) and ULSD should be minimal.

ULSD reduces harmful emissions, allows for aggressive retrofit devices, and reduces maintenance costs. EPA states: "While the estimated added cost for low-sulfur fuel is about seven cents per gallon, the net cost is projected to average about four cents per gallon because the use of ULSD could significantly reduce engine maintenance expenses."[84] The maintenance dividend for low sulfur fuel in large onroad vehicles (e.g. trucks and buses) is about $600 over the life of the engine or a fuel cost savings of about 1 cent per gallon.[85] The cost savings for nonroad equipment may be higher, because baseline sulfur levels in nonroad fuel are up to six times higher than onroad fuel.

The program has been a tremendous success. In the short period from October 1, 2004 to February 1, 2005, the Lane Clean Diesel Project received commitments from its partners to purchase over 2 million gallons of ULSD.

By switching from onroad diesel fuel (500 ppm) or from nonroad diesel fuel (about 2000 ppm-3000 ppm) to ULSD, particulate matter, smoke and sulfate emissions will be reduced.[86] ULSD used in combination with advanced retrofit technology allows for dramatic reductions of up to 90% of the PM, HC and CO found in diesel exhaust. Those who wish to design a retrofit program should talk with local fuel providers to determine whether ULSD is available in their market, and if it is not yet available, the timeline within which it will be

An Oregon success story

Sharon Banks of the Lane Regional Air Pollution Authority (LRAPA), Oregon successfully built a market for ULSD fuel in Lane County, Oregon. The objective was to bring ULSD fuel to Lane County at an affordable price ahead of the September 2006 mandate.

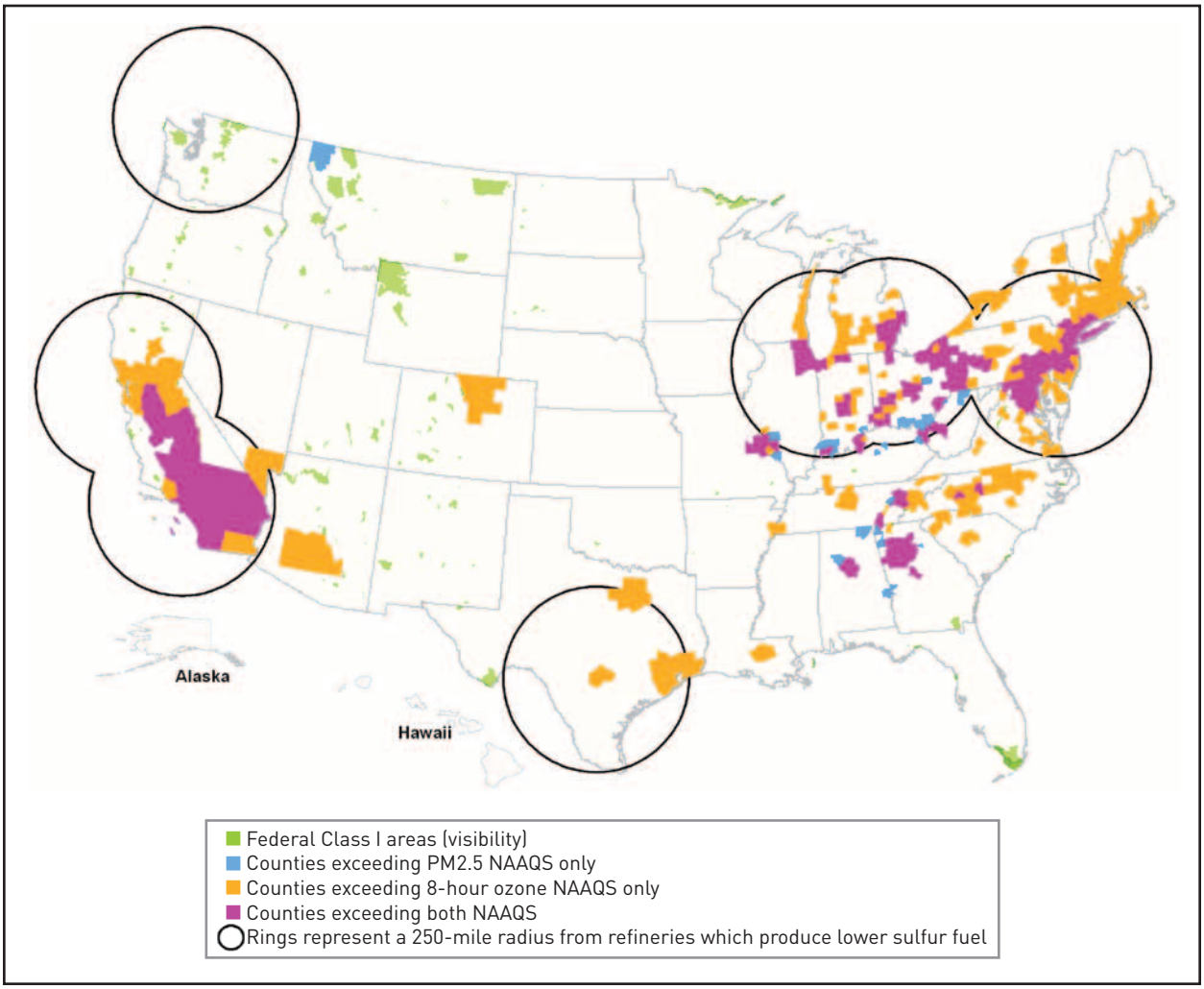
To bring the price of ULSD fuel down to a competitive level, Ms. Banks built enough demand in Lane County to make ULSD fuel attractive to users. City managers, County administrators, school districts, transit authorities, municipal waste haulers, large private fleets, fuel distributors and public utilities were all involved in the endeavor.

available. EPA rules mandate that all new onroad diesel vehicles use ULSD by 2006, at which point the fuel will be widely available nationwide.[87] New EPA rules do not require the use of ULSD in the nonroad sector before 2010, but the widespread availability of the fuel by September 2006 makes it easy for any nonroad fleet to begin using the fuel ahead of the EPA nonroad schedule.[88]

Emulsified diesel fuel

Emulsified diesel fuel is diesel fuel (LSD or ULSD) blended with up to 20% water and a proprietary additive. The water emulsion has to be stirred regularly when kept in a stationary tank to ensure that the water molecules are completely enclosed by fuel molecules. Stirring is important to avoid separation, which could cause engine corrosion and decreased lubricity. Storage tanks can be equipped with stirring devices such as circulation pumps. Though the timeframe for recirculation needs may vary based on individual product specifications, Lubrizol's PuriNOx can be stored at room temperature

FIGURE 7
Ultra low sulfur diesel fuels availability



Source: http://www.epa.gov/otaq/retrofit/fuelsmap.htm

for 3–4 weeks before recirculation becomes necessary.[89]

Emulsified diesel fuels generally do not require engine modifications. However, fleet operators should check with OEMs before using a fill-and-go system like emulsified diesel and fleet operators should confirm warranty compatibility with the equipment/engine manufacturer before using emulsified fuels. Emulsified fuels have been tested for many onroad and nonroad diesel engines, although only Lubrizol's PuriNOx summer blend has received EPA verification. Summer blend PuriNOx cannot be used when ambient temperatures fall below 20 degrees Fahrenheit.[90] EPA has verified PuriNOx for both on and nonroad use and has confirmed a 16.8–23.3% reduction in PM and a 17–20.2% reduction in NO_x for nonroad applications.[91]

CARB has verified PuriNOx for onroad engines model years 1988-2003 at 50% PM (Level 2) reduction and 15% NO_x reduction.[92] In addition, CARB has verified PuriNOx and AZ Purimuffler or AZ Purifier System for 1996 through 2002 diesel engines used in off-road applications specifically at the ports, railway yards and other intermodal/freight handling operation applications only. The PuriNOx and AZ Purimuffler or AZ Purifier System uses a diesel oxidation catalyst and an emulsified diesel fuel to achieve a 50% reduction in PM emissions, qualifying it for a Level 2 CARB verification. The system also achieves a 20% reduction in NO_x emissions.[93]

Using retrofit technology in conjunction with emulsified fuels significantly reduces both PM and NO_x. For example, use of an emulsified fuel with a DPF produces PM emissions reductions of 95%, HC reductions of 85%, CO reductions of 75% and NO_x reductions of 25%. Use of emulsified diesel fuel in conjunction with a DOC produces PM emissions reductions of 65%, HC reductions of 60%, CO reductions of 70% and NO_x reductions of 25%.[94] Thus, Environmental Defense recommends that if emulsified fuel is used, it be used in conjunction with a retrofit device whenever possible to maximize emissions reductions.

While many applications have been successful, some have raised concerns regarding fuel separation in equipment that is not being used regularly, loss of power, slower hydraulic movement, injector pump failure in newer engines and acceleration.[95] When considering the emissions reduction rates of emulsified fuel, possible loss of engine power and fuel efficiency should be taken into consideration. Fuel efficiency depends highly on the duty cycle, and Lubrizol reports that a typical loss is between 5 and 10%.[96] Since water does not contribute energy, emulsified diesel fuel can decrease engine power by approximately 10–13%[97] depending on how much water has been added.[98] Engine power is also highly dependent on the duty cycle and current engine sizing of the vehicle. PuriNOx has successfully been used in a variety of both low and high horsepower offroad engines, from small little John Deere Gators (all terrain vehicles) to tractors, loaders, scalars, dozers, haul trucks, cranes, marine vessels, etc.[99]

Availability and cost of emulsified fuel should be addressed with the local fuel distributor. If a centralized fuel storage tank is available on site, the emulsified fuel can be blended on site, which may be less expensive than when it has to be trucked in. According to Lubrizol, for example, PuriNOx prices vary by distributor, but a good approximation of cost nationwide is $0.25 per gallon over diesel fuel.[100] However, depending on where PuriNOx is sold and depending

on the price of regular diesel fuel, it can also be the same price or less expensive than regular diesel fuel.[101]

Fuel-borne catalyst

A fuel-borne catalyst (FBC) is a liquid fuel additive that conditions diesel fuel, improving combustion and reducing emissions. An FBC can either be added to bulk fuel or directly to the construction vehicle's fuel tank. An FBC typically contains small amounts of precious metals such as platinum, cerium, or iron compounds. Use of an FBC product can also improve fuel economy by up to 10% and increase horsepower by up to 5%.[102]

EPA has verified only one FBC, called Platinum Plus®, so far.[103] EPA verified reduction rates for the FBC used in conjunction with a DOC are 25-50% for PM, 16-50% for CO and 0–5% for NOx. According to Platinum Plus' manufacturer, only about 2% of the platinum gets into the environment because the platinum bonds with the hot surfaces of the engine.[104] Platinum in the environment has a limited potential to produce allergy-like symptoms for sensitive populations, such as: conjunctivitis, coughing, wheezing or asthma attacks.[105] However, a recent study by the United Kingdom's Committee on Toxicity of Chemicals in Food, Consumer Products, and the Environment reported: "platinum emissions from the platinum based fuel catalyst were unlikely to be in an allergenic form."[106]

To address the amount of platinum released into the environment and to achieve the maximum possible emissions reductions, Environmental Defense recommends that an FBC be used in conjunction with retrofit equipment, such as a DPF or the catalyzed wire mesh filter mentioned in the technology section.[107]

Alternative fuels

To reduce emissions of hazardous pollutants, construction fleet operators can use an alternative fuel. The use of alternative fuels provides not only environmental benefits, but also can reduce dependency on foreign petroleum and improve energy security through supply diversification. As with all vehicles and equipment, to achieve the maximum possible environmental benefits, alternatively fueled vehicles must be properly maintained.

This section of the handbook explores the specific advantages of biodiesel, compressed natural gas, liquefied natural gas and propane fuels. It is important to note that alternative fuels might be right for some fleets but not for others, especially because, at this time, alternative fuels do not have the same easily accessible infrastructure that diesel fuel does. Information on the availability of these, and other, alternative fuels is available from the Department of Energy's Alternative Fuels Data Center, which can be accessed online at: http://afdcmap.nrel.gov/locator/LocatePane.asp.

Additionally, federal and state tax incentives may be available to help defray increased purchasing costs for alternative fuel vehicles. More information on tax and other financial incentives for alternative fuel use is available from the Department of Energy's Alternative Fuels Data Center at: http://www.eere.energy.gov/cleancities/afdc/laws/incen_laws.html.

BIODIESEL

Biodiesel is a renewable, biodegradable, low-sulfur fuel that is produced from many types of feedstocks including vegetable oils (soybeans, rapeseeds, canola oil) or animal fat. Biodiesel is high in oxygen content (oxygenates) which leads to lower PM emissions.

Typically, biodiesel is blended with conventional diesel in a 20% biodiesel to 80% conventional diesel solution (B20). At B20, most of the potential PM benefits have been achieved while minimizing potential NO_x emissions increases. Biodiesel can also be blended with ULSD fuel, and in fact, makes up for ULSD's low lubricity. For example, using a 1% biodiesel and 99% ULSD blend increases lubricity 65% over pure ULSD, which is essentially equivalent to regular diesel fuel.[108]

EPA has statistically determined that PM, HC and CO emissions decrease and NO_x emissions increase slightly with B20 mixtures, when compared with conventional diesel. B20 increases NO_x by about 2%, decreases PM by approximately 10%, decreases HC by around 21% and decreases CO by approximately 11%.[109] Thus, biodiesel helps decrease emissions of some air pollutants, but it slightly increases NO_x emissions.[110] Due to the slight NO_x increase, biodiesel may only be appropriate for use in areas that are attaining the public health based standards for ozone—and even then, only in combination with other NO_x reduction strategies. B20 may also be appropriate for areas that have achieved their air quality standards but must work actively to maintain that status (maintenance areas).[111]

Biodiesel may also be used alone (B100) rather than blended with conventional or ULSD fuel. EPA has verified Biodiesel blends ranging from B1 to B100 for use in voluntary retrofit initiatives.[112] According to EPA, B100 is 5–11% less fuel efficient than conventional diesel.[113] Specifically, B100 reduces emissions of hydrocarbons by an average of 67%, carbon monoxide by an average of 48%, and particulate matter by an average of 47%.[114] On average, B100 emits about 10% more NO_x than conventional diesel fuels do.[115]

COMPRESSED NATURAL GAS AND LIQUEFIED NATURAL GAS

Compressed natural gas (CNG) is a colorless, tasteless, and non-toxic fuel that is mostly derived from methane. Although naturally odorless, an odorant is frequently added to CNG supplies to warn of its presence, a precaution made necessary by its flammability.[116] CNG is extracted from extensive underground reserves in gas wells or in conjunction with crude oil production and is commonly used to power water heaters, stoves, and laundry machines. However, CNG's utility is not limited to the household—it can also be an excellent and clean alternative fuel for mobile sources and has been used in the heavy-duty onroad sector.[117]

The U.S. Department of Energy describes CNG as "clean burning" producing significantly fewer harmful emissions than reformulated gasoline or diesel when used in natural gas vehicles. According to the U.S. Department of Energy, commercially available medium- and heavy-duty natural gas engines have demonstrated over 90% reductions of CO and PM and more than 50% reduction in NO_x relative to commercial diesel engines.[118] To use CNG, one must purchase a vehicle designed specifically for CNG use. At this time, CNG is not commercially available for nonroad use, although several hand-built demonstration units exist.

Liquefied natural gas (LNG) is natural gas that has been cooled to temperatures of 260 degrees below zero, but it is typically kept at high pressure so that it does not have to be so cold. The fuel's freezing temperatures increase the need for safety training by those operating LNG fueled vehicles. Skin contact with the fuel must be avoided, and machines that use LNG can vent a flammable gas mixture when not in use and parked in-

doors. Additionally, LNG must be used in a context where the LNG facility or terminal meets all applicable state or local government safety and siting rules. Similar to compressed natural gas, LNG has been used in the heavy-duty onroad sector,[119] but is not commercially available for the nonroad sector at this time.

PROPANE

Propane, known also as Liquefied Petroleum Gas, is a colorless and non-toxic fuel produced as a byproduct of natural gas processing or crude oil refining. Application of moderate pressure can convert the gas into a liquid, increasing the ease with which it is stored and transported. Although propane is less fuel efficient than gasoline, its higher octane rating means that engines run more smoothly and efficiently. Propane also produces less pollution than gasoline, and it can lower carbon dioxide, carbon monoxide and non-methane hydrocarbon emissions.[120] Additionally, propane is readily available—fueling stations are found in all 50 states. This fuel is widely used in the onroad sector, and has been successfully used by non-road vehicles such as forklifts or loaders.[121]

According to the U.S. Department of Energy, propane vehicles can produce fewer ozone-forming emissions than vehicles powered by reformulated gasoline. In addition, tests on light-duty, bi-fuel vehicles have demonstrated a 98% reduction in the emissions of toxics, including benzene, 1,3 butadiene, formaldehyde, and acetaldehyde, when the vehicles were running on propane rather than gasoline.[122]

CHAPTER 6

Filtering out pollutants

One of the most effective ways to reduce diesel pollution from existing equipment is to combine the cleaner fuels, discussed previously, with retrofit technology. In this handbook, the term *retrofit* is defined as incorporating any device into diesel equipment to reduce pollution. The term *retrofit technology* is used interchangeably with *emissions control technology*, *pollution control technology* and/or *after-treatment technology*.

There are a variety of demonstrated retrofit technologies available to significantly reduce PM, HC, CO, NO_x, toxics and odor emissions from existing heavy-duty diesel vehicles. Many technologies to reduce diesel PM are commercially available today and have been used for more than 25 years on nonroad diesel engines in construction equipment.[123] A number of NO_x control technologies that can significantly reduce pollution are still in development, although some are currently available.[124] Additionally, companies are making substantial investments to develop and commercialize diesel exhaust emissions control technologies. In fact, just 12 of the over 40 member companies that make up the Manufacturers of Emission Controls Association (MECA) have invested more than $1.8 *billion* in R&D and capital expenditures to help reduce pollution from the onroad and offroad diesel sectors.[125]

Thus, available retrofit technologies and applications are expanding rapidly and the industry is working aggressively to pursue solutions to address heavy-duty diesel emissions control.[126] Hundreds of scientists and engineers across the country are contributing to key developments to speed the evolution of diesel emissions control technology[127] and EPA has already formed partnerships with state, local and industry stakeholders in numerous states and the District of Columbia to reduce pollution from existing diesel engines.[128]

This part of the handbook introduces some of the many different options available for retrofitting.[129] It also provides information on the verification status of each technology:

- *Verified* means that the technology has been approved for use in either the onroad or the nonroad sector by the Environmental Protection Agency or the California Air Resources Board;
- *In development* means that the technology has not yet been verified, but may currently be in use in the onroad or nonroad sector, undergoing field testing, or in development.

Retrofit technologies can be geared towards PM or NO_x reduction, though many also reduce CO and HC emissions as well. Most advanced pollution control technologies require diesel fuels with very low levels of sulfur (15 parts per million of sulfur or less) to work properly and many can be combined for even deeper pollution cuts. Please talk to your fleet managers and Original Equipment Manufacturers (OEM) to determine the best options to meet your air quality goals.

Particulate matter reduction

DIESEL PARTICULATE FILTERS (VERIFIED)[130]

A diesel particulate filter (DPF) is an emissions control technology that traps diesel particulate matter from engine exhaust until the trap becomes loaded to the point that a regeneration cycle is implemented to

DPF in-use reduction numbers	
NO_x	0%
PM	Up to 90%
HC	Up to 90%
CO	Up to 90%

burn off the trapped particulate matter.[131] DPFs are normally built with a porous ceramic and metal mesh or silicon carbide filter housed in a metal container similar to a muffler. There are two main categories of DPFs: active and passive. The difference between the two is in the methods used to regenerate the filters. Passive systems rely on a catalyst to lower the temperature at which the collected soot will burn and, therefore, rely solely on the duty-cycle of the vehicle and resulting exhaust gas temperatures to ensure that regeneration occurs as frequently as required. Active systems use supplemental heat to supply the necessary energy to burn the collected particulate matter. The heat is provided by either onboard or offboard burners or electrical heaters. The type of DPF suitable for a specific application depends, in addition to other factors, upon the exhaust gas temperature, the daily duty cycle of the subject construction equipment and the availability of ULSD. Passive DPFs require the use of ULSD fuel to facilitate regeneration and prevent catalyst poisoning that would render them inoperable.[132] Active DPFs do not require ULSD fuel.

Active filter systems can be used on a broader range of vehicles because regeneration is accomplished by supplemental means that do not rely on the operation of the vehicle and the resulting duty-cycle. However, an active system can cost more than a passive system.

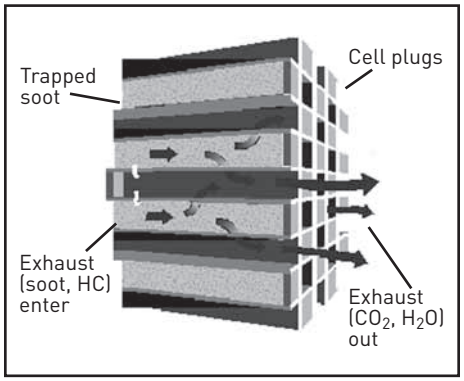
Although DPFs work by forcing the exhaust through porous walls, PM is collected without obstructing the flow of exhaust gases or damaging the engine or vehicle. Diesel particulate filters can reduce $PM_{2.5}$, PM_{10}, HC, and CO emissions by up to 90% and significantly reduce emissions of other toxics, including aldehydes.[133] However, DPFs do not remove NO_x.

Prior to installing DPFs, engines must be data-logged to ensure timely and consistent regeneration and tested to determine whether the required exhaust gas temperature is achievable for the necessary amount of time during the daily duty cycle. In addition, a back-pressure monitor must also be installed

Construction equipment retrofit with a diesel particulate filter.

COURTESY OF JOHNSON MATTHEY

FIGURE 8
Schematic of a diesel particulate filter



MECA, "Minimizing NO2 Emissions from Catalyst-Based Diesel Particulate Filters." IDRAC Meeting, February 6, 2002. Online resource, available at: http://www.arb.ca.gov/diesel/presentations/020602/mecano2resolution.pdf Last accessed 03/03/05

to allow real-time monitoring of DPF performance and to ensure consistent in-use regeneration. If there is insufficient regeneration, the DPF will become plugged with soot, increasing exhaust gas backpressure levels beyond engine manufacturer specifications.

Particulate filters can be installed on new or existing equipment, sometimes as muffler replacements, to trap particulate matter in the exhaust.[134] Because DPFs tend to be larger and heavier than a diesel oxidation catalyst or a regular muffler, DPFs require some engineering to be properly installed on construction equipment. Installation of a DPF is more complex, time consuming and costly than the installation of a DOC. However, the installation of a DPF is worthwhile, because DPFs reduce PM, HC, and CO by up to 90%, whereas DOCs only reduce PM by approximately 20–30%, and HC and CO by approximately 50–70%. According to retrofit manufacturers, installation of a DPF takes about 5–7 hours and a DOC can be installed by the equipment operator in about 1–2 hours.

Depending on the application and size of the equipment, most DPF applications cost between $7,000 and $12,000 excluding installation.[135] Because DPFs are currently more effective at reducing particulate matter than other technologies, Environmental Defense strongly encourages the use of DPFs whenever possible.

Although DPFs are not as common as DOCs, an increasing number of DPFs are already being used at a number of construction sites. Worldwide, DPFs have been installed on over 70,000 heavy-duty vehicles, primarily trucks and buses.[136] Over 20,000 DPFs have been installed on nonroad engines worldwide.[137]

PASSIVE DIESEL PARTICULATE FILTER (VERIFIED)[138]

There are two different types of passive DPFs: catalyzed and regular. A catalyzed DPF will remove the soluble organic

TABLE 4
Examples of nonroad DPF installations

Type of equipment	Type of DPF	Location
Generator (600 kw)	Active DPF (by Rypos)	World Trade Center 7, NYC
Wheel Loader (CAT966)	Passive DPF (by Johnson Matthey)	World Trade Center 7, NYC
Wheel Loader (CAT 966GII)	Passive DPF (by Johnson Matthey)	American Asphalt, CA
Dump Trucks (Cummins, CAT and ITEC engines)	Passive DPF (by Johnson Matthey)	LA and surrounding areas, Seattle, Riverside County, San Diego

fraction (SOF) portion of the PM emissions in addition to regenerating the elemental carbon (soot) fraction of the PM.[139] In addition, the exhaust gas temperature required to ensure proper regeneration is slightly lower for the catalyzed passive DPF than for the regular passive DPF. The catalyzed DPF requires a temperature of approximately 210°C, depending on the catalyst used. The catalyst can also be added to the fuel as a fuel-borne catalyst. CARB staff has evaluated the catalyzed DPF as the most effective control technology because it can reduce PM emissions by over 85%.[140]

A regular DPF typically requires a greater than 260–320°C operating temperature for a significant portion of the duty cycle and has found limited application because of this.[141] If the necessary exhaust gas temperature cannot be achieved for the required portion of the daily duty cycle, an active DPF (see below) should be considered.

ACTIVE DIESEL PARTICULATE FILTER (VERIFIED)[142]

Active filters are used when the engine exhaust temperature is too low for a passive DPF and for older and dirtier engines. Because these systems do not rely on exhaust gas temperatures for regeneration, but rather on heat addition to the exhaust gas stream by use of burners or other means, an active DPF can successfully operate at low exhaust gas temperature. To increase the exhaust temperature for efficient regeneration, some commercial filter systems have incorporated burners, electrical heaters or fuel injection into the exhaust stream. These burners or electric heaters use about 1% of the total fuel consumption.[143]

Although emissions reductions are maximized with the use of ULSD, an active DPF typically does not require the use of ULSD fuel.[144] Like passive DPFs, an active DPF can be used alone or in conjunction with a DOC to reduce gaseous hydrocarbons and carbon monoxide. The California Air Resources Board has verified Lubrizol's actively regenerated DPF, the Combifilter™, for off-road applications in 1996–2004 diesel engines. The Combifilter system is verified for an 85% reduction in PM emissions.[145]

FLOW-THROUGH FILTERS (VERIFIED)[146]

There are three types of flow-through filters: 1) the catalyzed wire mesh filter; 2) the pertubated path metal foil filter; and 3) the catalytic particulate oxidizer. Flow-through filters can be comprised of wire mesh or pertubated path metal foils. Like other filter materials they can be used with active systems or be catalyzed and perform as a passive system.

CWMF EPA verified reduction numbers (when used with FBC)

NO_x	0–9%
PM	55–76%
HC	75–89%
CO	50–66%

First, the catalyzed wire mesh filter (CWMF) is a new technology that has been EPA-verified for onroad use in conjunction with a fuel-borne catalyst.[147] A CWMF requires an exhaust gas temperature of 225°C for at least 25% of the daily duty cycle, which is lower than a DPF typically requires.[148] Thus, if a certain application does not allow for a DPF due to low exhaust gas temperatures, a CWMF might work. A CWMF weighs about the same as a DPF. EPA has verified the following emissions reduction rates for Clean Diesel Technologies, Inc.'s CWMF when used with a fuel borne catalyst: 0–9% for NO_x, 55-76% for PM, 75–89% for HC and 50–66% for CO.[149]

Generally, CWMFs should be visually inspected once per year, and in the event that the back pressure monitor signals an unreversed back pressure buildup,

the CWMF should be returned to an authorized dealer for thermal cleaning.[150] However, several CWMF units that have been in operation for over a year have been essentially maintenance free.[151] Currently, with limited quantities in production, the price range for a CWMF is $5,500 to $7,000.[152] As with all emerging technologies, prices could decline as demand for the technology grows.

Second, the pertubated path metal foil flow-through filter is an emerging technology of similar performance. It can also be catalyzed both for emissions control performance and regeneration characteristics.

Third, a Catalytic Particulate Oxidizer (CPO)[153] is a new technology developed for heavy and medium duty onroad and offroad diesel engines. The CPO has recently begun the CARB verification process but, as of February 16, 2005, has not been EPA or CARB verified.[154] The CPO has been certified[155] in Europe and is currently undergoing another verification process in Switzerland.[156] The technology does not trap or filter particulates but oxidizes them continuously. Oxidization is the process of adding oxygen to break down pollutants.[157] The chemical reaction between catalyst material and exhaust gases, according to the manufacturer's data, results in over 90% reduction of HCs, CO and PM. The CPO requires a minimum exhaust temperature of 190°C. According to the manufacturer's specifications, the CPO does not store ash, eliminating the need to open and clean the filter regularly. The CPO typically creates less backpressure than a DPF. CPOs costs range between $6,000–$8,000, depending on the size of the equipment.[158]

DIESEL OXIDATION CATALYSTS (VERIFIED)[159]

A diesel oxidation catalyst (DOC) is a type of catalyst (catalytic converter), which chemically converts HC, CO, soluble organic fraction (SOF) and polycyclic aromatic hydrocarbons (PAH) to water vapor and carbon dioxide. A DOC is a flow-through metal or ceramic substrate coated with a precious metal catalyst (e.g. platinum). The outside of the DOC is metal and looks similar to an exhaust muffler. DOCs are a "bolt on" application and they can be easily installed, typically as a direct muffler replacement. DOCs do not require engine modifications and generally are maintenance free. Although ULSD fuel is not required, PM emissions reductions are increased with the use of low sulfur or ultra-low sulfur diesel fuel. DOCs can be installed on old and new pieces of equipment; for example, some new Caterpillar equipment already comes with a DOC.

DOC in-use reduction numbers

NO_x	0%
PM	20–30%
HC	50–90%
CO	70–90%

A DOC is a proven and efficient technology that destroys large fractions of toxic emissions. Typically, DOCs reduce approximately 50–90% HC and 70-90% CO.[160] As to PM reduction, DOCs are effective for reducing the SOF component of the particulate matter.[161] The SOF portion of PM is composed of organic material from engine fuel and lube oil that forms on the surface of elemental carbon (black soot).[162] The SOF part of the particulate matter is often referred to as *wet PM*.[163] As a result, depending on the SOF concentrations in the particulate matter of diesel exhaust, DOCs reduce approximately 20–30% of PM.[164] SOF concentrations tend to decrease with newer engines.[165] If the reduction of black soot (solid fraction) is the goal, a DPF or a CWMF are more effective technologies than a DOC.

DOCs also cut down on aldehyde, smoke and odor.[166] However, DOCs do

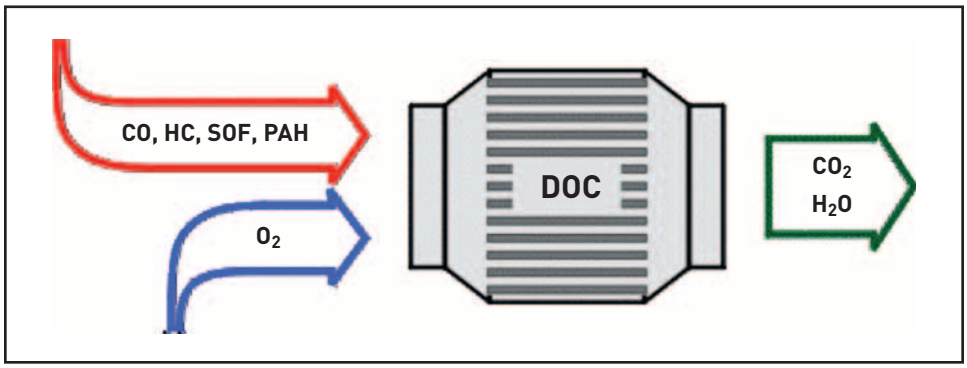
Construction equipment retrofit with a diesel oxidation catalyst.

COURTESY OF DONNA WEAVER, CONNECTICUT DEPARTMENT OF TRANSPORTATION

not remove NO_x. To increase emissions reductions, DOCs can be combined with other after-treatment technologies, including particulate filters. DOCs have already enjoyed widespread use in the onroad and nonroad sector. In fact, over 250,000 DOCs have been installed in new and retrofitted nonroad engines worldwide.[167] The cost of an oxidation catalyst is about 1–2% of the cost of new construction equipment. For example, the average cost for a DOC at the Boston Big Dig was about $2,500 per piece of construction equipment.[168] (See also the section on "Successes and Regional Programs.") Costs vary depending on the size of the equipment. Retrofit manufacturers will be able to give accurate cost estimates for each piece of equipment.

Overall, if a high number of construction vehicles should be retrofitted but funds are limited, DOCs might be an attractive option. DOCs might also be an attractive option if ULSD fuel is not available in the area. If ULSD fuel is not available, Environmental Defense encourages the use of low sulfur diesel (500 ppm) instead of typical nonroad diesel.

FIGURE 9
Schematic of a diesel oxidation catalyst



CRANKCASE EMISSIONS FILTRATION SYSTEMS WITH DOC (VERIFIED)

Crankcase emissions, on average, make up between 10–25% of total engine emissions over a prescribed test cycle but become very high (50–80%) on a relative basis when idling.[169] Targeting these emissions with pollution control technology can reduce overall engine exhaust pollution.

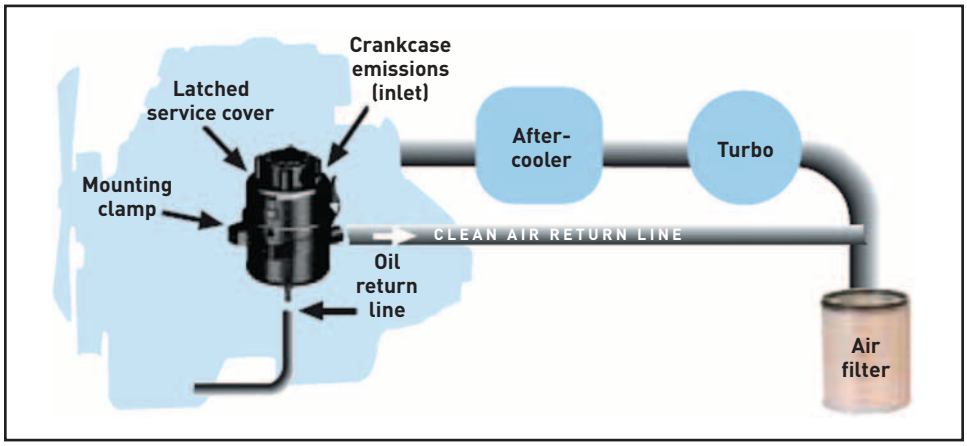
Crankcase filter with DOC in-use reduction numbers	
NO_x	0%
PM	25–33%
HC	12–34%
CO	42–52%

One example of a crankcase emissions filtration system is the Donaldson Spiracle™ crankcase filter. According to Donaldson, the filter eliminates 100% of all crankcase emissions and also eliminates under-hood fumes, reduces oil consumption by about 2–6 gallons/year and provides for a cleaner engine compartment. Donaldson reports that the Spiracle crankcase filter can be used alone, without other pollution control technologies, but EPA and CARB verification only apply the Spiracle when used with a DOC.

When combined with tailpipe pollution reduction technology, such as a DOC or a DPF, crankcase emissions filtration systems can achieve even greater emissions reductions. The Donaldson Spiracle crankcase filter is the only crankcase emissions reduction system that has been verified for use, when used with a DOC, by both EPA and CARB. The overall system reductions are based on the tailpipe reductions. Donaldson has approval for two different catalysts, depending upon the fuel sulfur level.[170] The use of a DOC with a Spiracle filter has been verified to reduce PM emissions by 25–33%, HC emissions by 12–34%, and CO emissions by 42–52%.[171] According to Donaldson, a DPF could be combined with the Spiracle filter in lieu of a DOC for a total engine emissions reduction of 89%. Neither EPA nor CARB have verified use of the Spiracle crankcase filter with a DPF.

The Spiracle system has a broad range of applications such as medium-duty and heavy-duty trucks, buses, off-road equipment and industrial generator sets.[172] For the retrofit market, the Spiracle system is available in two different sizes. For medium-duty applications, the end-user price for the system is approximately $325. For heavy-duty

FIGURE 10
Schematic of a crankcase emissions filtration system



Source: http://www.donaldson.com/en/engine/datalibrary/002509.pdf

applications, the end-user price is approximately $435.[173]

Nitrogen oxides reduction

In general, the retrofits discussed above do not reduce NOx, a key precursor to ozone/smog. Thus, to achieve NO_x emissions reductions, additional strategies must be used. There are a number of ways to reduce NO_x pollution, but not all are retrofit devices. NO_x pollution control technology includes: Selective Catalytic Reduction (SCR), NO_x adsorbers, lean NO_x catalysts, exhaust gas recirculation and fuel emulsifiers. The California Air Resources Board has determined that NO_x removal is cost effective at a cost of up to $13,600 per ton of NO_x reduced.[174] The Texas Emissions Reduction Program follows a similar standard of $13,000 per ton of NO_x reduced.[175]

SELECTIVE CATALYTIC REDUCTION (IN DEVELOPMENT)[176]

SCR systems add a reductant[177] (usually ammonia or urea) to diesel exhaust to convert NO_x to N_2. The exhaust and reductant are processed by a catalyst to reduce PM, HC and NO_x. Initial results from SCRs being used in combination with other technologies, such as a DOC, show the following possible reduction rates: 60%–80% NO_x, 25% PM, 50–70% HC and CO.[178] SCR systems must maintain a careful balance of proper urea injection and exhaust temperature. Typically, a mobile SCR needs to reach an exhaust gas temperature of 200–250°C to work. As soon as the required exhaust gas temperature is reached, NO_x is being reduced. Thus, unlike a DPF, no minimal daily duty cycle is necessary for the SCR to function properly. However, if too much urea is injected, ammonia slip (ammonia being emitted through exhaust pipe) may occur. Also, low exhaust temperatures can actually increase NO_x formation.[179] To avoid ammonia slip, proper control of the correct amount of urea injection is needed. For that reason, some mobile SCRs have a NO_x sensor before and a NO_x sensor after the urea injector to remotely record data.[180]

SCR combined with DOC in-use reduction numbers

NO_x	60–80%
PM	25%
HC	50–90%
CO	70–90%

While aided by the use of ULSD fuel, SCRs can be used with low sulfur fuel (500 ppm).[181] SCR's high NO_x reduction potential makes them an attractive option for NO_x emissions reduction. SCRs can be combined with a DOC or a DPF. SCRs can be used in stationary (i.e. generator set, compressors and pumps) as well as mobile applications. Marine vessels, ferries and trains have successfully installed SCRs.[182] Mobile SCRs are currently being used in a number of construction pilot programs.[183] As of February 11, 2005, the only SCR system that EPA/CARB have verified is Extengine's ADEC system. Another verification of a mobile SCR system for onroad engines is expected by the end of 2005.[184]

Urea, the reductant that is typically used in SCR systems, is a substance that is contained in agricultural fertilizer. Thus, urea is plentiful in the United States and while supply should not cause a problem, lack of infrastructure sometimes does. If a fleet of several vehicles is being retrofitted with SCRs, a urea dispenser can be set up at the construction site. Infrastructure problems sometimes occur if only one or two vehicles are being retrofitted because of the small quantities of urea needed. Urea distribution costs range between $0.70 and $35 per gallon.[185] The amount of urea needed per engine is a function of engine-out NO_x levels, which differ depending on the year the engine was built, and vehicle

size.[186] For every gallon of diesel fuel, about 5–10 ounces of urea are needed.[187]

The cost range for SCR systems varies greatly depending on the engine horsepower and the application. Mobile SCR systems in the 200–750 hp range cost between $12,500 and $15,000 for small quantities of SCR units.[188] These mobile SCR units are similar to an automotive type of system. Large stationary power generating SCR systems in the 750–2000 hp range can cost up to $80,000.[189]

NO_X ADSORBERS (IN DEVELOPMENT)

A NO_x adsorber, also sometimes referred to as a NO_x trap, works in two stages to remove NO_x from diesel exhaust. First, it uses a catalyst to adsorb NO_x emissions during lean operation.[190] Adsorb means to accumulate liquids or gases on a surface and "lean operation" occurs when the air-to-fuel ratio is high (perhaps 50 parts air to one part fuel), for example when a vehicle is going downhill or has a light load. Then, after the adsorber has been fully saturated with NOx, the system is regenerated (cleans itself) when the engine runs rich.[191] An engine runs "rich" when the air-to-fuel ratio is low (perhaps 29 parts air to one part fuel), for example when a vehicle is going uphill or has a heavy load. Also the exhaust gas temperature is very hot when an engine runs rich, which helps burn off the NO_x.

Unlike the other pollution controls discussed in this section, NO_x adsorbers are *not retrofittable,* i.e. they are not muffler replacements like diesel oxidation catalysts or diesel particulate filters and they can not be "added-on" like SCR. Instead they must be incorporated into the engine/vehicle design by the original equipment manufacturer. Although adsorbers have a high potential for NO_x emissions reductions, when sulfur-rich fuel is used the NO_x adsorption process is rapidly deactivated and rendered ineffective.[192] According to MECA, "To make this technology a commercial reality, low sulfur fuel is a requirement."[193] Near zero sulfur levels (less than 15 ppm sulfur) enable the application of catalyst and adsorption technology to run without interference.[194]

According to MECA, NO_x adsorber systems (in a low sulfur fuel environment) have the potential to provide "a high level of NO_x reduction across a wide range of operation conditions (temperature and NO_x concentration)—conditions which are consistent with the diversity in engine-out exhaust associated with both light- and heavy-duty diesel applications."[195] In fact, one manufacturer, Catalytica Energy Systems, states: "while still in early-stage development, our after-treatment approach is designed to offer a continuous production of a reactive reductant across a broad operating range to enable up to a 50% reduction in NO_x."[196] The operating temperature windows for NO_x adsorber technology ranges from 200 to 550°C.[197] At the present time, only prototypes of NO_x adsorbtion systems are available, so this technology is not yet commercially available or ready for CARB and/or EPA verification.

LEAN NO_X CATALYSTS (IN DEVELOPMENT)[198]

Lean NO_x catalyst technology can achieve a 10-40% reduction in NO_x emissions.[199]

Lean NOx catalyst in-use reduction numbers	
NO_x	10–40%

This technology is more effective when a supplemental hydrocarbon reductant is injected into the exhaust stream.[200] The hydrocarbons facilitate the conversion of NO_x to nitrogen and water vapor in the catalyst.[201] Lean NO_x catalysts are attractive because the technology requires no core engine modifications or

additional infrastructure and can be used to retrofit older machines.[202]

Like NO_x adsorbtion technology, lean NO_x catalysts require low sulfur fuel; however, this technology has a higher tolerance for sulfur, requiring fuel with a sulfur content of less than 250 ppm versus the less than 15 ppm required for adsorbtion technology.[203] Additionally, this technology imposes a fuel efficiency penalty of 4–7%.[204]

Combinations of different retrofit devices

Retrofit devices as well as fuel additives can be combined to maximize emissions reductions. Some retrofit devices combine, PM, HC, CO with NO_x reduction in one unit.[205] Three examples follow:

SCR SYSTEM COMBINED WITH PM EMISSIONS CONTROL (VERIFIED)[206]

Extengine's ADEC system combines NO_x and PM control technology in one unit. The NO_x is reduced with an SCR system, and the PM control is achieved with a DOC.[207] This technology has been verified by CARB as achieving a 25% reduction in particulate matter emissions, and an 80% reduction in NO_x emissions.[208] The City of Houston has successfully retrofitted two excavators with the ADEC system and has praised the emissions benefits.[209] The ADEC system can also be incorporated with other DPFs for even higher PM reductions, although each individual retrofit application would require evaluation.[210] With a DOC, and SCR with Ammonia Slip Catalyst,[211] the cost of the ADEC System is $14,500 before installation.[212]

ADEC (SCR/DOC system) verified reduction numbers	
NO_x	80%
PM	25%

Johnson Matthey is developing a technology that combines NO_x and PM control technology in one unit, the SCRT™ system (not verified as of February 2005) in which NO_x is reduced with an SCR and PM is reduced with a DPF. The SCRT system virtually eliminates HC and CO emissions and reduces PM and NO_x by 75–90%.[213] To date, approximately 100 SCRTs have been installed on heavy-duty diesel engines for field testing.[214] Johnson Matthey estimates that the SCRT will be commercially available by mid-2005.

Johnson Matthey (SCRT) field-testing reduction numbers (not verified as of February 2005)	
NO_x	75–90%
PM	75–90%
HC	Over 90%
CO	Over 90%

LEAN NO_X CATALYST WITH PM EMISSIONS CONTROL (VERIFIED)[215]

Cleaire Advanced Emission Control's Longview™ diesel emissions control system is a CARB and EPA onroad verified NO_x reducing technology.[216] The Longview system reduces smoke, odors and NO_x by 25%, PM by 85%, and HC and CO by 90%.[217] The Longview system integrates a NO_x reducing catalyst (Lean NO_x Catalyst) and a catalyzed DPF. The Longview is a muffler replacement system. The use of ULSD fuel and an exhaust gas temperature of 260°C for at least 25% of the daily duty cycle are required.[218]

Cleaire's Longview Filter CARB verified reduction numbers	
NO_x	25%
PM	85%
HC	90%
CO	90%

Longview systems have been successfully installed in onroad applications including refuse, transit, school bus, vocational work trucks, delivery trucks and line haul trucks. They have also been installed on nonroad mobile equipment such as motor graders, bucket loaders, agricultural tractors, agricultural water pumps and generators, some dating back to 1988.[219] The Longview needs regular maintenance; the maintenance interval

depends on the number of hours of operation. Cleaire has developed maintenance procedures and equipment that are available through local Cleaire distributors. Pre-installation data logging is typically not required.[220] The cost range[221] is between $18,500-$20,500 (including installation and tax) for 6–11 liter engines and about $21,000 (including installation and tax) for 12–15 liter engines.[222]

Cleaire's Lonestar system achieves about a 25–30% NO_x, a 50–70% PM, and a 40–60% HC and CO emissions reduction.[223] The Lonestar is a combination of a Lean NO_x catalyst and a high-performance DOC.[224] The Lonestar is currently undergoing CARB's verification process[225] and Cleaire is expecting verification by the end of 2005.[226] The Lonestar costs about $12,500 (including tax and installation) for 6–12 liter engines and about $15,000 (including tax and installation) for 12–15 liter engines.[227]

Cleaire's Lonestar system in-use reduction numbers (not verified as of February 2005)

NO_x	25–30%
PM	50–70%
HC	40–60%
CO	40–60%

LOW PRESSURE EXHAUST GAS RECIRCULATION (IN DEVELOPMENT)[228]

Retrofitting exhaust gas recirculation (EGR) on a diesel engine offers an effective means of reducing NO_x emissions from the engine. Both low-pressure and high-pressure EGR systems exist, but low-pressure EGR is most suitable for retrofit applications because it does not require engine modifications.

As the name implies, EGR involves recirculating a portion of the engine's exhaust back to the charger inlet or intake manifold, in the case of naturally aspirated engines. In most systems, an intercooler lowers the temperature of the recirculated gases. The cooled recirculated gases, which have a higher heat capacity than air and contain less oxygen than air, lower combustion temperature in the engine and reduce NO_x formation. Diesel particulate filters are an integral part of any low-pressure EGR system, ensuring that large amounts of particulate matter are not recirculated to the engine.[229]

EGR systems are capable of achieving NO_x reductions of more than 40%. More than 1,500 EGR systems have been installed worldwide. EGR retrofit systems are now being installed in the U.S. on solid waste collection vehicles, buses and some city-owned vehicles. The cost of retrofitting EGR with a DPF on a typical bus or truck engine is about $13,000–15,000.

Currently, there is one low-pressure EGR system available commercially: STT Emtec's DNOx® system. SST Emtec is currently pursuing CARB onroad verification for this technology, and intends to pursue nonroad verification in the future.[230] STT Emtec has stated that though this technology has "not yet been used with nonroad engines, it can be," and the technology is commercially available for nonroad applications.[231]

Further details of the costs involved in replacing, refueling, and retrofitting diesel vehicles are available from EPA and MECA at http://www.epa.gov/otaq/retrofit/documents/meca1.pdf.

Using cleaner diesel fuels or pollution control technologies on diesel engines powering construction equipment provides substantial public health benefits and improvements in air quality, but may also require investments in these fuels or technologies. Fortunately, state and local governments, fleet operators and vehicle owners have a number of options for financing cleaner diesel programs. This section of the *Cleaner Diesel Handbook* describes some programs on which state and local governments could model their own funding programs, followed by a discussion of funding available through federal sources.

State and local retrofit financing program models

CARL MOYER MEMORIAL AIR QUALITY STANDARDS ATTAINMENT PROGRAM

Both the state government of California and local air quality management districts play a substantial role in funding California's Carl Moyer Memorial Air Quality Standards Attainment Program (described in detail in the Success Stories section of this handbook). More information on the Carl Moyer Program is available on the California Air Resources Board web site, at: http://www.arb.ca.gov/msprog/moyer/moyer.htm.

In 1998/1999, the years of the program's inception, the legislature and the governor appropriated $25 million in funding for engine projects. Local air quality districts matched every two dollars of state money with a dollar contribution. In the third year of the program, state funding rose to $45 million for engine projects, and the district match was reduced to an average of one dollar per every $3.68 received. "In-kind" contributions, such as administrative costs, comprised up to 15% of match funds.[232]

In 2002, California voters approved Proposition 40, the Clean Water, Clean Air, Safe Neighborhood Parks, and Coastal Protection Act, which included approximately $40 million for Carl Moyer implementation.[233] These funds sustained the program through its fifth and sixth years. Carl Moyer's seventh year funding, approved through the 2004/2005 budget, was approximately $30.5 million.[234] The 2004/2005 budget also authorized an adjustment to Smog Check fees, establishing a continuous source of funding ($61 million/year) for the program.[235]

Assembly Bill 923, approved by the governor in September of 2004, authorized two additional sources of funding for the Carl Moyer program. The first was an increase in funding from tire fees, $25 million in 2005/2006 and $16 million in subsequent years. This brought state funding of the program to a total of approximately $86 million in 2005/2006 and $77 million thereafter.[236] The second increased the allowed surcharge on district-levied motor vehicle registration fees from $4 to $6.[237] Revenue from this program is expected to provide up to $55 million in local funding for Carl Moyer implementation in 2004/2005 and ensuing years.[238] Of the allowed $6 charge, $2 is to be used specifically for the Carl Moyer Program, for the new purchase, retrofit, repower, or add-on of equipment for previously unregulated agricultural sources, for the new purchase of schoolbuses pursuant to the Lower-Emission School Bus Progam, or for accelerated vehicle retirement or repair programs. The remaining $4 will continue to be used to "implement reductions in emissions from

vehicular pollution sources."[239] The district collecting the surcharge may use only 5% of the surcharge for administration of the program. Emissions reductions achieved through this program may not be used to offset emissions reductions obligations, nor are they tradable (i.e. available for sale/purchase) in a marketable pollution permit system. Rather, credits resulting from this funding must be "retired."[240]

NORTH CAROLINA'S MOBILE SOURCE EMISSIONS REDUCTION GRANT PROGRAM

The North Carolina Department of Natural Resources, through its Division of Air Quality, sponsors the Mobile Source Emissions Reduction Grant program in order to provide economic incentives for actual emissions reductions from on and off-road mobile sources. More information on the Mobile Source Emissions Reduction Grant Program is available on the NC Department of Natural Resources web site, at http://daq.state.nc.us/motor/ms_grants/

Funded by a 1/64-cent per gallon tax on gasoline sold in North Carolina, the program has awarded 78 grants totaling $5.74 million statewide since 1995. In 2004, $350,000 was awarded to area school districts to install diesel oxidation catalysts on school buses.[241]

THE TEXAS EMISSIONS REDUCTION PLAN (TERP)

The Texas Emissions Reduction Plan (TERP) combines incentive programs, research, and technology development aimed at improving air quality in Texas. The centerpiece of the program provides grants to eligible projects in nonattainment areas and other, TERP-designated, counties to offset the incremental cost associated with the activities to reduce emissions of NO_x from high-emitting mobile diesel sources.[242] More information on the TERP program is available in the Success Stories section of this handbook, and on the Texas Natural Resources Conservation Commission's web site, at: http://www.tnrcc.state.tx.us/oprd/sips/terp.html.

The Texas Commission on Environmental Quality (TCEQ) administers the TERP program. The Legislature established the TERP in 2001 through Senate Bill 5, and amended it through House Bill 1365 in 2003.[243] Total 2004 revenue was $141.7 million, $127.5 million of which was used for grant programs. The program was extended through 2010 by the Texas Legislature in the 79th regular session.[244]

For more specific information on funding sources, please refer to the "Texas Emissions Reductions Plan: Biennial Report to the Legislature": http://www.tceq.state.tx.us/assets/public/comm_exec/pubs/sfr/079_04.pdf

In addition, your State or local community may have funding available. Fleet owners should contact their local and state air quality and transportation agencies to learn more about available funding.

Federal grant funding

Construction companies, fleet operators or individuals operating construction equipment in states or local communities without funding programs such as those described above may find federal grant programs an option for assisting with the cost of retrofitting vehicles or purchasing clean fuels. EPA and the Diesel Technology Forum have compiled lists of funding sources that may be available in your area. Please visit, http://www.epa.gov/otaq/retrofit/retrofunding.htm and http://www.dieselforum.org/factsheet/programs.html for further details.

CHAPTER 8

Onroad and nonroad EPA/CARB verification

Both EPA and CARB operate onroad and nonroad retrofit technology verification programs. These verification programs test retrofit devices in order to assign PM and/or NO_x emissions reduction values to specific devices. Recently, EPA or CARB have verified new retrofit technologies for the nonroad sector.[245]

There is now a Memorandum of Agreement (MOA) between the Environmental Protection Agency and the California Air Resources Board for coordination and reciprocity in diesel retrofit device verification. This MOA is intended to expedite the verification and introduction of innovative emissions reduction technologies. Additionally, this MOA should reduce the effort needed for retrofit technology manufacturers to complete verification. In the near future, EPA and ARB will provide guidance on how this agreement will be implemented. Please see http://www.epa.gov/otaq/retrofit/documents/epa-arb_moa.pdf for additional detail.

The objective of the EPA Voluntary Diesel Retrofit Program Verification Process is to introduce verified technologies to the market in a cost-effective manner, while providing customers with confidence that verified technologies will provide emissions reductions as advertised.[246] This verification process will evaluate the emissions reduction performance of retrofit technologies, including their durability, and identify engine operating criteria and conditions that must exist for these technologies to achieve those reductions.[247] According to the CARB web site:

> ...the ARB has several programs relating to sale, use, or modification of emission control systems. The programs are specific to the type of device as well as the market for which it was designed. The CARB Verification Procedure provides a way to thoroughly evaluate the PM emission reduction capabilities and durability of a variety of diesel emission control strategies as part of a retrofit in-use program. It ensures that emission reductions achieved by a control strategy are both real and durable and that production units in the field are achieving emission reductions consistent with their verification. The verification procedure requires a minimum PM reduction of at least 25%. Although not a requirement at this time, if a diesel emission control strategy also reduces NO_x emissions by at least 15%, that reduction can also be verified. CARB has established a tiered verification plan which is illustrated in the table below...[248]

In-use testing

In addition to verifying pollution control technologies at certain levels of

TABLE 5

CARB verification classifications for diesel emissions control strategies

Pollutant	Reduction	Classification
PM	< 25%	Not verified
	> 25%	Level 1
	> 50%	Level 2
	> 85%, or ← 0.01 g/bhp-hr	Level 3

Source: http://www.arb.ca.gov/diesel/verdev/background.htm

emissions reductions, it is also very important to have rigorous in-use testing procedures. In-use testing—the process of testing a technology during real world operating conditions—yields the most accurate picture of emissions from a piece of equipment. By using a portable emissions testing system, researchers can get a better understanding of what is happening to emissions throughout the lifecycle of a piece of equipment. This procedure will ensure that technologies are performing at intended levels for the duration of use for a piece of equipment. For more details on EPA in-use testing requirements for manufacturers, please visit: http://www.epa.gov/otaq/retrofit/retrotesting.htm. More information about CARB's verification procedure and in-use compliance requirements is available at: http://www.arb.ca.gov/regact/dieselrv/dieselrv.htm.

Monitoring

While EPA and CARB in-use testing programs are designed for manufacturers of retrofit technologies, Environmental Defense believes that monitoring at a retrofit site can be a valuable part of a retrofit program because it allows all involved to see the actual pollution-control benefits of various retrofit strategies. This type of information can be invaluable to citizens and policy makers advocating on behalf of retrofit programs. We strongly encourage inclusion of good in-use monitoring procedures for all retrofit programs.

CHAPTER 9

Retrofit programs in State Implementation Plans

One way a state may be able to achieve emissions reductions that can be factored into its State Implementation Plan (SIP) is by including a rigorous retrofit program. A State Implementation Plan is a federally enforceable plan that describes a state's strategy for achieving and maintaining the public health based National Ambient Air Quality Standards (NAAQS).[249]

Recent EPA data shows that about half of all Americans live in places that fail to meet public health based standards for ozone and/or fine particulates. On April 15, 2004, EPA found 474 counties—home to 159 million Americans—out of compliance with the health-based eight-hour ozone standard.[250] In December 2004, EPA found that 224 counties in 20 different states are not meeting the nation's first $PM_{2.5}$ air quality standards.[251]

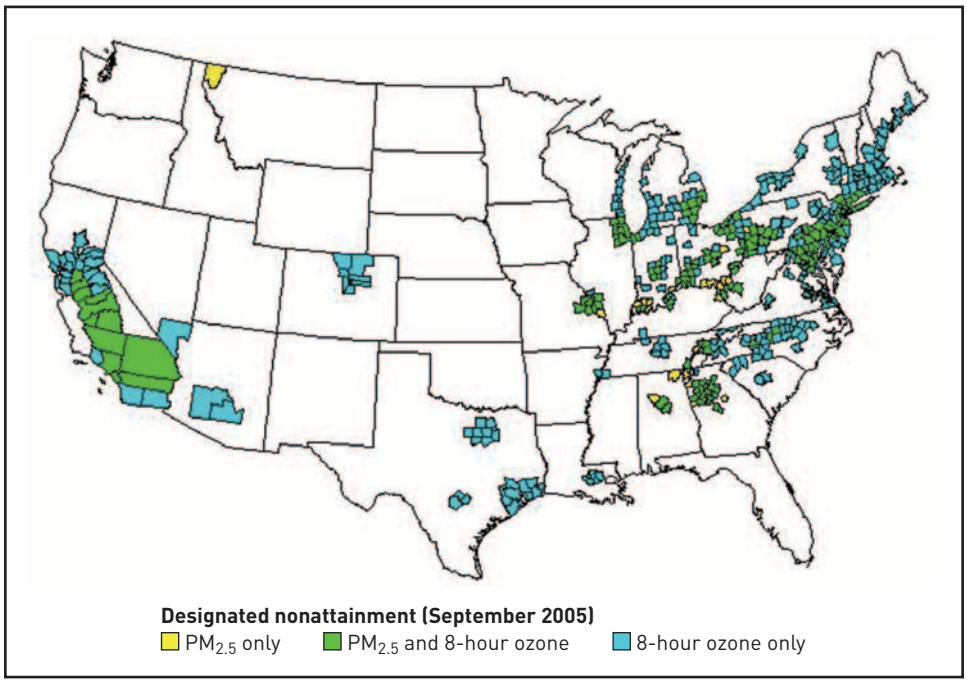
- To find out whether or not you live in a county that is meeting the public health based standards for ozone go to: http://www.epa.gov/ozonedesignations/statedesig.htm.
- To find out whether or not you live in a county that is meeting the federal $PM_{2.5}$ standards go to: http://www.epa.gov/pmdesignations/finaltable.htm.

Because more than half of the U.S. population lives in areas with unhealthy air, Environmental Defense believes that retrofit programs for all diesel equipment currently in use are critical components of any SIP.

If an area does want to quantify the benefits of a retrofit program, it may be able to do so by incorporating the benefits into the SIP, and it may also be able to use the benefits to demonstrate

FIGURE 11

Counties designated nonattainment for $PM_{2.5}$ and/or 8-hour ozone standard



Several counties have only a portion designated nonattainment. These counties are represented as whole counties on the map. Source: http://www.epa.gov/oar/oaqps/greenbk/mappm25o3.html

conformity to its SIP. Areas with large retrofit programs should work with the appropriate EPA Regional Office[252] regarding SIP credits.[253] EPA encourages early consultation between project sponsors, planners, and EPA Regional Offices during the development of a SIP and the calculation of SIP credits. Including a program in a federally enforceable document should be done carefully as legal action can be taken if the program is not carried out as described.

Additionally, project sponsors should work with their state air quality and transportation agencies as well as federal DOT and EPA regarding inclusion of a retrofit program in a SIP or conformity determination and the credits of that program. The state air pollution agency should assume primary responsibility for the calculation of retrofit credits and incorporation into the SIP. With the guidance of the appropriate EPA Regional Office, the state should work with areas, sponsors, planners, fleets, etc. in implementing retrofit projects and programs for this purpose.

To learn more about calculating SIP credits from retrofit projects, please refer to the EPA web page at: http://www.epa.gov/otaq/retrofit/aqsipcalc.htm ("Guidelines For States On Establishing SIP Credits From Heavy-Duty Engine Retrofit Projects"). A NESCAUM report, prepared for EPA in 1999, is a good resource for more information on how these types of calculations are made.[254] EPA is expected to issue additional guidance on how to calculate SIP credits for retrofits in Spring of 2005.[255]

CHAPTER 10

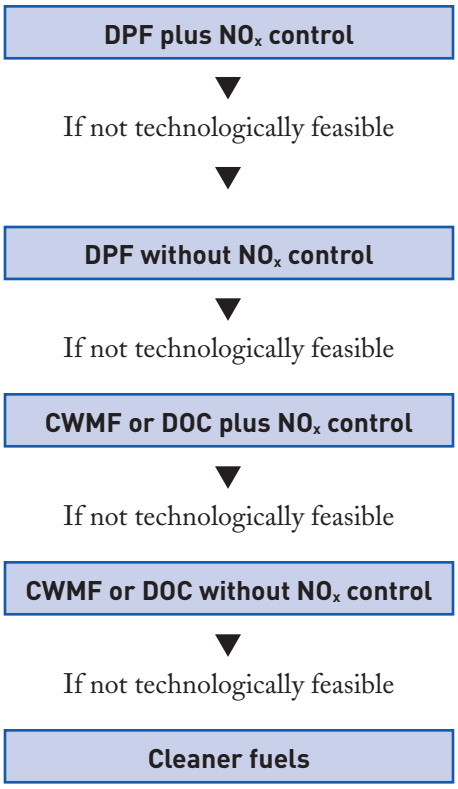
Tools for spurring retrofits

In this section of the handbook, Environmental Defense offers a framework for implementing retrofits and best management practices to help protect public health and ensure clarity for the construction industry and others who wish to reduce the pollution from *existing* diesel construction equipment. Local and state governments seeking to employ clean diesel fuels and technologies in construction projects have a number of options to encourage contractors to retrofit their existing diesel vehicles, use clean fuels or enact other best management practices, such as anti-idling measures. Environmental Defense believes these commitments to cleaner, healthier air can be incorporated in several different ways. The ideas outlined below could be used as: (1) an administrative or legislative commitment; (2) a contract specification, as a preference in the bidding process; (3) in an environmental impact statement, (4) in an executive order; or (5) in a Community Benefit Agreement.

To reduce diesel emissions from existing nonroad vehicles, Environmental Defense recommends both the installation of best available technology and the use of cleaner fuels, including diesel fuel that has 15 ppm of sulfur or less (ULSD). In Environmental Defense's view, "best available" technology is that which achieves maximum emissions reduction of fine particulate matter and NO_x for a given particular engine type and application. Because specific emissions control technologies require different engine performance characteristics (temperature, duty cycles, etc.), each application has to be reviewed to determine the appropriate retrofit technology. Some flexibility and combinations of different technologies will be needed to achieve maximum emissions reductions for each application. Therefore, we suggest a cascading series of emissions-control choices, ranked according to emissions-reduction performance. In this way, states, local agencies, fleet operators and contractors will be able to match best technologies to the specific engine and application, and will be required to achieve the maximum possible clean air benefit.

To begin, there should be an overarching, central commitment to using DPFs in combination with a NO_x control. DPFs can achieve particle reductions of up to 90%. If no NO_x control is available, then the DPF can be used alone. If it is not possible to use a DPF, then Environmental Defense suggests using a DOC or a CWMF in combination with NO_x control. Diesel oxidation catalysts can achieve particle reductions of 20–30%, and CWMFs can reduce PM by more than 50%. If no NO_x control is available, then the DOC or CWMF can be used alone. Lastly, if no pollution control technology can be used, then Environmental Defense suggests using the cleanest possible fuels. Switching from onroad diesel fuel (500 ppm sulfur content) or from nonroad diesel fuel (about 2000-3000 ppm sulfur content) to ULSD (15 ppm sulfur content or less) can reduce particulate matter, smoke and sulfate emissions.[256]

Environmental Defense advises using only technologies that are on or in the queue for EPA's or CARB's verified lists to ensure that you are installing a high quality product on your diesel engine. However, states and local governments should include pilot or demonstration products if they wish to investigate promising new emissions control technologies.



Sample legislation regarding green contracting (retrofits and clean fuels)

According to the federal Clean Air Act, only EPA may set emissions standards for new nonroad engines and vehicles. EPA sets emissions standards for *new* nonroad engines and *new* nonroad vehicles. In May of 2004, EPA issued a rule setting emissions standards for new nonroad engines as well as regulating the amount of sulfur allowed in diesel fuel for the nonroad sector.[257] For more information on this new nonroad rule, please refer to: http://www.epa.gov/nonroad-diesel/. EPA has addressed new nonroad vehicles, but there are many older vehicles on the road today. Therefore, Environmental Defense recommends that states and local municipalities encourage retrofits and the use of cleaner fuels for *existing* nonroad vehicles. Cleaning up older diesel engines will be an important piece for reducing air pollution while the new nonroad rule phases in.

To encourage retrofits on existing nonroad equipment and the use of cleaner fuels, Environmental Defense suggests that state and local municipalities pass regulations (also sometimes referred to as "green contracting laws") regarding the use of retrofit technology on state/local municipality owned nonroad diesel vehicles as well as nonroad diesel vehicles used when contracting with state/local municipalities. Environmental Defense also suggests including the use of ULSD fuel (15 parts per million of sulfur or less) as one of the contract specifications.

NEW YORK CITY'S LOCAL LAW 77

New York City's Local Law 77 requires the City to use ULSD fuel and retrofits on city-owned nonroad equipment.[258] Local Law 77 also includes use of retrofits and ULSD as a contract specification in public works contracts.

Excerpts from New York City's Local Law 77, Section 1:[259]

b. (1) Any diesel-powered nonroad vehicle that is owned by, operated by or on behalf of, or leased by a city agency shall be powered by ultra low sulfur diesel fuel.

(2) Any diesel-powered nonroad vehicle that is owned by, operated by or on behalf of, or leased by a city agency shall utilize the best available technology for reducing the emission of pollutants.

c. (1) Any solicitation for a public works contract and any contract entered into as result of such solicitation shall include a specification that all contractors in the performance of such contract shall use ultra low sulfur diesel fuel in diesel-powered nonroad vehicles and all contractors in the performance of such contract shall comply with such specification.

(2) Any solicitation for a public works contract and any contract entered into as

a result of such solicitation shall include a specification that all contractors in the performance of such contract shall utilize the best available technology for reducing the emission of pollutants for diesel-powered nonroad vehicles and all contractors in the performance of such contract shall comply with such specification.

NEW YORK STATE ASSEMBLY LAW ON CONSTRUCTION IN LOWER MANHATTAN

The Coordinated Construction Act for Lower Manhattan, passed by both the New York State Senate and Assembly, commits New York State construction projects in lower Manhattan to control emissions by requiring that nonroad vehicles be powered with ULSD and retrofit with technologies such as oxidation catalysts, particulate filters or an emissions control technology that achieves the lowest particulate matter emissions.[260]

Excerpts from Section 4 of the Coordinated Construction Act for Lower Manhattan:

e. Notwithstanding any general, special or local law or rule or regulation to the contrary, a public agency shall require contractors and subcontractors to *use only ultra-low sulfur diesel fuel* to power the diesel-powered non-road vehicles with engine horsepower (HP) rating of 60 HP and above used on lower Manhattan redevelopment projects and, where practicable, to reduce the emission of pollutants by retrofitting such non-road vehicles with oxidation catalysts, particulate filters, or technology with comparable or better effectiveness. (emphasis added)

SACRAMENTO'S OZONE SUMMIT MODEL "GREEN CONTRACTING" ORDINANCE

The Sacramento Ozone Summit, a gathering of agency heads and elected officials from around the Sacramento federally designated Ozone Nonattainment Area, led to the design of a green contracting model ordinance by the Sacramento Metropolitan Air Quality Management District's Mobile Source Division. This ordinance offers a voluntary and flexible approach to reducing construction site emissions that would certify rental firms/construction firms as "green contractors." Being "green" would entail curtailing activities on "spare the air" days, mitigating emissions using ULSD or emulsified fuel, and replacing/retrofitting engines using Carl Moyer incentive funds or Sacramento Emergency Clean Air Transportation Funds (SECATF), which at one point totaled $28 million. "Green contractors" would then receive bidding bonuses that would give them a competitive advantage in the contract bidding process. "Green contractors" would also be subject to detailed monitoring of construction equipment.[261]

Excerpts from Section 3. of the Model "Green Contracting" Ordinance:

Within 90 days of adoption of this Chapter, the *(insert name of local agency)* shall designate a Program Manager *(such as the agency's manager responsible for procurement)* and shall develop and implement a Green Contracting Program. The Green Contracting Program must include a description of the plan to encourage contractors operating within the (*insert name of local agency*) to procure and to operate low-emission vehicles and to obtain low-emission fleet status for off-road equipment fleets and heavy-duty on-road vehicle fleets. The (insert name of local agency)'s Green Contracting Program must focus on fleet owners that have contracts for (insert name of local agency) business.

The (insert name of local agency) must include contract bid language that would

implement the following Green Contracting Program requirements. See (c) for the exception to this requirement.

Sample contract specifications

BOSTON BIG DIG

Excerpt from Section 721.562 of the Big Dig Contract Specifications.

Methods that shall be used by the Contractor to control nuisance odors associated with diesel emissions from construction equipment include:

Turning off diesel combustion engines on construction equipment not in active use and on dump trucks that are idling while waiting to load or unload material for 5 minutes or more.

Establishing a staging zone for trucks that are waiting to load or unload material at the contract area, in a location where the diesel emissions from the trucks will not be noticeable to the public.

Locating combustion engines away from sensitive receptors such as fresh air intakes, air conditioners, and windows. *In addition to the above diesel emission control measures, all off-road diesel powered equipment used for this contract shall contain oxidation catalyst emission control equipment on the exhaust system side of the equipment.* (emphasis added)

Please note that when the Boston Big Dig contract specifications were drafted, ULSD fuel (sulfur content of 15 ppm) was not available in the Boston region. For that reason, DPFs could not be used as retrofit technology and DOCs only were used.

CONNECTICUT I-95 NEW HAVEN HARBOR CROSSING CORRIDOR IMPROVEMENT PROGRAM (NHCC PROJECT)

Connecticut's Department of Transportation (ConnDOT), the Connecticut Department of Environmental Protection, the Connecticut Department of Motor Vehicles, and the Connecticut Construction Industry Association worked together to create a contract specification to improve quality of life during the long-lasting I-95 New Haven Harbor Crossing Corridor Improvement Program.

Notice To Contractors (NTC)—Diesel Vehicle Emission Controls

All diesel powered construction equipment with engine horsepower (HP) ratings of 60 HP and above, that are on the project or are assigned to the contract for a period in excess of 30 days ***shall be retrofitted with Emission Control Devices and/or use Clean Fuels*** in order to reduce diesel emissions. In addition, all motor vehicles and/or construction equipment shall comply withal pertinent State and Federal regulations relative to exhaust emission controls and safety. (emphasis added)

Truck staging zones

The contractor shall establish truck-staging zones that are waiting to load or unload material at the contract area. Such zones shall be located where the diesel emissions from the trucks will have minimum impact on abutters and the general public.

Idling

Idling of delivery and/or dump trucks, or other diesel powered equipment shall not be permitted during periods of non-active use, and it should be limited to three minutes in accordance with the Regulations of Connecticut State Agencies Section 22a-174-18(a)(5).[262]

Environmental performance commitments in environmental impact statements

An Environmental Impact Statement (EIS) is a document required for major

federal actions (or regional, state, or local actions funded with substantial federal monies) that may significantly affect the environment. Describing the positive and negative effects of the major project and citing alternative actions, an EIS serves as a tool for decision-making.

When a governmental agency plans a construction project, Environmental Defense strongly encourages the use of the cleanest possible fuel and pollution control technology in the Environmental Performance Commitments (EPC) section of the project's Environmental Impact Statement (EIS). This puts interested parties on notice that there will probably be future contract specifications that follow the guidelines established in the EIS. Thus, requirements for clean diesel equipment and clean diesel fuel can come out of the EIS and bidding process. Although the following two examples include the type of language that a government seeking cleaner diesel fuel and technology use might include in an Environmental Impact Statement's EPC section, Environmental Defense also recommends that:

- Emissions-reductions steps such as the use of ULSD or best available reductions technologies (BART) should be extended to onroad trucks servicing the construction site and all stationary diesel generators used in connection with construction.
- Emissions standards should cover non-road vehicles of 50 HP and greater.
- Anti-idling measures include a powerful enforcement plan and mechanism.
- Regular emissions testing be conducted at construction sites, and that the results of these tests be made publicly available, to ensure compliance and accountability.
- Trucks and construction equipment be marked with a label or sticker that certifies that they are using ULSD fuel as well as retrofit technology.
- Truck staging zones should be established for diesel-powered vehicles waiting to load or unload materials. The zones should be located where diesel emissions will have the least impact on abutters and the general public.
- Idling should limited to three minutes for delivery and dump trucks and other diesel-powered equipment (with some exceptions).
- All work should be conducted to ensure that no harmful effects are caused to adjacent sensitive receptors, such as schools, hospitals, and elderly housing.
- Diesel-powered engines should be located away from fresh air intakes, air conditioners, and windows.

New York's Route 9A Draft Supplemental Environmental Impact Statement[263] can serve as a sample for how diesel emissions impacts can be mitigated and addressed in an EIS.

Excerpt from New York's Route 9A Draft Supplemental EIS, page 10:

All diesel construction engines—excluding trucks—would use ultra low-sulfur diesel (ULSD) fuel; where practicable, engines larger that 60 horsepower (HP) would include emissions reduction measures to reduce emissions of PM and volatile organic compounds (VOCs). For the purpose of this study, it was assumed that PM emissions from all such engines would be reduced by 40 percent—the average reduction achieved by using diesel oxidation catalysts (DOC). PM emissions may be further reduced in cases where diesel particle filters (DPF) would be used—85 percent reductions or higher can be achieved with this technology. Since it is uncertain at this time what emission reduction technologies would be most efficient with each equipment type,

and since DOCs reduce more VOCs, which are ozone precursors and are of regional concern, the environmental performance commitments (EPCs) provide the flexibility to utilize either DOC or DPF control technologies. Therefore, the minimum PM emissions reduction of DOCs was assumed for the local impact analyses.[264]

Similarly, the Fulton Street Transit Center Draft EIS[265] also contains language suggesting the use of ULSD fuel and retrofit technology to mitigate the impact of unhealthy diesel emissions.

Excerpts from the Fulton Street Transit Center Draft EIS, page 2:

The Build Alternatives would be implemented with incorporation of Environmental Performance Commitments (EPCs). The EPCs consist of onsite measures that would include the use of ultra-low sulfur diesel (ULSD), with sulfur content less than 15–30 parts per million (ppm) fuel and retrofit technology in heavy-duty engines and off-road construction vehicles operating during the construction of the FSTC, including during year 2005/2006, the peak period of construction. Other EPCs include a dust control plan for the construction site including a soil erosion sediment control plan which would be part of the Construction Environmental Protection Program (CEPP). The dust control plan could include: spraying of a (non-hazardous, biodegradable) suppressing agent on disturbed soil and other surfaces; containment of fugitive dust; and adjustment of work practices to reflect meteorological conditions as appropriate.[266]

Community Benefit Agreements

Community Benefit Agreements (CBAs) can also serve as a tool to improve air quality. CBAs are project-specific contracts between developers of a major project and community organizations. CBAs are safeguards to ensure that local community residents share in the benefits of major developments. They allow community groups to have a voice in shaping a project, press for community benefits that are tailored to their particular needs, and enforce developer's promises.

The CBA process begins with interested members of the community, who identify how a proposed development project can benefit residents and workers. Once a list of potential benefits is determined, community members meet with the developer and/or representatives of the city to negotiate a CBA. Each CBA is unique, reflecting the needs of a particular community.

The first full-fledged CBA came in 2001, when a large coalition of community groups negotiated a far-reaching agreement with the developer of the Staples Center for the Los Angeles Sports and Entertainment District. This was followed by four more CBAs on projects across Los Angeles. A dozen additional projects in Los Angeles have community benefits provisions incorporated into their respective development agreements.

Many communities across the country are now using the community benefits model. In San Jose, two projects have incorporated community benefits provisions into the development agreements, while groups in at least six cities—Denver, Seattle, Milwaukee, Miami, New York and New Haven—are actively pursuing community benefits.[267]

In 2004, community groups, environmental organizations, and labor unions joined together and reached a CBA with Los Angeles World Airports (LAWA), the government entity that operates LAX.

Excerpts from the LAX CBA regarding reducing harmful diesel emissions via cleaner fuels and retrofits:

F. Construction Equipment.

1. Best Available Emissions Control Devices Required. LAWA shall require that all diesel equipment used for construction related to the LAX Master Plan Program be outfitted with the *best available emission control devices primarily to reduce diesel emissions of PM, including fine PM, and secondarily, to reduce emissions of* NO_x. This requirement shall apply to diesel-powered off-road equipment (such as construction machinery), on-road equipment (such as trucks) and stationary diesel engines (such as generators). The emission control devices utilized for the equipment at the LAX Master Plan Program construction shall be: (i) verified or certified for use by CARB for on-road or off-road vehicles or engines; or (ii) verified for use by EPA for on-road or off-road vehicles or engines. Devices certified or verified for mobile engines may be effective for stationary engines and that technology from EPA/CARB on-road verification lists may be used in the off-road context. (emphasis added)

5. ULSD and Other Fuels.

a. ULSD and Other Fuel Requirements. All construction equipment used for construction related to the LAX Master Plan Program *shall use only Ultra-Low Sulfur Diesel fuel (15 ppm or lower), so long as there are adequate supplies of ULSD* in the Southern California area. If adequate supplies of ULSD are not available in the Southern California area, then other fuels may be used, provided that the other fuels do not result in an greater emissions of fine PM or nitrogen oxides than that which would be produced by use of ULSD at 15 ppm or lower. Cost of ULSD shall not be a consideration in determining "adequate supplies." (emphasis added)

For more information on the LAX CBA go to: http://www.environmentaldefense.org/documents/4174_LAX_CBA_Summary.pdf. For the exact language of the LAX CBA go to: http://www.environmentaldefense.org/documents/4201_LAX_CBA_full.pdf.

APPENDIX A

Acronyms

BART Best Available Retrofit Technology

CARB California Air Resources Board

CA/T Project Central Artery Tunnel Project (Big Dig, Boston)

CCIA Connecticut Construction Industries Association

CNG Compressed Natural Gas

CO Carbon monoxide

CIAQC Construction Industry Air Quality Coalition

CPO Catalytic Particulate Oxidizer

CCRT Catalyzed Continuous Regenerating Technology

CRT Continuous Regenerating Technology

CWMF Catalyzed Wire Mesh Filter

DMV Department of Motor Vehicles

DOC Diesel Oxidation Catalyst

DOT Department of Transportation

DPF Diesel Particulate Filter

DTF Diesel Technology Forum

EGR Exhaust Gas Recirculation

EIS Environmental Impact Statement

EPA United States Environmental Protection Agency

EPC Environmental Performance Commitments

FBC Fuel Borne Catalyst

HC Hydrocarbon

LNG Liquefied Natural Gas

LSD Low sulfur diesel fuel (500 ppm)

MECA Manufacturers of Emissions Control Association

MOA Memorandum of Agreement

MTA Massachusetts Turnpike Authority

NAAQS National Ambient Air Quality Standards

NESCAUM Northeast States for Coordinated Air Use Management

NO_x Nitrogen oxides

OEM Original Equipment Manufacturer

OTAQ Office of Transportation and Air Quality

PHA Port of Houston Authority

PM Particulate matter

$PM_{2.5}$ Particulate matter smaller than 2.5 microns

PM_{10} Particulate matter smaller than 10 microns

SCAQMD South Coast Air Quality Management District

SCR Selective Catalytic Reduction

SIP State Implementation Plan

SOF Soluble Organic Fraction

TCEQ Texas Commission on Environmental Quality

TERP Texas Emission Reduction Program

TNRCC Texas Natural Resource Conservation Commission

ULSD Ultra low sulfur diesel fuel (15 ppm)

VOC Volatile organic compound

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APPENDIX B

Retrofit manufacturers contact information

Manufacturer	PM, HC, CO control	NO_x control	Contact information
Argillon LLC http://www.argillon.com	SCR	SCR	Mr. Gary D. Keefe Argillon 5895 Shiloh Rd. Suite 101 Alpharetta, GA 30005 678.341.7532 404.409.3492 (Mobile) 678.341.7509 (Fax) gary.keefe@argillon.com
Caterpillar, Inc. http://www.caterpillar.com EPA Verified Technology for Heavy Duty Highway Use http://www.epa.gov/otaq/retrofit/retroverifiedlist.htm	DOC (CCM: Catalyzed Converter Muffler DPF	SCR	Mr. Steve Hurd Mos 10 PO Box 610 Mossville, IL 61552-0610 309.578.6088 309.578.7152 (Fax) hurd_stephen_s@cat.com
Cleaire Advanced Emission Controls, LLC http://www.cleaire.com Longview® CARB and EPA Verified Technology for Heavy Duty Highway Use	Longview® Lonestar™	Longview® Lonestar™	John Egan 14775 Wicks Blvd. San Leandro, CA 94577 510.347.6163 800.308.2111 510.347.6181 (Fax) john.egan@cleaire.com Tim Taylor Director of Strategic Market Development 916.296.7049 707.220.7260 (Fax) tim.taylor@cleaire.com
Clean Air Power, Inc. www.cleanairpower.com	Catalytic Particulate Oxidizer (CPO)	Mobile SCR DOX SCAT (reduces NO-)	Frits Tan 9837 Whithorn Drive Houston, TX 77095 832-731-7372 (mobile) 281-463-8883 281-463-8951 fax ftan@cleanairpower.com
Clean Diesel Technologies Inc. http://www.cdti.com EPA Verified Technology for Heavy Duty Highway Use[a]	SCR FBC Platinum Plus® Purifier System (fuel borne catalyst plus DOC) FBC Platinum Plus® Purifier System and Catalyzed Wire Mesh Filter (FBC/CWMF) System	SCR	Mr. Glen Reid 300 Atlantic Street, Ste 702 Stamford, CT 06901 203.327.7050 203.323.0461 greid@cdti.com

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Manufacturer	PM, HC, CO control	NO_x control	Contact information
Combustion Components Associates Inc. http://www.combustioncomponents.com	Mobile SCR		Mr. T.J. Tarabulski 884 Main Street Monroe, CT 06468 203.268.3139 203.223.8246 (Mobile) 203.261.7697 (Fax) tarabulski@cca-inc.net
DCL International Inc. http://www.dcl-inc.com	DOC, DPF (active and passive)		Gerry Wilson P.O. Box 90 Concord Ontario, Canada L4K1B2 905.660.6450, ext. 292 gwilson@dcl-inc.com
Donaldson Company, Inc. http://www.donaldson.com EPA Verified Technology for Heavy Duty Highway Use[b]	DOC, DPF (also offers crankcase emissions filtration system)		Mr. Fred Schmidt 1400 West 94th Street Minneapolis, MN 55440 952.887.3835 952.887.3008 (Fax) fschmidt@mail.donaldson.com
Engelhard Corporation http://www.engelhard.com EPA Verified Technology for Heavy Duty Highway Use[c]	DOC, DPF		Mr. Barry Bambo 101 Wood Avenue Iselin, NJ 08830 732.205.7277 732.205.5687 (Fax) Barry.Bambo@engelhard.com
Engine Control Systems, a Division of Lubrizol http://www.lubrizol.com/enginecontrol EPA Verified Technology for Heavy Duty Highway Use[d]	DOC AZ Purimuffler™, DPF Purifilter™		Ms. Michelle Bellamy 165 Pony Drive Newmarket, Ontario L3Y 7V1 800-661-9963 or 905-853-5800 (customer service) 905-853-5801 (Fax) ecs@lubrizol.com
Environmental Solutions Worldwide, Inc. Catalyst Division http://www.cleanerfuture.com/products/ EPA and CARB verification pending	Metallic (high performance— 50% plus PM reduction) DOC[e]		Mr. Frank Haas 571 Chrislea Rd. #5 Woodbridge, Ontario, Canada L4L8A2 905.850.9970 905.850.9925 Fax fhaas@cleanerfuture.com

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Manufacturer	**PM, HC, CO control**	**NO_x control**	**Contact information**
Extengine Transport Systems, LLC http://www.extengine.com/index.html	Mobile and Stationary SCR (ADEC System) DOC Hybrid DPF-C (Diesel Particulate Filter and Catalyst) DPF (passive and active)	Mobile and Stationary SCR (ADEC System)	Mr. Phillip Roberts 1370 S. Acacia Ave Fullerton, CA 92831 714.774.3569 714.774.4036 (Fax) roberts@extengine.com
Fleetguard Emission Solutions	DOC (50% pm reduction), DPF		Western U.S.: Rob Ferguson 2931 Elm Hill Pike Nashville, TN 37214 615.366.9855 812.377.7137 (Fax) rob.r.ferguson@fleetguard.com Eastern U.S.: Jennifer Kain 2931 Elm Hill Pike Nashville, TN 37214 812-377-3132 812-377-7137 (Fax) jennifer.kain@fleetguard.com
International Truck and Engine Corporation http://www.greendieseltechnology.com	DOC, DPX	Green Diesel Technology	Mr. Peter Reba International Truck and Engine Corporation 4201 Winfield Road Warrenville, IL 60555 630-753-6537 (Office) 630-753-6537 (FAX) peter.reba@nav-international.com

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Manufacturer	**PM, HC, CO control**	**NO_x control**	**Contact information**
Johnson Matthey – Environmental Catalysts and Technologies http://www.jmcsd.com/html/crt.html http://www.matthey.com/divisions/catalytic.html EPA Verified Technology for Heavy Duty Highway Use[f]	DOC, DPF (CRT or CCRT) SCRT(tm) systems (SCR+DPF) EGRT(tm) systems (EGR+DPF).	SCR SCRT(tm) systems (SCR+DPF) EGRT(tm) systems (EGR+DPF).	Mr. Brett Alkins 380 Lapp Road Malvern, PA 19355 610.341.8356 484.354.8159 (Mobile) 610.971.3116 (Fax) alkinbd@jmusa.com or Mr. Jim Hale 380 Lapp Road Malvern, PA 19355 610.476.0161 (Mobile) 717.246.6049 (Home Office) 610.971.3116 (Fax) halejr@jmusa.com or Marty Lassen 434 Devon Park Drive Wayne, PA 19087 610.341.3404 610.971.3116 (F) 610.476.0131 (M) lassen@jmusa.com
Nett Technologies, Inc. http://www.nett.ca	DOC: D-Series (low temperature DOC) M-Series (high performance, very low back pressure) NETT Series (standard DOC) DPF: SF Catalyzed SK Catalyzed (lower temperatures) SE Catalyzed (sulfur tolerant) SJ Catalyzed (lower temperature, sulfur tolerant)		For technical information: Mr. Wayne Borean 6707 Goreway Drive Mississauga, Ontario 800.361.6388 905.672.5949 (Fax) sales@nett.ca or Ms. Laura McBurney or Mr. Jorge Santos 800.631.6388
PuriNOx	PuriNOx	PuriNOx	Ron O. Dunfee 29400 Lakeland Blvd. Wickliffe, Ohio 44092 Office: (440) 347-6116 Fax: (440) 347-6978 Cell: (440) 463-2038 Email: rod@lubrizol.com

DISCLAIMER: Environmental Defense does not endorse any particular retrofit technology, retrofit technology manufacturer, or any of the companies listed here. This is not a comprehensive list of retrofit manufacturers and is intended to serve only to illustrate that there is a wide variety of choices available. This list was last updated in April 2005.

Manufacturer	PM, HC, CO control	NO_x control	Contact information
RYPOS Inc. http://www.rypos.com/html/index.html	Regular or catalyzed DPF Active DPF (Rypos Trap™)		Mr. Frank DePetrillo 3 Industrial Park Road Medway, MA 02053 Phone: 508.533-9655 Fax: 508.533-9656 Sales: fd@rypos.com

Engine Manufacturer Contacts
http://www.epa.gov/otaq/retrofit/cont_engmfrs.htm

EPA Verified Retrofit Technologies
http://www.epa.gov/otaq/retrofit/retroverifiedlist.htm

CARB Verified Retrofit Technologies
http://www.arb.ca.gov/diesel/verdev/verdev.htm

[a] EPA, "Verified Products." August 11, 2004. Online resource, available at: http://www.epa.gov/otaq/retrofit/retroverifiedlist.htm Last accessed 03/01/05.
[b] Ibid.
[c] Ibid.
[d] Ibid.
[e] DOC specifically designed for use on small compression ignition engines. Examples of these are small generators and construction equipment such as mixers and concrete floats. Environmental Technology Verification (ETV) Canada Inc. "Current Program Graduates and Licenses." Online resource, available at: http://www.etvcanada.com/English/e_progGrad.htm Last accessed 03/01/05.
[f] EPA, "Verified Products." August 11, 2004. Online resource, available at: http://www.epa.gov/otaq/retrofit/retroverifiedlist.htm Last accessed 03/01/05.

DISCLAIMER: Environmental Defense does not endorse any particular fuel or fuel additive supplier. This is not a comprehensive list of fuel suppliers and is intended to serve only to illustrate that there is a wide variety of choices available.This list was last updated in April 2005.

APPENDIX C

Distributors of ultra low sulfur diesel fuel, emulsified fuels, fuel additives, and synthetic engine oil

Please check with your local Ultra Low Sulfur Diesel (ULSD) fuel distributor whether your fleet needs ULSD fuel No. 1 or No. 2. For example, if a fleet has been using Low Sulfur Diesel (500 ppm) No. 1 then ULSD No. 1 is needed. If only ULSD No. 2 is available and Low Sulfur Diesel No. 1 has been previously used, the engine needs to be tuned accordingly.

1. ULSD Fuel Brokerage

Ultra Low Sulfur Diesel Fuel Brokerage
Ultraco LLC
Mr. Timothy J. Niles
101 Farren Ct, Suite 100
Cary, NC 27511-4559
866.857.3487 or 919.380.0778
http://ultraco.us

2. ULSD Distributors

Northeast

Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, Washington, D.C.

Mr. David Wright, ConocoPhillips
600 North Dairy Ashford (77079-1175)
P.O. Box 2197
Houston, TX 77252-2197
Phone 281.293.1544
Fax 281.293.6113
David.W.Wright@conocophillips.com
http://www.conocophillips.com/products/ultralowsulfur/index.htm

or

Mr. Steven J. Levy, Sprague
4 New King Street
White Plains, NY 10604
Phone 914.328.6770 Fax 914.701.2819
914.284.2188 (Pager)
slevy@radenergy.com
www.spragueenergy.com

or

Ms. Debbie McNeal, Sunoco
Ten Penn Center
1801 Market Street
Philadelphia, PA 19103
800.842.0339 Ext. 1
Phone 215.977.3000
Fax 215.246.8119
DLMCNEAL@sunocoinc.com
http://www.sunocoinc.com/

Midwest, West Coast

Oregon, Washington, California, Arizona (Phoenix area), all Midwest States, Chicago area, Detroit area, Toledo area, Cleveland and Columbus area.

Ms. Renee Marchese, BP America Inc.a
28100 Torch Parkway 4th Fl.
Warrenville, IL 60555
Phone: 630.836.5504
Fax 630.836.5500
marcher2@bp.com

Pacific Northwest

Washington State, California.
Mr. David Wright, ConocoPhillips
600 North Dairy Ashford (77079-1175)
P.O. Box 2197
Houston, TX 77252-2197
Phone 281.293.1544
Fax 281.293.6113
David.W.Wright@conocophillips.com
http://www.conocophillips.com/products/ultralowsulfur/index.htm

DISCLAIMER: Environmental Defense does not endorse any particular fuel or fuel additive supplier. This is not a comprehensive list of fuel suppliers and is intended to serve only to illustrate that there is a wide variety of choices available.This list was last updated in April 2005.

South and Southwest

Texas, Colorado, Oklahoma, (southern) California, New Mexico, Kansas, Louisiana, Georgia, and Florida.

Mr. Ray Hernandez
Valero Energy Corporation
One Valero Place
San Antonio, TX 78212
Phone 210.345.2757
Fax 210.345.5930
Raymond.Hernandez@valero.com
http://www.valero.com/About+Valero/

3. Distributors of emulsified fuel

For further information or to purchase emulsified fuel, contact your local fuel distributor.

Mr. Thomas M. Sopko
The Lubrizol Corporation
29400 Lakeland Boulevard
Wickliffe, OH 44092-2298
Phone 440.943.4200
Fax 440.943.5337
tms@lubrizol.com

To purchase PuriNOx™ in the California and Texas area you may also contact:

Mr. Bill Alford
J.A.M. Distributing[b]
711 W.Bay Area Blvd Suite 310
Webster, Texas 77598
800.228.3848
Phone 713.844.7788
Fax 713.844.7789
jam@jamdistributing.com

or

Ms. Debbie McNeal
Sunoco[c]
800.842.0339 Ext. 1
Phone 215.977.3000
Fax 215.246.8119

4. Fuel additives

Mr. Glen Reid
Clean Diesel Technologies, Inc.[d]
300 Atlantic Street, Ste 702
Stamford, CT 06901
Phone 203.327.7050
Fax 203.323.0461
greid@cdti.com

or

Mr. Jim Baumert
AMSOIL Inc.[e]
AMSOIL Building
Superior, WI 54880-1527
Phone 631.587.5896 Fax 715.392.5225
http://www.lubedealer.com/baumert

or

The Stricklin Companies[f]
1415 Stratford Crt.
Del Mar, CA 92014
Phone 858-794-5700 Fax 848-794-2666
stricklin@worldnet.att.net

[a] BP America Inc. offers the users of BP's ULSD fuel (ECD®) risk management solutions enabling construction companies to manage their annual budget while reducing emissions at the same time. Construction companies can set a fixed fuel price over a set time period avoiding the risk of increasing fuel prices. For more information go to: http://www.ecdiesel.com/business/contruction.asp and http://www.bpdirect.com/products/risk.html

[b] J.A.M. Distributing also provides assistance with the installation of filters (EMISSION CONTROL TECHNOLOGY) to help further reduce emissions.

[c] AquaMix(tm) is Sunoco's emulsified fuel which has been verified by the EPA as an emission reduction diesel fuel. AquaMix™ emulsified diesel fuel is blended with Lubrizol's PuriNOx™ additive technology. AquaMix™ has been verified to reduce diesel particulate matter typically by 50% and NO_x emissions by 20%.

[d] Clean Diesel Technologies, Inc. sells a fuel borne catalyst called Platinum Plus.

[e] Amsoil Diesel Fuel Additive. AMSOIL also sells synthetic motor oil for heavy duty diesel engines (SAE 15W-40 or SAE 5W-30). Please contact Mr. Baumert for more information.

[f] Stricklin sells fuel additive called Blue Marble™. Please contact Stricklin for more information.

DISCLAIMER: Environmental Defense does not endorse any particular product on this list. This is not intended to be comprehensive and is presented for informational purposes only. This list was last updated in April 2005.

APPENDIX D

Summary of retrofit technology status

Status	CARB or EPA verified for onroad use	CARB or EPA verified for nonroad use	In use in nonroad engines*	Known to be pursuing onroad verification	Known to be pursuing nonroad verification	In development
Retrofit technologies						
PM control						
Diesel Particulate Filter (DPF)	●		●	Verified		
Active DPF		●	●		Verified	
Flow-through filters (including CWMF)	●		●	Verified	●	●
Diesel Oxidation Catalyst (DOC)	●	●	●	Verified	Verified	
Closed Crankcase Filter System with DOC—Donaldson Spiracle with DOC Muffler	●	●	●	Verified	Verified	
NO_x control						
Selective Catalytic Reduction (SCR)			●		●	●
NO_x Adsorbers						●
Lean NO_x Catalysts	● (w/ DPF)		●	Verified		
PM and NO_x control						
Low Pressure Exhaust Gas Recirculation (EGR)				●		
SCR System with PM Emission Control		●	●		Verified	
Lean NO_x Catalyst with DPF—Cleaire Longview	●		●	Verified	●	
Lean NO_x Catalyst with DOC—Cleaire Lonestar			●	●		
Retrofit technologies and cleaner fuels						
Fuel Borne Catalyst (FBC) with DOC—Platinum Plus	●		●	Verified	●	
FBC with Catalyzed Wire Mesh Filter (CWMF)—Platinum Plus	●			Verified		
Emulsified Diesel Fuel with DOC		●	●		Verified	
Cleaner fuels and additives						
Emulsified Diesel Fuel—PuriNOx	●	●	●	Verified	Verified	
Biodiesel	●		●	Verified		

*In order for a technology to be considered "in use," it must: 1) be commercially available, and 2) have been used in at least 2 projects with varying locations.

APPENDIX E

Retrofit technology cost and emissions reductions summary

	Cost (excluding installation)	NO_x	PM	HC	CO
Retrofit technologies and emissions reductions					
PM control					
Diesel Particulate Filter (DPF)	$7,000–$12,000	0%	Up to 90%	Up to 90%	Up to 90%
Active DPF	$10,000–$30,000	0%	85%	0%	0%
Flow-through Filters (including CWMF)	$5,000–$7,000	0-9%	55–76%	75–89%	50–66%
Diesel Oxidation Catalyst (DOC)	$1,200–$2,500	0%	20–30%	50–90%	70–90%
Closed Crankcase Filter System with DOC—Donaldson Spiracle with DOC Muffler	$1,900	0%	25–33%	12–34%	42–52%
NO_x control					
Selective Catalytic Reduction (SCR)	Mobile: $12,500–$15,000 Stationary: up to $80,000	60–80%	25%	50–90%	70–90%
NO_x adsorbers	In development	90% or more	10–30%	90%	90%
Lean NO_x Catalysts	$6,500–$15,000+	10–40%	Up to 80%	0%	0%
PM and NO_x control					
Low Pressure Exhaust Gas Recirculation (EGR)	$13,000–$15,000	40% or more	90% or more	90% or more	90% or more
SCR System with PM Emission Control	$14,500	80%	25%	50–90%	50–90%
Lean NO_x Catalyst with DPF - Cleaire Longview 90%		$18,500–$21,000	25%	85%	90%
Lean NOx Catalyst with DOC—Cleaire Lonestar	$12,500	25–30%	50–70%	40–60%	40–60%
Retrofit technologies and cleaner fuels					
Fuel Borne Catalyst (FBC) with DOC—Platinum Plus	Cost of DOC. Fuel economy gains from use of Platinum Plus are expected to outweigh its incremental cost.	0–5%	25–50%	16–50%	25–50%
FBC with Catalyzed Wire Mesh Filter (CWMF)—Platinum Plus	Cost of CWMF. Fuel economy gains from use of Platinum Plus are expected to outweigh its incremental cost.	0–9%	55–76%	75–89%	50–66%
Emulsified Diesel Fuel with DOC	$0.25 per gallon + $1,500–$2,500	25%	95%	85%	75%
Cleaner fuels and additives					
Emulsified Diesel Fuel—PuriNOx	$0.25 per gallon	9–20%	16.8–58%	(35%)–33%	(20–120%)
Biodiesel (20)	$0.15 per gallon	(2%)	10%	21%	11%
Biodiesel (100)	$0.50 per gallon	(10%)	47%	67%	48%

Emissions reductions data derived from CARB or EPA verified reduction levels where possible.
(Parenthesis denote increase)

APPENDIX F

Examples of nonroad retrofit technology use

Status	In use in nonroad engines*	Two projects/sites in which the technology/fuel has been used
Retrofit technologies		
PM control		
Diesel Particulate Filter (DPF)	●	1. World Trade Center, NYC, NY—Caterpillar 966 Wheel loaders 2. American Asphalt, CA—Caterpillar 966GII Wheel loader
Active DPF	●	1. World Trade Center, NYC, NY—Rypos trap installed on a diesel 600 kW electrical generator 2. Riverside, CA—three Caterpillar backup generators (100, 225, and 350 kw) retrofit with Rypos trap
Flow-through Filters (including CWMF)	●	1. Nationwide . many non-metal mining applications on Deutz and Caterpillar engines, 100-275 hp 2. World Trade Center Site, NYC, NY—Two cranes retrofit with an ESW particulate reactor
Diesel Oxidation Catalyst (DOC)	●	1. World Trade Center, NYC, NY—Komatsu PC200 5.9 liter engine Excavator 2. Big Dig, Boston, MA—more than 200 pieces of equipment successfully retrofit
Closed Crankcase Filter System with DOC—Donaldson Spiracle with DOC Muffler	●	Between the Port of Los Angeles and the Port of Long Beach in CA, this system has been successfully installed on approximately 400 yard hustlers, top picks/side picks, and rubber tired gantry-cranes.
NO_x control		
Selective Catalytic Reduction (SCR)	●	1. Richmond, CA—Caterpillar modular SCR installed on a gas power module, model G3516B LE 2. Palm Desert, CA—Mobile SCRs installed on seven construction vehicles
NO_x Adsorbers		Not in commercial use for non-road engines
Lean NO_x Catalysts	●	See Lean NO_x Catalyst with DOC, below.
PM and NO_x control		
Low Pressure Exhaust Gas Recirculation (EGR)	●	Not in commercial use for non-road engines
SCR System with PM Emission Control	●	1. Houston, TX—Houston City has retrofit Cummins 6BTA 5.9L engines on 6 Gradall excavators 2. Port of Houston, TX—GR Birdwell has retrofit several pieces of construction equipment
Lean NO_x Catalyst with DPF—Cleaire Longview	●	1. Fresno, CA—Case IH STX 375 wheel lower and a Komatsu WA450 wheel loader 2. CADOT, California - John Deere672 CH motor grader
Lean NO_x Catalyst with DOC—Cleaire Lonestar	●	1. Concord, CA—Onan stationary 300 DGFC generator 2. Sacramento, CA—Caterpillar 8W2517 (16G) motor grader
Retrofit technologies and cleaner fuels		
Fuel Borne Catalyst (FBC) with DOC—Platinum Plus	●	1. Q-Bridge Project, CT—Starr construction excavator, Samsung 280LC 2. New York City, NY—Vergona crane, unknown model
FBC with Catalyzed Wire Mesh Filter (CWMF)—Platinum Plus		Not in commercial use for non-road engines

Status	In use in nonroad engines[a]	Two projects/sites in which the technology/fuel has been used
Emulsified Diesel Fuel with DOC	●	Between the Port of Los Angeles and the Port of Long Beach in CA, approximately 250 yard hustlers, top picks/side picks, and rubber tired gantry-cranes, etc have DOCs and use PuriNOx.
Cleaner fuels and additives		
Emulsified Diesel Fuel—PuriNOx	●	1. Port of Houston, TX—approximately 50+ pieces of cargo-handling equipment use PuriNOx 2. Extensive, multi-engine/model testing conducted by USEPA and by Air Improvement Resources
Biodiesel	●	1. Hutchinson Salt Co, KA—uses B100 in all underground diesel machinery, 32,000 gallons/year 2. Pioneer Hi-Bred Intl., Charlotte, NC—uses biodiesel on all farm and tractor equipment

*In order for a technology to be considered "in use," it must: 1) be commercially available, and 2) have been used in at least 2 projects with varying locations.

APPENDIX G

Sample action letter

Dear [Decision Maker].

I write to direct your attention to the growing health and environmental impacts associated with diesel engines, and to encourage you to address this problem. Diesel engines, the workhorses of America's economy, are a significant source of air pollution in many communities across the country. Fortunately, cost-effective technology exists to reduce harmful diesel emissions by as much as 90%. Your help is needed to ensure that this technology is taken advantage of.

Emissions from diesel engines contain almost 40 toxic substances and contribute to a laundry list of adverse health effects including: asthma, cardiovascular and respiratory problems, strokes, heart attacks, lung cancer and premature death. Of special concern are two main pollutants: fine particulate matter, which lodges deep in the lung, and oxides of nitrogen (NO_x), which are precursors to smog. Diesel engines are a significant source of fine particulates and NO_x, and recent EPA data shows that about half of all Americans live in places that fail to meet basic health standards for one or both of these pollutants.

Nonroad diesel engines are, quite literally, engines that power vehicles that do not normally operate on roads. They include, for example, locomotives, agricultural equipment (i.e., tractors), construction and mining equipment (i.e., graders and back hoes), and ships. Collectively, nonroad engines discharge more dangerous fine sooty particles than any other source in the transportation sector.

The EPA recently established rigorous emissions standards for new nonroad diesel engines. Unfortunately, the full pollution reduction and public health benefits of the non-road rule will not be realized for decades because they only apply to new nonroad diesel engines and not to older, dirtier diesel engines, which have a long life span. A child born today may still be breathing soot from a backhoe in her neighborhood when she graduates from college—unless that backhoe is replaced with a newer, cleaner one, or is retrofit with emissions controls.

Public and private leadership is needed to ensure that dirty diesel engines in our community are replaced or retrofit to reduce their polluting potential. As a community leader, I am asking you to implement programs to reduce pollution from dangerous diesel engine exhaust from vehicles in use in our community. Environmental Defense's Cleaner Diesel Handbook, available at: www.environmentaldefense.org/go/dieselhandbook, is a good starting point. The handbook shows that there is a cost-effective way to reduce the adverse health effects of diesel pollution.

The Cleaner Diesel Handbook outlines some simple ways to reduce diesel pollution, like enforcing idling laws, using clean fuels (like ultra-low sulfur diesel), and best available retrofit technologies that can reduce diesel emissions by up to 90%. It also offers a variety of methods for implementing successful diesel retrofit programs. With your leadership, these tools can reduce air pollution from diesel engines and protect public health in our community. Thank you.

Sincerely,
[Your name]
[Your address]

Notes

[1] Environmental Defense is a national nonprofit environmental organization, headquartered in New York City, with 400,000 members around the country and over 50,000 members and activists in New York. The Living Cities program at Environmental Defense is focused specifically on actions that will help to improve water and air quality, clean up contaminated lands, support sound transportation investments and will reduce greenhouse gases (GHGs). Environmental Defense is not affiliated with any manufacturer or supplier identified in this handbook, and Environmental Defense does not endorse any particular supplier, retrofit or fuel technology manufacturer. This handbook provides only a general overview of commercialized nonroad retrofit technology and cleaner fuel technology options. We provide information about specific companies or suppliers for informational purposes only, but inclusion in, or omission from, this handbook should not be interpreted as a judgment about a particular technology or company. Questions about specific products, applications, emerging technologies, or next steps should be taken up directly with appropriate private sector companies or consultants.

[2] EPA, "Clean Air Nonroad Diesel Rule Summary." June 8, 2004. Office of Transportation and Air Quality. Online resource, available at: http://www.epa.gov/otaq/regs/nonroad/equip-hd/2004fr/420f04029.htm Last accessed 03/01/05.

[3] EPA, "Press Release: New Clean Diesel Rule Major Step in a Decade of Progress." May 11, 2004. Online resource, available at: http://yosemite.epa.gov/opa/admpress.nsf/b1ab9f485b098972852562e7004dc686/f20d2478833ea3bd85256e91004d8f90?OpenDocument Last accessed 03/01/05.

[4] *Ibid.*

[5] EPA, "8-Hour Ground-level Ozone Designations." 08/13/04. Online resource, available at: www.epa.gov/ozonedesignations Last accessed 03/01/05.

[6] EPA, "Fine Particle (PM 2.5) Designations." Online resource, available at: http://www.epa.gov/pmdesignations/regions/region2desig.htm Last accessed 03/01/05.

[7] Calculated from 1999 EPA National Scale Assessment of Air Toxics data.

Environmental Defense, "Scorecard, 2002." Online resource, available at: http://www.scorecard.org/ Last accessed 03/01/05.

[8] *Ibid.*

[9] *Ibid.*

[10] EPA, "National Emission Inventory (NEI): Air Pollutant Emission Trends." Online resource, available at: http://www.epa.gov/ttn/chief/trends/index.html Last accessed 03/01/05.

[11] California Office of Environmental Health Hazard Assessment, Air Toxicology and Epidemiology Section, "Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant," *Health Risk Assessment for Diesel Exhaust* app. III, part B, as approved by the Scientific Review Panel, April 22, 1998. Online resource, available at: ftp://ftp.arb.ca.gov/carbis/regact/diesltac/partb.pdf Last accessed 03/01/05.

[12] Air Pollution and Birth Weight Among Term Infants in California, PEDIATRICS Vol. 115 No. 1, January 2005, pp. 121–128 Online resource, available at:

http://pediatrics.aappublications.org/cgi/content/abstract/115/1/121?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&author1=Woodruff&fulltext=Birth+weight&andorexactfulltext=and&searchid=1105556093372_12826&stored_search=&FIRSTINDEX=0&sortspec=relevance&resourcetype=1&journalcode=pediatrics Last accessed 03/01/05.

[13] Krewski, D., Burnett, R.R., Goldberg, M.S., Hoover, K., Siemiatycki, J., Jerrett, M., Abrahamowicz, M., White, W.H., and Others. Reanalysis of the Harvard Six Cities Study and the American Cancer Society Study of Particulate Air Pollution and Mortality. Health Effects Institute, July, 2000.

[14] R. Wilson and J. Spengler, eds., "Particles in Our Air: Concentrations and Health Effects," (1999): 212.

[15] U.S. Department of Health and Human Services, National Institutes of Health, National Heart, Lung and Blood Institute; Data Fact Sheet: Asthma Statistics; January 1999. See also http://www.environmentaldefense.org/documents/2655_MotorAirPollutionAsthma.pdf

[16] NY State Department of Health and Mental Hygiene, "Asthma Facts." Second Edition, May 2003. Page 7. Online resource, available at: http://nyc.gov/html/doh/pdf/asthma/facts.pdf Last accessed 03/01/05.

[17] Manufacturers of Emissions Controls Association, "Frequently Asked Questions About the Installation of Emission Controls on Existing Diesel Engines." Online resource, available at: http://www.meca.org/jahia/Jahia/engineName/filemanager/pid/224/retrofitFAQ%20%28revised%29.pdf?actionreq=actionFileDownload&fileItem=712 Last accessed 03/01/2005.

[18] Based on email correspondence with Roger Suter of Detroit Diesel, Inc. on August 4, 2004.

[19] EPA Tier 0 standards refer to unregulated diesel engines. Tier 1 standards refer to the nonroad diesel engine emissions control regulations adopted by EPA in 1994. The regulations came into effect for new nonroad diesel engines greater than 37 kilowatts (50 horsepower) between 1996 and 2000. Tier 2 standards refer to stricter regulations that were phased in between 1999 and 2000. Tier 3 standards applied to engines between 37 kilowatts and 560 kilowatts (50 and 750 hp), and will be phased in between 2006 and 2008. Source: EPA, "Reducing Air Pollution From Nonroad Engines." April 2003. Online resource, Last accessed 09/11/05. Available at: http://www.epa.gov/otaq/cleaner-nonroad/f03011.pdf

[20] (Using California's Carl Moyer Program assumptions for an unregulated engine's replacement with a Tier One engine, NO_x emissions would go from 11 grams per brake horsepower-hour (g/bph-hr) to 6.6 g/bph-hr and PM emissions would go from 0.53 g/bph-hr to 0.1 g/bph-hr. For a Tier Two replacement, NMHC + NO_x emissions would decrease to 4.2 g/bph-hr and PM would decrease to 0.1 g/bph-hr.) Based on email correspondence with Stephen Hurd of Caterpillar Inc. on August 30, 2004.

[21] This definition is narrower than the one found in the EPA's "Retrofit Glossary." The EPA glossary is an online resource, available at: http://www.epa.gov/otaq/retrofit/glossary.htm ast accessed 03/01/2005.

[22] EPA, "Voluntary Diesel Retrofit Program: Glossary" Office of Transportation and Air Quality. Online resource, available at http://www.epa.gov/otaq/retrofit/glossary.htm Last accessed 03/01/2005.

[23] Information provided by Alex Kasprak from the Boston Big Dig project and various retrofit manufacturers. The operator of the construction equipment to be retrofitted can typically install the replacement muffler containing the DOC.

[24] Information provided by Johnson Matthey.

[25] California Air Resource Board, *Diesel PM Control Technologies, Appendix IX*, October 2000.

[26] Reed Business Information. "Mid-Sized Loaders Pack Plenty of Power." August 24, 2004. *Construction Equipment.* Online resource, available at: http://www.constructionequipment.com/buyingfile/ce03ga002.asp Last accessed 03/01/2005.

[27] British Petroleum, "Low Sulpher Diesel—Frequently Asked Questions." 2003. Online resource, available at: http://www.bp.com.au/products/fuels/low_sulphur/faq.asp?menuid=ec Last accessed 03/01/2005.

[28] EPA, "Press Release: New Clean Diesel Rule Major Step in a Decade of Progress." May 11, 2004. Online resource, available at: http://yosemite.epa.gov/opa/admpress.nsf/b1ab9f485b098972852562e7004dc686/f20d2478833ea3bd85256e91004d8f90?OpenDocument Last accessed 03/01/2005.

[29] EPA, "Proposed Rules." *Federal Register.* Volume 68, Number 100. May 23, 2003. Online resource, available at: http://www.epa.gov/fedrgstr/EPA-AIR/2003/May/Day-23/a9737c.pdf Last accessed 03/01/2005.

[30] Joe Kubsch. "Retrofit Emission Control Technologies for Diesel Engine." MECA, November 4, 2003. Online resource, available at: http://www.4cleanair.org/JoeKubsh.pdf Last accessed 03/01/2005.

[31] EPA, "Idling." July 21, 2004. Online resource, available at: http://www.epa.gov/region1/eco/diesel/idling.html Last accessed 03/01/2005.

[32] *Ibid.*

[33] For more information on EPA regulations, please see http://www.epa.gov/otaq/url-fr/fr29jn04.pdf Last accessed 03/01/2005.

[34] For more information on the WTC 7 retrofits, please contact: NESCAUM at 617.259.2000.

[35] Environmental Solutions Worldwide, Inc., "Environmental Solutions Worldwide, Inc.

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Shari Baldridge by phone at 713-670-2428 or via email at sbaldridge@poha.com.

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[175] Texas State House of Representatives. "House Bill 1365." §8(a) Effective 06/22/03. Online resource, available at: http://www.capitol.state.tx.us/cgi-bin/tlo/textframe.cmd?LEG=78&SESS=R&CHAMBER=H&BILLTYPE=B&BILLSUFFIX=01365&VERSION=5&TYPE=B Last accessed 03/03/05.

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[177] A reductant is a substance that is oxidized in the course of reduction. It is a reducing agent that chemically reduces other substances. Here, the reducing agent is urea or ammonia, which chemically reduces NO_x into N_2.

[178] Emissions reduction with use of 30ppm low sulfur fuel. Khair, Magdi. "Integration of EGR, SCR, DPF, and fuel-borne catalyst for NO_x/PM reduction," Oct. 1999. According to Argillon LLC, their SCR reduces 60% of soluble organic fraction of PM and up to 90% NO_x depending on the application (average between 60-80% NO_x reduction).

[179] Block, Michael. *Retrofit Prime—Emission Reduction Technologies and Strategies.* NESCAUM, October 2003. Page 13. Online resource, available at: http://bronze.nescaum.org/retrofitworkshop/folder/Primer.pdf Last accessed 03/03/05.

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[188] These numbers do not include installation and tax. Installation costs run usually between 20–30% of unit price. NO_x reduction level: 60-90% depending on catalyst volume, baseline NO_x levels and exhaust temperatures. Information provided by Clean Diesel Technologies, Inc. and Argillon LLC.

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[198] "Verified" means that either the EPA or the California ARB have verified this type of technology. However, please refer to http://www.epa.gov/otaq/retrofit/retroverifiedlist.htm and http://www.arb.ca.gov/diesel/verdev/verdev.htm for detailed information regarding the different types of verified emission control technologies and the different manufacturers whose technologies have been verified.

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INDEX	GRP1	GRP2	POLID	POLABBRE	CONC	RISK_SUM	SCENARIO	DETAILS	INH_RISK
1			9901	DieselExhP	2.38	8.14E-04	2YrCancerI	*	8.14E-04

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SOIL_RISK	DERMAL_F	MMILK_RI	WATER_RI	FISH_RISK	CROP_RISK	BEEF_RISK	DAIRY_RIS	PIG_RISK	CHICKEN_F
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

EGG_RISK	1ST_DRIVE	2ND_DRIV	PASTURE_(	FISH_CON(	WATER_CONC
0.00E+00	INHALATION		0.00E+00	0.00E+00	0.00E+00

Overview: Diesel Exhaust & Health

CATEGORIES

Topics Health, Air Pollution, Electrifying Transportation, Construction & Earthmoving Equipment, Environmental Justice, Oceangoing Vessels & Harbor Craft, Freight & Goods Movement, Trains & Railyards, Transit, VW Diesel Vehicles

Programs Exposure, Community Air Protection Program , Community Health, Zero-Emission Powertrain Certification, Alternative Diesel Fuels, In-Use Off-Road Diesel-Fueled Fleets Regulation, Study of Neighborhood Air near Petroleum Sources, School Buses

Type Information

CONTACT

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Background

Diesel engines emit a complex mixture of air pollutants, including both gaseous and solid

material.The solid material in diesel exhaust is known as diesel particulate matter (DPM). More than 90% of DPM is less than 1 µm in diameter (about 1/70th the diameter of a human hair), and thus is a subset of particulate matter less than 2.5 microns in diameter (PM2.5). Most PM2.5 derives from combustion, such as use of gasoline and diesel fuels by motor vehicles, burning of natural gas to generate electricity, and wood burning. PM2.5 is the size of ambient particulate matter air pollution most associated with adverse health effects of the air pollutants that have ambient air quality standards. These health effects include cardiovascular and respiratory hospitalizations, and premature death. As a California statewide average, DPM comprises about 8% of PM2.5 in outdoor air, although DPM levels vary regionally due to the non-uniform distribution of sources throughout the state.

DPM is typically composed of carbon particles ("soot", also called black carbon, or BC) and numerous organic compounds, including over 40 known cancer-causing organic substances. Examples of these chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene. Diesel exhaust also contains gaseous pollutants, including volatile organic compounds and oxides of nitrogen (NO_x). NO_x emissions from diesel engines are important because they can undergo chemical reactions in the atmosphere leading to formation of PM2.5 and ozone.

Most major sources of diesel emissions, such as ships, trains, and trucks operate in and around ports, rail yards, and heavily traveled roadways. These areas are often located near highly populated areas. Because of this, elevated DPM levels are mainly an urban problem, with large numbers of people exposed to higher DPM concentrations, resulting in greater health consequences compared to rural areas. A large fraction of personal exposure to DPM occurs during travel on roadways. Although Californians spend a relatively small proportion of their time in enclosed vehicles (about 7% for adults and teenagers, and 4% for children under 12), 30 to 55% of total daily DPM exposure typically occurs during the time people spend in motor vehicles.

Diesel Particulate Matter and Health

The majority of DPM is small enough to be inhaled into the lungs. Most inhaled particles are subsequently exhaled, but some deposit on the lung surface. Although particles the size of DPM can deposit throughout the lung, the largest fraction deposits in the deepest regions of the lungs where the lung is most susceptible to injury.

In 1998, CARB identified DPM as a toxic air contaminant based on published evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health effects. In 2012, additional studies on the cancer-causing potential of diesel exhaust

published since CARB's determination led the International Agency for Research on Cancer (IARC, a division of the World Health Organization) to list diesel engine exhaust as "carcinogenic to humans". This determination is based primarily on evidence from occupational studies that show a link between exposure to DPM and lung cancer induction, as well as death from lung cancer. Download the IARC report (external site).

Because it is part of PM2.5, DPM also contributes to the same non-cancer health effects as PM2.5 exposure. These effects include premature death, hospitalizations and emergency department visits for exacerbated chronic heart and lung disease, including asthma, increased respiratory symptoms, and decreased lung function in children. Several studies suggest that exposure to DPM may also facilitate development of new allergies. Those most vulnerable to non-cancer health effects are children whose lungs are still developing and the elderly who often have chronic health problems.

Estimated Health Effects of DPM in California

DPM has a significant impact on California's population. It is estimated that about 70% of total known cancer risk related to air toxics in California is attributable to DPM. Based on 2012 estimates of statewide exposure, DPM is estimated to increase statewide cancer risk by 520 cancers per million residents exposed over a lifetime. Non-cancer health effects associated with exposure to DPM (based on 2014 - 2016 air quality data) are shown in the table below.

Health Effect	**Estimated Annual Number of Cases***
Cardiopulmonary Death	730 (570 – 890)
Hospitalizations (Cardiovascular and Respiratory)	160 (20 – 290)
Emergency Room Visits for Asthma	370 (240 – 510)

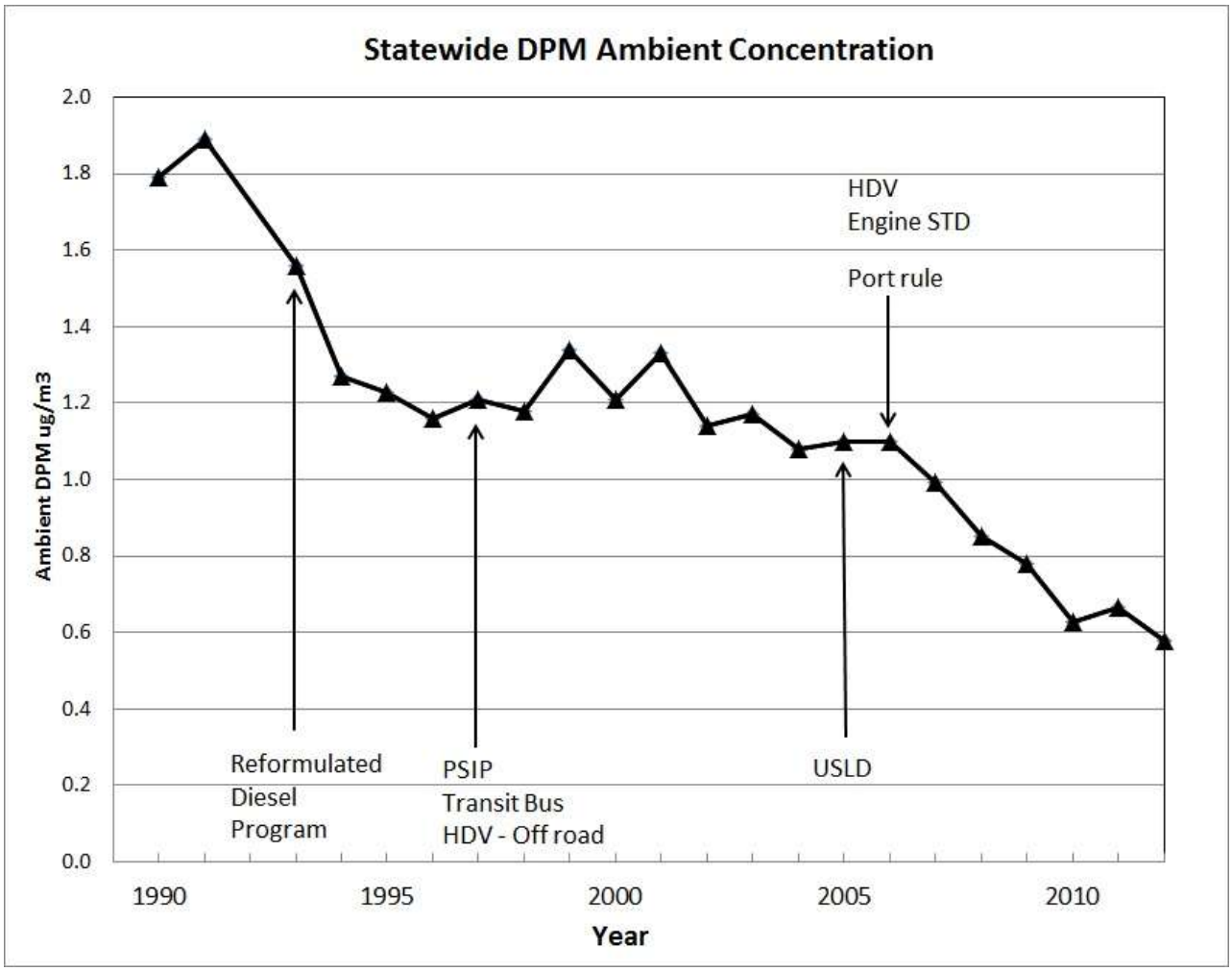
*Values in parenthesis indicate 95% confidence interval.

More Information

Trends in Outdoor Levels of DPM

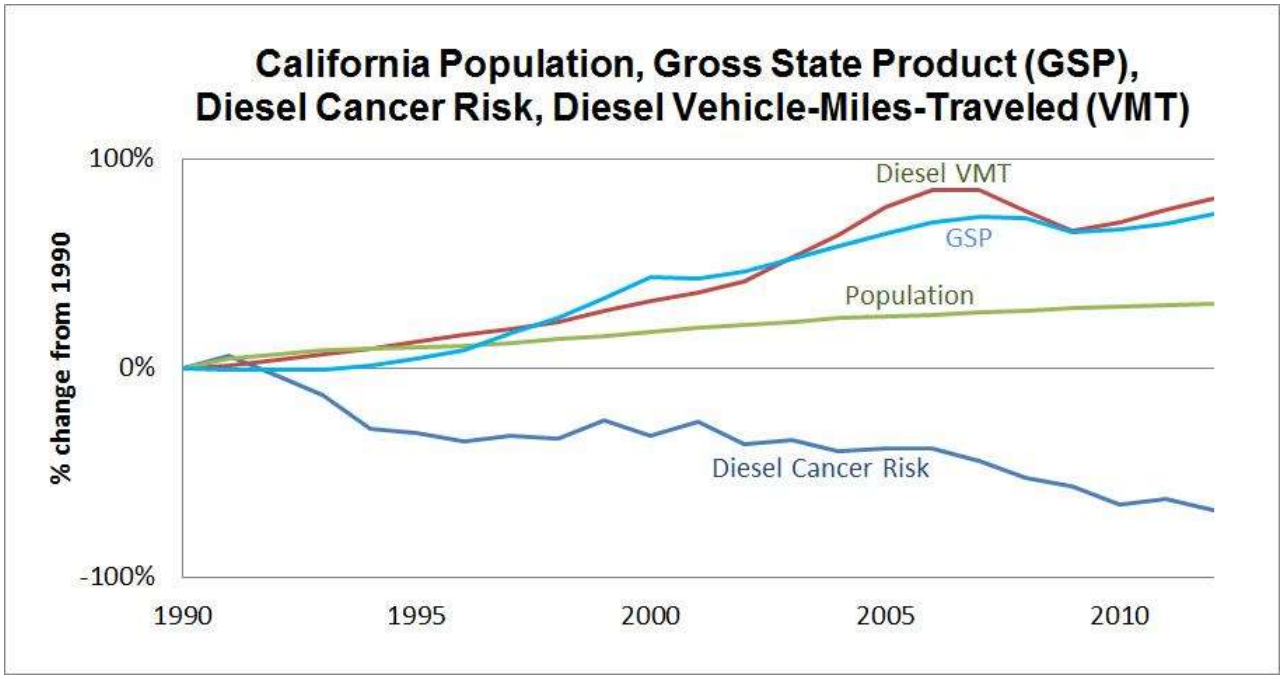
The figure below shows the trend in ambient DPM. CARB regulations** of diesel engines and fuels have had a dramatic effect on DPM concentrations. Since 1990, DPM levels have decreased by 68%. The figure also shows which regulations have had the greatest impact on DPM.

DPM levels are expected to continue declining as additional controls are adopted, and the number of new technology diesel vehicles increases.



**Abbreviations of CARB regulations used in table: HDV Engine STD = Heavy-duty diesel truck engine standard; HDV - Off road = Heavy-duty off-road diesel engines; Port rule = Port (drayage) trucks; PSIP = Periodic self-inspection program; Transit bus = Urban transit buses; ULSD = Clean diesel fuel

The figure below shows that despite the increased number of vehicle miles traveled by diesel vehicles (VMT, red line), and despite increases in statewide population (green line) and gross state product (GSP, a measure of growth in the state's economy, light blue line), CARB's regulatory programs still led to a decline in statewide cancer risk (dark blue line).



Additional Information

- CARB's diesel programs
- CARB's diesel mobile vehicles and equipment activities
- CARB's freight transport, ports and rail programs
- California's diesel fuel program
- Other diesel-related programs
- Selected references on diesel-related health effects

Environmental Effects of Diesel Exhaust

In addition to its health effects, diesel exhaust significantly contributes to haze that reduces visibility by obscuring outdoor views and decreasing the distance over which one can distinguish features across the landscape. Researchers have reported that in the San Joaquin Valley and in southern California, diesel engines contribute to a reduction in visibility. This decrease in visibility is caused by scattering and absorption of sunlight by particles and gases present in diesel emissions.

DPM also plays an important role in climate change. A large proportion of DPM is composed of BC. Recent studies cited in the Intergovernmental Panel on Climate Change report estimate that emissions of BC are the second largest contributor to global warming, after carbon dioxide emissions. Warming occurs when BC particles absorb sunlight, convert it

into infrared (heat) radiation, and emit that radiation to the surrounding air. A recent California-specific study showed that the darkening of snow and ice by BC deposition is a major factor in the rapid disappearance of the Sierra Nevada snow packs. Melting of the snow pack of the Sierra Nevada earlier in the spring is one of the contributing factors to the serious decline in California's water supply. As additional DPM controls are adopted, and the number of new technology diesel vehicles increases, BC emissions will continue to decline.

Conclusions

Although progress has been made over the past decade in reducing exposure to diesel exhaust, diesel exhaust still poses substantial risks to public health and the environment. Efforts to reduce DPM exposure through use of cleaner-burning diesel fuel, retrofitting engines with particle-trapping filters, introduction of new, advanced technologies that reduce particle emissions, and use of alternative fuels are approaches that are being explored and implemented. CARB anticipates that newly adopted diesel exhaust control measures will reduce population exposure even further, and that as the sustainable freight program expands, population exposure to diesel exhaust pollution will decrease even further. It is estimated that emissions of DPM in 2035 will be less than half those in 2010, further reducing statewide cancer risk and non-cancer health effects.

RELATED RESOURCES

SNAPS Inglewood Oil Field Communities Draft Air Monitoring Plan

Regulación de Camiones y Autobuses Extensión por Demora del Fabricante

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CALIFORNIA ENVIRONMENTAL QUALITY ACT

NOTICE OF EXEMPTION

(PRC Section 21152; CEQA Guidelines Section 15062)

Pursuant to Public Resources Code § 21152(b) and CEQA Guidelines § 15062, the notice should be posted with the County Clerk by mailing the form and posting fee payment to the following address: Los Angeles County Clerk/Recorder, Environmental Notices, P.O. Box 1208, Norwalk, CA 90650. Pursuant to Public Resources Code § 21167 (d), the posting of this notice starts a 35-day statute of limitations on court challenges to reliance on an exemption for the project. Failure to file this notice as provided above, results in the statute of limitations being extended to 180 days.

PARENT CASE NUMBER(S) / REQUESTED ENTITLEMENTS
CASE NO. DIR-2020-7846-DB-SPR-HCA / Density Bonus, Site Plan Review

LEAD CITY AGENCY	CASE NUMBER
City of Los Angeles (Department of City Planning)	ENV- 2020-7847-CE
PROJECT TITLE	COUNCIL DISTRICT
216 Spring Street Project	14- de León

PROJECT LOCATION (Street Address and Cross Streets and/or Attached Map) ☐ Map attached.
212-220 South Spring Street

PROJECT DESCRIPTION: ☐ Additional page(s) attached.
The project includes the demolition of one existing commercial building and the construction, use and maintenance of a 17-story mixed-use building containing 103,550 square feet of floor area, including 3,013 square feet of commercial space. The project includes 120 dwelling units, of which 14 units will be restricted to Very Low Income Households. The project will provide 69 auto parking, 102 bicycle parking spaces and 12,692 square feet of usable open space. There are two non-protective street trees in the public right-of-way which will be removed during construction. The street tree removal is subject to a 2:1 replacement ratio to the satisfaction of the Board of Public Works. There are no existing trees on the project site. The project also includes the planting of 30 24-inch box trees.

NAME OF APPLICANT / OWNER:
216 Spring St., LLC, David Lawrence Gray Architect

CONTACT PERSON (If different from Applicant/Owner above)	(AREA CODE) TELEPHONE NUMBER | EXT.
Blaise Fremont	(213) 243-5707

EXEMPT STATUS: (Check all boxes, and include all exemptions, that apply and provide relevant citations.)

STATE CEQA STATUTE & GUIDELINES

☐ STATUTORY EXEMPTION(S)

Public Resources Code Section(s) _____

☒ CATEGORICAL EXEMPTION(S) (State CEQA Guidelines Sec. 15301-15333 / Class 1-Class 33)

CEQA Guideline Section(s) / Class(es) **Section 15332 / Class32**

☐ OTHER BASIS FOR EXEMPTION (E.g., CEQA Guidelines Section 15061(b)(3) or (b)(4) or Section 15378(b))

_____

JUSTIFICATION FOR PROJECT EXEMPTION: ☒ Additional page(s) attached
See the attached justification.

☒ None of the exceptions in CEQA Guidelines Section 15300.2 to the categorical exemption(s) apply to the Project.
☐ The project is identified in one or more of the list of activities in the City of Los Angeles CEQA Guidelines as cited in the justification.

IF FILED BY APPLICANT, ATTACH CERTIFIED DOCUMENT ISSUED BY THE CITY PLANNING DEPARTMENT STATING THAT THE DEPARTMENT HAS FOUND THE PROJECT TO BE EXEMPT.
If different from the applicant, the identity of the person undertaking the project.

CITY STAFF USE ONLY:

CITY STAFF NAME AND SIGNATURE	STAFF TITLE
Yi Lu	City Planner

ENTITLEMENTS APPROVED
Density Bonus and Site Plan Review

DISTRIBUTION: County Clerk, Agency Record
Rev. 6-22-2021

CITY OF LOS ANGELES
DEPARTMENT OF CITY PLANNING
CITY HALL 200 NORTH SPRING STREET LOS ANGELES CA 90012

JUSTIFICATION TO SUPPORT A CATEGORICAL EXEMPTION

216 Spring Street Project
ENV-2020-7847-CE

Project Addresses: 212, 214, 216, 218, and 220 S. Spring Street, Los Angeles, CA 90012

Community Plan Area: Central City

Council District: 14 – Kevin de León

Project Description: The Project Site occupies approximately 12,784 square feet of lot area (0.29 acres) and is currently developed with a one-story commercial building. The Applicant proposes the demolition of the existing structure for the construction of a 17-story mixed-use building with 120 multi-family dwelling units, 1,032 square feet of retail, and a 1,981 square-foot restaurant. The proposed development would reach a maximum height of 223 feet and 4 inches above grade. The unit mix would include 16 studio units, 89 one-bedroom units, 13 two-bedroom units, and two three-bedroom units. Of the 120 dwelling units, 11 percent of the units (14 units) would be reserved at the "very low income" level. The building would include approximately 12,692 square feet of open space, including an outdoor rooftop deck, common recreation areas, and private balconies. The Proposed Project would include a total of 103,550 square feet of floor area, resulting in an approximate 8.1:1 FAR. The Proposed Project would provide 69 vehicle parking spaces on-site, pursuant to AB 744, in a three-level subterranean parking garage and 102 bicycle parking spaces. There are two non-protective street trees in the public right-of-way which would be removed. The street tree removal is subject to a 2:1 replacement ratio to the satisfaction of the Board of Public Works. There are no existing trees on the Project Site. The Project also proposes to plant 30 24-inch box trees on-site, pursuant to the Los Angeles Municipal Code (LAMC).

PREPARED FOR:	**PREPARED BY:**	**APPLICANT:**
The City of Los Angeles Department of City Planning	Parker Environmental Consultants	216 Spring St, LLC

August 2022

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Attachments

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Attachment 2 ..... Transportation Assessment
Attachment 3 ..... Noise Monitoring Data and Calculations Worksheets
Attachment 4 ..... Air Quality Modeling Worksheets
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Attachment 6 ..... Arborist Report
Attachment 7 ..... Additional Maps of the Project Site
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Section 1. Introduction

PROJECT INFORMATION

Project Title:	216 Spring Street Project
Project Location:	212, 214, 216, 218, and 220 S. Spring Street Los Angeles, CA 90012
Project Applicant:	216 Spring St, LLC C/O David Gray 353 S. Broadway, Suite 200 Los Angeles CA 90013
Lead Agency:	City of Los Angeles Department of City Planning 200 N. Spring Street, Room 763 Los Angeles, CA 90012

An application for the proposed 216 Spring Street Project (Proposed Project) has been submitted to the City of Los Angeles Department of City Planning (DCP) for discretionary review.

The following information is being submitted in support of the determination that the proposed mixed-use residential and commercial development, located at 212, 214, 216, 218, and 220 S. Spring Street (Proposed Project), qualifies for a Categorical Exemption pursuant to the criteria set forth in Section 15332 (Class 32 Infill Development Projects) under the California Environmental Quality Act (CEQA) (P.R.C. 21000-21189.2), and the State CEQA Guidelines (C.C.R. Title 14, Division 6, Chapter 3, 15000-15387).

As presented in the enclosed materials, the Proposed Project meets all of the criteria necessary to qualify for a CEQA Exemption as a Class 32 (Infill Development Project) pursuant to CEQA Guideline Sections 15332. Application of these exemptions, as with all Categorical Exemptions, are limited by certain exceptions to the exemptions identified in Section 15300.2 of the CEQA Guidelines. As discussed in further detail below, no exceptions apply to the Proposed Project. Therefore, no further environmental analysis is warranted.

Section 2. Project Description

A. Project Summary

216 Spring St, LLC, (the "Applicant") proposes the demolition of an existing one-story commercial office structure for the construction of a 17-story mixed-use building with 120 multi-family dwelling units, 1,032 square feet of retail, and a 1,981 square-foot restaurant. The proposed development would reach a maximum height of 223 feet and 4 inches above grade. The unit mix would include 16 studio units, 89 one-bedroom units, 13 two-bedroom units, and two three-bedroom units. Of the 120 dwelling units, 11 percent of the units (14 units) would be reserved at the "Very Low Income" level. The building would include approximately 12,692 square feet of open space, including a rooftop deck, podium, and private balconies. The Proposed Project would include a total of 103,550 square feet of developed floor area, resulting in an approximate 8.1:1 FAR. The Proposed Project would provide 69 vehicle parking spaces on-site per AB 744, in a three-level subterranean parking garage, and 102 bicycle parking spaces. There are two non-protective street trees in the public right-of-way which would be removed. The street tree removal is subject to a 2:1 replacement ratio to the satisfaction of the Board of Public Works. There are no existing trees on the Project Site. The Project also proposes to plant 30 24-inch box trees on-site pursuant to the Los Angeles Municipal Code (LAMC).

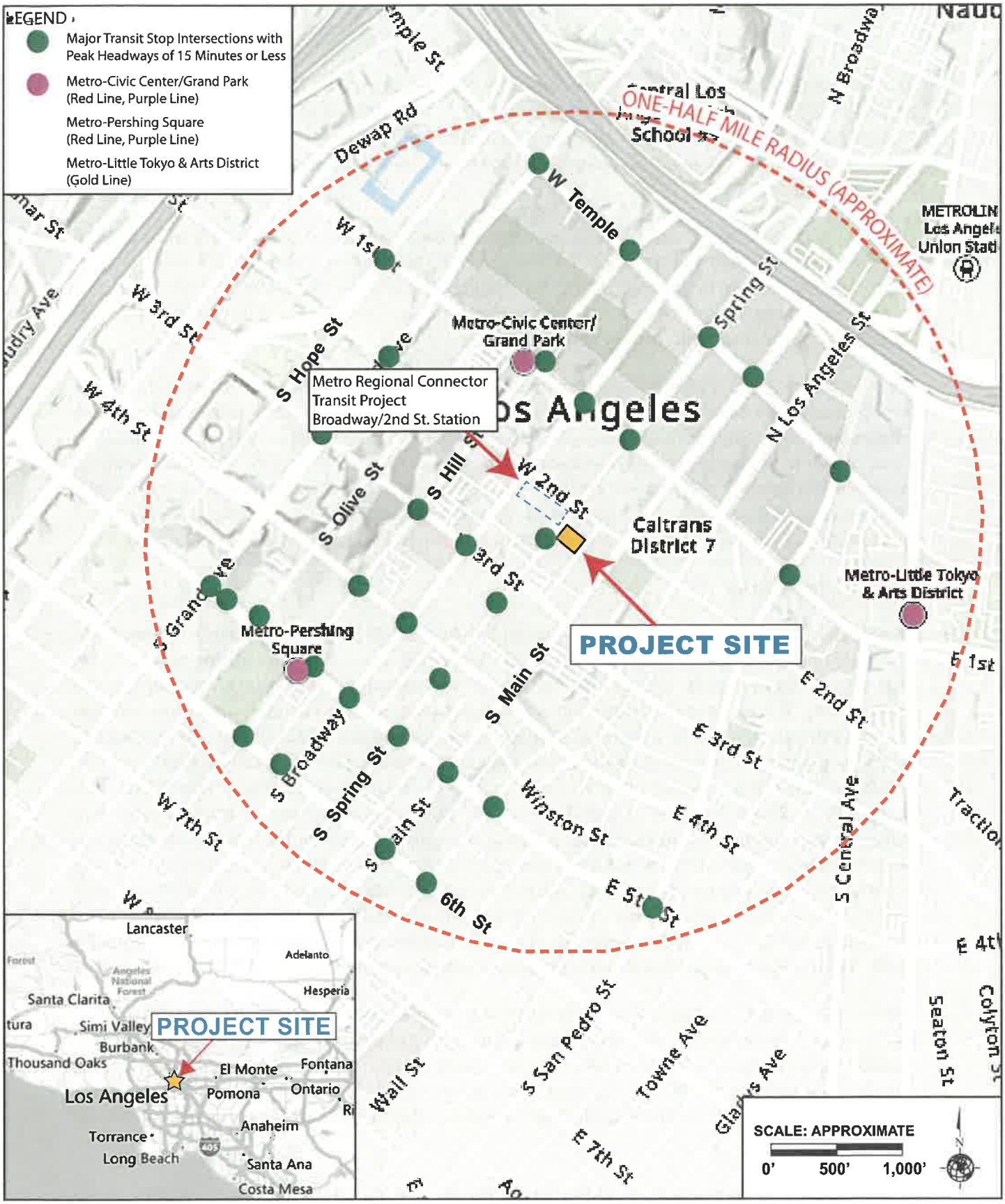
The Applicant is requesting the following discretionary approvals: (1) Pursuant to LAMC Section 12.22 A.25, a Density Bonus Compliance Review to permit a mixed-use residential and commercial development with 120 units and 3,013 square feet of commercial space, and with the following Density Bonus Incentives: (a) a 35% increase in FAR from 6:1 to a maximum of 8.1:1; (b) Pursuant to AB 744, to utilize the vehicle parking space requirement of 0.5 space per bedroom to allow 69 vehicle parking spaces on-site; (2) Pursuant to LAMC Section 16.05, Site Plan Review for a proposed mixed-use building creating more than 50 net dwelling units; and (3) Pursuant to LAMC Section 12.22 A.26, Downtown Design Guide Review for the proposed building.

In addition, pursuant to various sections of the LAMC, the Applicant will also request various ministerial administrative approvals and permits from the Los Angeles Department of Building and Safety and other municipal agencies for Project construction actions, including but not limited to the following: demolition, shoring, grading, foundation, building, haul route, street tree removal, and tenant improvements.

B. Environmental Setting

1. Project Location

The Project Site's address includes 212, 214, 216, 218, and 220 S. Spring Street, Los Angeles, CA 90012, with Assessor Parcel Number: 5149-007-005. The Project Site is located in the Central City Community Plan area within the City of Los Angeles. The Project Site's location within the City of Los Angeles and the greater Los Angeles region is depicted in Figure 1, Project Location Map.



Source: ArcGIS, 2021.

Figure 1
Project Location Map

The Project Site encompasses one parcel along the east side of S. Spring Street, between 2nd Street and 3rd Street, and includes approximately 12,784 square feet of lot area (0.29 acres). The Project Site is generally bounded by Spring Street to the west, Harlem Place (alleyway) and a surface parking lot to the east, a parking structure to the south, and a one-story commercial building to the north.

Regional access to the Project Site is provided by the Hollywood Freeway (US-101), located approximately 0.4 mile northeast of the Project Site; the Harbor Freeway (SR-110), located approximately 0.6 mile to the northwest of the Project Site; and the Santa Monica Freeway (I-10), located approximately 1.6 miles south of the Project Site. The US-101 and the SR-110 meet approximately 0.7 mile north of the Project Site.

Local street access is provided by the grid roadway system surrounding the Project Site. South Spring Street, which borders the Project Site to the west, is a one-way street providing two travel lanes southbound. Spring Street is classified as a Modified Avenue II roadway in the City's Mobility Plan. Other major arterial roadways providing access to the Project Site is W. 2nd Street, which is located approximately 120 feet north of the Project Site, and Main Street, which is approximately 180 feet east of the Project Site. Second Street is designated as an Avenue III roadway in the City's Mobility Plan. Main Street is designated as an Avenue II roadway in the City's Mobility Plan.

Transit Priority Area

In 2013, the State of California enacted Senate Bill 743 (SB 743), which provides that "aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment." P.R.C. Section 21099 defines a "transit priority area" as an area within one-half mile of a major transit stop that is "existing or planned, if the planned stop is scheduled to be completed within the planning horizon included in a Transportation Improvement Program adopted pursuant to Section 450.216 or 450.322 of Title 23 of the Code of Federal Regulations." Public Resources Code Section 21064.3 defines "Major Transit Stop" as "a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods." Public Resources Code Section 21061.3 defines an "Infill Site" as a lot located within an urban area that has been previously developed, or on a vacant site where at least 75 percent of the perimeter of the site adjoins or is separated only by an improved public right-of-way from parcels that are developed with qualified urban uses.

The Project Site is an infill site within a Transit Priority Area as defined by CEQA.[1] The Los Angeles Metropolitan Transportation Authority (Metro) and Los Angeles Department of Transportation (LADOT) operate multiple bus lines with multiple bus stops within walking distance from the Project Site. In the vicinity of the Project Site, bus stops are primarily located along Spring Street, Main Street, 3rd Street, and 4th Street. Bus lines that operate in the Project Site area include, but are not

[1] *Public Resources Code Sections 21061.3 and 21099. See also City of Los Angeles, Department of City Planning, City of Los Angeles Zoning Information and Map Access System (ZIMAS), Parcel Profile Report, website: www.zimas.lacity.org, accessed June 2021.*

limited to: Metro lines 2, 4, 30, 33, 35, 40, 45, 68, 83, 84, 92, 302, 330; Metro Rapid Lines 728, 733, 745; and LADOT DASH Line D.

Additionally, the closest Metro Station to the Project Site is the Civic Center/Grand Park Metro Rail Station, located approximately 0.3 mile (walking distance) north of the Project Site; and the Pershing Square Metro Rail Station, located 0.4 mile (walking distance) southwest from the Project Site. The Civic Center/Grand Park and Pershing Square Metro Stations are serviced by the Metro Purple Line and Red Line. The Metro Purple Line provides service between downtown Los Angeles and the Koreatown district. The Metro Red Line provides service between downtown Los Angeles and North Hollywood. The Metro Purple Line and Red Line provide access to other subway lines that connect to other parts of the City and to the greater Los Angeles metropolitan area. The Project Site is also located immediately east of the Regional Connector Transit Project. This project includes three new underground rail stations and extends from the Gold Line in Little Tokyo and Arts District communities to the Blue Line and Expo Lines at 7th Street/Metro Center Station. Currently, the Historic Broadway Station, located at 2nd Street and Broadway is currently under construction, approximately 80 feet west of the Project Site. It is anticipated that construction for this station and Metro transit project would be operational in 2022.[2] The Project Site is also situated within easy walking distance to retail, restaurants, entertainment, and other commercial businesses located in the Los Angeles Downtown area.

2. Existing Conditions

2.1 Zoning and Land Use Designations

Figure 2, Zoning and General Plan Land Use Designations, shows the existing zoning and General Plan land use designations on the Project Site and in the surrounding area. The Project Site is situated within the Central City Community Plan area and the City Center Redevelopment Plan ("Redevelopment Plan") area of the City of Los Angeles. The LAMC defines the zoning across the Project Site as "C2-4D" with a General Plan land use designation of "Regional Center Commercial." The Project Site is located in Height District No. 4, which allows for unlimited height, but limits development to a floor area ratio (FAR) of 13:1. Ordinance No. 164,307 establishes the "D" limitation on the Project Site, which further limits FAR on the Project Site. The "D" Classification further limits FAR to a maximum of 6:1 and states that additional FAR may be obtained through Transfer of Floor Area. Footnote 3 of the Central City Community Plan Map permits a maximum 13:1 FAR on the Project Site through a Transfer of Floor Area. The density, lot area, and setback requirements for the Project Site are superseded by the Greater Downtown Housing Incentive Area (Ordinance 179,076, effective September 2007). The Project Site is also located within a Transit Priority Area in the City of Los Angeles (ZI-2452), a Greater Downtown Housing Incentive Area (ZI-2385), a Metropolitan Transportation Authority right-of-way (Metro ROW) Project area (ZI-1117), and the Los Angeles State Enterprise Zone (ZI-2374).

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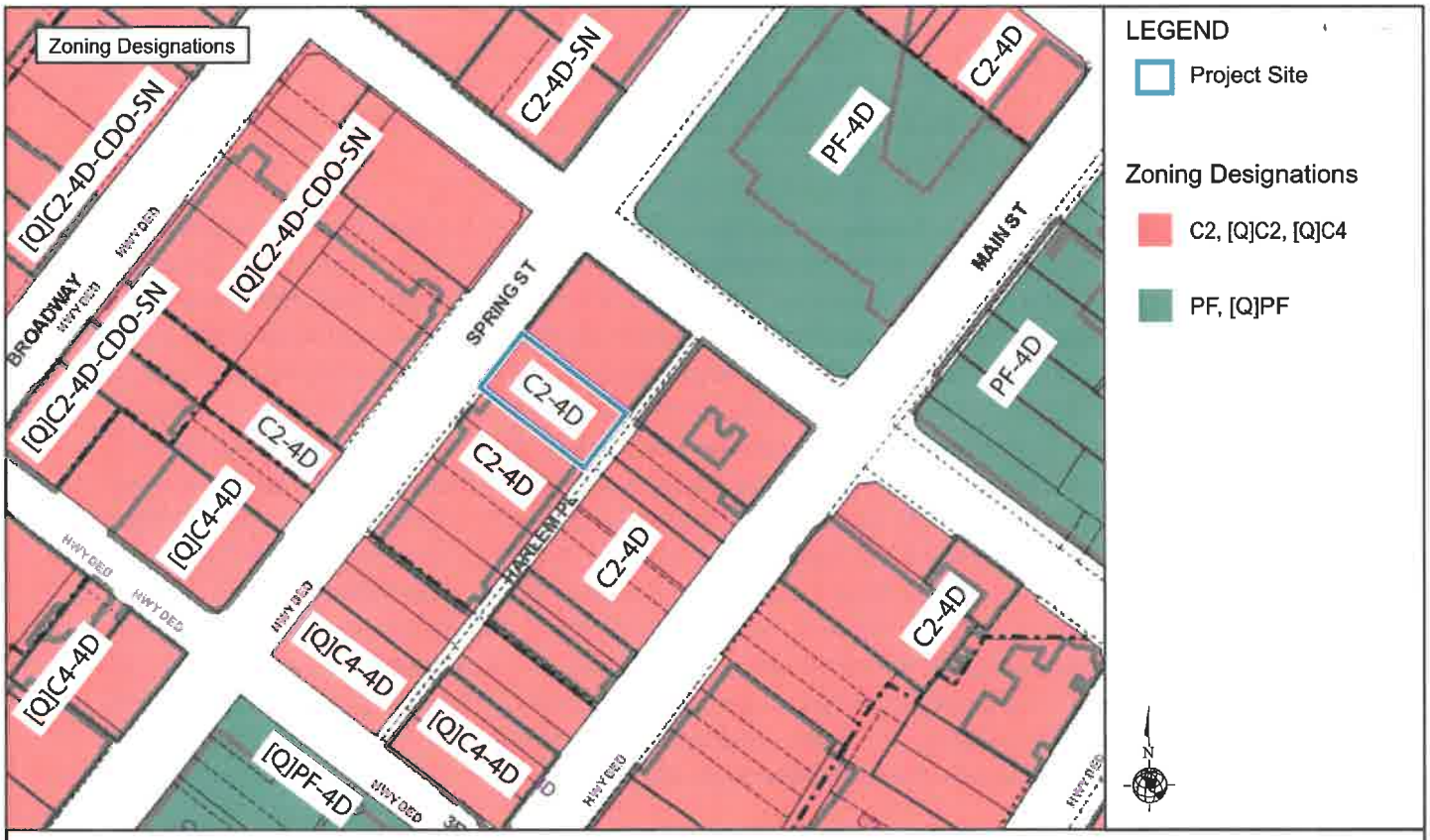
[2] *Metro Projects, Regional Connector Transit Project, website: https://www.metro.net/projects/connector-2/, accessed November 2021.*



Source: ZIMAS, City of Los Angeles, Department of City Planning, 2021.

Figure 2
Zoning and General Plan Land Use Designations

2.1.1 Central City Community Plan

The Project Site is located within the Central City Community Plan ("Community Plan") area of the City of Los Angeles. The Community Plan promotes an arrangement of land uses, infrastructure, and services intended to enhance the economic, social, and physical health, safety, welfare, and convenience of the people who live, work and invest in the community. By serving to guide development, the Community Plan encourages progress and change within the community to meet anticipated needs and circumstances, promotes balanced growth, builds on economic strengths and opportunities while protecting the physical, economic, and social investments in the community to the extent reasonable and feasible. The Community Plan area contains a substantial amount of commercial development. More specifically, the Project Site is located in the Civic Center District area, which includes Federal, State, County and local government offices. Civic Center has the second largest concentration of civic buildings in the country, located primarily along the Civic Center Mall north of First Street, and generally from the Harbor Freeway to Alameda Street and dominated by the historic City Hall.

2.1.2 City Center Redevelopment Plan

The Project Site is located within the Redevelopment Plan for the City Center Redevelopment Project ("Redevelopment Plan"). Development in the Redevelopment Project Area is governed by the Redevelopment Plan that was adopted in May 2002 by the former Community Redevelopment Agency of the City of Los Angeles (CRA/LA) and remains effective until May 2032. Pursuant to Ordinance 183,325 (effective November 11, 2019), the authority or responsibility to perform actions and related land use functions regarding any Redevelopment Plan Amendment or land use approval or entitlement pursuant to Section 11.5.14 and applicable provisions of the Code was transferred to the Department of City Planning. Specific design considerations from the Redevelopment Plan include: height, development densities, building setbacks, signage, open space and privacy, utilities, parking, and loading facilities. The Redevelopment Plan identifies overall objectives and development standards to guide the development, redevelopment, and rehabilitation of properties within the City Center area.

The City Center area encompasses much of Historic Downtown, City Markets, and South Park. The Proposed Project is located within the Historic Downtown neighborhood of the City Center Redevelopment Project area, which was established by the CRA/LA. The Redevelopment Plan's objective for the Historic Downtown Development area is to achieve a mixed use residential, commercial, office, cultural, recreational, entertainment and institutional area primarily through the adaptive re-use of the large stock of structures of architectural and historic merit. Rehabilitation of this area is in part dependent on addressing the social, medical and economic problems of the Central City population. The area includes two national register historic districts encompassing substantial portions of Broadway and Spring Streets. The predominant uses shall include both private and governmental office uses, residential uses, theaters, restaurants, local and regional serving commercial and entertainment uses, and other uses compatible with a medium to high density mixed use urban core environment.

2.2 Existing Site Conditions

Figure 3, Aerial Photograph of the Project Site and Surrounding Land Uses, shows an aerial view of the Project Site and identifies the photograph locations for the Project Site and surrounding land use photographs shown in Figure 4, Photographs of the Project Site.

The Project Site consists of one parcel currently improved with a one-story commercial office building with approximately 14,000 square feet of office space. No vehicular driveways or access are provided on the Project Site from Spring Street or the adjacent alleyway, Harlem Place. Two street trees (Holly Oak) are located in the public right-of-way adjacent to the Project Site along Spring Street.

3. Surrounding Land Uses

As shown in Figure 2, the Project Site is in a commercially zoned "C2-4D" area, and properties immediately bordering the Project Site are either zoned C2-4D, C4-4D, or [Q]C2-4D-CDO-SN with General Plan land use designations of Regional Center Commercial. The properties surrounding the Project Site include a mix of commercial land uses, mixed-use residential and commercial buildings, surface parking, and parking structures. These land uses range in height from one- to ten-stories above grade. Figure 3 shows an aerial photograph of the land uses surrounding the Project Site. Photographs of the land uses immediately surrounding the Project Site are provided in Figure 5, Photographs of the Surrounding Land Uses. Below is description of the existing conditions in the surrounding area.

North: The Project Site is immediately bordered by a one-story commercial building to the north. This property is currently zoned C2-4D with a General Plan land use designation of Regional Center Commercial. Immediately north of this property is W. 2nd Street. The Los Angeles Police Department headquarters and park is located north of W. 2nd Street. This property is zoned PF-4D with a General Plan land use designation of Public Facilities. Refer to Figure 5, Views 8 and 9.

West: The Project Site is immediately bordered by Spring Street to the west. Further west, is a six-story parking structure, located at 213 S. Spring Street, and a construction site for a new mixed-use residential and commercial building above the Metro Regional Connector Historic Broadway Rail Station (Case No. CPC-2016-3808-VZC-CDO-DD-SPR). This project was approved in April 2020, and would involve demolishing the six-story parking structure. These properties are zoned [Q]C2-4D-CDO-SN with General Plan land use designations of Regional Center Commercial. Refer to Figure 5, Views 11 and 12.

East: The Project Site is immediately bordered by Harlem Place, an alleyway, to the east. Further east, across the alleyway, is a surface parking lot and 10-story mixed-use residential and commercial property. These properties are zoned C4-4D with General Plan land use designations of Regional Center Commercial. Refer to Figure 5, View 10.

South: The Project Site is immediately bordered by a six-story parking structure to the south. This property is currently zoned C2-4D with General Plan land use designation of Regional Center Commercial. Further south is a surface parking lot, which is currently zoned [Q]C4-4D with a General Plan land use designation of Regional Center Commercial. Refer to Figure 5, View 7.

Source: Google Earth, Aerial View, 2020.

Figure 3
Aerial Photograph of the Project Site and Surrounding Land Uses

View 1: On the northern side of S. Spring Street, looking south at the Project Site.

View 2: On the northern side of S. Spring Street, looking southeast at the Project Site.

View 3: On the northern side of S. Spring Street, looking northeast at the Project Site.

View 4: On the southern side of Harlem Place, looking north at the Project Site.

View 5: On the southern side of Harlem Place, looking southwest at the Project Site.

View 6: On the northern side of Harlem Place, looking southwest at the Project Site.

Source: Parker Environmental Consultants, June 11, 2021.

Figure 4
Photographs of the Project Site
Views 1-6

View 7: On the west side of S. Spring Street, looking south and southeast at properties south of the Project Site.

View 8: On the southwest corner of S. Spring Street and W. 2nd Street, looking south at properties north and northeast of the Project Site.

View 9: On the east side of Harlem Place, looking northeast at properties northeast of the Project Site.

View 10: On the east side of S. Main Street, looking northwest at properties east and southeast of the Project Site.

View 11: On the east side of S. Spring Street, looking northwest at properties north of the Project Site.

View 12: On the east side of S. Spring Street, looking west at properties west of the Project Site.

Source: Parker Environmental Consultants, June 11, 2021.

Figure 5
Photographs of the Surrounding Land Uses
Views 7-12

C. Description of Project

1. Project Overview

The Project would require demolition and site clearing of the existing commercial office building for the construction, use, and maintenance of a 17-story mixed-use multi-family residential and commercial building with a total of 120 residential dwelling units, and 3,013 square feet of commercial space ("Proposed Project"). Eleven percent of the proposed dwelling units (14 units) would be reserved for families with "very low" income. The building would be a maximum height of 223 feet and 4 inches above grade at the top of the parapet. The Proposed Project includes a total floor area of 103,550 square feet, resulting in a FAR of 8.1:1. The Proposed Project would provide 69 vehicle parking spaces in a three-level subterranean parking garage. A summary of the Proposed Project is provided in Table 1, Proposed Development Program, below. The plan layout of the Proposed Project is depicted in Figure 6, Plot Plan, and floor plans are illustrated in Figures 7 through 11.

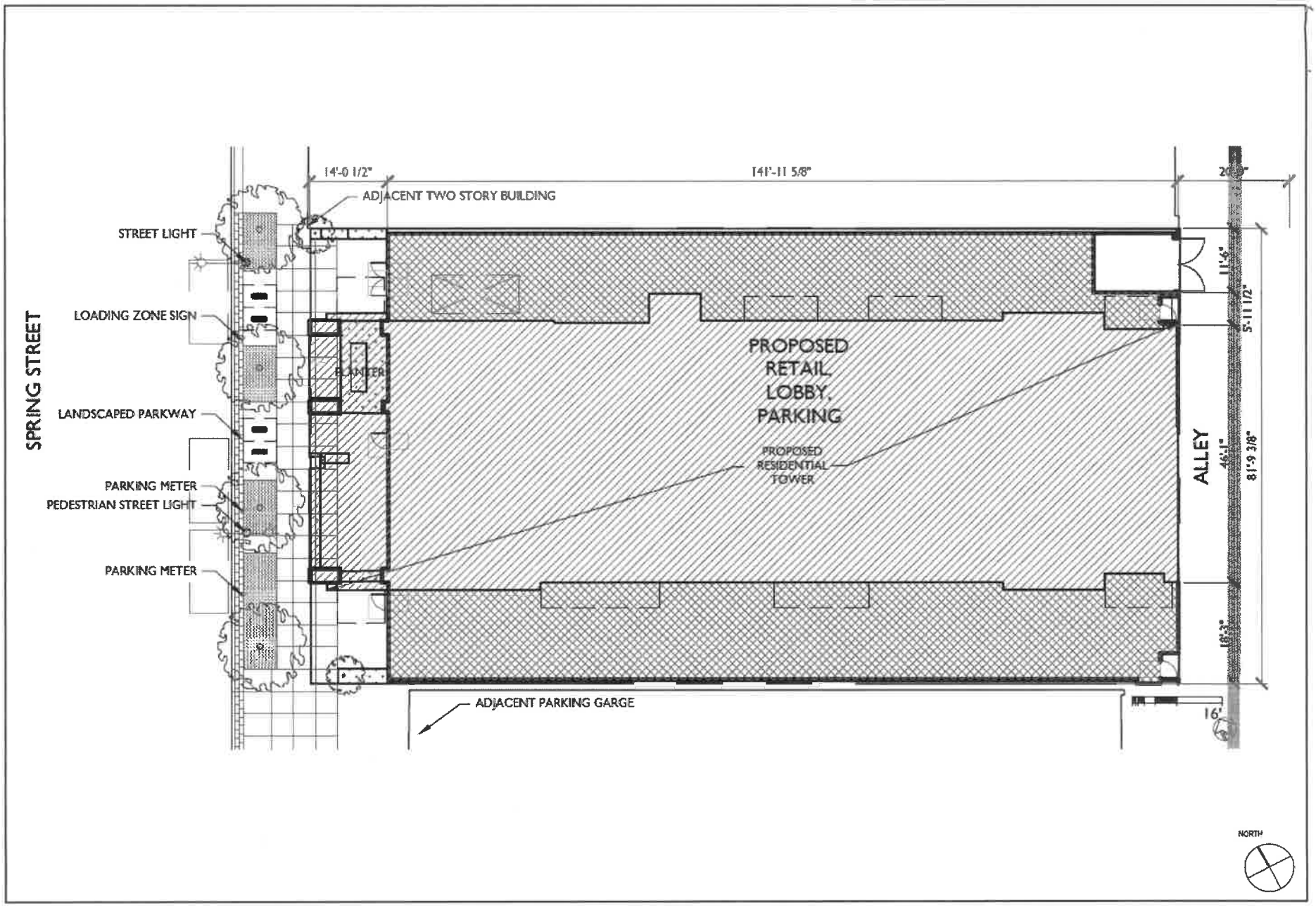
Table 1
Proposed Development Program

Land Uses	Quantity	Proposed Floor Area (square feet)
Proposed Project		
Residential (120 dwelling units)		
Studio	16 du	100,537 sf [a]
One-Bedroom	89 du	
Two-Bedroom	13 du	
Three-Bedroom	2 du	
Total Units	120 du	
Commercial (3,013 sf)		
Restaurant	–	1,981 sf
Retail	–	1,032 sf
	TOTAL:	**103,550 sf (8.1:1 FAR)**

Notes: du = dwelling unit; sf = square feet
[a] *Includes residential support areas such as amenities, lobby, and open space areas.*
Source: David Lawrence Gray Architects, February 28, 2022.

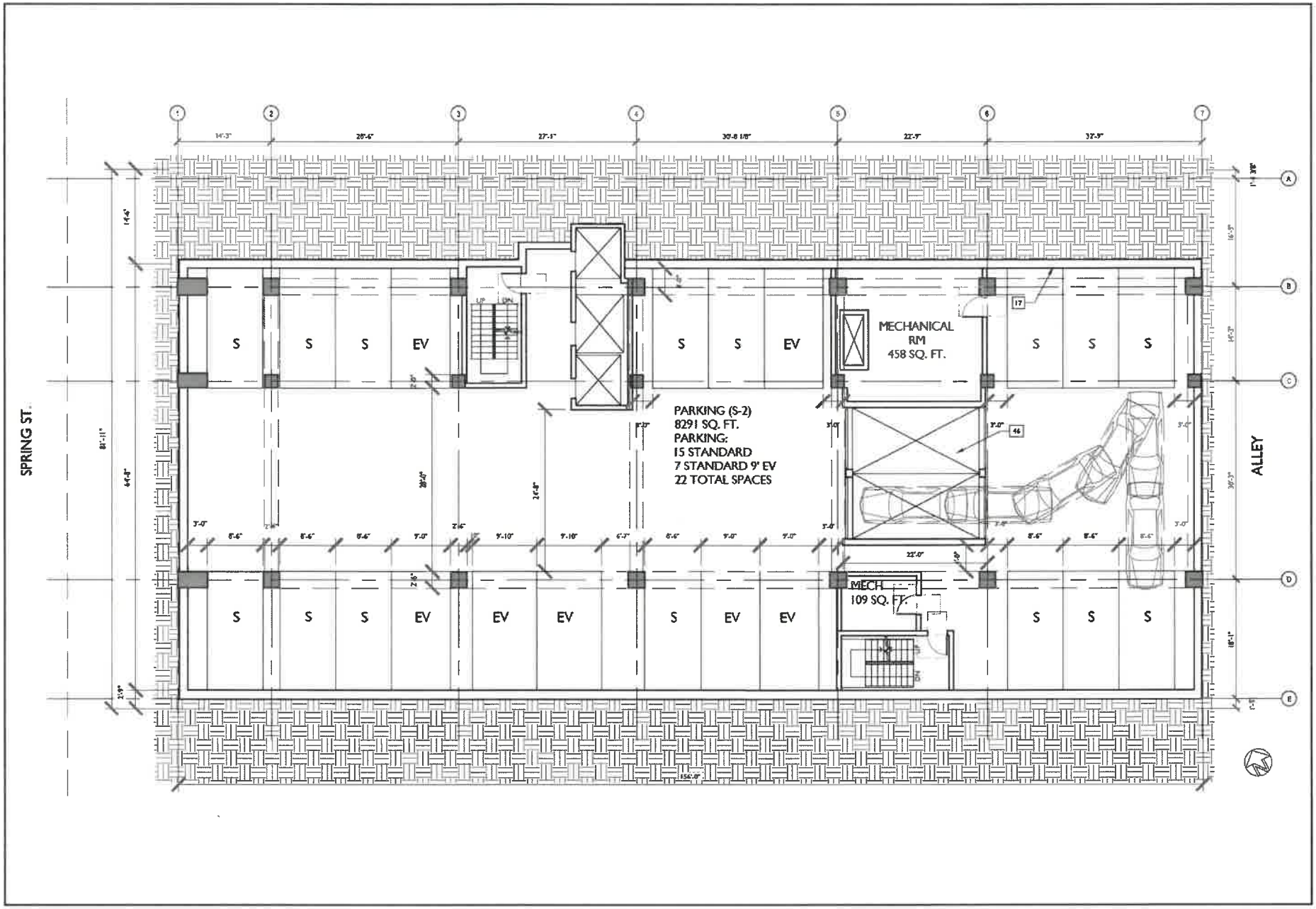
Residential Uses

As shown in Table 1, above, the Proposed Project would include a maximum of 120 residential units. The unit mix would include 16 studio units, 89 one-bedroom units, 13 two-bedroom units, and two three-bedroom units. Eleven percent of the proposed density units (14 units) would be reserved for families with "very low" income. The proposed building would include a residential lobby located on the ground floor. Additional residential amenity space would be located on the ground floor, second floor, and the roof deck. The total residential floor area totals approximately 100,526 square feet.



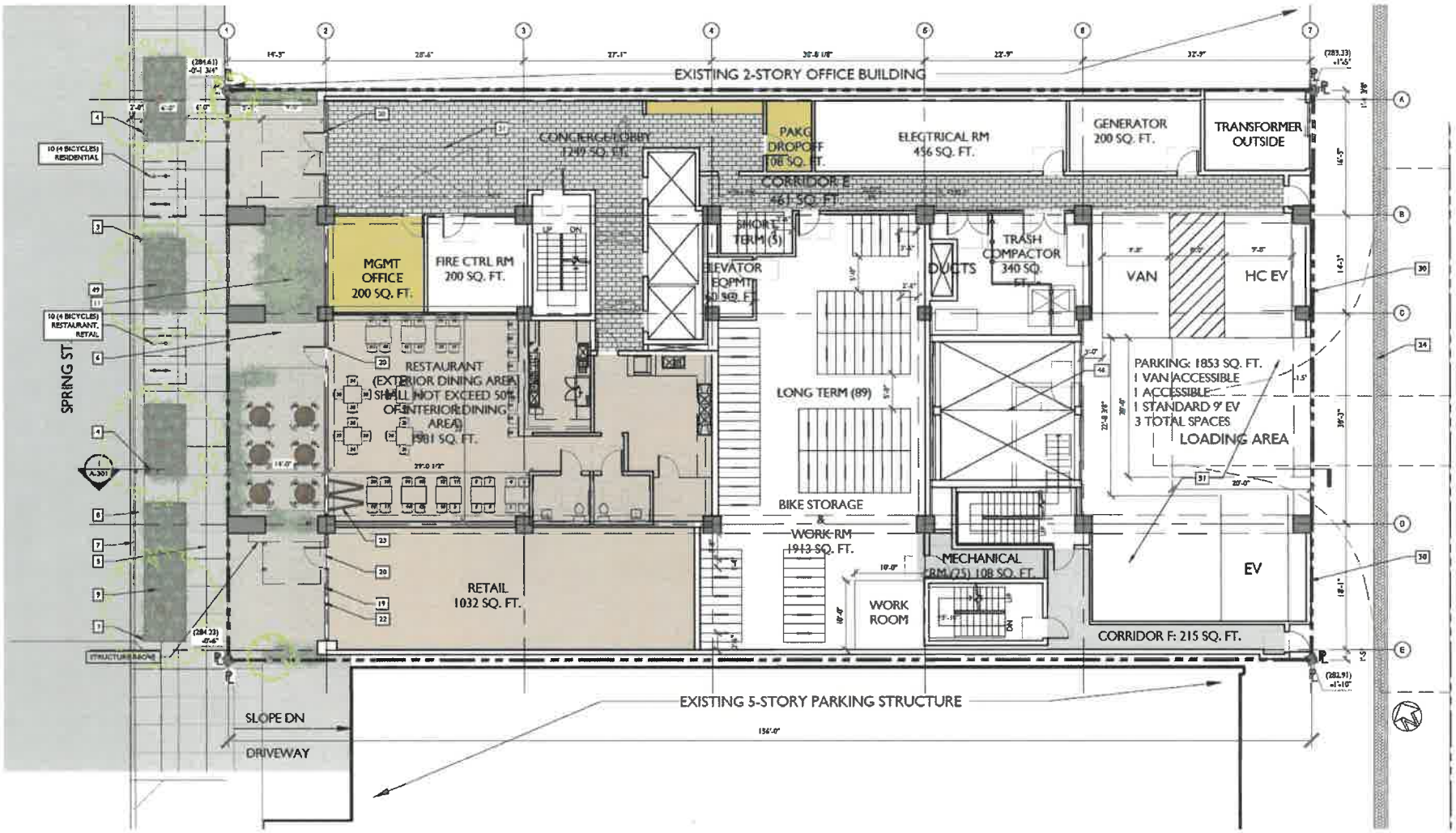
Source: David Lawrence Gray Architects AIA, June 7, 2021.

Figure 6
Plot Plan



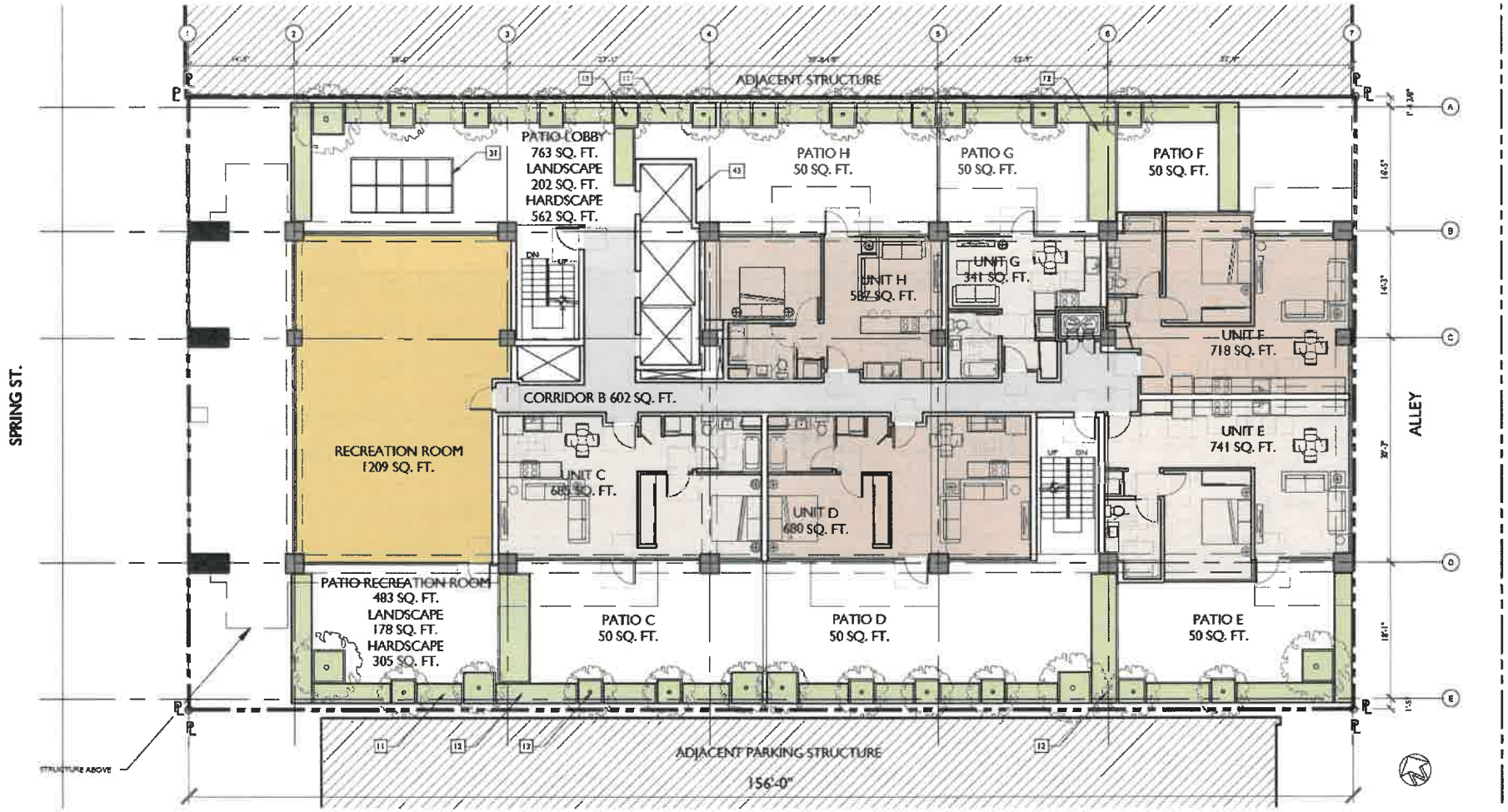
Source: David Lawrence Gray Architects AIA, June 7, 2021.

Figure 7
Parking Floor Plan



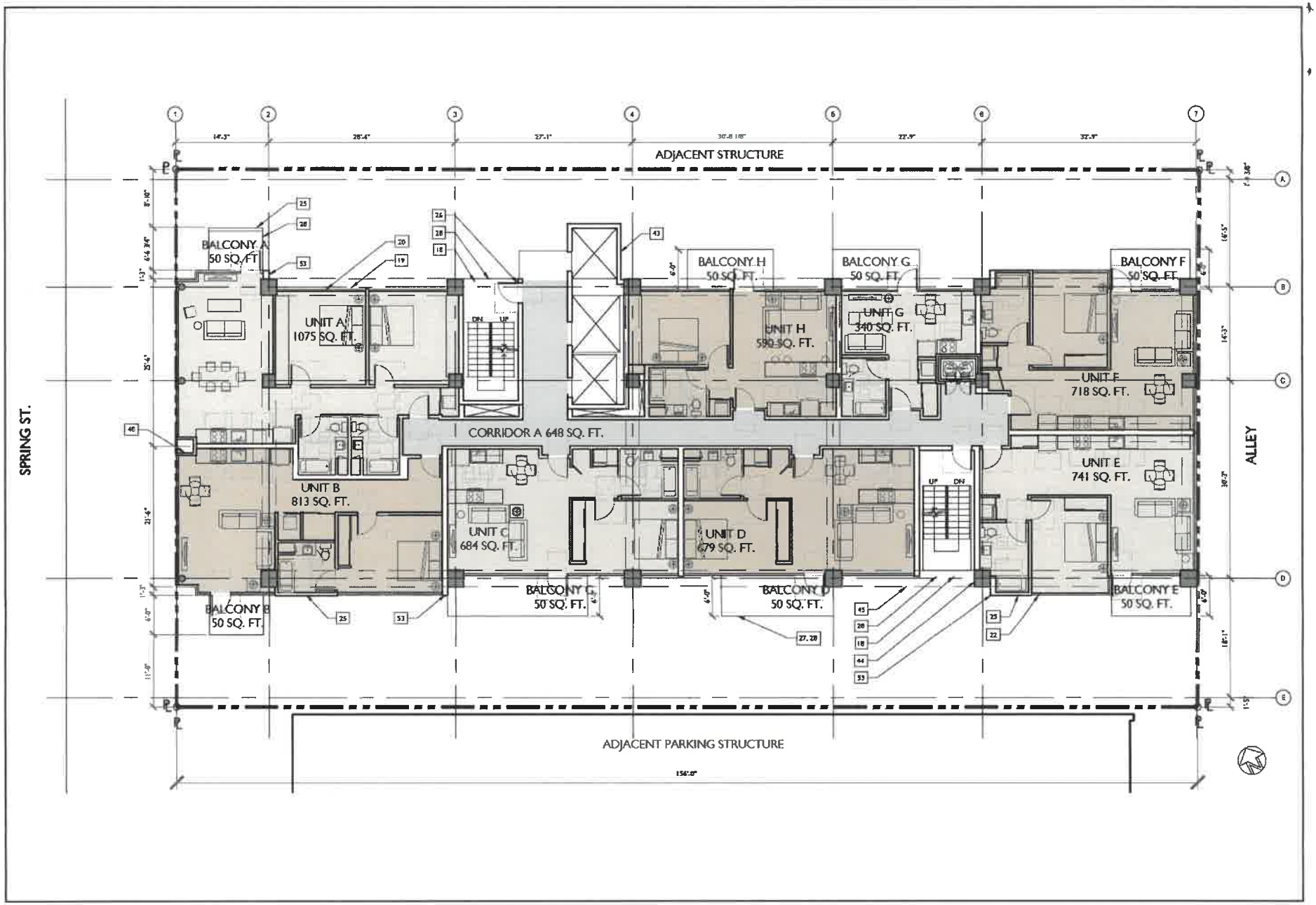
Source: David Lawrence Gray Architects AIA, June 7, 2021.

Figure 8
Level 1 Floor Plan



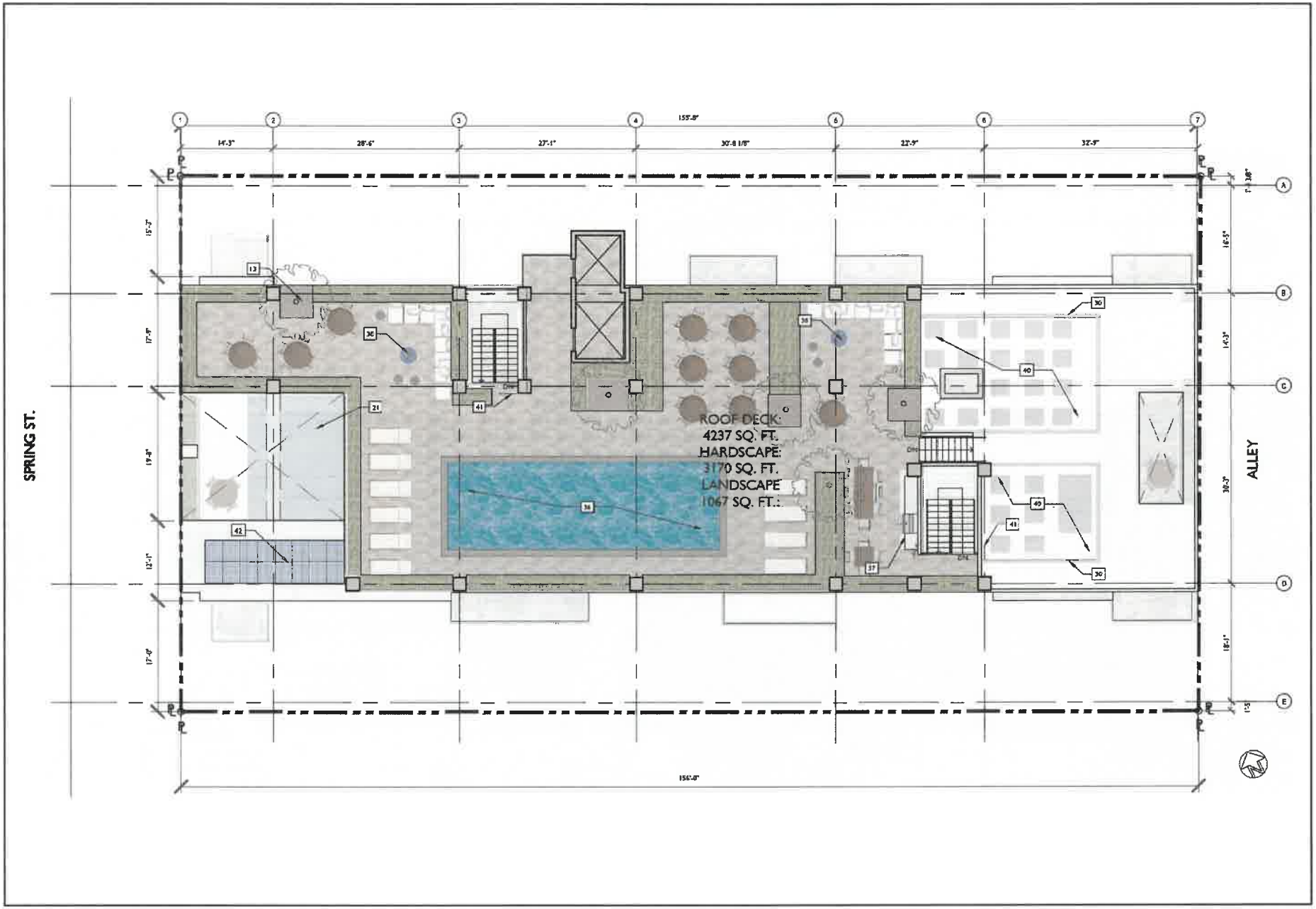
Source: David Lawrence Gray Architects AIA, June 7, 2021.

Figure 9
Level 2 Floor Plan



Source: David Lawrence Gray Architects AIA, June 7, 2021.

Figure 10
Typical Residential Floor Plan



Source: David Lawrence Gray Architects AIA, June 7, 2021.

Figure 11
Roof Plan

Commercial Uses

As shown in Table 1, above, the Proposed Project would include approximately 3,013 square feet of ground floor commercial space, including 1,032 square feet of retail space and a 1,981 square-foot restaurant. The commercial spaces would directly front Spring Street. The locations of the commercial/retail spaces are illustrated in Figure 8, Level 1 Floor Plan.

2. Floor Area

The Project Site includes a net lot area of 12,784 square feet. The Project Site is located in Height District No. 4, which has unlimited height, but limits development to a FAR of 13:1. The Redevelopment Plan and 'D' limitation further limits the total floor area of the Project Site to a ratio of 6:1 FAR or approximately 76,704 square feet based on lot area. Pursuant to LAMC Section 12.22 A.25(g)(3), in exchange for setting aside 11 percent of the base density as very low-income housing units, the Proposed Project is eligible to receive development incentives, including an on-menu incentive to increase the allowable FAR by 35 percent to a maximum of 8.1:1, resulting in an allowable floor area of 103,550 square feet. The Proposed Project includes approximately 103,550 square feet of floor area, resulting in a FAR of 8.1:1.

3. Building Height

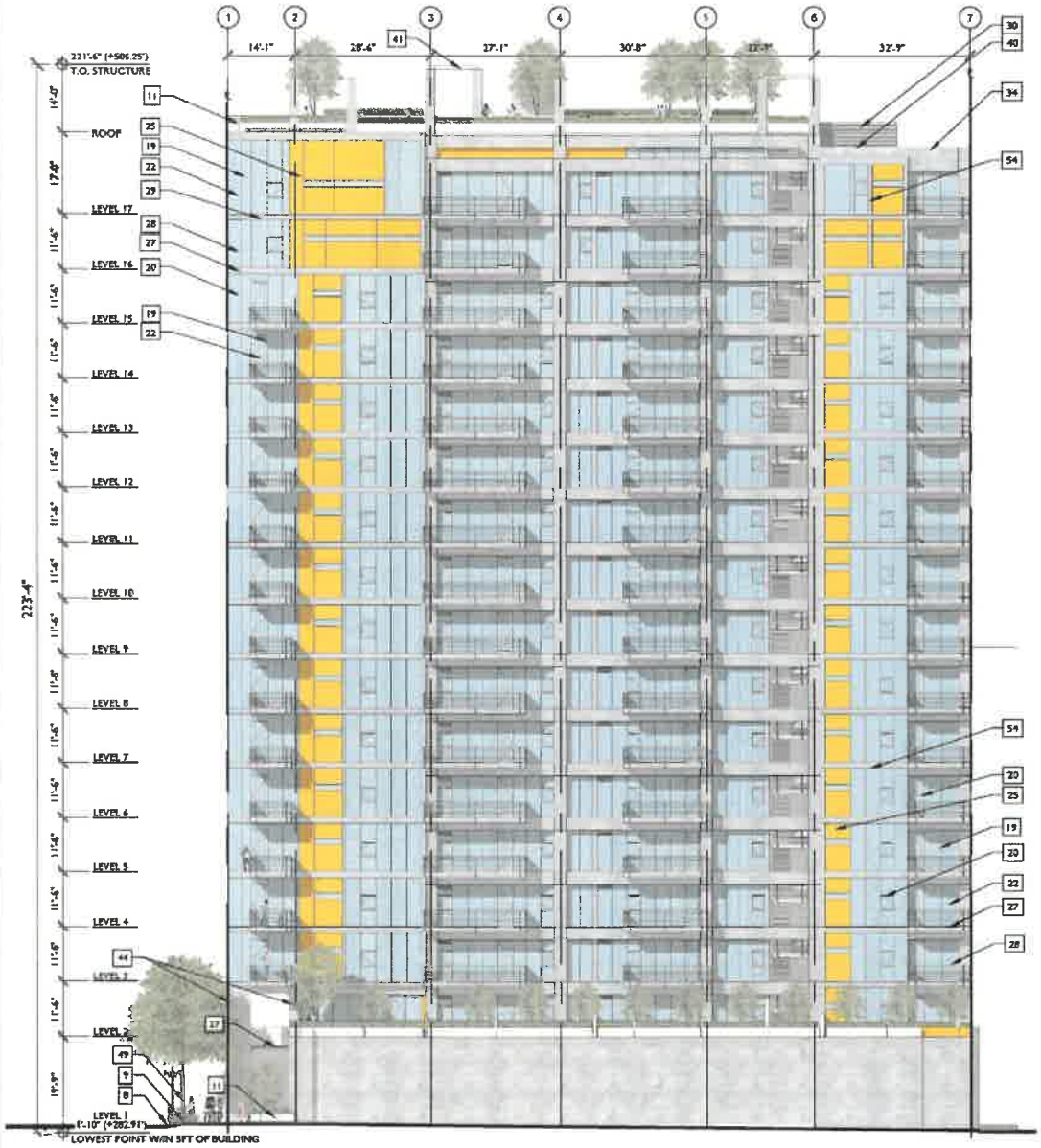
The Project Site is located in Height District No. 4, which has unlimited height. The proposed 17-story building would reach a maximum height of 223 feet and 4 inches as measured from the Grade to the top of the parapet. Figures 12 through 14 illustrate the building elevations and building sections of the Proposed Project.

4. Design and Architecture

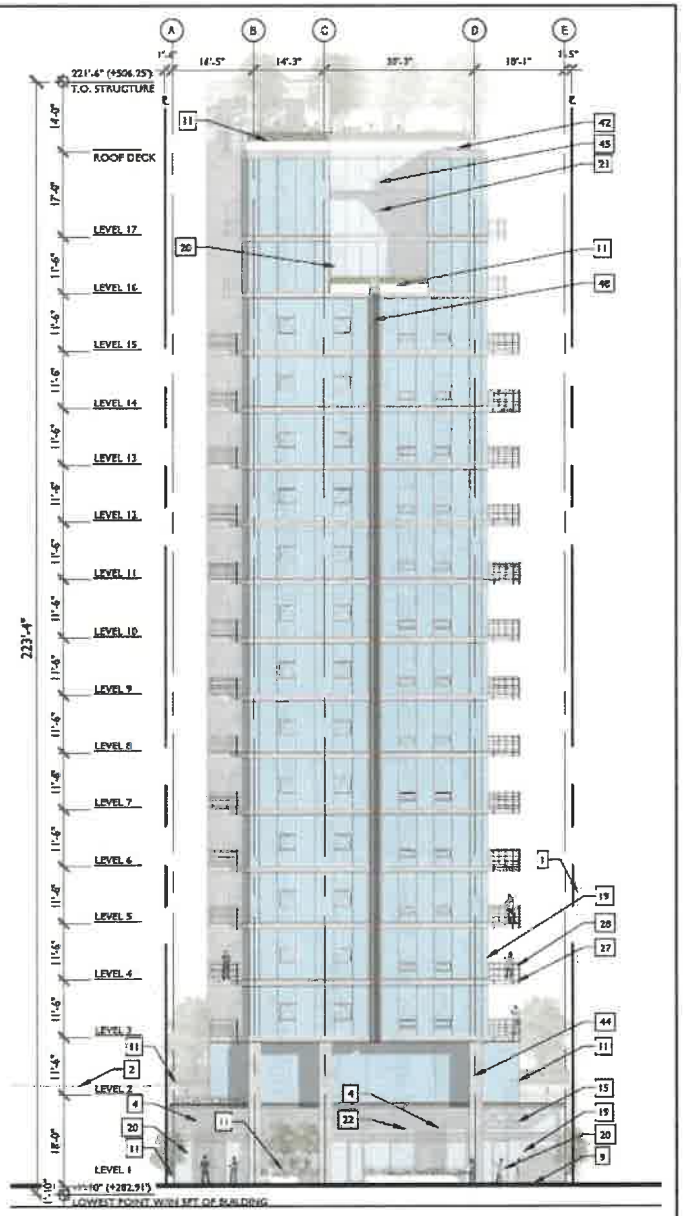
The Proposed Project is a 17-story mixed-use multi-family residential and commercial building designed with modern architectural materials including rooftop solar zones and rooftop open space. The Proposed Project would be designed to meet all building standards and requirements of the LAMC, including the L.A. Green Building Code. See Figure 15 for the architectural renderings of the Proposed Project.

5. Setbacks

Per the Greater Downtown Housing Incentive Area, LAMC Section 12.22 C.3(a), no yard requirements apply to lots in the C2 Zone that are located in the Greater Downtown Housing Incentive Area, except as required by the Downtown Design Guidelines. The Downtown Design Guidelines may require additional sidewalk easement for downtown streets to enhance pedestrian network, but sidewalk easement was not required along the Project Site.



South Elevation



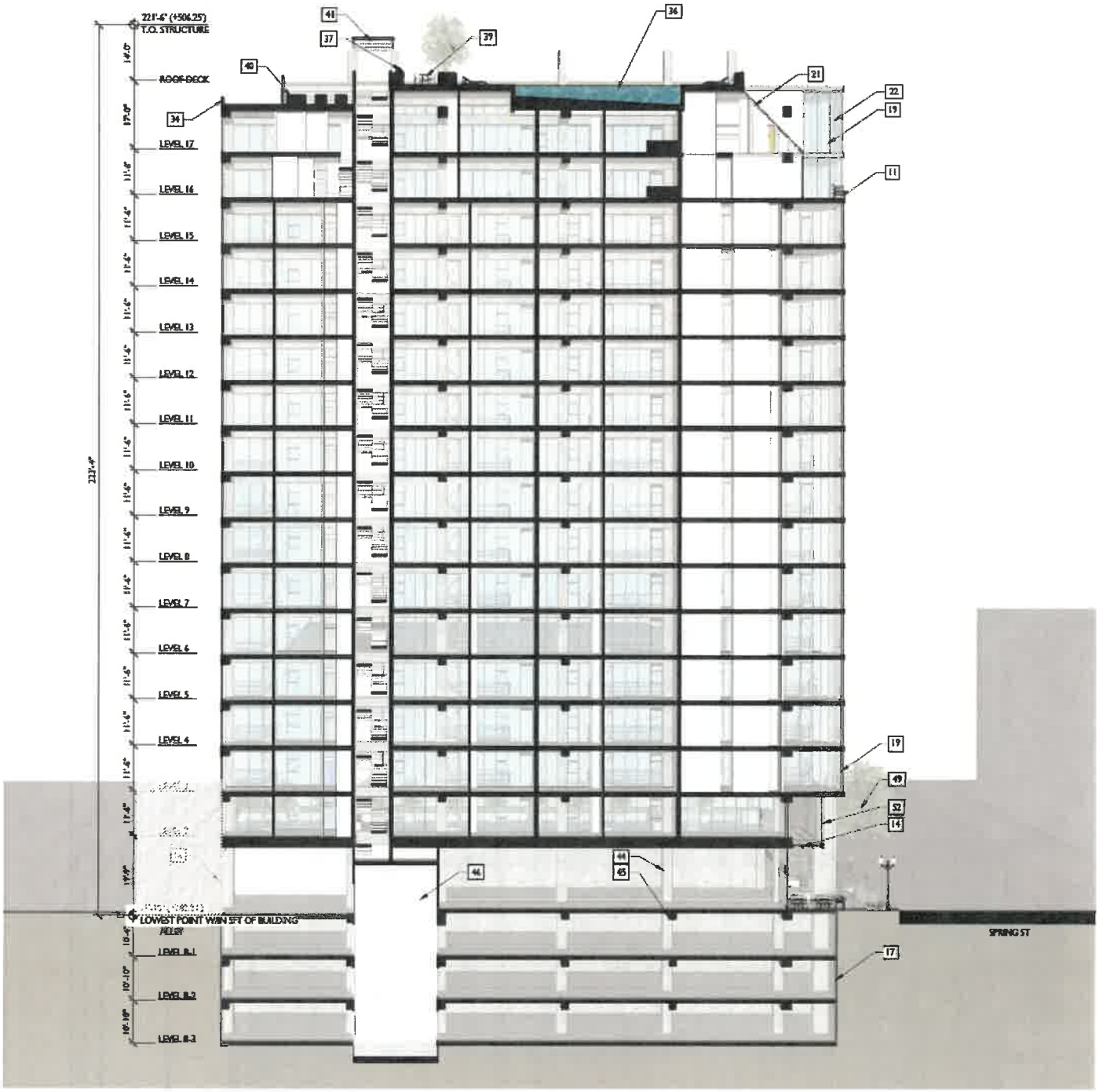
West Elevation

Source: David Lawrence Gray Architects AIA, June 7, 2021.

Figure 12
South and West Elevations

Source: David Lawrence Gray Architects AIA, June 7, 2021.

Figure 13
North and East Elevations



Source: David Lawrence Gray Architects AIA, June 7, 2021.

Figure 14
Building Section

View from Spring Street

West Perspective

Roof Deck

Source: David Lawrence Gray Architects AIA, June 7, 2021.

Figure 15
Architectural Renderings

6. Open Space and Landscaping

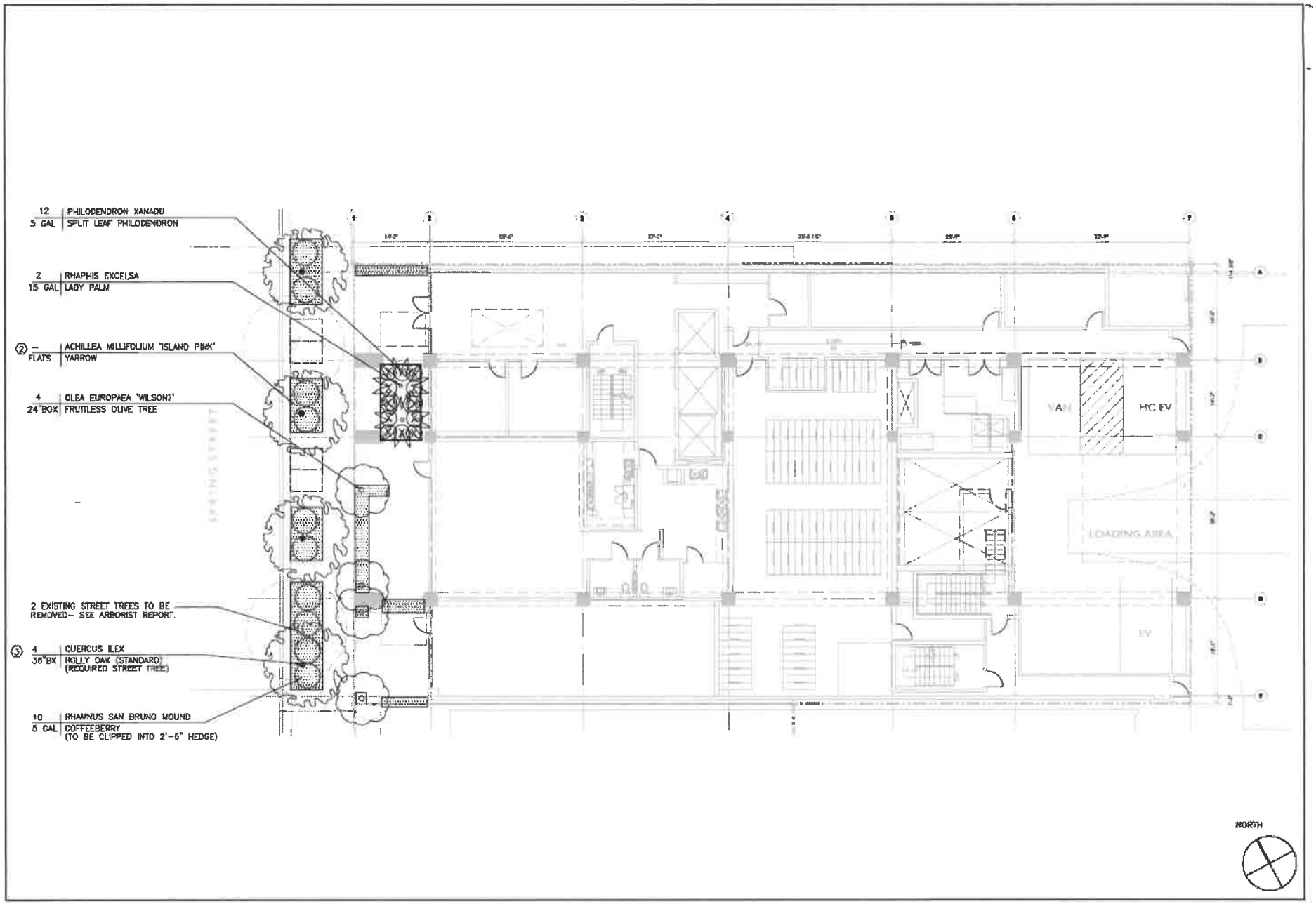
The open space requirements and amount of open space proposed for the Proposed Project are summarized in Table 2, Summary of Required and Proposed Open Space Areas, below. Pursuant to the LAMC, the Proposed Project would be required to provide 100 square feet of open space for each residential dwelling unit with less than three habitable rooms (studio units and one-bedroom units); 125 square feet for each dwelling unit with three habitable rooms (two-bedroom units); and 175 square feet for each dwelling unit with more than three habitable rooms (three-bedroom units). Based on the proposed unit count, the total amount of open space required by the LAMC is 12,475 square feet. The Proposed Project would include 12,692 square feet of open space on the ground level, second level, the roof level, and as private balconies. As part of the open space requirements, the residential component of the Proposed Project includes planting trees at a rate of one tree for every four dwelling units for a total of 30 24-inch box trees. The Proposed Project would provide a minimum of 30 trees on-site to be consistent with the LAMC. The proposed open space areas are shown in Figures 8, 9, and 11, above; and landscape floor plans are shown in Figures 16 to 18, below.

To facilitate construction of the Proposed Project, two street trees (Holly oak trees) fronting the Project Site along Spring Street would be removed and replaced. Street trees would be replaced at a ratio of 2:1 along the public right-of way fronting Spring Street. The removal and replacement of any public trees within the public right-of ways would require review and approval by the City of Los Angeles Board of Public Works, Urban Forestry Division.

Table 2
Summary of Required and Proposed Open Space Areas

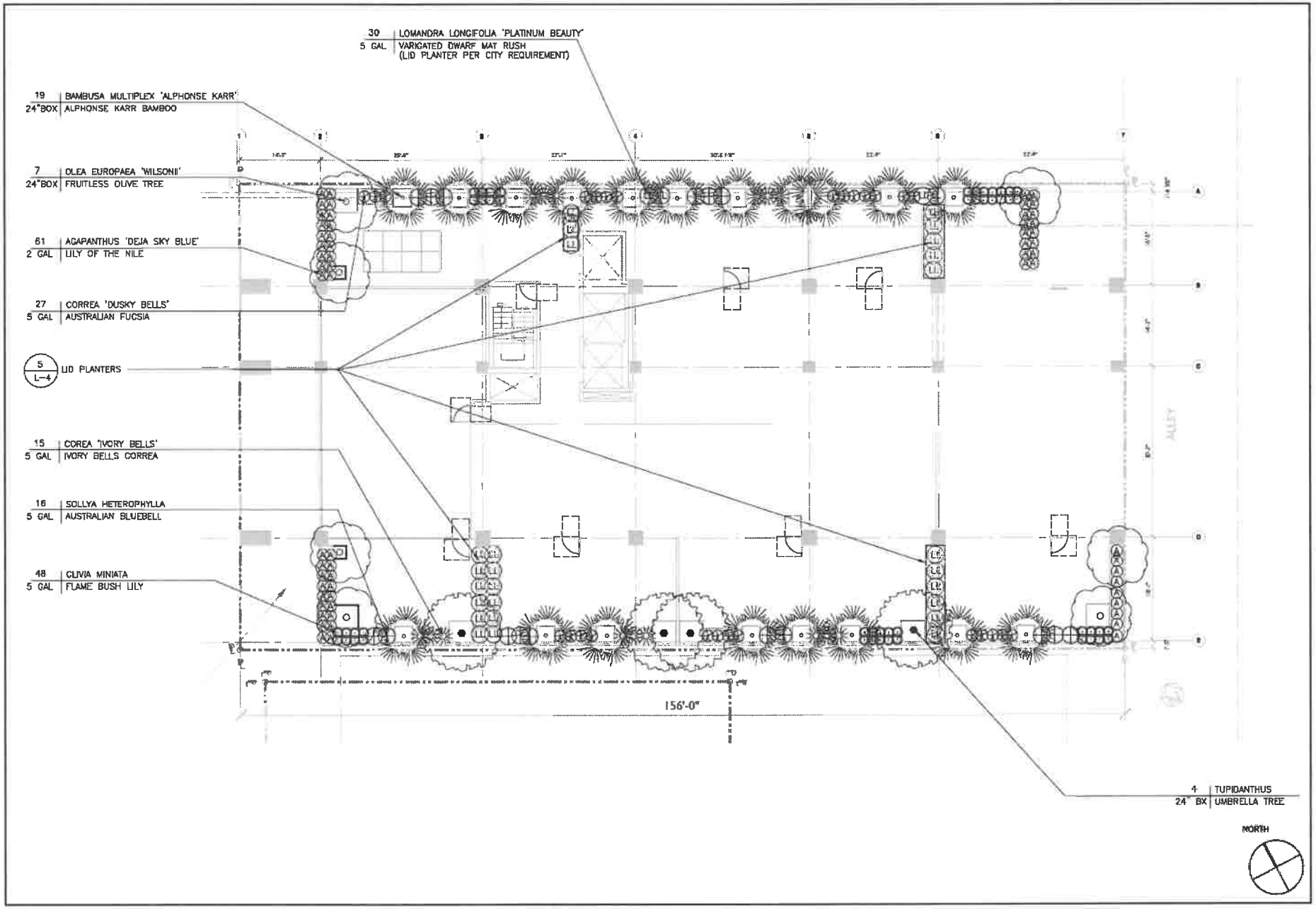
LAMC Open Space Requirements	Dwelling Units	Open Space (square feet)
Less than 3 Habitable Rooms (100 sf/du)	105	10,500
Equal to 3 Habitable Rooms (125 sf/du)	13	1,625
More than 3 Habitable Rooms (175 sf/du)	2	350
	Total Required:	**12,475**
Proposed Open Space	**Open Space (square feet)**	
Recreation Room	1,209	
Patio Lobby	763	
Patio Recreation Room	483	
Roof Deck	4,237	
Private Balconies	6,000	
Total Provided:	**12,692**	

Notes: du = dwelling unit; sf = square feet
Source: David Lawrence Gray Architects, June 7, 2021.



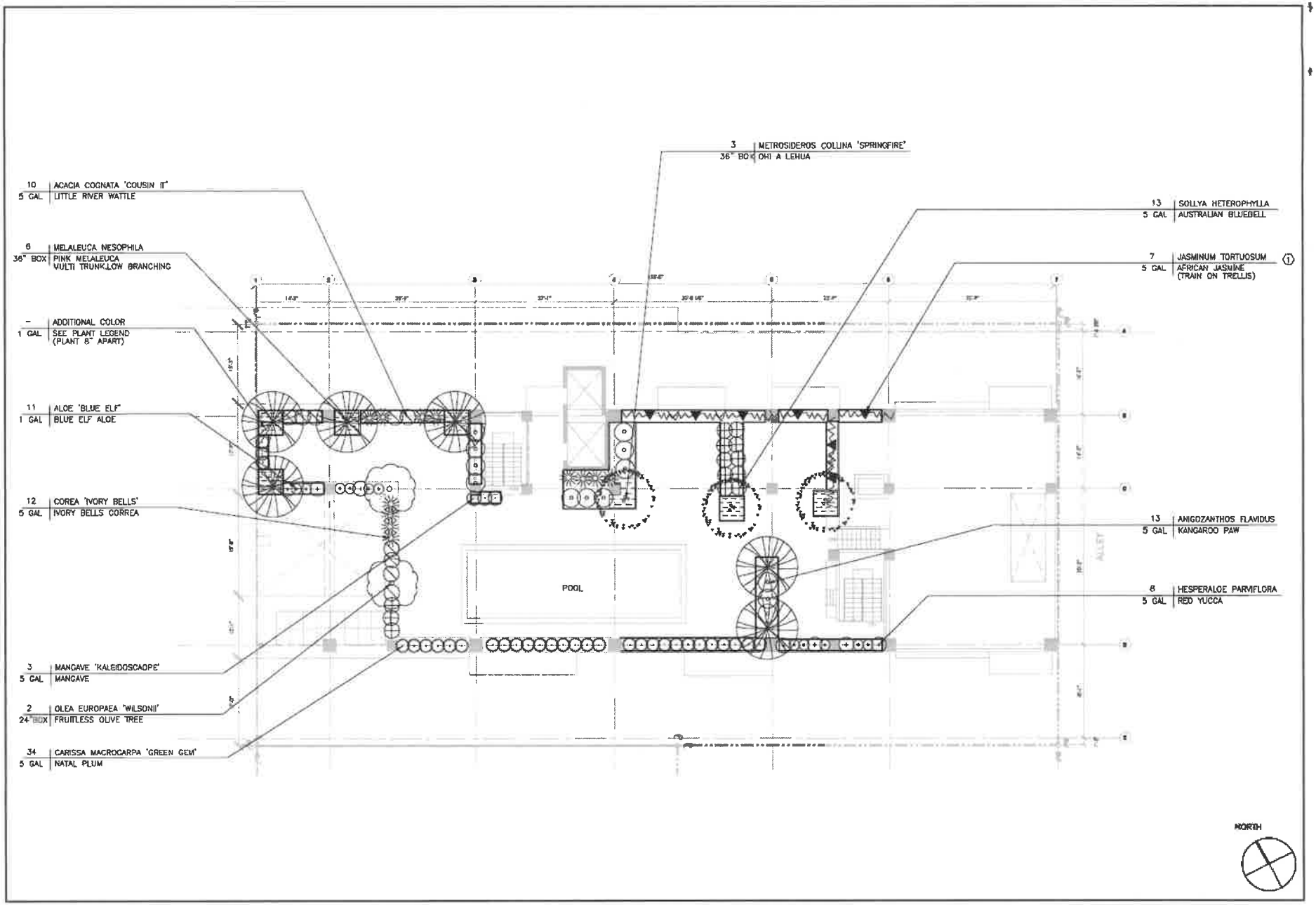
Source: Steven A. Ormenyi & Associates, March 2, 2022.

Figure 16
Level 1 Landscape Plan



Source: Steven A. Ormenyi & Associates, March 2, 2022.

Figure 17
Level 2 Landscape Plan



Source: Steven A. Ormenyi & Associates, March 2, 2022.

Figure 18
Roof Level Landscape Plan

7. Access, Circulation, and Parking

Vehicle Parking

Parking for the proposed residential uses on-site would be provided within three levels of subterranean parking. Vehicular access to the subterranean parking garage would be provided via a full-access driveway along the alleyway, Harlem Place. Pursuant to AB 744 and a Density Bonus Parking Incentive, the Proposed Project would require 0.5 parking spaces per bedroom for each unit. This would result in one-half (0.5) required parking space for each studio and one-bedroom unit, one (1) parking space for each two-bedroom unit, and 1.5 parking spaces for each three-bedroom unit. The Proposed Project would be required to provide 69 residential parking spaces. The Proposed Project would include 69 residential parking spaces.

Pursuant to LAMC Section 12.21 A.4(i)(3), the Proposed Project is not required to provide commercial parking for developments with less than 7,500 square feet of commercial space. Therefore, the Proposed Project would not be required to provide commercial parking spaces. As summarized in Table 3, the Proposed Project would be consistent with the applicable parking requirements with approval of the requested entitlements.

Table 3
Summary of Required and Proposed Vehicle Parking Spaces

Description	Quantity	Parking Required [a, b]		Parking Provided
		Rate	Spaces	
Residential (108 dwelling units)				
0-1 bedroom	105 du	0.5 per du	53	
2 bedrooms	13 du	1 per du	13	
3 bedrooms	2 du	1.5 per du	3	
		Subtotal Residential:	***69***	***69***
Commercial				
Restaurant/Retail	3,013 sf	0 for <7,500 sf	0	
		Subtotal Commercial:	***0***	***0***
		TOTAL:	**69**	**69**

Notes: du = dwelling unit; sf = square feet
[a] *The Applicant requests a Density Bonus Parking Incentive, pursuant to AB 744, to allow 0.5 parking space per bedroom.*
[b] *Pursuant to LAMC 12.21 A.4 (i)(3), developments within the Downtown Parking District do not need to provide parking for commercial space less than 7,500 square feet.*
Source: David Lawrence Gray Architects, June 7, 2021.

Bicycle Parking

The Proposed Project provides on-site bicycle parking for short-term and long-term bike storage. As summarized in Table 4, below, the Proposed Project would be consistent with the applicable parking requirements of the LAMC (as amended by Ordinance No. 185,480 adopted on March 27, 2018, for bicycle parking spaces) and would provide 13 short-term and 89 long-term bicycle parking spaces, for a total of 102 bicycle parking spaces.

Table 4
Summary of Required and Proposed Bicycle Parking Spaces

Description	Quantity	Parking Required [a]		Total Spaces Required	Total Spaces Provided
		Short Term	Long Term		
Residential [b,c]					
Units 1-25	25 du	2	25	27	
Units 26-100	75 du	5	50	55	
Units 101-120	20 du	1	10	11	
Commercial [d]					
Restaurant	1,981 sf	2	2	4	
Retail	1,032 sf	2	2	4	
	TOTAL:	**12**	**89**	**101**	**102**

Notes: du = dwelling unit; sf = square feet

[a] *LAMC 12.21 A.16. Bicycle Parking and Shower Facilities, revised May 9, 2018.*

[b] *Short-term bicycle rates for residential uses are as follows: 1 space per 10 units for first 25 units; 1 space per 15 units for units 26-100, and 1 space per 20 units for units 101-120.*

[c] *Long-term bicycle rates for residential units are as follows: 1 space per unit for first 25 units; 1 space per 1.5 units for units 26-100, and 1 space per 2 units for units 101-120.*

[d] *Commercial uses shall provide both short- and long-term parking at a rate of one space per 2,000 sf, with a minimum of two spaces.*

Source: David Lawrence Gray Architects, June 7, 2021.

8. Lighting and Signage

Exterior lighting features within the Proposed Project would consist of low-level illuminated pedestrian walkways and lighting within common open space areas and outdoor courtyards. On-site signage would include site identity and wayfinding signs in accordance with the LAMC Sign Regulations and the Downtown Design Guide. The Proposed Project would be required to submit a conceptual sign plan, which shall identify all sign types that can be viewed from the street, sidewalk, or public right-of-way. The intent of the conceptual sign plan is to ensure a cohesive, integrated sign program so that all individual tenant signs will attribute to and create strong project identity. The conceptual sign plan will be for information purposes only, and should show general placement on the façade and size.

9. Site Security

Security for the Proposed Project would be provided via site planning and secured access points of entry. The plans for the Proposed Project would incorporate security design measures for semi-public and private spaces, which may include but not be limited to access control to the building, secured parking facilities, walls/fences with key systems, well-illuminated public and semi-public space designed with a minimum of dead space to eliminate areas of concealment, location of building entrances in high-foot traffic areas.

10. Sustainability Features

The Proposed Project would also be required to comply with the L.A. Green Building Code. The L.A. Green Building Code, effective January 1, 2020, requires the use of numerous conservation measures, beyond those required by Title 24 of the California Administrative Code. The L.A. Green

Building Code contains both mandatory and voluntary green building measures to conserve energy. Among many requirements, the L.A. Green Building Code requires projects to achieve a 20 percent reduction in wastewater generation, provide rooftop solar zones, and provide a specific number of electric vehicle (EV)-ready and EV-charging stations. Therefore, compliance with Title 24 of the California Administrative Code and the L.A. Green Building Code would reduce the Proposed Project's energy consumption.

11. Anticipated Construction Schedule

For purposes of analyzing impacts associated with air quality, this analysis assumes a Project construction schedule of approximately 24 months, with final buildout occurring in 2024. Construction activities associated with the Proposed Project would be undertaken in four phases: (1) demolition/site clearing; (2) grading/excavation; (3) building construction; and (4) finishing and architectural coatings. All construction activities would be performed in accordance with all applicable state and federal laws and City Codes and policies with respect to building construction and activities. As provided in Section 41.40 of LAMC, the permissible hours of construction within the City are 7:00 A.M. to 9:00 P.M. Monday through Friday, and between 8:00 A.M. and 6:00 P.M. on any Saturday or national holiday. No construction activities are permitted on Sundays. The Proposed Project would comply with these restrictions.

Demolition/Site Clearing Phase

This phase would include the demolition/site clearing of the commercial building on the Project Site. In addition, this phase may include the removal of trees, walls, and associated debris to construct the 17-story mixed-use building. The demolition and site clearing phase would be completed in approximately one month.

Grading, Excavation, and Foundation Phase

After the completion of the demolition/site clearing phase, the grading and excavation phase for the Proposed Project would occur for approximately three months and would involve excavation and grading for the three-level subterranean garage to ensure the proper base and slope for the building foundations. The Project proposes to export and haul up to 15,000 cubic yards of soil off site.

Building Construction Phase

The building construction phase is expected to occur for approximately 16 months. The building construction phase includes the construction of the proposed 17-story building, connection of utilities to the building, building foundations, laying irrigation for landscaping, and landscaping the Project Site. 9,

Finishing/Architectural Coating Phase

The finishing/architectural coating phase is expected to occur over approximately four months. During this phase, interior cabinets and lighting fixtures would be installed, interior and exterior wall finishing's and paint would be applied, and the installation of windows, doors, cabinetry, and appliances within the residential units and commercial space.

Temporary Right-of-Way Encroachment

Most construction activities for the Proposed Project are anticipated to be contained within the Project Site. However, the construction activities may encroach into the parking/buffer lane along Spring Street. This construction activity would not require the closure of travel lanes along Spring Street, but may require the temporary closure of the alleyway adjacent to the Project Site (Harlem Place). Additionally, Proposed Project construction activities may require the short-term closure of the sidewalk along Spring Street in front of the Project Site. Although the sidewalk closure would block pedestrian access routes along the east side of Spring Street, the presence of a sidewalk on the other side of the street and the presence of crosswalks across Spring Street at 2nd Street and 3rd Street would continue to ensure pedestrian connectivity around the Project Site. Additionally, construction activities would not interfere with transit circulation.

As discussed further in Criteria Question (d), the Proposed Project would prepare a Construction Staging and Traffic Management Plan, to be approved by the LADOT in connection with the Proposed Project's plan check and permitting process. This plan will detail the measures during construction related to designated haul routes and staging areas, traffic control procedures, emergency access provisions, and construction crew parking. The Proposed Project shall obtain prior LADOT approval for any lane closures, detours, on-street staging areas, or other temporary changes in traffic control due to construction activities and will enact appropriate temporary traffic control procedures. Haul routes for Project construction will be coordinated with the City of Los Angeles Department of Building and Safety (LADBS), as needed, to minimize the impact of construction traffic to congested roadways and residential streets.

Unless stated otherwise, all construction activities would be performed in accordance with all applicable state and federal laws and City Codes and policies with respect to building construction and activities. As provided in Section 41.40 of LAMC, the permissible hours of construction within the City are 7:00 A.M. to 9:00 P.M. Monday through Friday, and between 8:00 A.M. and 6:00 P.M. on any Saturday or national holiday. The Department of City Planning further restricts the hours of construction in residential areas to 6:00 P.M. on weekdays. No construction activities are permitted on Sundays. The Proposed Project would comply with these restrictions.

Haul Route

The Proposed Project would not require a haul route application, since the Project Site is not located within a special grading area by the Los Angeles Bureau of Engineering. All construction and demolition debris would be recycled to the maximum extent feasible. Demolition debris and soil materials from the Project Site that cannot be recycled or diverted would be hauled to the Sunshine Canyon Landfill, which accepts construction and demolition debris and inert waste from areas within the City of Los Angeles. The Sunshine Canyon Landfill is approximately 27 miles north of the Project Site (approximately 54 miles round trip). For recycling efforts, Downtown Diversion (operated by Waste Management, Inc.) accepts construction and demolition waste for recycling and is located approximately 3 miles southeast of the Project Site (approximately 6 miles round trip).[3] Construction debris generated during the building construction phase would be hauled

[3] *Construction and Demolition Debris Recycling Facilities in Los Angeles County, website: https://dpw.lacounty.gov/epd/CD/cd_attachments/Recycling_Facilities.pdf, accessed June 2021.*

to the Downtown Diversion station for processing, recycling, and reclamation. Any waste materials not suitable for diversion would likely be disposed of at the Sunshine Canyon Landfill facility.

D. Requested Permits and Approvals

The list below includes the anticipated requests for approval of the Proposed Project. The discretionary entitlements, reviews, permits and approvals required to implement the Proposed Project include, but are not necessarily limited to, the following:

1. Pursuant to LAMC Section 12.22 A.25, a Density Bonus Compliance Review to permit a mixed-use residential and commercial development with 120 units and 3,013 square feet of commercial space, of which 14 units will be set aside for Very Low Income Households, and the following two Incentives:
    a. On-menu 35% increase in FAR from 6:1 to a maximum of 8.1:1; and
    b. Pursuant to AB 744, a base incentive to utilize the vehicle parking space requirement of 0.5 space per bedroom to allow 69 vehicle parking spaces on-site;
2. Pursuant to LAMC Section 16.05, Site Plan Review for a proposed mixed-use building creating more than 50 net dwelling units;
3. Pursuant to LAMC Section 12.22 A.26, Downtown Design Guide Review for the proposed development.

Pursuant to various sections of the LAMC, the Applicant will request administrative approvals and permits from the Building and Safety Department and other municipal agencies for Project construction actions, including but not limited to the following: demolition, site clearing, shoring, grading, foundation, building, haul route, street tree removal, and tenant improvements.

Section 3. Evaluation of Class 32 Criteria

Every discretionary action requires environmental review pursuant to CEQA. However, the CEQA Guidelines (Sections 15300 to 15332) include a list of classes of projects, which have been determined to not have a significant effect on the environment, known as Categorical Exemptions. If a project falls within one of these classes, it is exempt from the provisions of CEQA, and no further environmental review is required. The Class 32 "Infill" Categorical Exemption (CEQA Guideline Section 15332), hereafter referred to as the Class 32 Exemption, exempts infill development within urbanized areas if it meets certain criteria. The class consists of infill projects that are consistent with the local General Plan and Zoning requirements. This class is not intended for projects that would result in any significant traffic, noise, air quality, or water quality impacts. It may apply to residential, commercial, industrial, and/or mixed-use projects. As supported by the information presented herein, the Proposed Project falls under the Class 32 Exemption since it is an in-fill development.

A Class 32 Exemption applies to a project characterized as in-fill development meeting the conditions described below:

a) The project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations.

b) The proposed development occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses.

c) The project site has no value as habitat for endangered, rare or threatened species.

d) Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality.

e) The site can be adequately served by all required utilities and public services.

As presented herein, the Proposed Project qualifies for a Class 32 Infill Development Project under the P.R.C. 21000-21189.2 (CEQA), and the State CEQA Guidelines (C.C.R. Title 14, Division 6, Chapter 3, 15000-15387). The Proposed Project meets all of the criteria necessary to qualify for a CEQA Exemption as a Class 32 (Infill Development Project) pursuant to CEQA Guideline Section 15332, respectively, and no significant environmental impacts would result from any unusual circumstances. Therefore, no further environmental analysis is warranted.

Section 4. Supporting Analysis for a Class 32 Categorical Exemption

Consistent with the State CEQA Guidelines and the Department of City Planning's policies for implementing CEQA, the following assessment provides substantial evidence to support the determination that the Proposed Project meets the above criteria, pursuant to the Class 32 (Infill Development) requirements as set forth in Section 15332 of the State CEQA Guidelines.

a) The Proposed Project is consistent with the applicable General Plan designation and all applicable General Plan policies as well as with applicable zoning designation and regulations.

The Project Site is subject to the zoning codes and design regulations of the LAMC. The Project Site is located within the Central City Community Plan area, the City Center Redevelopment Project Plan area, a Transit Priority Area in the City of Los Angeles (ZI-2452), the Los Angeles State Enterprise Zone (ZI-2374), a Greater Downtown Housing Incentive Area (ZI-2385), and a Metropolitan Transportation Authority Right-of-Way (Metro ROW) Project area (ZI-1117).

Zoning Designations and Regulations

Land Use

The Proposed Project includes the construction of a 17-story mixed-use residential and commercial building with 120 multi-family dwelling units and 3,013 square feet of commercial space (1,032 square feet of retail and 1,981 square-foot restaurant). Of the proposed dwelling units, 11 percent of the units (14 units) would be reserved as restricted affordable dwelling units. The Project Site is zoned C2-4D with a General Plan land use designation of Regional Center Commercial. Pursuant to LAMC Section 12.14.1, the Proposed Project's mixed-use residential and commercial development is allowed on a C2 zone. As such, the Proposed Project is consistent with the C2 zone, and the corresponding General Plan land use designations, which allow for the proposed high-density multi-family residential and commercial development. The Proposed Project is appropriate in this location to promote new housing, and provide the City with much needed affordable housing. Therefore, the Proposed Project would conform to the allowable land uses pursuant to the LAMC.

Floor Area Ratio / Height

The Project Site is located in Height District No. 4, which has unlimited height, but limits development to a FAR of 13:1. Ordinance No. 164,307 establishes the "D" limitation on the Project Site, which further limits FAR on the Project Site to a maximum of 6:1. Based on buildable lot area of 12,784 square feet and FAR limitation of 6:1, the Proposed Project is allowed a floor area of 76,704 square feet. Pursuant to LAMC Section 12.22 A.25(g)(3), in exchange for setting aside 11

percent of the base density (14 units) as very low-income housing units, the Proposed Project is eligible to receive development incentives, including an on-menu incentive to increase the allowable FAR by 35 percent to a maximum of 8.1:1, resulting in an allowable floor area of 103,550 square feet. The Proposed Project includes approximately 103,550 square feet of floor area, resulting in a FAR of 8.1:1. With approval of the discretionary requests, the Proposed Project would be consistent with the FAR provisions of the LAMC.

Density

Pursuant to LAMC Section 12.22 C.3, Incentives to Produce Housing in the Greater Downtown Housing Incentive Area, residential density on the Project Site is not limited by the lot area of the C2 Zone. The Proposed Project proposes a maximum of 120 dwelling units. Therefore, the Proposed Project would be consistent with the allowed density on the Project Site.

Setbacks

Per the Greater Downtown Housing Incentive Area, LAMC Section 12.22 C.3(a), no yard requirements apply to lots in the C2 Zone that are located in the Greater Downtown Housing Incentive Area, except as required by the Downtown Design Guidelines. The Downtown Design Guidelines may require additional sidewalk easement for downtown streets to enhance pedestrian network, but sidewalk easement was not required along the Project Site. As such, the Proposed Project would not be required to provide any setbacks.

Parking

Vehicle Parking

Because the Proposed Project is an infill project in a Transit Priority Area, the Proposed Project's potential parking impacts shall not be considered significant impacts on the environment pursuant to P.R.C. Section 21099. As such, the following parking consistency analysis is provided for informational purposes.

Parking for the proposed residential uses on-site would be provided within three levels of subterranean parking. Vehicular access to the subterranean parking garage would be provided via a full-access driveway along the adjacent alleyway. Pursuant to AB 744 and Density Bonus Parking Incentive, the Proposed project would require 0.5 parking spaces per bedroom for each unit. This would result in 0.5 required parking space for each studio and one-bedroom unit, one parking space for each two-bedroom units, and 1.5 parking spaces for each three-bedroom unit. The Proposed Project would be required to provide 69 residential parking spaces. Therefore, the Proposed Project would include 69 residential parking spaces. Pursuant to LAMC Section 12.21 A.4(i)(3), the Proposed Project is not required to provide commercial parking for developments with less than 7,500 square feet of commercial space. Therefore, the Proposed Project would not be required to provide commercial parking spaces. Thus, the Proposed Project would be consistent with the applicable parking requirements with approval of the requested entitlements.

Bicycle Parking

The Proposed Project would be required to provide 89 long-term and 12 short-term bicycle parking spaces, for a total of 101 bicycle parking spaces. The Proposed Project would provide 102 bicycle parking spaces throughout the ground level and in the proposed parking areas. Therefore, the Proposed Project would be consistent with the required bicycle parking spaces pursuant to the LAMC.

Open Space

Pursuant to the LAMC, the Proposed Project would be required to provide 100 square feet of open space for each residential dwelling unit with less than three habitable rooms (studio units and one-bedroom units); 125 square feet for each dwelling unit equal to three habitable rooms (two-bedroom units); and 175 square feet for each dwelling unit with more than three habitable rooms (three-bedroom units). Based on the proposed unit count, the total amount of open space required by the LAMC is 12,475 square feet. The Proposed Project would include 12,692 square feet of open space on the ground level, second level, the roof level, and private balconies. As part of the open space requirements, the residential component of the Proposed Project includes planting trees at a rate of one tree for every four dwelling units for a total of 30 required trees. The Proposed Project would provide a minimum of 30 trees on-site to be consistent with the LAMC. Thus, the Proposed Project would be consistent with the open space requirements of the LAMC.

Central City Community Plan

The Project Site is located in the Central City Community Plan area ("Community Plan"). The Community Plan sets forth goals and objectives to maintain the community's distinctive character by: preserving and enhancing the positive characteristics of existing residential neighborhoods while providing a variety of compatible housing opportunities; improving the function, design and economic vitality of commercial and industrial areas; preserving and enhancing the positive characteristics of existing uses which provide the foundation for community identity, such as scale, height, bulk, setbacks and appearance; maximizing development opportunities around future transit systems while minimizing any adverse impacts; and preserving and strengthening commercial and industrial developments to provide a diverse job-producing economic base; and through design guidelines and physical improvements, enhance the appearance of these areas.

The Proposed Project would provide a 17-story mixed-use residential and commercial development with 120 dwelling units and 3,013 square feet of ground-floor commercial space, which would conform to the objectives and policies identified in the Community Plan. A detailed analysis of the consistency of the Proposed Project with the applicable objectives of the Central City Community Plan is presented in Table 5, below.

Table 5
Project Consistency with Applicable Objectives and Policies of the Central City Community Plan Land Use Element for Residential and Commercial Land Uses

Objective / Policy	Project Consistency Analysis
Residential	
Policy 1-1.1: Maintain zoning standards that clearly promote housing and limit ancillary commercial to that which meets the needs of neighborhood residents or is compatible with residential uses.	**No Conflict.** The Proposed Project aims to promote residential land uses in South Park. The Project Site is zoned C2-4D with a land use designation of Regional Center Commercial. The Proposed Project would maintain and be developed in accordance with the current zoning and land use designation. The Proposed Project would add multi-family residential units reserved at market and affordable rates to provide needed housing to residents in the City of Los Angeles. Thus, the Proposed Project would not conflict with this policy.
Objective 1-2: To increase the range of housing choices available to Downtown employees and residents.	**No Conflict.** The Proposed Project would increase the housing stock in Downtown Los Angeles with safe, attractive, and centrally located apartment units. The units would be available to existing Downtown employees and residents. The dwelling units would also be available at market and affordable rates. Thus, the Proposed Project would contribute to the range of housing choices available to Downtown employees and residents.
Policy 1-2.1: Promote the development of neighborhood work/live housing.	**No Conflict.** The Proposed Project would include approximately 120 multi-family dwelling units fronting Spring Street. Additionally, the Project Site is located near numerous employment opportunities in the Downtown Los Angeles area. Therefore, the Proposed Project would locate residential dwelling units near a major employment center allowing the future residents to live and work in the neighborhood. Therefore, the Proposed Project does not hinder the intent of this policy.
Objective 1-3: To foster residential development which can accommodate a full range of incomes.	**No Conflict.** The Proposed Project's units would range from studio units to three-bedroom units and be of different sizes and configurations. The proposed dwelling units would be available at range of market and affordable rates. The Proposed Project would increase the housing choices available in Downtown Los Angeles. The additional units will increase supply and help reduce upward pressure on housing costs. Thus, the Proposed Project supports this objective.
Policy 1-3.1: Encourage a cluster neighborhood design comprised of housing and services.	**No Conflict.** The Project Site is located in a Transit Priority Area and in a highly urbanized area of Downtown Los Angeles. The Proposed Project would be within walking distance to numerous services, retail, and employment opportunities. Additionally, the Project Site is in close proximity to many public transportation options, including bus and subway lines. Therefore, the Proposed Project supports the cluster neighborhood design concept of including residents near neighborhood facilities. Thus, the Proposed Project would not conflict with this policy.
Commercial	
Objective 2-1: To improve Central City's	**No Conflict.** The Proposed Project includes 3,013

competitiveness as a location for offices, business, retail, and industry.	square feet of ground-floor commercial/retail uses that would front Spring Street. The Proposed Project would provide new opportunities for new businesses or the expansion or relocation of existing businesses; thus, increasing business opportunities Downtown. The Proposed Project would be compatible with the character of these districts and foster new business and employment opportunities and potential customers, which helps improve the competitiveness of the Downtown commercial area. Thus, the Proposed Project would not conflict with this objective.
Policy 2-1.2: To maintain a safe, clean, attractive, and lively environment.	**No Conflict.** Compliance with all applicable building code requirements would ensure that the building maintains a safe, clean, attractive and lively environment during the Project's construction and operation. Thus, the Proposed Project would not conflict with this policy.
Objective 2-2: To retain the existing retail base in Central City.	**No Conflict.** The Project Site is currently developed with a commercial building. The Proposed Project would develop 3,013 square feet of ground-floor commercial/retail fronting Spring Street, which would provide new opportunities for new businesses or the expansion or relocation of existing businesses. Additionally, the Proposed Project would add approximately new residents to the Central City area. These new residents would likely be new customers that would support nearby local businesses. Thus, the Proposed Project would not conflict with this objective.
Policy 2-2.1: Focus on attracting businesses and retail uses that build on existing strengths of the area in terms of both the labor force and businesses.	**No Conflict.** The Proposed Project includes ground-floor commercial space fronting Spring Street. As such, the Proposed Project provides new space and opportunities that can attract businesses Downtown. Therefore, the Proposed Project would not conflict with this policy.
Policy 2-2.2: To encourage pedestrian-oriented and visitor serving uses during the evening hours especially along Grand Avenue cultural corridor between the Hollywood Freeway (US 101) and Fifth Street, the Figueroa Street corridor between the Santa Monica Freeway (I-10) and Fifth Street and Broadway between Third Street and Ninth Street.	**No Conflict.** The Proposed Project would introduce new permanent residents and provide ground-floor commercial/retail. The Project Site is in walking distance from many services, employment opportunities, and retail spaces in the Downtown Los Angeles area. Thus, the Proposed Project would encourage a pedestrian-oriented development that would support activities and uses into the evening hour. Although the Proposed Project is not located on Grand Avenue, Figueroa Street, Fifth Street or Broadway, the Proposed Project would support the intent of this policy.
Policy 2-2.3: Support the growth of neighborhoods with small, local retail services.	**No Conflict.** The Proposed Project would include 3,013 square feet of neighborhood serving ground-floor commercial/retail spaces fronting Spring Street. Thus, the Proposed Project would add local retail services to support and the growth of the Civic Center neighborhood. Therefore, the Proposed Project would not conflict with this policy.
Objective 2-3: To promote land uses in Central City that will address the needs of all the visitors to Downtown for business, conventions, trade shows, and tourism.	**No Conflict.** The Proposed Project would be consistent with the surrounding neighborhood by adding a mixed-use development to an area that is characterized by mixed-use development. The building's design and ground-floor commercial/retail spaces would enhance

	pedestrian activity in the area, especially within the Downtown area. The ground-floor commercial/retail space will address the needs of visitors to Downtown who are traveling for business, conventions, trade shows, and tourism. Thus, the Proposed Project would support this objective.
Objective 2-4: To encourage a mix of uses which creates an active, 24-hour downtown environment for current residents and which would also foster increased tourism.	**No Conflict.** The proposed mixed-use development would contribute and support this objective by adding new residents and ground-floor commercial/retail spaces. The Proposed Project would be designed to enhance pedestrian activity with the retail stores' main entrances fronting the public right-of-way and providing night-time lighting for enhanced security. These features, among others, would contribute to an active, 24-hour downtown environment. Thus, the Proposed Project would not conflict with this objective.
Policy 2-4.1: Promote nightlife activity by encouraging restaurants, pubs, night clubs, small theaters, and other specialty uses to reinforce existing pockets of activity.	**No Conflict.** The Proposed Project includes ground-floor commercial/retail spaces fronting Spring Street. The commercial and retail uses would create an existing pocket of activity, which would support and promote nightlife activities. The Proposed Project would be designed to enhance pedestrian activity with the commercial and retail stores' main entrances fronting the public right-of-way and providing night-time lighting for enhanced security. The Proposed Project would reinforce and add to the attraction of these pockets of activity by adding new residents to the area. Thus, the Proposed Project is consistent with this policy.
Objective 2-5: To increase specialty and ethnic markets in order to foster a diverse range of retail and commercial uses in Central City.	**No Conflict.** The Proposed Project provides new ground-floor commercial/retail space, which would be made available to all market types including specialty and ethnic stores. Thus, the Proposed Project would support this objective.
Source: City of Los Angeles, Central City Community Plan, Land Use and Planning Element. Parker Environmental Consultants, 2021.	

The Proposed Project would thus be consistent with the applicable objectives and policies of the Community Plan. As such, impacts related to the consistency with the applicable land use and planning policies in the Central City Community Plan would be less than significant.

Redevelopment Plan for the City Center Redevelopment Plan

Development on the Project Site is further defined by the Redevelopment Plan for the City Center Redevelopment Project ("Redevelopment Plan"). Development in the Redevelopment Project Area is governed by the Redevelopment Plan that was adopted in May 2002 by the CRA/LA and remains effective until May 2032. Due to State legislation, the Community Redevelopment Agency of the City of Los Angeles (CRA/LA) has since been disbanded and there is a successor agency to the CRA/LA. Pursuant to Ordinance 183,325 (effective November 11, 2019), the authority or responsibility to perform actions and related land use functions regarding any Redevelopment Plan Amendment or land use approval or entitlement pursuant to Section 11.5.14 and applicable provisions of the Code was transferred to the Department of City Planning. Specific design considerations from the Redevelopment Plan include: height, development densities, building

setbacks, signage, open space and privacy, utilities, parking, and loading facilities. The Redevelopment Plan identifies overall objectives and development standards to guide the development, redevelopment, and rehabilitation of properties within the City Center area. The City Center area encompasses much of Historic Downtown, City Markets, and South Park.

The Proposed Project is located within the Historic Downtown neighborhood of the City Center Redevelopment Project area. The Redevelopment Plan's objective for the Historic Downtown Development area is to achieve a mixed use residential, commercial, office, cultural, recreational, entertainment and institutional area primarily through the adaptive re-use of the large stock of structures of architectural and historic merit. Rehabilitation of this area is in part dependent on addressing the social, medical and economic problems of the Central City population. The area includes two national register historic districts encompassing substantial portions of Broadway and Spring Streets. The predominant uses shall include both private and governmental office uses, residential uses, theaters, restaurants, local and regional serving commercial and entertainment uses, and other uses compatible with a medium to high density mixed use urban core environment. Specifically, Section 508.1 calls for the following uses on private land: "Regional Center Commerce and Parking, including but not limited to service establishments, retail stores, corporate headquarters, business offices, professional offices, other centers of financial trade, jewelry, manufacturing, wholesaling and sales, recreational enterprises including theaters, clubs and movie houses, hotel and motel uses, and other compatible and related uses; high and medium density housing where compatible with existing and proposed development; adaptive use of loft conversions of existing underused commercial buildings, open space and parking."

The Proposed Project is compatible with other existing and approved mixed-use high-density buildings located within the Downtown area. Table 6, below, provides a detailed analysis of the consistency of the Proposed Project with the applicable objectives of the Redevelopment Plan. The Project is also subject to Section 501 of the Redevelopment Plan (General Controls and Limitations), which requires that all structures comply with Federal, State, and Los Angeles City laws in effect, including the City building codes and ordinances. (Redevelopment Plan, p 16.) The Proposed Project's consistency with the objectives in the Redevelopment Plan is further analyzed in Table 6, below.

Table 6
Project Consistency with Applicable Objectives of the City Center Redevelopment Plan

Objective	Project Consistency Analysis
• To eliminate and prevent the spread of blight and deterioration and to rehabilitate and redevelop the Project Area in accordance with this Plan.	**No Conflict.** The Proposed Project would redevelop an underutilized site that is currently developed with a commercial building. The Proposed Project would be designed and landscaped in accordance with the design guidelines of the Downtown Design Guide. Compliance with all applicable building code requirements would further ensure that the building maintains a safe, clean, and attractive environment during the Proposed Project's construction and operation. As such, the Proposed Project would prevent the spread of blight and deterioration by redeveloping an underutilized site in accordance with the Plan. Thus, the Proposed Project would not conflict with this objective.
• To further the development of Downtown as the major center of the Los Angeles metropolitan region, within the context of the Los Angeles General Plan as envisioned by the General Plan Framework, Concept Plan, City-wide Plan portions, the Central City Community Plan, and the Downtown Strategic Plan.	**No Conflict.** The Proposed Project would be designed and developed with the guidance of City Planning Staff and the applicable plans. Therefore, the Proposed Project would further the goals of the Los Angeles General Plan, Framework Element, the Central City Community Plan, and the Downtown Strategic Plan. Thus, the Proposed Project would not conflict with this objective.
• To create an environment that will prepare, and allow, the Central City to accept that share of regional growth and development which is appropriate, and which is economically and functionally attracted to it.	**No Conflict.** The Proposed Project would replace a commercial building and introduce new multi-family dwelling units in the area, which would accommodate an increase of population and housing. Nevertheless, the Proposed Project housing and population generation is consistent with SCAG's growth projections for the City of Los Angeles Subarea. Additionally, the Proposed Project would not conflict with the City's goals of increasing housing in transit-rich areas near services, retail, and employment opportunities to reduce vehicle-miles traveled; increasing safe and healthy housing options downtown; and increasing the diversity of the housing stock. Therefore, the Proposed Project is consistent with Central City development goals and growth projections and would not hinder the implementation of this objective.
• To guide growth and development, reinforce viable functions, and facilitate the redevelopment, revitalization or rehabilitation of deteriorated and underutilized areas.	**No Conflict.** The Proposed Project would not conflict with this objective since it proposes the development of an underutilized site that is currently developed with a commercial building. The Proposed Project would be designed with the guidance of applicable plans and design guidelines. Therefore, the Proposed Project would not conflict with this objective.
• To create a modern, efficient and balanced urban environment for people, including a full range of around-the-clock activities and uses, such as recreation, sports, entertainment and housing.	**No Conflict.** The Proposed Project would provide new residential units to the Downtown Los Angeles area. Additionally, the Proposed Project would be designed to promote pedestrian activity since no parking spaces are proposed on-site. The main entrances would front the public right-of-way and provide night-time lighting for enhanced security. The Proposed Project's location near mass transit and within walking distance to services, retail stores, and employment opportunities promotes a

	pedestrian-friendly environment. Thus, the Proposed Project would not conflict with this objective.
• To create a symbol of pride and identity which gives the Central City a strong image as the major center of the Los Angeles region.	**No Conflict.** Development of the Project Site is guided by the Redevelopment Plan, Central City Community Plan, and the Downtown Design Guide. The Proposed Project would not conflict with this objective and preserve and contribute to the area's symbol of pride and identity by introducing a mixed-use residential and commercial development that would be consistent with the Downtown Design Guidelines. Therefore, the Proposed Project furthers the goals of this objective.
• To facilitate the development of an integrated transportation system which will allow for the efficient movement of people and goods into, through, and out of the Central City.	**No Conflict.** This objective is directed towards City goals and does not specifically pertain to the Proposed Project. The Proposed Project would place new housing and commercial space in a highly walkable and transit-rich area. As such, residents and guests of the Proposed Project can easily move around the Central City area and greater Los Angeles region. Therefore, the Proposed Project furthers the goals of this objective.
• To achieve excellence in design, based on how the Central City is to be used by people, giving emphasis to parks, green spaces, streetscapes, street trees, and places designed for walking and sitting, and to develop an open space infrastructure that will aid in the creation of a cohesive social fabric.	**No Conflict.** The Downtown Design Guide directs the design of the Proposed Project. As such, the Proposed Project would be consistent with the design and development goals of the Central City Community Plan area. As such, the Proposed Project would be attractively designed and landscaped. The Proposed Project would provide private and common open space to its residents, which would reduce the Proposed Project's demand on local parks and open space. By providing on-site open space and the payment of the park fee, the Proposed Project's impacts on local parks would be less than significant. With development of the Project and payment of the fee, the Proposed Project would not conflict with this objective.
• To preserve key landmarks which highlight the history and unique character of the City, blending old and new in an aesthetic realization of change or growth with distinction, and facilitating the adaptive reuse of structures of architectural, historic or cultural merit.	**No Conflict.** The Project Site is currently developed with a commercial building, and no significant landmarks or structures exist on-site. As previously discussed, the Proposed would have a less than significant impact on identified surrounding historic resources and would not negatively affect the physical integrity of any historical resource. The identified historical resource, the Higgins Building, in the vicinity of the Project Site would remain eligible for listing under the relevant landmark program. The ability of these historical resources to convey their significance would not be materially impaired by the Proposed Project. As such, the Proposed Project would not destroy or demolish key landmarks and historical or unique features of the City, which would not conflict with the goals of this objective.
• To provide high and medium density housing close to employment and available to all ethnic, social and economic groups, and to make an appropriate share of the City's low- and moderate-income housing available to residents of the area.	**No Conflict.** The Proposed Project would locate high-density housing near many employment opportunities. The Proposed Project's new residents would provide new foot traffic for the surrounding business. Additionally, the residential units would be available at market and affordable rates to all ethnic, social, and economic groups without discrimination. As such, the Proposed Project would not conflict with this objective.
• To establish an atmosphere of	**No Conflict.** This objective is directed toward City goals

cooperation among residents, workers, developers, business, special interest groups and public agencies in the implementation of this Plan.	and is not specifically applicable to the Proposed Project. The Proposed Project would be designed and developed with the guidance of the Department of City Planning, and other necessary City departments. Additionally, the Proposed Project would be designed in accordance with plans and design guidelines that have jurisdiction over the Project Site. As such, the Proposed Project would not conflict with this objective.
Notes: *1. "Plan" used within this table means the City Center Redevelopment Plan.* *Source: City of Los Angeles, Redevelopment Plan For the City Center Redevelopment Project (Ordinance No. 174593), May 15, 2002.* *Parker Environmental Consultants, 2021.*	

The Redevelopment Plan designates the Project Site as commercial. The Redevelopment Plan establishes five criteria for residential uses within commercial areas, which includes residential in a commercial zone. These criteria are:

1. Promote community revitalization;
2. Promote the goals and objectives of the Plan;
3. Be compatible with and appropriate for the Commercial uses in the vicinity;
4. Include amenities which are appropriate to the size and type of housing units proposed; and
5. Meet design and location criteria required by the Community Redevelopment Agency.

The Proposed Project would be consistent with the criteria for residential uses in commercial areas. The Proposed Project would revitalize an underutilized lot with the development of a high-density multi-family residential units. As demonstrated in Table 6, above, the Proposed Project would not conflict with the goals and objectives of the Redevelopment Plan. The Proposed Project's land uses are consistent with the surrounding neighborhood that is characterized by existing residential, commercial, and mixed-use buildings. Additionally, the Proposed Project would be consistent with the Project Site's zoning (C2-4D) and General Plan land use designation (Regional Center Commercial). As such, the Proposed Project would be compatible and appropriate for the residential and commercial land uses located in the vicinity of the Project Site. Further, the Proposed Project would provide open space for the residents, which would comply with the LAMC requirements for open space. Thus, the Proposed Project would include amenities, which are appropriate to the size and type of housing proposed. The Redevelopment Plan refers to the Downtown Design Guide for guidance in building design. The proposed building would be designed with the guidance of this document.

Section 512.1 of the Redevelopment Plan allows for a maximum FAR of 6 to 1 in the Historic Downtown Development Area. However, through the Density Bonus Incentives, the Proposed Project would be entitled to a 35 percent increase in FAR to a maximum of 8.1:1 FAR. Additionally, the Proposed Project is well served by transit and is within walking distance of the Pershing Square and the Civic Center/Grand Park Metro Stations. Therefore, the Proposed Project would not conflict with the Redevelopment Plan's goal to promote higher density multi-family development and its overall objectives.

Downtown Design Guide: City of Los Angeles

The City's Downtown Design Guide has been adopted by the City to guide its design review of projects as part of Site Plan Review. The Downtown Design Guide: City of Los Angeles encourages Downtown Los Angeles to develop as a more sustainable and livable community. The focus of the Design Guide is on the relationship of buildings to the street, including sidewalk treatment, character of the building as it adjoins the sidewalk, and connections to transit. To achieve this harmony between buildings and public rights-of-way, the Design Guide provides design goals and specific requirements for the design of sidewalks and setbacks, ground floor treatment, parking and access, building massing and street wall, on-site open space, architectural detail, streetscape improvements, signage, public art, and promote civic and cultural life, which are discussed in further detail below. Additionally, the Downtown Design Guide identifies design principles for creating a livable downtown; these principles include:

- *Employment Opportunities.* Maintain and enhance the concentration of jobs, in both the public and private sectors, that provides the foundation of a sustainable Downtown.
- *Housing Choices.* Provide a range of housing types and price levels that offer a full range of choices, including home ownership, and bring people of diverse ages, ethnicities, household sizes and income into daily interaction.
- *Transportation Choices.* Enable people to move around easily on foot, bicycle, transit, or auto. Accommodate cars but fewer than in the suburbs and allow people to live easily without one.
- *Shops and Services Within Walking Distance.* Provide shops and services for everyday needs, including groceries, day care, cafes and restaurants, banks and drug stores, within an easy walk from home.
- *Safe, Shared Streets.* Design Streets not just for vehicles, but as usable outdoor space for walking, bicycling and visual enjoyment.
- *Gathering Places.* Provide places for people to socialize, including parks, sidewalks, courtyards and plazas, that are combined with shops and services. Program places for events and gatherings.
- *Active Recreation Areas.* Provide adequate public recreational open space, including joint use open space, within walking distance of residents.
- *A Rich Cultural Environment.* Integrate public art and contribute to the civic and cultural life of the City.
- *Transit Oriented.* Since all of Downton is within walking distance of transit, design all projects as transit-oriented developments (TODs) that encourage residents, tenants, and visitors to use transit.
- *Green Streets.* Design sidewalks, including street trees, parkways, tree wells and paving, to collect stormwater runoff, thereby contributing to sustainable Green Streets, thereby enhancing the value of the project. Design alleys and paseos to collect stormwater where feasible.

The Proposed Project would redevelop an underutilized site in an area largely characterized by commercial land uses. The Proposed Project includes the development of a mixed-use building that would contain residential units and ground-floor restaurant/retail. The Proposed Project would increase employment opportunities with its ground-floor commercial component. The Proposed

Project would also be increasing the concentration of employment opportunities downtown and placing residents within walking distance of many employment opportunities, shops, and services. The Proposed Project's location would reduce dependence on single-occupancy vehicles and promote walking and alternative transportation. The Proposed Project would directly increase housing choices in downtown Los Angeles. With approval of the discretionary requests, the Proposed Project would provide adequate open space and residential amenities. The Proposed Project may include but is not limited to, a roof deck, recreation room, patio lobby/recreation room, and private balconies. Additionally, the Proposed Project would include plazas and commercial uses that would face toward the public right-of-way, which would promote a pedestrian environment, activate the sidewalk, and provide socializing opportunities. The Proposed Project would support the Downtown Design Guide's principles of on-site recreation opportunities and gathering places. Generally, the Proposed Project would not conflict with the principles of the Downtown Design Guide.

Project Site access and driveway design would be designed and developed in consultation with the Los Angeles Department of Transportation, Department of Building and Safety, and the Los Angeles Fire Department, as required. The Proposed Project would comply with the sidewalk and setback requirements of the Design Guide. A 14-foot-wide sidewalk is required per the Downtown Street Standards with a minimum 7-foot parkway and a 6-foot walkway. The Proposed Project would provide a 7'-6" parkway and a 6'-6" walkway that would also contain landscaping and street trees. Additionally, the Proposed Project would provide ground-floor commercial uses that would front Spring Street and would support a pedestrian-oriented environment, which would help support civic and cultural life. Ground-floor design and treatment (such as providing large storefront windows and beautifying the public right-of-way with street trees and landscaping) would promote pedestrian activity along Spring Street. The Project Site would be designed and landscaped to further enrich the community identity within Downtown Los Angeles. Additionally, primary vehicular access for residential and commercial uses would be provided via full-access driveways the adjacent alley, which would provide a connection to the parking areas. Parking for the Proposed Project would all be provided as subterranean contained and hidden from view. The Proposed Project's building siting, parking and access, architectural design, and materials would support the Downtown Design Guidelines. Thus, the Proposed Project would support the applicable principles and design criteria of the Downtown Design Guide.

Metropolitan Transportation Authority Right-Of-Way Project Area

The Project Site is located within the Metropolitan Transportation Authority right-of-way (Metro ROW) Project area (ZI-1117). Prior to the issuance of any building permit within 100 feet of a Metro ROW, clearance from the Los Angeles County Metro is required for the Proposed Project. Metro clearance would include filing a building permit application and site plan. With clearance and approval from Metro, the Proposed Project would be in compliance with ZI-1117.

As discussed above, the Proposed Project would not conflict with applicable zoning and development standards, including those set forth in the LAMC, the Central City Community Plan, the City Center Redevelopment Plan, and the Metro ROW.

b) The proposed development occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses.

As shown in Figure 3, Aerial Photograph of the Project Site and Surrounding Land Uses, the Project Site is located in an urbanized area of the Central City Community Plan area and is entirely surrounded by urban land uses. The Project Site encompasses one parcel, and is identified by the following County of Los Angeles Assessor Parcel Number (APN): 5149-007-005. The Project Site encompasses approximately 12,784 square feet of buildable lot area (0.29 acres). The Project Site is surrounded by a mix of commercial uses, mixed-use residential buildings, parking structures, and parking lots. Therefore, the Project Site is less than five acres and surrounded by urban uses.

c) The Project Site has no value as habitat for endangered, rare or threatened species.

The Project Site is located in a highly urbanized area within the City of Los Angeles. As shown in Figure 3, Aerial Photograph of the Project Site and Surrounding Land Uses, the Project Site and the surrounding area are fully developed with urban infrastructure and do not contain any significant areas of natural open space or areas of significant biological resource value. The Project Site is developed with a commercial building. There is no vegetation on the Project Site. There are two street trees located along the public right-of-way along Spring Street. Based on a review of the U.S. Fish and Wildlife Service (USFWS) Threatened & Endangered Species Active Critical Habitat Report for the Project area, no candidate, sensitive, or special status species identified in local plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or the USFWS have been recorded or exist in the immediate Project area. Additionally, no critical habitat was identified in the U.S. Environmental Protection Agency's NEPAssist mapping tool and USFWS's IPaC database. Additionally, the USFWS's IPaC database identified one threatened species (coastal California gnatcatcher) that occurs within the broader project locale, but indicated that the Project Site is located outside of the designated critical habitat for these species (*see Attachment 1 to this Categorical Exemption*).

Based on information provided by the Arborist Report, prepared by Class One Arboriculture, Inc. (*Attachment 6 to this Categorical Exemption*), there are two street trees (Holly Oak trees) adjacent to the Project Site. These trees are not identified as a protected tree species and would be removed during construction. The City of Los Angeles requires trees to be replaced and planted on a 2:1 basis for the removal of street trees. According to this replacement ratio, four replacement trees would be required along Spring Street. The replacement trees will be at least 36" box size per the Downtown Design Guide.

While the removal of non-protected trees would not be considered a significant impact under CEQA, the removal of trees has the potential to impact nesting bird species if they are present at the time of tree removal. Nesting birds are protected under the Federal Migratory Bird Treaty Act (MBTA) *(Title 16, United States Code, Section 703 et seq., see also Title 50, Code of Federal Regulation, Part 20)* and Section 3503 of the California Department of Fish and Game Code. To ensure compliance with the MBTA, the City of Los Angeles Department of Building and Safety imposes standard regulatory compliance measures advising applicants to avoid tree removal

activities during the breeding season. If avoidance is not feasible, the LADBS recommends weekly bird surveys be conducted to ensure that the trees proposed for removal are not occupied by nesting birds. Thus, with adherence to the Federal Migratory Bird Treaty Act, the Proposed Project would have a less than significant impact on sensitive biological species or habitat.

d) Approval of the Proposed Project would not result in any significant effects relating to traffic, noise, air quality, or water quality.

Traffic/Transportation

The following information summarizes the findings and conclusions from the Transportation Impact Assessment for the Proposed Mixed-Use Development Located at 216 Spring Street in the City of Los Angeles (Transportation Impact Assessment), dated September 2021. The Transportation Impact Assessment was also approved by LADOT, as shown in their correspondence dated November 23, 2021. The Transportation Impact Assessment and LADOT Approval Letter are provided in Attachment 2 to this Categorical Exemption.

In response to the updates to the CEQA guidelines, the LADOT updated the City's Transportation Assessment Guidelines (TAG) in July 2020 to conform to the requirements of SB 743. The TAG replaced the Transportation Impact Study Guidelines and shifted the performance metric for evaluating transportation impacts under the CEQA from LOS to VMT for studies completed within the City. The TAG establishes thresholds to identify development projects that would conflict with the updated CEQA guidelines.

As part of the updated TAG, the LADOT has identified three CEQA thresholds for identifying significant transportation impacts in accordance with SB 743 that are applicable to the Proposed Project:

Threshold T-1: Conflicting with the City's plans, programs, ordinances, or policies.
Threshold T-2: Causing substantial Vehicle Miles Traveled (VMT).
Threshold T-3: Substantially increasing hazards due to a geometric design feature or incompatible use(s).

An evaluation of the Proposed Project's potential impacts in these three areas, following the updated TAG, is presented in the following sections.

Threshold T-1: Plans, Programs, Ordinances, and Policies Compliance

To guide the City's Mobility Plan 2035 (Transportation Element of the General Plan), the City adopted programs, plans, ordinances, and policies that establish the transportation planning framework for all travel modes, including vehicular, transit, bicycle, and pedestrian facilities. Land development projects shall be evaluated for conformance with these City adopted transportation plans, programs, and policies.

Per the TAG guidelines, the Threshold T-1 CEQA question (impact criteria) would be significant if a project conflicts with a program, plan, ordinance(s), or policy addressing the circulation system?

However, a project would not be shown to result in an impact merely based on whether a project would not implement a program, policy, or plan. Rather, it is the intention of this threshold test to ensure that proposed development does not conflict with nor preclude the City from implementing adopted programs, plans, and policies.

Screening Criteria for Policy Analysis

If the development project requires a discretionary action, and the answer is yes to any of the following screening threshold questions, further analysis may be required to assess whether the proposed project would conflict with plans, programs, ordinances, or policies.

1. Does the project require a discretionary action that requires the decision maker to find that the decision substantially conforms to the purpose, intent, and provisions of the General Plan?

Yes, the Proposed Project requires a discretionary action.

2. Is the Project known to directly conflict with a transportation plan, policy or program adopted to support multi-modal transportation options or public safety?

No, the Proposed Project would not conflict with these key City planning documents, and potential impacts would be less than significant, see Table 7, Consistency Check with Key City Plans, Programs, Ordinances or Policies, below.

3. Is the Project proposing to, or required to, make any voluntary or required, modifications to the public right-of-way (i.e., street dedications, reconfigurations of curb lines, etc.)?

No, pursuant to the following Mobility Element Street Standards for the Proposed Project's adjacent street standards. The Proposed Project has no dedication requirements.

Spring Street is designated as a Modified Avenue II roadway which requires an 80-foot right-of-way (40-foot half width) and 52-foot (26-foot half width) roadway.

- Spring Street is dedicated to a 40-foot half width and a 26-foot half street adjacent to the Project Site. No dedication or street widening is necessary to satisfy the Modified Avenue II Street standard.
- Harlem Place (adjacent alley) is fully dedicated to 20 feet; therefore, no additional dedication is necessary.

The TAG provides a list of key City plans, policies, programs, and ordinances for consistency review as shown in Table 7, below. Projects that generally conform with and do not conflict with the City's development policies and standards addressing the circulation system, will generally be considered consistent.

Table 7
Consistency Check with Key City Plans, Programs, Ordinances or Policies

TAG Table 2.1-1: City Documents that Establish the Regulatory Framework		
Plan or Policy	**Consistency**	**Preclude City Implementation?**
1. LA Mobility Plan 2035	**Yes.** The Proposed Project would comply with the LA Mobility Plan 2035 street standards for Spring Street and Harlem Place (Alley), as required by the Bureau of Engineering.	No
2. Plan for Healthy LA	**Yes.** The Proposed Project would support Policy 5.7, Land Use Planning for Public Health and Greenhouse Gas (GHG) Emission Reduction by reducing single-occupant vehicle trips by its location within a Transit Priority Area (TPA) service area and by providing bike parking. The Proposed Project would provide pedestrian access separate from the vehicular access. The Proposed Project would not conflict with policies in the Plan for Healthy LA.	No
3. Land Use Element of the General Plan (35 Community Plans)	**Yes.** The Proposed Project is in the Central City Community Plan area. The Proposed Project would be in substantial conformance with the purposes, intent, and provisions of the General Plan and the Community Plan. Note the Central City Community Plan is being updated.	No
4. Specific Plans	**Yes.** The Proposed Project is not located in a Specific Plan area.	N/A
5. LAMC Section 12.21A.16 (Bicycle Parking)	**Yes.** The Proposed Project complies with the ratio of short and long-term bicycle parking pursuant to LAMC Section 12.21. A.16.	No
6. LAMC Section 12.26J (TDM Ordinance)	**Yes.** LAMC Section 12.26J for Transportation Demand Management and Trip Reduction Measures applies only to the construction of new non-residential floor area greater than 25,000 sf. The Proposed Project does not have commercial floor area exceeding 25,000 sf.	No
7. LAMC Section 12.37 (Waivers of Dedications and Improvement)	**Yes.** The Proposed Project is not seeking a waiver of the dedication and widening.	N/A
8. Vision Zero Action Plan	**Yes.** The Proposed Project would not preclude or conflict with the implementation of future Vision Zero projects in the public right-of-way.	No
9. Vision Zero Corridor Plan	**Yes.** The Proposed Project would not preclude or conflict with the implementation of future Vision Zero projects in the public right-of-way, No Vision Zero projects have been identified near the Project Site. See https://ladotlivablestreets.org/programs/vision-zero/maps	No
10. Citywide Design Guidelines	**Yes.**	No
Guideline 1: Promote a safe, comfortable, and accessible pedestrian experience for all	**Yes.** The Proposed Project would create a continuous and straight sidewalk clear of obstructions for pedestrian travel. The Proposed Project would provide adequate sidewalk width and right-of-way that accommodates pedestrian flow and activity. Pedestrian access would be provided	No

	at street level with direct access to the surrounding neighborhood and amenities.	
Guideline 2: Carefully incorporate vehicular access such that it does not degrade the pedestrian experience.	**Yes.** The Proposed Project complies with the Citywide Design Guidelines incorporating vehicle access locations that do not discourage and/or inhibit the pedestrian experience. All vehicular access is provided from the adjacent alley and not on adjacent streets.	No
Guideline 3: Design projects to actively engage with streets and public space and maintain human scale.	**Yes.** The building design uses attractive architectural elements. The Proposed Project would not preclude or conflict with the implementation of future streetscape projects in the public right-of-way.	No
11. Downtown Design Guide	**Yes.** The Proposed Project would provide ground-floor commercial uses fronting Spring Street and would support a pedestrian-oriented environment. Ground-floor design and treatment, such as providing large storefront windows and landscaping the public right-of-way with street trees, would promote pedestrian activity along Spring Street.	No
12. Downtown Street Standards	**Yes.** A 14-foot wide sidewalk is required per the Downtown Street Standards with a minimum 7-foot parkway and a 6-foot walkway. The Proposed Project would provide a 7 foot-6 inch parkway and a 6 foot-6 inch walkway, which would be consistent with the Downtown Street Guidelines.	No
Source: Overland Traffic Consultants, Inc., Transportation Impact Assessment for Proposed Mixed-Use Development, Located at 216 S. Spring Street in the City of Los Angeles, September 2021; and Parker Environmental Consultants, 2022.		

Threshold T-2: Vehicle Miles Traveled

The intent of this threshold question is to assess whether a land development project causes a substantial VMT impact. CEQA Guidelines Section 15064.3(b) relates to use of VMT as the methodology for analyzing transportation impacts.

To address this question, LADOT's TAG identified significant VMT impact thresholds for each of seven Area Planning Commission (APC) sub-areas in the City of Los Angeles. A project's VMT is compared against the City's APC threshold goals for household VMT per capita and work VMT per employee to evaluate the significance of the project's VMT.

A development project will have a potential impact if the development project would generate VMT exceeding 15% below the existing average VMT for the Area Planning Commission (APC) area in which the project is located per TAG's Table 2.2-1.

The Project Site is in the Central APC sub - area which limits daily household VMT per capita to a threshold value of 6.0 and a daily work VMT per employee to a threshold value of 7.6 (15% below the existing VMT for the Central APC).

The Proposed Project's household VMT per capita is estimated at 2.5 which is significantly below the VMT threshold for the Central APC. The work VMT per employee is not applicable because the commercial space is less than the 50,000 sf threshold. Results of the Proposed Project's VMT calculation (as shown in Appendix F of the Transportation Impact Assessment). Thus, the Proposed Project's VMT impacts would be less than significant.

Transportation Demand Management (TDM)

The Proposed Project's design features include TDM measures that reduce trips and VMT through TDM strategies selected in the VMT calculator. Specifically, the Proposed Project's TDM program includes reduced parking and bike parking which is a regulatory measure and part of the Proposed Project's design features. These strategies, as described by LADOT'S TAG, are listed below:

- Parking Strategy – Reduced Parking Supply – This strategy changes the on-site parking supply to provide less than the amount of vehicle parking required by direct application of the LAMC without consideration of parking reduction mechanisms permitted in the code. Permitted reductions in parking supply could utilize parking reduction mechanisms such as TOC, Density Bonus, Bike Parking ordinance, or locating in an Enterprise Zone or Specific Plan area.

- Bike Parking - This strategy involves implementation of short and long-term bicycle parking to support safe and comfortable bicycle travel by providing parking facilities at destinations under existing LAMC regulations applicable to the Project (LAMC Section 12.21.A.16). The Proposed Project would provide bicycle parking consistent with LAMC Section 12.21.A.16 - The Proposed Project would provide 102 bicycle parking spaces (89 long-term spaces and 13 short-term spaces).

The effectiveness of the TDM strategies included in the VMT Calculator is based primarily on research documented in the 2010 California Air Pollution Control Officers Association (CAPCOA) publication, Quantifying Greenhouse Gas Mitigation Measures (CAPCOA, 2010).

Threshold T-3: Geometric Design Feature or Incompatible Use Hazards

Impacts regarding the potential increase of hazards due to a geometric design feature generally relate to the design of access points to and from the project site, and may include safety, operational, or capacity impacts. Impacts can be related to vehicle conflicts as well as to operational delays caused by vehicles slowing and/or queuing to access a project site.

No deficiencies are apparent in the site access plans which would be considered significant. This determination considers the following factors:

1. Vehicle access to the parking will be from the adjacent north – south alley.
2. The Proposed Project's access is consistent with LADOT driveway width and placement per LADOT Manual of Policies and Procedures, Section 321, Driveway Design.

3. The net Project peak hour trip generation is 36 vehicles per hour (VPH) during the morning peak hour and 38 VPH during the afternoon peak hour. This level of added traffic would not create a transportation hazard or create any operational issues.

A review of the Project Site plan does not present any hazardous geometric design features that would result in vehicle/pedestrian, vehicle/bicycle, or vehicle/vehicle safety hazards. Therefore, the Proposed Project's impacts under CEQA Threshold T-3.1 (Substantially Increasing Hazards Due to a Geometric Design Feature) would be less than significant.

Construction Impacts

Project construction is evaluated to determine if activities substantially interfere with pedestrian, bicycle, transit, or vehicle mobility. Factors to be considered are the location of the Project Site, the functional classification of the adjacent street affected, temporary loss of bus stops or rerouting of transit lines, and the loss of vehicle, bicycle, or pedestrian access. LADOT's TAG considers three areas to be considered when evaluating project construction activities.

1. Temporary Transportation Constraints

As part of the Proposed Project's construction, a Construction Traffic Management Plan would be implemented during the construction phase to minimize potential conflicts with vehicles, pedestrians, bicycle, and transit facilities associated with the Proposed Project's construction. This plan would be approved by the LADOT and would detail the measures enacted to ensure less than significant traffic impacts during construction related to designated haul routes and staging areas, traffic control procedures, emergency access provisions, and construction crew parking. The Proposed Project shall obtain prior LADOT approval for any lane closures, detours, on-street staging areas, or other temporary changes in traffic control due to construction activities and will enact appropriate temporary traffic control procedures. Haul routes for Project construction would be coordinated with the City of Los Angeles Department of Building and Safety (LADBS) to minimize the impact of construction traffic to congested roadways and residential streets.

Construction workers are typically expected to arrive at the Project Site before 7:00 A.M. and depart before or after the weekday peak hours of 4:00 to 6:00 P.M. Deliveries of construction materials will be coordinated to non-peak travel periods, to the extent possible and occur from the parking lane along the Project Site's Spring Street and alley frontages.

For off-site activities, Worksite Traffic Control Plans, as part of the Construction Traffic Management Plan would be prepared for any temporary traffic lane or sidewalk closures in accordance with City guidelines. These worksite plans will require a formal review and approval by the City prior to the issuance of any construction permits. In addition, the City of Los Angeles will require a Truck Haul Route plan including permitted hauling hours and a haul route to and from the landfill.

No detours around the construction site are expected; however, flagmen would be used to control traffic movement during the ingress and egress of construction trucks.

Since Project construction would not substantially interfere with pedestrian, bicycle or vehicle mobility, the construction impacts would be less than significant.

2. Temporary Loss of Access

Vehicular access to the adjacent properties will be maintained. Safe pedestrian circulation paths adjacent to or around the work areas will be provided by covered pedestrian walkways if necessary and will be maintained as required by City-approved Work Area Traffic Control Plans.

Since the Proposed Project's construction would not result in complete loss of vehicular or pedestrian access, the construction impacts on loss of access would be less than significant.

3. Temporary Loss of Bus Stops or Rerouting of Bus Lines

No bus stops are located within the work zone adjacent to the Project Site that would need to be temporarily relocated. There will be no loss of pedestrian access to transit stops and no rerouting of bus lines are necessary.

Since the Proposed Project's construction would not require relocation of bus stops or bus lines, the construction impacts on transit operations would be less than significant.

Therefore, with implementation of the Construction Traffic Management Plan, the Proposed Project construction would not adversely affect the pedestrian, bicycle, transit, and vehicular circulation around the Project Site, and transportation impacts during construction would be less than significant.

Noise

Construction Noise Impacts

For purposes of determining the Proposed Project's construction noise impacts, a significant impact would occur if the Proposed Project is not in compliance with LAMC Chapter XI, Article 2, Section 112.04, 112.05, and 41.40. LAMC Section 112.05 provides that between the hours of 7:00 A.M. and 10:00 P.M., in any residential zone of the City or within 500 feet thereof, no person shall operate or cause to be operated any powered equipment or powered hand tool that produces a maximum noise level exceeding 75 dBA at a distance of 50 feet therefrom. Under this standard, the Applicant must at minimum demonstrate compliance with LAMC Section 112.05. Further, in compliance with LAMC Section 112.04, this analysis addresses whether construction activities would exceed existing ambient exterior noise levels by 5 dBA (hourly L_{eq}) or more in residential areas. If necessary, features to reduce noise to below-threshold levels (75 dBA) and below a 5-dBA ambient noise increase can be incorporated into the project design to ensure regulatory compliance.

For purposes of evaluating the Proposed Project's construction and operational noise impacts, the following regulatory compliance measures and construction project design features would be incorporated into the Proposed Project's construction activities. These features and control

measures are consistent with the noise management procedures and regulations of the LAMC and Noise Element of the General Plan.

Los Angeles Municipal Code

The LAMC contains a number of regulations that would apply to the Project's temporary construction activities and long-term operations. Provided below are the relevant sections from the LAMC that pertain to construction noise. The applicant will be required to adhere to these code restrictions and any other conditions of approval that may be imposed on the Project to the satisfaction of the Department of City Planning.

Sec. 41.40. Noise Due to Construction, Excavation Work—When Prohibited

(a) No person shall, between the hours of 9:00 P.M. and 7:00 A.M. of the following day, perform any construction or repair work of any kind upon, or any excavating for, any building or structure, where any of the foregoing entails the use of any power drive drill, riveting machine, excavator or any other machine, tool, device or equipment which makes loud noises to the disturbance of persons occupying sleeping quarters in any dwelling hotel or apartment or other place of residence. In addition, the operation, repair or servicing of construction equipment and the job-site delivering of construction materials in such areas shall be prohibited during the hours herein specified. Any person who knowingly and willfully violates the foregoing provision shall be deemed guilty of a misdemeanor punishable as elsewhere provided in this Code.

Sec. 112.01. Radios, Televisions Sets, and Similar Devices

(a) It shall be unlawful for any person within any zone of the City to use or operate any radio, musical instrument, phonograph, television receiver, or other machine or device for the producing, reproducing or amplification of the human voice, music, or any other sound, in such a manner, as to disturb the peace, quiet, and comfort of neighbor occupants or any reasonable person residing or working in the area… … to exceed the ambient noise level by more than five decibels.

Sec. 112.02. Air Conditioning, Refrigeration, Heating, Plumbing, Filtering Equipment

(a) It shall be unlawful for any person, within any zone of the city, to operate any air conditioning, refrigeration or heating equipment for any residence or other structure or to operate any pumping, filtering or heating equipment for any pool or reservoir in such manner as to create any noise which would cause the noise level on the premises of any other occupied property … to exceed the ambient noise level by more than five decibels.

Sec. 112.04 Powered Equipment Intended for Repetitive Use in Residential Areas and Other Machinery, Equipment, and Devices.

(a) Between the hours of 10:00 p.m and. 7:00 a.m. of the following day, no person shall operate any lawn mower, backpack blower, lawn edger, riding tractor, or any other machinery, equipment, or other mechanical or electrical device, or any hand tool which creates a loud, raucous or impulsive sound, within any residential zone or within 500 feet of a residence

(b) Except as to the equipment and operations specifically mentioned and related elsewhere in this Chapter or for emergency work as that term is defined in Section 111.01(d), and except as to aircraft, tow tractors, aircraft auxiliary power units, trains and motor vehicles in their respective operations governed by State or federal regulations, no person shall operate or cause to be operated any machinery, equipment, tools, or other mechanical or electrical device, or engage in any other activity in such manner as to create any noise which would cause the noise level on the premises of any other occupied property, or, if a condominium, apartment house, duplex, or attached business, within any adjoining unit, to exceed the ambient noise level by more than five (5) decibels.

Sec. 112.05 Maximum Noise Level of Powered Equipment or Powered Hand Tools

Between the hours of 7:00 A.M. and 10:00 P.M., in any residential zone of the City or within 500 feet thereof, no person shall operate or cause to be operated any powered equipment or powered hand tool that produces a maximum noise level exceeding the following noise limits at a distance of 50 feet therefrom:

(a) 75 dBA for construction, industrial, and agricultural machinery including crawler-tractors, dozers, rotary drills and augers, loaders, power shovels, cranes, derricks, motor graders, paving machines, off-highway trucks, ditchers, trenchers, compactors, scrapers, wagons, pavement breakers, compressors and pneumatic or other powered equipment;

(b) 75 dBA for powered equipment of 20 HP or less intended for infrequent use in residential areas, including chain saws, log chippers and powered hand tools;

(c) 65 dBA for powered equipment intended for repetitive use in residential areas, including lawn mowers, backpack blowers, small lawn and garden tools and riding tractors.

Said noise limitations shall not apply where compliance therewith is technically infeasible. The burden of proving that compliance is technically infeasible shall be upon the person or persons charged with a violation of this section. Technical infeasibility shall mean that said noise limitations cannot be complied with despite the use of mufflers, shields, sound barriers and/or other noise reduction device or techniques during the operation of the equipment.

Sec. 113.01. Rubbish and Garbage Collection and Disposal

It shall be unlawful for any person engaged in the business of collecting or disposing of rubbish or garbage to operate any refuse disposal truck, parking lot sweeper, or vacuum truck, or to collect, load, pick up, transfer, unload, dump, discard, sweep, vacuum, or dispose of any rubbish or garbage, as such terms are defined in Section 66.00 of this Code, within 200 feet of any residential building between the hours of 9:00 p.m. and 6:00 a.m. of the following day, unless a permit therefore has been duly obtained beforehand from the Board of Police Commissioners.

Sec. 114.02. Motor Driven Vehicles

(a) It shall be unlawful for any person to unreasonably operate any motor driven vehicle upon any property within the City or to unreasonably accelerate the engine of any vehicle, or unreasonably sound, blow or operate the horn or other warning device of such vehicle in such manner:

1. As to disturb the peace, quiet and comfort of any neighborhood or of any reasonable person residing in such area

2. That such activity is audible to the human ear at a distance in excess of 150 feet from the property line of the noise source;

3. As to create any noise which would cause the noise level on the premises of any occupied residential property, or if a condominium, apartment house or duplex, within any adjoining unit, to exceed the ambient noise level by more than five (5) decibels.

Sec. 114.03. Vehicles – Loading and Unloading

(a) It shall be unlawful for any person, between the hours of 10:00 p.m. and 7:00 a.m. of the following day, to load or unload any vehicle, or operate any dollies, carts, forklifts, or other wheeled equipment, which causes any impulsive sound, raucous or unnecessary noise within 200 feet of any residential building.

Sec. 114.06. Vehicle Theft Alarm Systems

It shall be unlawful for any person to install, operate or use any vehicle theft alarm system that emits or causes the emission of an audible sound, which is not, or does not become, automatically and completely silenced within five minutes. The time period shall be calculated based upon the emission of the first audible sound and shall end five minutes thereafter notwithstanding any variation or stoppage in the emissions of audible sound. Violation of this section shall constitute an infraction.

Sec. 116.01. Loud, Unnecessary And Unusual Noise

Notwithstanding any other provisions of this chapter and in addition thereto, it shall be unlawful for any person to willfully make or continue, or cause to be made or continued, any loud, unnecessary, and unusual noise which disturbs the peace or quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area. The standard which may be considered in determining whether a violation of the provisions of this section exists may include, but not be limited to, the following: (a) The level of noise; (b) Whether the nature of the noise is usual or unusual; (c) Whether the origin of the noise is natural or unnatural; (d) The level and intensity of the background noise, if any; (e) The proximity of the noise to residential sleeping facilities; (f) The nature and zoning of the area within which the noise emanates; (g) The density of the inhabitation of the area within which the noise emanates; (h) The time of the day and night the noise occurs; (i) The duration of the noise; (j) Whether the noise is recurrent, intermittent, or constant; and (k) Whether the noise is produced by a commercial or noncommercial activity.

Ordinance No. 178,048

The City of Los Angeles Building Regulations Ordinance No. 178,048 requires a construction site notice to be posted on site that includes the job site address, permit number, name and phone number of the contractor and owner or owner's agent, hours of construction allowed by code or any discretionary approval for the Site, and City telephone numbers where violations can be reported. This notice is required to be posted and maintained at the construction site prior to the start of construction and displayed in a location that is readily visible to the public.

Project Design Features

In furtherance of complying with the provisions set forth in LAMC Sections 112.04 and 112.05, above, the Applicant will incorporate the following features into the construction work plans, which shall be conditions of approval of the Proposed Project:

- Demolition and construction activities shall be scheduled so as to avoid operating several pieces of equipment simultaneously, which causes high noise levels.
- The project contractor shall use power construction equipment with noise shielding and muffling devices.
- The project contractor will erect a temporary noise-attenuating sound barrier along the perimeter of the Project Site. The sound wall will be a minimum of 8 feet in height to block the line-of-sight of construction equipment and off-site receptors at the ground level. The sound barrier shall include sound absorbing material capable of achieving a minimum of 15-dBA reduction in sound level.
- During any jackhammering and structural framing, the project contractor shall utilize temporary portable acoustic barriers, partitions, or acoustic blankets to effectively block the line-of-sight between noise producing equipment and the adjacent residential land uses for

purposes of ensuring noise levels at the adjacent residential land uses does not exceed 75 dBA L_{eq} over the ambient noise levels.

Existing Ambient Noise Conditions

The Project Site is located on the eastern side of Spring Street and is currently developed with a one-story commercial office building. Commercial activity from the Project Site currently contributes noise to the baseline conditions. Traffic and transit operations around the Project Site also contribute noise to the baseline noise conditions. Collectively, these noise sources contribute to ambient noise levels in the baseline condition.

Exterior daytime noise levels were monitored at three locations in the vicinity of the Project Site to measure ambient noise conditions affecting the sensitive receptors in the vicinity. The approximate locations of where each noise measurement were taken are depicted in Figure 1, Noise Monitoring and Sensitive Receptor Location Map, in Attachment 3 of this Categorical Exemption. The noise measurements were conducted at three separate locations on June 11, 2021, over a period of 15 minutes in accordance with LAMC Section 111.01(a) as summarized in Table 8, Existing Ambient Noise Levels in the Project Site Vicinity, below.

Location A was selected to obtain the ambient noise levels for the existing and future residential land uses west and southwest of the Project Site, across Spring Street (Sensitive Receptor Nos. 3 and 4). The primary noise sources at this location are vehicle traffic noise along Spring Street and construction activity at 222 W. 2nd Street.

Table 8
Existing Ambient Noise Levels in the Project Site Vicinity

ID	Location	Primary Noise Sources	Noise Level Statistics [a]		
			L_{eq}	L_{min}	L_{max}
A	On the west side of Spring Street, across from the Project Site	Vehicle and pedestrian traffic, construction, buses	65.6	56.3	77.5
B	On the south side of 2nd Street, between Spring Street and Main Street	Vehicle and pedestrian traffic	61.3	58.6	71.9
C	On the east side of Main Street	Vehicle and pedestrian traffic	69.0	56.7	88.4

Notes:
[a] *Noise measurements were taken on Friday, June 11, 2021, at each location for a duration of 15 minutes. Pursuant to LAMC Sec. 111.01, ambient noise shall be averaged over a period of at least 15 minutes at a location and time of day comparable to that during which the measurement is taken of the particular noise source being measured.*
Parker Environmental Consultants, 2021.

Location B was selected to obtain the ambient noise levels for the residential uses located directly northeast of the Project Site (Sensitive Receptor No. 1). The primary noise sources at this location are vehicle traffic noise and pedestrian activity.

Location C was selected to obtain the ambient noise levels for the residential land uses further east of the Project Site, fronting Main Street (Sensitive Receptor Nos. 2). The primary noise sources at this location are vehicle traffic noise and pedestrian activity along Main Street.

On-Site Construction Noise

Construction of the Proposed Project would require the use of heavy equipment for demolition, grading, building construction, and architectural coatings. During each construction phase there would be a different mix of equipment operating and noise levels would vary based on the amount of equipment in operation and the location of each activity. Table 9 identifies the representative noise levels for the types of construction equipment anticipated to be used for the Proposed Project,[4] including estimated usage factors found in the U.S. Department of Transportation, Federal Highway Administration, Roadway Construction Noise Model. The noise levels listed in Table 9, below, represent the A-weighted maximum sound level (L_{max}), measured at a distance of 50 feet from the construction equipment.

Table 9
Noise Data for Selected Construction Equipment

Construction Phases	Construction Equipment	Estimated Usage Factor %	Actual Measures Noise Level at 50 Feet (dBA L_{max})
Demolition	Rubber Tired Dozer (1)	40	82
	Concrete/Industrial Saws (1)	20	90
	Tractor/Loader/Backhoe (2)	40	78
Grading	Grader (1)	40	85
	Tractor/Loader/Backhoe (2)	40	78
Building Construction	Forklifts (2)	20	75
	Tractor/Loader/Backhoe (2)	40	78
	Cement and Mortar Mixers (1)	40	79
	Generator Sets (1)	50	81
	Pavers (1)	50	77
	Rollers (1)	20	80
	Crane (1)	16	81
Architectural Coating	Aerial Lifts (2)	20	75
	Air Compressors (5)	40	78

Source: FHWA, Roadway Construction Noise Model, Construction Noise Prediction, (at Table 1 CA/T Equipment noise emissions and acoustical usage factors database, January 2006.

It should be noted that not all construction noise equipment would be utilized concurrently during each phase and the location and spacing of heavy construction equipment and machinery would vary over the course of construction. Mobile equipment moves around the construction site with power applied in cyclic fashion (bulldozers, loaders), or to and from the site (trucks). Because the precise numbers and locations of equipment operating at the same time are not known, this

[4] *Based on the construction equipment identified in the CalEEMod worksheets for the air quality and greenhouse gas emissions models presented in Attachments 4 and 5 of this Categorical Exemption.*

analysis follows the recommended procedures contained in the Federal Transit Administrations Transit Noise and Vibration Impact Assessment Manual for a quantitative construction noise assessment. Pursuant to these procedures, the noise levels for the two loudest pieces of construction equipment were calculated from the center of the Project Site and the respective distance to each sensitive receptor.

Sensitive receptors identified within 500 feet of the Project Site include:

1) Mixed-use residential building immediately northeast of the Project Site, located at 108 W. 2nd Street;
2) Multi-family residences further east of the Project Site, located at 222 S. Main Street;
3) Multi-family residences further southwest of the Project Site, located at 242 S. Broadway and 257 S. Spring Street; and
4) Future mixed-use residential building west of the Project Site, located at 222 W. 2nd Street (currently under construction).

Refer to Figure 1 of Attachment 3 for locations of these sensitive receptors.

As noted above, temporary noise barriers would be installed along the Project Site's property lines to block the line-of-sight between the noise sources and surrounding sensitive receptors. The construction of a temporary ¾ inch plywood noise barrier would be capable of attenuating the noise level by approximately 15 dBA. Additionally, noise control efforts to limit the construction activities to permissible hours of construction, incorporate noise shielding devices such as sound mufflers and echo barriers, and operate machinery in a manner that reduces noise levels (i.e., not operating several pieces of equipment simultaneously if possible) would be effective in reducing noise impacts. Localized and portable sound enclosures would also be used, as necessary, to significantly reduce noise from these types of equipment. Products such as Echo Barrier Outdoor noise barrier/absorbers can provide a 10 to 20 dBA noise reduction or more if the barrier is doubled up (see product data specifications included in Attachment 3).

Pursuant to LAMC Chapter IV, Article 1, Section 41.40, exterior demolition and construction activities that generate noise are prohibited between the hours of 9:00 P.M. and 7:00 A.M. Monday through Friday, and between 6:00 P.M. and 8:00 A.M. on Saturday and federal holidays. Demolition and construction are prohibited on Sundays. The construction activities associated with the Proposed Project would comply with these LAMC requirements.

Further, the Applicant would be required to post informational signage providing contact information to report complaints regarding excessive noise. The City of Los Angeles Building Regulations Ordinance No. 178,048 requires a construction site notice to be provided that includes the following information: job site address, permit number, name and phone number of the contractor and owner or owner's agent, hours of construction allowed by code or any discretionary approval for the Project Site, and City telephone numbers where violations can be reported. The notice is required to be posted and maintained at the construction site prior to the start of construction and displayed in a location that is readily visible to the public. With incorporation of the project design features, as described above, and regulatory compliance measures, affected

residents and business owners would be provided advanced notice of potential noise impacts and opportunities to comment on construction noise.

As shown in Table 10, Estimated Exterior Construction Noise at Nearest Sensitive Receptors, the ambient exterior noise levels with project design features would range from 35.4 dBA to 66.1 dBA. As such, construction noise levels would not exceed 75 dBA at a distance of 50 feet from the Project Site (in compliance with LAMC 112.05) and would not exceed ambient noise levels by more than 5-dBA at any of the sensitive receptors (in compliance with LAMC 112.04). A such, temporary construction-related noise impacts would be considered less than significant in accordance with City requirements and standards.

Table 10
Estimated Exterior Construction Noise at Nearest Sensitive Receptors

ID [a]	Ambient Noise (dBA L_{eq}) [b]	Noise Level Impact (dBA L_{eq}) by Phase [c]				Construction Noise Threshold (dBA L_{eq}) [d]	Significant Impact?
		Demo	Grading	Building	Architectural Coating		
1	61.3	66.1	64.9	60.1	58.9	66.3	No
2	69.0	43.5	42.4	37.5	36.3	74.0	No
3	65.6	42.5	41.4	36.6	35.4	70.6	No
4	65.6	60.0	58.9	54.1	52.9	70.6	No

Notes:
[a] ID refers to the sensitive receptor locations identified in Figure 1, Noise Monitoring and Sensitive Receptor Location Map, of Attachment 3.
[b] Daytime noise levels are based on actual noise measurements taken at the Project Site vicinity.
[c] Calculations based on the loudest two pieces of heavy construction equipment specific to each phase.
[d] The significance threshold is an increase 5 dBA or more in relation to the ambient noise measurements for each sensitive receptor (LAMC 112.04).
Source: Parker Environmental Consultants, 2021 (see Attachment 3, Noise Monitoring Data and Calculations Worksheets).

Off-Site Construction Noise

In addition to the on-site construction noise sources addressed above, which are regulated under the City's Noise Ordinance, other noise sources may be generated off-site resulting from materials delivery, concrete mixing trucks, haul trucks, and other trucks from workers accessing the Project Site during construction. The highest of these noise sources would be generated by haul trucks for demolition debris during the first month of construction. It is anticipated that the proposed haul route to the Sunshine Canyon Landfill would utilize the SR-110 Freeway using Spring Street and the 3rd Street on-ramp, and the haul route from the Landfill to the Project Site would utilize the US-101 Freeway and the Broadway off-ramp to Aliso Street and Spring Street to the Project Site.

Based on the total volume of construction/demolition debris, the highest number of haul trips would occur during the grading/excavation phase. Assuming an average of 14 cubic yards per haul

trucks, the debris export during the three-month grading phase would generate approximately 2,143 one-way haul trips, distributed over an approximate 66-day period. This would result in approximately 32 haul trips per day. The addition of 32 haul truck trips per day would not result in any significant roadway noise impacts. As such, the temporary noise increase from haul truck trips would not significantly increase noise in the Project area. As such, the hauling activities during construction would result in a less than significant impact to off-site noise receptors.

Structural Groundborne Vibration

In terms of construction vibration impacts on buildings, the Project Site is immediately bordered by a one-story commercial building to the north (210 S. Spring Street) and a parking structure to the south (220 S. Spring Street) of the Project Site. These buildings share property lines with the Project Site and would be potentially susceptible to groundborne vibration during the construction phase. Tieback and soldier piles would be employed during excavation to protect the buildings during excavation and foundation work as regulatory compliance measures. Vibration impacts can be reduced by controlled construction methods and careful selection and use of heavy equipment on-site. Accordingly, precautionary regulatory compliance measures would need to be employed during the construction process to ensure building damage does not occur. As such, the following measures would be incorporated to ensure potential structural vibration impacts are less than significant:

- All new construction work shall be performed so as not to adversely affect the structural integrity of the adjacent buildings. Prior to commencement of construction, the applicant shall retain a qualified structural engineer to survey the existing foundations and structures of the adjacent buildings, and provide a plan to protect them from potential damage. The performance standards of the structure monitoring plan shall including the following:
    - Documentation shall consist of video and/or photographic documentation of accessible and visible areas on the exterior and select interior facades of the buildings. A registered structural engineer shall develop recommendations for the adjacent structure monitoring program that will include, but not be limited to, vibration monitoring, elevation and lateral monitoring points, crack monitors and other instrumentation deemed necessary to protect the adjacent structures from construction-related damage.
    - The monitoring program shall survey for vertical and horizontal movement, as well as vibration thresholds. If the thresholds are met or exceeded, or noticeable structural damage becomes evident to the project contractor, work shall stop in the area of the affected building until measures have been taken to stabilize the affected building to prevent construction related damage to historic resources.
    - In the event damage occurs to historic finish materials due to construction vibration, such materials shall be repaired in consultation with a qualified preservation consultant and, if warranted, in a manner that meets the Secretary of the Interior's Standards.
    - The structure monitoring program and initial survey documentation shall be submitted to the Department of Building and Safety and received into the case file

for the associated discretionary action permitting the project prior to construction.

Operational Noise

Rooftop Deck and Open Space Noise

The Proposed Project would include approximately 12,692 square feet of open space, a majority of which would be concentrated on the 17th level roof deck (4,237 square feet) with a community patio courtyard to be improved with a swimming pool, gas fire pits, and gas grills. It is anticipated that there would not be any amplified music or speakers on the rooftop deck; however, occupancy and use of these areas may increase ambient noise levels in the Project Site vicinity. Based on the size of the roof deck and the type of amenities provided, it is conservatively anticipated that this area could accommodate up to 60 people for casual outdoor gatherings based on occupiable space.

Since the Proposed Project's open space would be provided to the future residents and guests, it is anticipated that the rooftop deck would emit low-level passive noise. There is no objective criterion for analyzing unamplified human voices within the LAMC. The only applicable criteria the LAMC code provides is that the Proposed Project shall adhere to LAMC Section 116.01, which states that it shall be unlawful for any person to willfully make or continue, or cause to be made or continued, any loud, unnecessary, and unusual noise which disturbs the peace or quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area. It is not expected that the intended use (i.e., only up to a few people having a conversation, relaxing, or enjoying the outdoors) would violate the prohibition of "loud, unnecessary and unusual noise" criteria. Additionally, due to the nature of the use, it is unlikely that the Proposed Project would operate at such full capacity often or for a prolonged period of time that would result in excessive crowd noise. Further, the roof deck would be surrounded with planters and either glass or concrete railings that would help to further attenuate noise in the surrounding area. As such, noise from the common open space would be less than significant.

Mechanical Equipment

As part of the Proposed Project, new mechanical equipment, HVAC units, and exhaust fans would be installed on the roof of the proposed structure. However, the operation of this equipment would be similar to the existing HVAC equipment currently surrounding the Project Site. Further, the design and placement of HVAC units and exhaust fans would be required to comply with the regulations under Section 112.02 of the LAMC, which prohibits noise from air conditioning, refrigeration, heating, pumping, and filtering equipment from exceeding the ambient noise level on the premises of other occupied properties by more than five decibels. Thus, the on-site equipment would be designed and located such that they would be appropriately shielded and fitted with noise muffling devices to reduce operational noise levels. In addition, nighttime noise limits would be applicable to any equipment items required to operate between the hours of 10:00 P.M. and 7:00

A.M. Thus, operational noise impacts from HVAC and mechanical equipment would be less than significant.

Roadway Traffic Noise

With respect to traffic noise impacts, in order for a new noise source to be audible, there would need to be a 3 dBA or greater CNEL noise increase. According to Caltrans guidelines, the traffic volume on any given roadway would need to double in order for a 3-dBA increase in ambient noise to occur. LADOT performed peak commute hour traffic counts at the intersection of Spring Street and 2nd Street in 2017. This intersection experienced a total of 4,950 vehicles during the peak commute hours of 7AM – 10AM and from 3PM – 6PM, with approximately 825 of those vehicles traveling westbound along 2nd Street and 4,154 of those vehicles traveling southbound along Spring Street.

According to the Proposed Project's Transportation Impact Assessment, the Proposed Project would result in approximately 427 daily vehicle trips. Accounting for a 1% ambient annual trip increase plus 427 daily trips from the Proposed Project, the 2nd Street roadway segment would experience approximately 1,312 trips during peak commute hours for the year 2024. This is based on a conservative estimate, assuming that all of the Proposed Project trips would utilize 2nd Street to Harlem Place, and assuming that all trips would occur during the peak hours.

Therefore, the Proposed Project's estimated 427 average daily trips would represent a small percentage increase in the daily volumes during traffic peak hours at this roadway segment. Based on the number of proposed multi-family units and an estimated daily trip increase of 427 trips, the Proposed Project is not anticipated to double the amount of traffic volumes along Spring Street in a 24-hour period. This is also a conservative estimate, assuming all trips occur during the peak hours. As such, increased mobile source noise from the Proposed Project's increase in traffic would be less than 3 dBA, and operational noise impacts due to roadway noise would be less than significant.

Air Quality

Construction Emissions

With respect to air quality during the construction phases, the Proposed Project would be required to comply with all applicable City, regional, state, and federal regulatory compliance measures from agencies including, but not limited to, the City of Los Angeles, the Southern California Air Quality Management District (SCAQMD), and the California Code of Regulations. As required by CEQA, the Proposed Project's construction emissions were quantified utilizing the California Emissions Estimator Model (CalEEMod *Version 2020.4.0*), as recommended by the SCAQMD. Table 11, Estimated Peak Daily Construction Emissions, identifies daily emissions that are estimated to occur on peak construction days for each phase of the Proposed Project's construction.

This analysis assumes a Project construction schedule of approximately 24 months, with final buildout occurring in 2024. Construction activities associated with the Project would be undertaken in four main steps: (1) demolition/site clearing, (2) grading/excavation, (3) building construction, and (4) architectural coatings/finishings.

Table 11
Estimated Peak Daily Construction Emissions

Emission Source	Emissions in Pounds per Day					
	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Demolition/Site Clearing						
On-Site Fugitive Dust	--	--	--	--	0.28	0.04
On-Site Off-Road Diesel Equipment	0.71	6.41	7.47	0.01	0.34	0.32
Off-Site Hauling/Vendor/Worker Trips	0.05	0.71	0.52	<0.01	0.19	0.06
Total Emissions	***0.76***	***7.12***	***7.99***	***0.01***	***0.81***	***0.42***
SCAQMD Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**
Grading/Excavation						
On-Site Fugitive Dust	--	--	--	--	2.40	1.16
On-Site Off-Road Diesel Equipment	1.59	16.27	11.56	0.02	0.75	0.70
Off-Site Hauling/Vendor/Worker Trips	0.23	7.64	2.08	0.03	1.06	0.33
Total Emissions	***1.82***	***23.91***	***13.64***	***0.05***	***4.21***	***2.19***
SCAQMD Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**
Building Construction						
On-Site Off-Road Diesel Equipment	1.44	14.10	15.83	0.03	0.73	0.68
Off-Site Hauling/Vendor/Worker Trips	0.39	1.14	4.06	0.01	1.24	0.34
Total Emissions	***1.83***	***15.24***	***19.89***	***0.04***	***1.97***	***1.02***
SCAQMD Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**
Architectural Coating						
On-Site Architectural Coating	8.53	--	--	--	0.00	0.00
On-Site Off-Road Diesel Equipment	0.97	7.14	11.22	0.02	0.32	0.32
Off-Site Hauling/Vendor/Worker Trips	0.06	0.04	0.65	<0.01	0.22	0.06
Total Emissions	***9.56***	***7.18***	***11.87***	***0.02***	***0.54***	***0.38***
SCAQMD Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**

Note: Calculations assume compliance with SCAQMD Rule 403 – Fugitive Dust and Rule 1113 – Architectural Coatings.
Calculation worksheets are provided in Attachment 4 to this Categorical Exemption.
Source: Parker Environmental Consultants, 2021.

As shown in Table 11, construction-related daily emissions associated with the Proposed Project would not exceed any regional SCAQMD significance thresholds for criteria pollutants during the construction phases. These calculations assume that appropriate dust control measures would be implemented as part of the Proposed Project during each phase of development, as required and regulated by SCAQMD Rule 403 – Fugitive Dust. Specific Rule 403 control requirements include, but are not limited to, applying water in sufficient quantities to prevent the generation of visible dust

plumes, applying soil binders to uncovered areas, reestablishing ground cover as quickly as possible, utilizing a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the Project Site, and maintaining effective cover over exposed areas. As such, construction-related emissions associated with the Proposed Project are not expected to exceed significance thresholds for criteria pollutants and hazardous substances. Further, all grading and earthwork activities would be conducted in accordance with applicable City, regional, state, and federal regulatory compliance measures. Furthermore, the Proposed Project shall also comply with the conditions contained within the Department of Building and Safety's Geology and Soils Report Approval Letter [LOG #119255-01] for the Proposed Project, dated December 29, 2021 (see Attachment 8 to this Categorical Exemption). As such, construction of the Proposed Project would not result in the accidental release of hazardous pollutants. Therefore, temporary constructed-related air quality impacts related to criteria pollutants and hazardous substances would be considered less than significant.

Localized Construction Emissions

The SCAQMD has developed localized significance thresholds (LSTs) that are based on the amount of pounds of emissions per day that can be generated by a project that would cause or contribute to adverse localized air quality impacts. These localized thresholds apply to projects that are less than or equal to five acres in size and are only applicable to the following criteria pollutants: NO_x, CO, PM_{10}, and $PM_{2.5}$. LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or State ambient air quality standards, and are developed based on the ambient concentrations of that pollutant for each SRA. For PM_{10}, the LSTs were derived based on requirements in SCAQMD Rule 403 — Fugitive Dust. For $PM_{2.5}$, the LSTs were derived based on a general ratio of $PM_{2.5}$ to PM_{10} for both fugitive dust and combustion emissions.

LSTs are provided for each of SCAQMD's 38 source receptor areas (SRA) at various distances from the source of emissions. The Project Site is located within SRA 1. The nearest sensitive receptors that could potentially be subject to localized air quality impacts associated with construction of the Proposed Project include the residential buildings to the west of the Project Site. Given the proximity of these sensitive receptors to the Project Site, and pursuant to SCAQMD guidance, the LSTs with receptors located within 25 meters (82.02 feet) are used to address the potential localized air quality impacts associated with the construction-related NO_X, CO, PM_{10}, and $PM_{2.5}$ emissions for each construction phase.

Emissions from construction activities have the potential to generate localized emissions that may expose sensitive receptors to harmful pollutant concentrations especially during the grading phase. However, as shown in Table 12, Localized On-Site Peak Daily Construction Emissions, peak daily emissions generated within the Project Site during construction activities for each phase would not exceed the applicable construction LSTs for a site less than one acre in SRA 1.

The localized air quality calculations assume that appropriate dust control measures would be implemented as part of the Proposed Project during each phase of development, as required by

SCAQMD Rule 403 - Fugitive Dust. Specific Rule 403 control requirements include, but are not limited to, applying water in sufficient quantities to prevent the generation of visible dust plumes, applying soil binders to uncovered areas, reestablishing ground cover as quickly as possible, utilizing a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the Project Site, and maintaining effective cover over exposed areas. Therefore, with compliance with SCAQMD Rule 403, localized air quality impacts from construction activities on the off-site sensitive receptors would be less than significant.

Table 12
Localized On-Site Peak Daily Construction Emissions

Construction Phase [a]	Total On-site Emissions (Pounds per Day)			
	NO_x [b]	CO	PM_{10}	$PM_{2.5}$
Demolition/Site Preparation	6.41	7.47	0.62	0.37
Grading/Excavation	16.27	11.56	3.15	1.86
Building Construction	14.10	15.83	0.73	0.68
Architectural Coatings	7.14	11.22	0.32	0.32
SCAQMD Localized Thresholds [c]	**74**	**680**	**5**	**3**
Potentially Significant Impact?	***No***	***No***	***No***	***No***

Notes:
[a] *The localized thresholds for all phases are based on a receptor distance of 25 meters in SCAQMD's SRA 1 for a Project Site less than one acre.*
[b] *The localized thresholds listed for NO_x in this table takes into consideration the gradual conversion of NO_x to NO_2, and are provided in the mass rate look-up tables in the "Final Localized Significance Threshold Methodology" document prepared by the SCAQMD. As discussed previously, the analysis of localized air quality impacts associated with NO_x emissions is focused on NO_2 levels as they are associated with adverse health effects.*
[c] *SCAQMD, Final LST Methodology Document, Appendix C – Mass Rate LST Look-Up Tables, October 21, 2009, and Sample Construction Scenarios for Projects Less than Five Acres in Size, Appendix K.*
Source: CalEEMod 2020.4.0, Calculation worksheets are provided in Attachment 4 to this Categorical Exemption.

Operational Emissions

Existing Emissions

The existing Project Site currently consists of a one-story commercial office building. The existing use generates air pollutant emissions from stationary sources, such as space and water heating, architectural coatings (paint), and mobile vehicle traffic traveling to and from the Project Site. Therefore, for this analysis, peak daily emissions generated by the existing uses at the Project Site were estimated utilizing the California Emissions Estimator Model (CalEEMod *Version 2020.4.0*), as shown in Table 13, below.

Table 13
Existing Daily Operational Emissions from Project Site

Emissions Source	Emissions in Pounds per Day					
	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Summertime (Smog Season) Emissions						
Area Sources	0.31	<0.01	<0.01	0.00	<0.01	<0.01
Energy Sources	<0.01	0.05	0.04	<0.01	<0.01	<0.01
Mobile Sources	0.28	0.35	2.80	<0.01	0.56	0.15
Total Emissions	***0.59***	***0.40***	***2.84***	***<0.01***	***0.56***	***0.15***
Wintertime (Non-Smog Season) Emissions						
Area Sources	0.31	<0.01	<0.01	0.00	<0.01	<0.01
Energy Sources	<0.01	0.05	0.04	<0.01	<0.01	<0.01
Mobile Sources	0.27	0.37	2.69	<0.01	0.56	0.15
Total Emissions	***0.58***	***0.42***	***2.73***	***<0.01***	***0.56***	***0.15***

Source: CalEEMod 2020.4.0, Calculation worksheets are provided in Attachment 4.

Proposed Project Emissions

The Proposed Project would result in the demolition and site clearing of the existing structure for the construction, use, and maintenance of a 17-story mixed-use residential and commercial development with 120 dwelling units, 1,032 square feet of retail, and a 1,981 square-foot restaurant. The Proposed Project would generate both stationary and mobile emissions, including the consumption of electricity and natural gas, landscape maintenance, and vehicles traveling to and from the Project Site. Such emissions are typical of a mixed-use residential and commercial development such as the Proposed Project. The analysis of daily operational emissions associated with the Proposed Project has been prepared utilizing CalEEMod (*Version 2020.4.0*) recommended by the SCAQMD. The results of these calculations are presented in Table 14, Proposed Project Estimated Daily Regional Operational Emissions, below. As shown in Table 14, the operational emissions generated by the Proposed Project would not exceed the regional thresholds of significance set by the SCAQMD. Therefore, impacts associated with regional operational emissions from the Proposed Project would be less than significant.

Table 14
Proposed Project Estimated Daily Regional Operational Emissions

Emissions Source	Emissions in Pounds per Day					
	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Summertime (Smog Season) Emissions						
Area Sources	2.54	0.11	9.90	<0.01	0.05	0.05
Energy Sources	0.05	0.45	0.24	<0.01	0.04	0.04
Mobile Sources	1.08	1.05	9.76	0.02	2.23	0.60
Stationary Sources	0.82	3.67	2.09	<0.01	0.12	0.12
Total Project Emissions:	***4.49***	***5.28***	***21.99***	***0.02***	***2.44***	***0.81***
Less Existing Emissions:	*(0.59)*	*(0.40)*	*(2.84)*	*(<0.01)*	*(0.56)*	*(0.15)*
Net Project Site Emissions:	**3.90**	**4.88**	**19.15**	**0.02**	**1.88**	**0.66**
SCAQMD Thresholds	**55**	**55**	**550**	**150**	**150**	**55**
Potentially Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**
Wintertime (Non-Smog Season) Emissions						
Area Sources	2.54	0.11	9.90	<0.01	0.05	0.05
Energy Sources	0.05	0.45	0.24	<0.01	0.04	0.04
Mobile Sources	1.04	1.12	9.53	0.02	2.23	0.60
Stationary Sources	0.82	3.67	2.09	<0.01	0.12	0.12
Total Project Emissions:	**4.45**	**5.35**	**21.76**	**0.02**	**2.44**	**0.81**
Less Existing Emissions:	*(0.58)*	*(0.42)*	*(2.73)*	*(<0.01)*	*(0.56)*	*(0.15)*
Net Project Site Emissions:	**3.87**	**4.93**	**19.03**	**0.02**	**1.88**	**0.66**
SCAQMD Thresholds	**55**	**55**	**550**	**150**	**150**	**55**
Potentially Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**
Source: CalEEMod 2020.4.0, Calculation worksheets are provided in Attachment 4.						

Greenhouse Gas Emissions

The guidance from the State and City on Class 32 Categorical Exemptions does not require the preparation of greenhouse gas (GHG) analyses for projects eligible for exemptions. Specifically, Article 19 of the State's CEQA Guidelines states that eligible projects that qualify for categorical exemptions are deemed to not have a significant effect on the environment. Under Section 15332, the Class 32 exemption that governs in-fill development projects identifies the conditions under which a project can qualify, noting that "[a]pproval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality…" There are no requirements to making findings about a project's effects on GHG. Further, the City issued guidance in 2018 (CP-7828) that clarifies the special requirement criteria for projects that seek to use the Class 32 exemption. In this guidance, they clarify that projects that qualify must provide supporting documents to demonstrate eligibility for the Class 32 exemption, including an air quality study. However, the "[p]urpose of this assessment is to evaluate the regional significance of criteria pollutant emissions from both the construction and operation of a proposed project." An assessment of criteria pollutant emissions has been prepared, as described immediately above. As there is no requirement for

preparation of GHG analyses to validate the Class 32 exemption, the following is provided for informational purposes only.

Neither the City of Los Angeles, SCAQMD, nor the State CEQA Guidelines Amendments provide any adopted thresholds of significance for addressing a commercial project's GHG emissions. Nonetheless, Section 15064.4 of the CEQA Guidelines Amendments serves to assist lead agencies in determining the significance of the impacts of GHGs. Because the City of Los Angeles does not have an adopted quantitative threshold of significance for a mixed-use residential and commercial project's generation of greenhouse gas emissions, the following analysis is based on a combination of the requirements outlined in the CEQA Guidelines.

For informational purposes, and consistent with Section 15064.4 of the CEQA Guidelines, this analysis includes an impact determination based on the following: (1) the extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting; (2) whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; (3) the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. The Guidelines do not mandate the use of absolute numerical thresholds to measure the significance of greenhouse gas emissions. As such, this analysis relies on the extent to which the Proposed Project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions.

Construction

Greenhouse gas emissions were calculated using CalEEMod (*Version 2020.4.0*). Construction of the Proposed Project would emit GHG emissions through the combustion of fossil fuels by heavy-duty construction equipment and through vehicle trips generated by construction workers traveling to and from the Project Site. Emissions of GHGs were calculated for each year of construction of the Proposed Project and the results of this analysis are presented in Table 15, Proposed Project Construction-Related Greenhouse Gas Emissions. As shown in Table 15, the total GHG emissions from construction activities related to the Proposed Project would be approximately 861 metric tons with the greatest annual emissions occurring in 2023. Total Construction GHG emissions are amortized over the 30-year life of the Proposed Project and added to the total operational impacts.

Table 15
Proposed Project Construction-Related Greenhouse Gas Emissions

Year	CO_2e Emissions (Metric Tons per Year) [a]
2022	261.46
2023	449.11
2024	150.29
Total Construction GHG Emissions:	**860.86**

Note:
[a] *Construction CO_2 values were derived using CalEEMod Version 2020.4.0 Calculation data and results are provided in Attachment 5, Greenhouse Gas Emissions Worksheets.*

Operation

Existing Baseline GHG Emissions

The Project Site is currently developed with a one-story commercial office building, which serves as the existing conditions baseline. The operations of the on-site commercial uses generate GHG emissions as a result of vehicle trips and building operations involving the use of electricity, natural gas, water, and generation of solid waste and wastewater. The average daily GHG emissions generated by the existing Project Site have been estimated utilizing the CalEEMod computer model recommended by the SCAQMD. Table 16, Existing Project Site Greenhouse Gas Emissions, presents the GHG emissions associated with operation of the existing commercial uses at the Project Site. As shown in Table 16, the existing operations on the Project Site generate approximately 198.45 CO^2e MTY.

Table 16
Existing Project Site Greenhouse Gas Emissions

Emissions Source	CO_2e Emissions (Metric Tons per Year)
Area	<0.01
Energy	76.51
Mobile	96.47
Waste	6.55
Water	18.92
Total	**198.45**

Calculation data and results are provided in Attachment 5, Greenhouse Gas Emissions Worksheets.

Project GHG Emissions

The GHG emissions resulting from operation of the Proposed Project, which involves the usage of on-road mobile vehicles, electricity, natural gas, water, landscape equipment and generation of

solid waste and wastewater, were calculated using CalEEMod. The Proposed Project's compliance with the *L.A. Green Building Code* and other project design features would be effective in reducing GHG emissions, such as the Project Site being an infill lot and its proximity to transit and walking distance to a major employment center. As shown in Table 17, below, the net increase in GHG emissions generated by the Proposed Project would result in a net increase of 565.25 CO_2e MTY, which is well below the 3,000 $MTCO_2e$ per year threshold of significance considered by the SCAQMD. The Proposed Project's structural and operational features such as low-flow plumbing fixtures and implementing energy-efficient appliances during the life of the Proposed Project would reduce the Project's GHG emissions. Through required implementation of the Green Building Code, the Project Site's location on an infill site, the Proposed Project would be consistent with local and statewide goals and policies aimed at reducing the generation of GHGs, including SB 32, SB 375, SCAG's RTP/SCS, *L.A. Green Building Code*, and CARB's 2017 Scoping Plan aimed at achieving a 40 percent reduction of 1990 GHG emission levels by 2030.

Table 17
Proposed Project Operational Greenhouse Gas Emissions

Emissions Source	Estimated Project Generated CO_2e Emissions (Metric Tons per Year)
Area	2.07
Energy	318.12
Mobile	350.30
Stationary	4.59
Waste	8.77
Water	51.15
Construction Emissions [a]	28.70
Proposed Project Total:	***763.70***
Less Existing Project Site:	*(198.45)*
Proposed Project Net Total:	**565.25**

Notes:
[a] *The total construction GHG emissions were amortized over 30 years and added to the operation of the Project.*
Calculation data and results provided in Attachment 5 to this Categorical Exemption.

The following Project characteristics have been identified that would result in a reduction in greenhouse gas emissions and thus are supportive of the State's 2017 Scoping Plan:

Infill Development. The Project Site is located on an infill site that is currently developed with a commercial office building. The Proposed Project is also located in an area that is adequately served by existing infrastructure and would not require the extension of utilities or roads to accommodate the proposed development. The Project's redevelopment of the Project Site would eliminate the current land uses, which are estimated to generate 198.45 $MTCO_2e$.

Transit Priority Area. The Proposed Project is also located in a Transit Priority Area as defined by CEQA Sections 21099 and 21064.3. Studies by the California Department of

Transportation, the U.S. Environmental Protection Agency and the Metropolitan Transportation Commission have found that focusing development in areas served by transit can result in local, regional and statewide benefits including reduced air pollution and energy consumption. The Proposed Project's close proximity to neighborhood-serving commercial/retail land uses and regional transit would result in fewer trips and a reduction to the Proposed Project's vehicle miles traveled (VMTs) as compared to the base trip rates for similar stand-alone residential uses that are not located in close proximity to transit.

Energy Conservation. The Proposed Project would include the development of a mixed-use residential and commercial building with 120 dwelling units and 3,013 square feet of commercial space, totaling more than 50,000 gross square feet of floor area. As mandated by the *L.A. Green Building Code*, the Proposed Project must meet Title 24 2019 Standards and would include ENERGY-STAR appliances in all of the dwelling units. Additionally, the Proposed Project would provide rooftop solar zones on the roof of the building.

Solid Waste Reduction Efforts. *L.A. Green Building Code* Section 5.408.1 and LAMC Section 66.32 require the construction contractor to obtain an AB 939 Compliance Permit certifying the delivery of the construction and demolition waste to a certified construction and demolition waste processing facility. Diversion efforts would be accomplished through source reduction, recycling, and composting. Finally, the Proposed Project is required by the California Solid Waste Reuse and Recycling Access Act of 1991 to provide adequate storage areas for collection and storage of recyclable waste materials. As such, a minimum 50 percent reduction of the Proposed Project's waste stream to the local landfill would reduce methane emissions and thus lower the Proposed Project's contribution to global GHG emissions.

Water Conservation. As mandated by the *L.A. Green Building Code*, the Proposed Project would be required to provide separate submeters for individual leased, rented or other tenant spaces projected to consume more than 100 gallons per day and any building or addition that is projected to consume more than 1,000 gallons per day. Plumbing fixtures would need to comply with one of the following: (1) a 20% reduction in the building's "water use baseline" as demonstrated in Table 5.303.2.2 of the Los Angeles Plumbing Code; or (2) comply with the maximum flow rates shown in Table 5.303.2.3 of the Plumbing Code. The Proposed Project would also be required to develop a water budget for landscape irrigation use and install automatic irrigation systems with weather or soil moisture-based controllers.

As demonstrated above, the Proposed Project's characteristics and design features, coupled with compliance with mandatory regulatory measures would be consistent with local and statewide goals and policies aimed at reducing the generation of GHGs, including SB 32, SB 375, SCAG's RTP/SCS, *L.A. Green Building Code*, and CARB's 2017 Scoping Plan. Therefore, the Proposed Project's generation of GHG emissions would not conflict with any applicable plan, policy or regulation for the purposes of reducing the emissions of greenhouse gases.

Water Quality

Groundwater

Based on the Department of Toxic Substances Control EnviroStor Database, the Project Site is not listed on any national, state, and local environmental databases for cleanup, permitting, or investigation of any hazardous waste contamination. Therefore, the Proposed Project would not exacerbate any hazardous conditions on the Project Site during construction that could affect groundwater conditions. Moreover, any hazardous materials utilized during construction would be used, stored, and disposed of in accordance with all applicable regulatory requirements, and would therefore not pose any potential impacts to groundwater or surface water quality. The Proposed Project, once operational, would not use hazardous materials other than modest amounts of typical cleaning supplies and solvents used for janitorial purposes that are typically associated with the operation of the Proposed Project and the use of these substances would comply with State Health Codes and Regulations. As such, the Proposed Project does not include potential sources of contaminants that could potentially degrade water quality.

Stormwater

The Project Site is currently developed with a commercial office building. Therefore, 100 percent of the Project Site is covered with impervious surfaces. Thus, approximately 100 percent of the surface water runoff from the Project Site are directed to adjacent storm drains and do not percolate into the groundwater table beneath the Project Site. With respect to water quality from stormwater, surface water runoff from the Project Site flows southbound along Spring Street into a storm drain inlet located at the intersection of Spring Street and 3rd Street, approximately 285 feet south of the Project Site. The Proposed Project would continue to generate surface water runoff similar to existing conditions, and stormwater would be directed towards existing stormwater infrastructure that currently serve the Project Site.

A Storm Water Pollution Prevention Plan (SWPPP) would be required to mitigate the effects of erosion and the inherent potential for sedimentation and other pollutants entering the stormwater system. The SWPPP would identify Best Management Practices (BMPs) for erosion control and other measures to meet the NPDES requirements for stormwater quality. Implementation of the BMPs identified in the SWPPP and compliance with the NPDES and City discharge requirements would ensure that the construction of the Proposed Project would not violate any water quality standards or discharge requirements, or otherwise substantially degrade water quality during construction.

Additionally, the Proposed Project would be required to demonstrate compliance with Low Impact Development (LID) Ordinance standards and retain and treat the first ¾-inch of rainfall in a 24-hour period or the rainfall from an 85th percentile 24-hour runoff event, whichever is greater. To ensure that all stormwater related BMPs are constructed and/or installed in accordance with the approved LID Plan, the City of Los Angeles requires a Stormwater Observation Report to be submitted to the City prior to the issuance of the Certificate of Occupancy. Compliance with the LID Ordinance would ensure that the Proposed Project would not adversely affect water quality or

significantly contribute to site runoff during the operation of the Proposed Project. Therefore, the Proposed Project would result in less than significant impacts to the existing stormwater infrastructure serving the Project Site.

e) The Project Site can be adequately served by all required utilities and public services.

Water

The Project Site is located within the service area of the Los Angeles Department of Water and Power (LADWP) for potable water service. The LADWP's 2020 Urban Water Management Plan ("UWMP") projects the City of Los Angeles will have a reliable water supply of approximately 509,501 acre-feet per year ("AFY") and 565,751 AFY in 2025 and 2045, respectively, based on growth projections of the 2020-2045 RTP/SCS. Thus, projects that are consistent with the underlying zoning and allowable density requirements of the LAMC and General Plan, are inherently consistent with the future water demands established in the 2020 UWMP. The Proposed Project would be consistent with the underlying land use of the Project Site. Based on the sewer generation factors provided by the Bureau of Sanitation and assuming all water usage converts to wastewater, it is estimated that the Proposed Project's net increase in water demand would be approximately 14,066 gallons per day, or approximately 15.8 AFY, as shown in Table 18, below.

Table 18
Proposed Project Estimated Water Demand

Type of Use	Size	Water Demand Rate (gpd/unit) [a]	Total Water Demand (gpd)
Existing Conditions (To Be Removed)			
Commercial Office	14,000 sf	0.12 gpd/sf	1,680
		Total Existing Water Demand:	***1,680***
Proposed Project			
Residential: Studio	16 du	75 gpd/du	1,200
Residential: One-bedroom	89 du	110 gpd/du	9,790
Residential: Two-bedroom	13 du	150 gpd/du	1,950
Residential: Three-bedroom	2 du	190 gpd/du	380
Restaurant (1,981 sf)	80 seats	30 gpd/seat	2,400
Retail	1,032 sf	0.025 gpd/sf	26
		Total Proposed Project Water Demand:	***15,746***
		Less Existing Water Demand:	*(1,680)*
		NET Project Site Water Demand:	**14,066**

Notes: du= dwelling units; sf=square feet; gpd= gallons per day
[a] Consumption Rates based on City of Los Angeles Department of Public Works, Bureau of Sanitation, Sewer Generation Factor for Residential and Commercial Categories table, effective April 6, 2012. It is assumed that all water usage would convert to wastewater.
Source: Parker Environmental Consultants, 2022.

Articles 4 and 9 of Chapter IX of the LAMC establish citywide water efficiency standards and require water-saving systems and technologies in buildings and landscapes to conserve and

reduce water usage. Plumbing fixtures would need to comply with one of the following: (1) a 20% reduction in the building's "water use baseline" as demonstrated in Table 5.303.2.2 of the Los Angeles Plumbing Code; or (2) comply with the maximum flow rates shown in Table 5.303.2.3 of the Plumbing Code. The Proposed Project would also be required to develop a water budget for landscape irrigation use and install automatic irrigation systems with weather or soil moisture-based controllers. Compliance with the L.A. Green Building Code would further reduce the Proposed Project's operational water demands. Because the Proposed Project is consistent with the zoning and General Plan land use designations, and the Proposed Project's employment growth would be within SCAG's growth forecast, the Proposed Project's increased water demand has already been accounted for in the 2020 UWMP, and impacts upon water demand would be less than significant.

Sewer

The Project Site is served by an existing 12-inch sewer pipeline along Spring Street. Wastewater from the Proposed Project would be treated by the Hyperion Water Reclamation Plant (HWRP), which treats an average daily flow of 275 million gallons per day (mgd) on an average dry weather day and with a maximum daily flow of 450 mgd. This equals a remaining capacity of 175 mgd of wastewater able to be treated at the HWRP. Based on standard sewer flow rates published by the Bureau of Sanitation, the Proposed Project's sewer generation is expected to be 14,066 gallons per day. Pursuant to City policy, the Bureau of Sanitation will check the gauging of the sewer lines and make the appropriate decisions on how best to connect to the local sewer lines at the time of construction. The Applicant would be required to submit a Sewer Capacity Availability Request (SCAR) to verify the anticipated sewer flows and points of connection and to assess the condition and capacity of the sewer lines receiving additional sewer flows from the Proposed Project. If the public sewer has insufficient capacity to accommodate the Proposed Project's wastewater flows, the Applicant would be required to build sewer lines to a point in the sewer system with sufficient capacity. A final approval for sewer capacity and connect permit would be made at the time. The installation of a secondary line, if needed, would require minimal trenching and pipeline installation and would not result in any adverse environmental impacts. Ultimately, the sewage flow would be conveyed to the HWRP, which has sufficient capacity for the Proposed Project. As the Proposed Project would make all necessary improvements and would have a negligible impact on the existing sewer capacity, the Proposed Project's impacts upon the City's sewer system would be less than significant.

Solid Waste

In 2017, the City of Los Angeles entered into exclusive franchise agreements with waste haulers to provide solid waste, commingled recyclables, and organics collection, transfer, disposal and processing services to commercial and multifamily establishments in the City. The companies that were awarded the contract for each franchise secured a dedicated waste stream, increasing the financial viability to develop new organic waste processing and conversion technology facilities in the vicinity of the City of Los Angeles. The Project Site is located within the Downtown Commercial Waste Franchise Zone, which is serviced under contract to NASA Services, Inc. Under the existing

contract, the service provider is required to deliver solid waste resources collected to the following certified facilities: Central Los Angeles Recycling and Transfer Station (CLARTS), located at 2201 E. Washington Boulevard; and Puente Hills Material Recovery Facilities, located at 2808 S. Workman Mill Road. All solid waste is initially disposed into these two recycling and transfer facilities. Then all trash and non-recyclables materials are transferred to a landfill that accepts non-recyclable waste. It is assumed that the Proposed Project's solid waste would be disposed of at the Sunshine Canyon Landfill. The Sunshine Canyon Landfill is jointly operated by the City and the County, has a remaining capacity of 55.1 million tons. The Sunshine Canyon Landfill has an estimated remaining life of 18 years.

Approximately 14,000 square feet of building debris would be demolished and removed from the Project Site. With approximately 156,006 square feet of proposed gross building area, the Proposed Project is anticipated to generate approximately 1,413 tons of construction and demolition debris before source reduction and recycling efforts. The Proposed Project would follow all applicable solid waste policies and objectives that are required by law, statute, or regulation. Under the requirements of the hauler's AB 939 Compliance Permit from the Bureau of Sanitation, all construction and demolition debris would be delivered to a Certified Construction and Demolition Waste Processing Facility. Operation of the Proposed Project is expected to generate approximately 1,573 pounds per day or approximately 287 tons per year. The Proposed Project would also comply with AB 939, AB 341, AB 1826 and City waste diversion goals, as applicable, by providing clearly marked, source-sorted receptacles to facilitate recycling. The amount of solid waste generated by the Proposed Project is estimated to be well within the available capacities of area landfills.

Fire Services

The factors that the Los Angeles Fire Department (LAFD) considers in determining whether fire protection services for a project are adequate include whether the Project: (1) is within the maximum response distance for the land uses proposed; (2) complies with emergency access requirements; (3) complies with fire-flow requirements; and (4) complies with fire hydrant placement. Pursuant to LAMC Section 57.09.07, the maximum response distance between a residential or neighborhood commercial land use and a LAFD station that houses an engine or truck company is 1.5 miles. If this distance is exceeded, all structures shall be constructed with automatic fire sprinkler systems.

The Los Angeles Fire Department Station No. 4, located at 450 E. Temple Street, currently serves the Project Site. The fire station is located approximately 1.5 miles (driving distance) west of the Project Site. The LAFD considers fire protection services for a project adequate if a project is within the maximum response distance for the land use proposed. Based on the response distance criteria specified in LAMC 57.507.3.3, fire protection response would be considered adequate. Pursuant to LAMC Section 57.507.3.1, the required fire flow for a high-density multi-family development, such as the Proposed Project, is 4,000 gallons per minute from four adjacent fire hydrants flowing simultaneously. The Proposed Project would be required to maintain appropriate fire flow and access pursuant to the Los Angeles Fire Code. LAMC Section 57.507.3.2 addresses

land use-based requirements for fire hydrant spacing and type. Additionally, every first story of a residential, commercial, and industrial building must be within 300 feet of an approved hydrant. There is an existing fire hydrant approximately north of the Project Site along Harlem Space, and another hydrant located approximately 180 feet south of the Project Site along Spring Street. The number and location of hydrants would be determined as part of LAFD's fire/life safety plan review for the Proposed Project. The required fire flow and hydrant placement for the Proposed Project would be confirmed in consultation with the LAFD during the plan check approval process.

Local access to the Project Site is provided via S. Spring Street, and direct access to the Project Site would be provided from one full-access driveway from the alleyway, Harlem Place. The Project driveway would be designed according to LADOT standards to ensure adequate access, including emergency access, to the Project Site. Furthermore, the drivers of emergency vehicles normally have a variety of options for avoiding traffic, such as using sirens to clear a path of travel or driving in the lanes of opposing traffic. As such, existing emergency access to the Project Site and surrounding uses would be maintained during operation of the Proposed Project. The Proposed Project would not involve activities during its operational phase that could impede public access or travel upon a public right-of-way or would interfere with an adopted emergency response or evacuation plan. Therefore, development of the Proposed Project is not expected to significantly impact fire protection services in the Project area.

Police Services

For the purpose of this analysis, a significant impact may occur if the Los Angeles Police Department (LAPD) could not adequately serve a project, necessitating a new or physically altered station, the construction of which may cause significant environmental impacts. The determination of whether a project results in a significant impact on police protection shall be made considering the following factors: (a) the population increase resulting from the project, based on the net increase of residential units or square footage of non-residential floor area; (b) the demand for police services anticipated at the time of project buildout compared to the expected level of service available, considering, as applicable, scheduled improvements to LAPD services (facilities, equipment, and officers) and the project's proportional contribution to the demand; and (c) whether the project includes security and/or design features that would reduce the demand for police services.

The Project Site is located in the Central Division of the Los Angeles Police Department's Central Bureau. The Central Community Police Station, located at 251 E. 6th Street, serves the Central Community and the Project Site. This police station is located approximately 0.7 mile (driving distance) south of the Project Site. The Project Site is located within Reporting District 135.

Operation of the Proposed Project would result in an increase of residents, guests, and employees at the Project Site, thereby generating a potential increase in the number of service calls from the Project Site. Responses to thefts, vehicle burglaries, vehicle damage, and traffic-related incidents would be anticipated to escalate as a result of the increased on-site activity and increased traffic on adjacent streets. The plans for the Proposed Project would incorporate adequate crime

prevention design features that would provide security design measures for semi-public and private spaces, which may include, but not be limited to, surveillance cameras, access control to the building, secured parking facilities, walls/fences with key systems, well-illuminated public and semi-public spaces designed with a minimum of dead space to eliminate areas of concealment, and location of building entrances in high-foot traffic areas. The Proposed Project would be subject to Site Plan Review and would be reviewed by the LAPD for compliance with the recommended site design guidelines to improve public safety. Thus, development of the Proposed Project would not significantly impact police protection services in the Project area.

Los Angeles Unified School District

The Project Site is located within the service area of the Los Angeles Unified School District (LAUSD). The Project Site is currently served by one elementary school, one middle school, and four high schools. The following schools serve the Project Site:

1) 9th Street Elementary School, located at 835 Stanford Avenue, approximately 1.5 miles southeast of the Project Site;
2) Sal Castro Middle School, located at 1575 W. 2nd Street, approximately 1.4 miles west of the Project Site;
3) Belmont Senior High School, located at 1575 W. 2nd Street, approximately 1.4 miles west of the Project Site;
4) Edward R. Roybal Learning Center, located at 1200 W. Colton Street, approximately 1.3 miles west of the Project Site;
5) Ramon C. Cortines School of Visual and Performing Arts, located at 450 N. Grand Avenue, approximately 0.9 mile north of the Project Site; and
6) Miguel Contreras Learning Complex, located at 322 S. Lucas Avenue, approximately 1.2 miles west of the Project Site.

The Proposed Project would provide multi-family residential units that may result in a net increase in students attending local schools. Based on student generation rates provided by LAUSD, the Proposed Project would generate approximately 27 elementary students, 7 middle school students, and 16 high school students, for a total of approximately 50 students.[5] It is likely that some of the students generated by the Proposed Project already reside in areas served by the LAUSD and would already be enrolled in LAUSD schools. However, for a conservative analysis, it is assumed that all students generated by the Proposed Project would be new to the LAUSD. In order to lessen school capacity impacts, the Project Applicant would be required to pay all applicable developer fees to the LAUSD to offset the Proposed Project's demands upon local schools. Prior to issuance of a building permit, the General Manager of the City of Los Angeles, Department of Building and Safety, or designee, shall ensure that the Applicant has paid all applicable school facility development fees in accordance with California Government Code Section 65995. Pursuant to Government Code Section 65995, payment of development fees

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[5] *Student generation rates are as follows for multi-family residential uses: 0.2269 elementary, 0.0611 middle and 0.1296 high school students per unit. Source: Table 3 of the Los Angeles Unified School District, 2020 Developer Fee Justification Study, March 2020.*

authorized by SB 50 are deemed to be "full and complete school facilities mitigation." With the payment of a School Development Fee, the Proposed Project's potential impact upon public school services would be less than significant.

Parks

The Proposed Project would result in a net increase of 120 multi-family dwelling units, which would have the potential to increase demands upon public park facilities. The Project Site is served by parks and recreation facilities, which are owned and maintained by the City of Los Angeles Recreation and Parks Department. Parks and recreation facilities within a two-mile radius of the Project Site include: City Hall Park Center, Spring Street Park, Pershing Square Park, San Julian Park, Los Angeles Plaza Park, Gladys Park, Arts District Park, Alpine Recreation Center, Vista Hermosa Park, Echo Park Indoor Pool, Patton Street Park, Everett Triangle Park, Pecan Pool and Recreation Center, Unidad Park, Echo Park Recreation Center, Lilac Terrance Park, Prospect Park, Echo Park and Lake, Buena Vista Meadow Picnic Area, Hope and Peace Park, Hollenbeck Lake/Park and Recreation Center, Downey Recreation Center, Lake Street Park and Skate Park, Montecillo De Leo Politi Park, Lake Street Community Center, MacArthur Park/Lake and Recreation Center, Downey Pool, State Street Recreation Center, and Ross Valencia Community Park. In addition, the Proposed Project would provide a total of 12,692 square feet of open space that would be available exclusively to serve Project residents and their guests, which would reduce the Proposed Project's demand upon public parks and recreational facilities. The Proposed Project's demand for open space would be met through a combination of (1) on-site open space proposed within the Project Site, (2) payment of applicable taxes in accordance with LAMC Section 21.10.3(a)(1), and (3) the availability of existing park and recreation facilities within the area. The Proposed Project would pay all required park and recreation fees, as required by the LAMC. Development of the Proposed Project is therefore not expected to significantly impact park and recreation facilities in the Project area.

Libraries

The LAPL branches currently serving the Project Site include:

1) Little Tokyo Branch Library, located at 203 S. Los Angeles Street, approximately 0.1 miles east of the Project Site;
2) Central Library, located at 630 W. 5th Street, approximately 0.5 miles west of the Project Site;
3) Chinatown Branch Library, located at 639 N. Hill Street, approximately 0.7 miles north of the Project Site;
4) Echo Park Branch Library, located at 1410 W. Temple Street, approximately 1.4 miles northwest of the Project Site;
5) Pico Union Branch Library, located at 1030 S. Alvarado Street, approximately 1.9 miles west of the Project Site; and
6) Benjamin Franklin Branch Library, located at 2200 W. 1st Street, approximately 1.9 miles east of the Project Site.

Existing library services are expected to adequately serve the needs of future occupants of the Proposed Project. The LAPL Branch Facilities Plan (the "Plan"), adopted in 1988, sets standards for site selection of libraries and identified a list of projects in which existing branch libraries are to be renovated or new facilities constructed in order to bring library resources to the residents of the City in accordance with the standards in the Plan. The goals of the Plan were implemented with money received by two bond programs: Phase I of the Plan was implemented with funds from the 1989 Bond Program and Phase II by the 1998 Bond Program. Under the two bond programs, 64 library facilities have been renovated or built. As of October 2008, all of the projects identified under the Plan have been completed. At present, the Plan is going through a process of revision in which the list of projects for the LAPL through the year 2030 will be updated. There are no planned improvements to add capacity through expansion or development of new libraries in the Project area. However, the Proposed Project would generate revenues for the City's General Fund (in the form of property taxes, sales tax revenue, etc.) that could be applied toward the provision of library facilities, staffing, and materials, as deemed appropriate. The Proposed Project's contribution to the General Fund would help offset the Project-related increase in demand for library services. Further, the Proposed Project would not conflict with or impede implementation of the applicable policies and goals related to libraries in the General Plan Framework or Central City Community Plan. Moreover, the Proposed Project would not be anticipated to result in a substantial increase in demand that would necessitate new or physically altered facilities, the construction of which could cause environmental impacts. Therefore, the Proposed Project's impacts upon library services would be considered less than significant.

Section 5. Exceptions to Categorical Exemptions

In addition to the above qualifying criteria, there are exceptions to the exemptions depending on the nature or location of a project, or unusual circumstances that create the reasonable possibility of significant effects. As provided in CEQA Section 15300.2, for a proposed project to qualify for an exemption to CEQA, the project must be able to demonstrate that it does not fall under the following exceptions:

(a) Location. Classes 3, 4, 5, 6, and 11 are qualified by consideration of where the project is to be located - a project that is ordinarily insignificant in its impact on the environment may in a particularly sensitive environment be significant. Therefore, these classes are considered to apply all instances, except where the project may impact on an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies.

(b) Cumulative Impact. All exemptions for these classes are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time is significant.

(c) Significant Effect. A categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances.

(d) Scenic Highways. A categorical exemption shall not be used for a project which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a state scenic highway. This does not apply to improvements which are required as mitigation by an adopted negative declaration or certified EIR.

(e) Hazardous Waste Sites. A categorical exemption shall not be used for a project located on a site which is included on any list compiled pursuant to Section 65962.5 of the Government Code.

(f) Historical Resources. A categorical exemption shall not be used for a project which may cause a substantial adverse change in the significance of a historical resource.

(a) Location

The Proposed Project does not qualify for a Class 3, 4, 5, 6, or 11 Categorical Exemption. As discussed herein, the Proposed Project qualifies under the Class 32 Categorical Exemption – "In-fill Development Projects." Therefore, this exception does not apply to the Proposed Project.

(b) Cumulative Impacts

Provided below are the individual analyses of the cumulative impacts from traffic, noise, air quality, water quality, public services, and public utilities. In accordance with CEQA Guidelines Section 15300.2, this Categorical Exemption includes an evaluation of the Proposed Project's cumulative

impacts to rule out the exception of cumulative impacts under Section 15300.2(b). Section 15300.2(b), Cumulative Impact, states that: "All exemptions for these classes are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time is significant."

In determining the cumulative impacts, the guidance provided under CEQA Guidelines Section 15064(h) is as follows:

> *"(1) When assessing whether a cumulative effect requires an EIR, the lead agency shall consider whether the cumulative impact is significant and whether the effects of the project are cumulatively considerable. An EIR must be prepared if the cumulative impact may be significant and the project's incremental effect, though individually limited, is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.*
>
> *(2) A lead agency may determine in an initial study that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus is not significant. When a project might contribute to a significant cumulative impact, but the contribution will be rendered less than cumulatively considerable through mitigation measures set forth in a mitigated negative declaration, the initial study shall briefly indicate and explain how the contribution has been rendered less than cumulatively considerable.*
>
> *(3) A lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program (including, but not limited to, water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plan, plans or regulations for the reduction of greenhouse gas emissions) that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. When relying on a plan, regulation or program, the lead agency should explain how implementing the particular requirements in the plan, regulation or program ensure that the project's incremental contribution to the cumulative effect is not cumulatively considerable. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding that the project complies with the specified plan or mitigation program addressing the cumulative problem, an EIR must be prepared for the project.*
>
> *(4) The mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable."*

In light of the guidance summarized above, an adequate discussion of a project's significant cumulative impact, in combination with other closely related projects, can be based on either: (1)

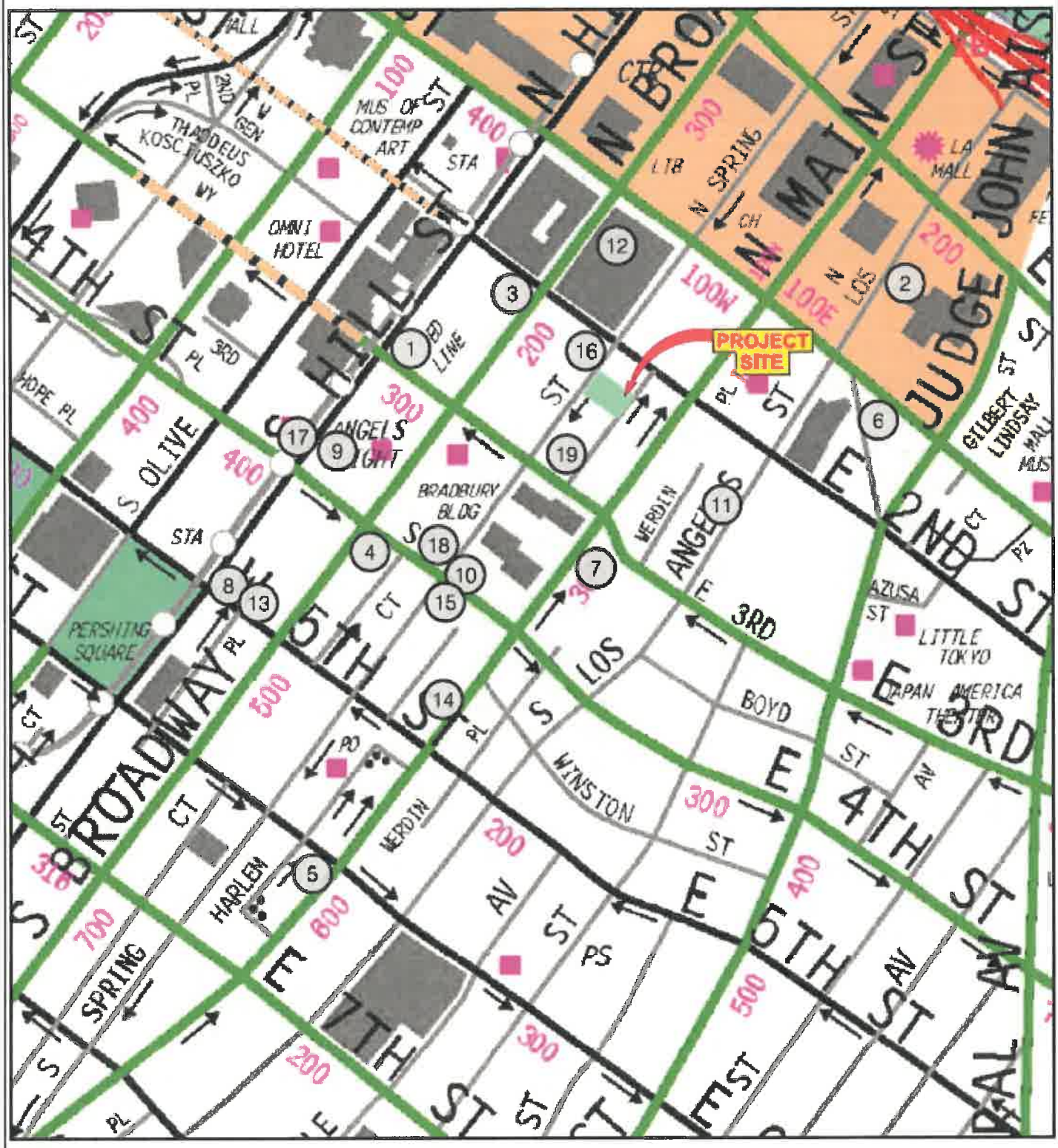
a list of past, present, and probable future producing related impacts; or (2) a summary of projections contained in an adopted local, regional, statewide plan, or related planning document that describes conditions contributing to the cumulative effect. (CEQA Guidelines Section 15130(b)(1)(A)-(B)). The lead agency may also blend the "list" and "plan" approaches to analyze the severity of impacts and their likelihood of occurrence. Accordingly, all proposed, recently approved, under construction, or reasonably foreseeable projects that could produce a related or cumulative impact on the local environment, when considered in conjunction with the Proposed Project, were identified for evaluation.

To assess local cumulative impacts of nearby related projects collectively with the Proposed Project, a search of proposed related projects was conducted within a ½-mile radius of the Project Site. There are 19 future related projects within ½-mile radius of the Project Site (see Table 19, Related Projects List, and Figure 19, Related Projects Map). This document analyzes the Proposed Project impacts to determine whether the Proposed Project is cumulatively considerable when assessing cumulative impacts with the related project and potential related projects located further from the Project Site and vicinity.

Table 19
Related Projects List

Project Number	Location/Address	Project Description	Size	Units
1	250 S. Hill Street	Condominiums Retail	330 12,000	du sf
2	150 N. Los Angeles Street	Office Retail Child Care	712,500 35,000 2,500	sf sf sf
3	201 S. Broadway	Mixed-Use	27,675	sf
4	400 S. Broadway	Apartments Retail Bar	450 6,904 5,000	du sf sf
5	601 S. Main Street	Condominiums Retail	452 25,000	du sf
6	118 S. Astronaut Ellison S. Onizuka Street	Apartments	77	du
7	300 S. Main Street	Apartments Retail Restaurant	471 5,190 27,780	du sf sf
8	333 W. 5th Street	Condominiums Hotel Restaurant	100 200 27,500	du rm sf
9	340 S. Hill Street	Apartments Retail Office	406 2,630 2,980	du sf sf
10	354 S. Spring Street	Apartments	212	du
11	237 S. Los Angeles Street	Sports Complex	43,453	sf
12	100 S. Broadways	Apartments Office Supermarket Restaurant	1,127 307,288 50,000 53,389	du sf sf sf
13	323 W. 5th Street	Hotel Condominiums Restaurant	190 31 29,232	rm du sf
14	433 S. Main Street	Apartments Retail Café	196 6,000 9,000	du sf sf
15	408 S. Spring Street	Hotel	140	rm
16	Metro Regional Connector Transit Project and 222 W. 2nd Street	Broadway/2nd Rail Station	--	--
		Apartments Retail	680 10,000	du sf
17	361 S. Hill Street	Hotel Retail Educational	509 36,551 38,977	rm sf sf
18	361 S. Spring Street	Hotel	315	rm
19	121 W. 3rd Street	Apartments Affordable Retail	294 38 6,350	du du sf

Notes: du = dwelling unit, sf = square feet, rm = room
Source: Overland Traffic Consultants, Inc., Transportation Impact Assessment for Proposed Mixed-Use Development, Located at 216 S. Spring Street in the City of Los Angeles, September 2021.



Source: Overland Traffic Consultants, September 2021.

Figure 19
Related Projects Map

Cumulative Traffic Impacts

Cumulative Consistency with Plans, Programs, Ordinances, and Policies

Pursuant to the TAG, each of the plans, programs, ordinances, and policies to assess potential conflicts with proposed projects should be reviewed to assess cumulative impacts that may result from the Proposed Project in combination with other nearby development projects. A cumulative impact could occur if the Proposed Project, with other future development projects located on the same block were to cumulatively preclude the City's ability to serve transportation user needs as defined by the City's transportation policy framework. One other development project has been identified on the same block (121 W. 3rd Street, Related Project No. 19). Since the related projects would be individually responsible for complying with the City's transportation plans, programs ordinances and policies, no cumulative impacts to the Mobility Element 2035 goals that define the development of the Citywide transportation infrastructure would occur.

Cumulative VMT Consistency Check

Cumulative VMT impacts are evaluated through a consistency check with SCAG's RTP/SCS. The RTP/SCS is the regional plan that demonstrates compliance with air quality conformity requirements and GHG reduction targets. Per the City's TAG, projects that are consistent with the RTP/SCS plan in terms of development location and density are part of the regional solution for meeting air pollution and GHG goals. Projects that have less than a significant VMT impact are deemed to be consistent with the SCAG's RTP/SCS and would have a less-than-significant cumulative impact on VMT.

As shown in the above Project-related VMT analysis and the conclusions reported in the Transportation Impact Assessment (see Attachment 2), the Proposed Project VMT impact would not exceed the City's Central APC VMT impact thresholds and as such, the Proposed Project's contribution to the cumulative VMT impact is adequate to demonstrate there is no cumulative VMT impact that would preclude the City's ability to provide transportation mobility in the area, and impacts would be less than significant.

Cumulative Noise Impacts

Development of the Proposed Project in conjunction with the 19 related projects could result in an increase in construction-related and traffic-related noise as well as on-site stationary noise sources in the already urbanized area of the City of Los Angeles. Localized construction impacts associated with noise generally occur within an area of 500 feet or less of the Project Site. Any projects located beyond 500 feet of the Project Site are farther than the distance that noise would generally travel in an urban area; and therefore, would not contribute to cumulative construction noise impacts.

There are two related projects within 500 feet of the Project Site: Related Project No. 16 and No. 19. .The nearest related project, Related Project No. 16 (City of Los Angeles Case No. CPC-2016-3808-VZC-CDO-DD-SPR) located at 222 W. 2nd Street, is approximately 80 feet west of the Project Site, across Spring Street. This related project was approved in April 2020. Related Project No. 19

(City of Los Angeles Case No. CPC-2021-3038-DB-SPR-HCA) located at 121 W. 3rd Street, is approximately 300 feet south of the Project Site. This related project was approved in January 2022. Therefore, it is likely that these related projects' construction schedules may be concurrent with the Proposed Project. However, similar to the Proposed Project, these related projects would be required to comply with the City's noise ordinance, as well as implement mitigation measures or project design features that may be prescribed pursuant to CEQA provisions that require potentially significant impacts to be reduced to the maximum extent feasible. Compliance with LAMC Section 112.05 would ensure the construction noise levels of Related Project Nos. 16 and 19 do not exceed 75 dBA at a distance of 50 feet from that project's construction site. As the Project Site is located approximately 80 feet from the Related Project No. 16, and neither site would exceed a noise level of 75 dBA at a distance of 50 feet, construction noise levels would be reduced to the maximum extent feasible. Construction noise for the Proposed Project and each related project (that has not yet been built) would be localized. Thus, the cumulative impact associated with construction noise would be less than significant, and the Proposed Project's incremental effects would not be cumulatively considerable.

With respect to cumulative operational noise impacts, each of the related projects would be required to comply with LAMC Section 112.02, which prohibits noise from air conditioning, refrigeration, heating, pumping, and filtering equipment from exceeding the ambient noise level on the premises of other occupied properties by more than five decibels. Thus, the siting and development of related projects would be subject to further CEQA review and evaluated on a case-by-case basis, and cumulative operational noise would be less than significant.

Cumulative Air Quality Impacts

Development of the Proposed Project in conjunction with the related projects in the Project Site vicinity would result in an increase in construction and operational emissions in the already urbanized area of the Wilshire community of the City of Los Angeles. Cumulative air quality impacts from construction and operation of the Proposed Project, based on SCAQMD guidelines, are analyzed in a manner similar to Project-specific air quality impacts. The SCAQMD recommends that a project's potential contribution to cumulative impacts should be assessed utilizing the same significance criteria as those for project specific impacts. Therefore, according to the SCAQMD, individual development projects that generate construction or operational emissions that exceed the SCAQMD recommended daily thresholds for project-specific impacts would also cause a cumulatively considerable increase in emissions for those pollutants for which the Basin is in non-attainment. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.[6]

Thus, as discussed above, because the construction-related and operational daily emissions associated with Proposed Project would not exceed the SCAQMD's recommended thresholds,

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[6] *SCAQMD, White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution. Appendix D, August 2003 (at page D-3), website: https://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper-appendix.pdf?sfvrsn=4, accessed June 2021.*

these emissions associated with the Proposed Project would not be cumulatively considerable. Further, each related project would quantify and address air quality emissions and mitigate impacts, if necessary, to ensure no cumulative impacts would occur. Furthermore, estimated emissions from similar projects of this size and type are typically well below SCAQMD thresholds and that multiple projects, when viewed together, are unlikely to exceed SCAQMD's regional thresholds. Therefore, cumulative air quality impacts would be less than significant.

Cumulative Greenhouse Gas Emissions Impacts

As stated previously in the Greenhouse Gas Emissions section of the supporting analysis above, the guidance from the State and City on Class 32 Categorical Exemptions does not require the preparation of GHG analyses for projects eligible for exemptions. Specifically, Article 19 of the State's CEQA Guidelines states that eligible projects that qualify for categorical exemptions are deemed to not have a significant effect on the environment. Under Section 15332, the Class 32 exemption that governs in-fill development projects identifies the conditions under which a project can qualify, noting that "[a]pproval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality…" There are no requirements to making findings about a project's effects on GHG. Further, the City issued guidance in 2018 (CP-7828) that clarifies the special requirement criteria for projects that seek to use the Class 32 exemption. In this guidance, they clarify that projects that qualify must provide supporting documents to demonstrate eligibility for the Class 32 exemption, including an air quality study. However, the "[p]urpose of this assessment is to evaluate the regional significance of criteria pollutant emissions from both the construction and operation of a proposed project." An assessment of criteria air pollutant emissions and cumulative impacts have been prepared, as described herein. As there is no requirement for preparation of cumulative GHG analyses to validate the Class 32 exemption, the following cumulative analysis is provided for informational purposes only.

The GHG emissions from a mixed-use residential and commercial development is relatively very small in comparison to state or global GHG emissions and, consequently, they would, in isolation, have no significant direct impact on climate change. Rather, it is the increased accumulation of GHG from more than one project and many sources in the atmosphere that may result in global climate change, which can cause the adverse environmental effects previously discussed. Per CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project will comply with an approved plan or mitigation program that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area of the project.

SCAG's 2020-2045 RTP/SCS, adopted in September 2020, is the regional plan that demonstrates compliance with air quality conformity requirements and GHG reduction targets. As such, projects and land use plans that are consistent with this plan in terms of development location, density, and intensity, are part of the regional solution for meeting air pollution and GHG reduction goals. Planning for more housing and jobs near transit was a strategy incorporated in SCAG's first RTP/SCS in 2012 and carried forward in the 2016 and 2020 RTP/SCS with a focus on areas that are well served by transit. The Proposed Project is an infill development in a Transit Priority Area

(TPA) and would be designed with sustainability features that are aimed at reducing overall GHG emissions.

The Proposed Project would also not conflict with all applicable local ordinances, regulations, and policies that have been adopted in furtherance of the state and City's goals of reducing GHG emissions. The Proposed Project would comply with the building efficiency standards of the California's Energy Efficiency Standards for Residential and Nonresidential Buildings, located at Title 24, Part 6 of the California Code of Regulations. Although not originally intended to reduce GHG emissions, increased energy efficiency and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standards. Additionally, the Proposed Project would comply with the L.A. Green Building Code, which imposes more stringent green building requirements than those contained within the CALGreen Code and is applicable to the construction of every new building, every new building alteration with a permit valuation of over $200,000, and every building addition unless otherwise noted. As such, any subsequent cumulative projects of a similar scale or nature would also be required to comply with applicable Title 24 Building Efficiency Standards, the L.A. Green Building Code, and incorporate GHG reducing measures as required. Thus, the Proposed Project would not make a cumulatively considerable contribution to GHG emissions and impacts would be less than significant.

Cumulative Water Quality Impacts

Development of the Proposed Project in combination with the related projects would result in the further infilling of uses in a highly developed area within the downtown community within the City of Los Angeles. As discussed above, the Project Site and the surrounding areas are served by the existing City or County storm drain system. Runoff from the Project Site and adjacent urban uses is typically directed into the adjacent streets, where it flows to the nearest stormwater drainage inlet. It is likely that most, if not all, of the related projects would also drain to the surrounding street system. However, little if any additional cumulative runoff is expected from the Proposed Project and the related project sites, since the surrounding area is highly developed with impervious surfaces. The surrounding area has long been developed and is heavily urbanized and improved with various residential and commercial buildings; thus, subsequent projects are not likely to result in a significant change from existing conditions with regards to runoff quantity. Nonetheless, under the requirements of Article 4.4 of the LAMC, each related project would be required to implement stormwater BMPs to retain or treat the runoff from a storm event producing ¾-inch of rainfall in a 24-hour period or the rainfall from an 85th percentile 24-hour runoff event, whichever is greater. Mandatory structural BMPs in accordance with the NPDES water quality program would result in a cumulative reduction of surface water runoff, as the development in the surrounding area is limited to infill developments and redevelopment of existing urbanized areas. Therefore, cumulative water quality impacts would be less than significant.

Cumulative Water Demand Impacts

Development of the Proposed Project and related projects and the cumulative growth throughout the City of Los Angeles, would further increase the demand for potable water within the City. Through the 2020 UWMP, the LADWP has demonstrated that it can provide adequate water supplies for the City through the year 2045, with implementation of conservation strategies and proper supply management. This estimate is based in part on demographic projections obtained for the LADWP service area from the Metropolitan Water District (MWD). The MWD utilizes a land-use based planning tool that allocates projected demographic data from the Southern California Association of Governments (SCAG) into water service areas for each of MWD's member agencies. MWD's demographic projections use data reported in SCAG's RTP/SCS and account for estimated increases in population (and by association the development of subsequent projects) in the surrounding area. The Proposed Project's contributions to population and housing growth that would be consistent with SCAG's growth projections for the City of Los Angeles. As such, the additional water demands generated by the Proposed Project are accounted for in the 2020 UWMP. Additionally, the Proposed Project's growth is consistent with SCAG's growth projections for the Los Angeles subregion. With approval of the requested discretionary actions, the Proposed Project is consistent with the underlying allowable uses per the LAMC and would not exceed the allowable density for the Project Site or exceed the available capacity in the local aqueduct. As such, the additional water demands generated by the Proposed Project are accounted for in the 2020 UWMP, and cumulative impacts associated with increased water demand would be less than significant.

Cumulative Sewer Impacts

Development of the Proposed Project in conjunction with the related projects would further increase regional demands on HWRP's capacity. Similar to the Proposed Project, each related project would be required to submit a SCAR and obtain approval by the Department of Public Works to ensure adequate sewer capacity for each related project. Since the Proposed Project would require approval from the Bureau of Sanitation, signifying that the sewer lines serving the Project Site have adequate capacity, the Proposed Project would not be expected to contribute to a local cumulative impact. Locally, the Proposed Project would not be cumulatively considerable. The impact of the continued growth of the region would likely have the effect of diminishing the daily excess capacity of the HWRP's service to the City of Los Angeles and surrounding area. However, it is anticipated that the 175 mgd of available capacity in the HWRP would not be significantly reduced with the cumulative wastewater generation from the related projects and Proposed Project. As such, cumulative impacts with respect to wastewater demand would be less than significant.

Cumulative Solid Waste Impacts

The City of Los Angeles Solid Waste Management Plan (AB 939) sets forth strategies that would provide adequate landfill capacity through 2037 to accommodate anticipated growth. The Bureau of Sanitation has projected the need for waste disposal capacity based on SCAG's regional

population growth projections. The growth associated with the Proposed Project is within those projections. Further, new programs are being implemented to increase the amount of waste diverted by the City, including: multi-family recycling, food waste recycling, commercial recycling and technical assistance and support for City departments to help meet their waste reduction and recycling goals. The City is also developing programs to ultimately meet a goal of zero waste by 2030. Thus, the Proposed Project's contribution to cumulative impacts would continue to decrease as it increases waste diversion rates in accordance with City goals.

Development of the Proposed Project in conjunction with the related projects would further increase regional demands on landfill capacity. The impact of the continued growth of the region would likely have the effect of diminishing the daily excess capacity of the existing landfills serving the City of Los Angeles. Although there are several proposals for new landfills in the region, there are currently few viable options for City of Los Angeles waste past 2029. The cumulative operational solid waste generation of the related projects and Proposed Project would represent a small fraction of the remaining capacity of the Sunshine Canyon Landfill, which currently has a remaining permitted capacity of approximately 55.1 million tons. Therefore, the cumulative impacts with respect to solid waste would be less than significant.

Cumulative Impacts to Fire Services

The Proposed Project, in combination with the related projects, could increase the demand for fire protection services in the Project area. Specifically, there could be increased demands for additional LAFD staffing, equipment, and facilities over time. This need would be funded via existing mechanisms (e.g., property taxes, government funding, and developer fees) to which the Proposed Project and related projects would contribute. Similar to the Proposed Project, each of the related projects would be individually subject to LAFD review and would be required to comply with all applicable fire safety requirements of the LAFD in order to adequately mitigate fire protection impacts. Specifically, any related project that exceeded the applicable response distance standards would be required to install automatic fire sprinkler systems in order to mitigate the additional response distance. To the extent cumulative development causes the need for additional fire stations to be built throughout the City, the development of such stations would be on small infill lots within existing developed areas and would not likely cause a significant impact upon the environment. Nevertheless, the siting and development of any new fire stations would be subject to further CEQA review and evaluated on a case-by-case basis. However, as the LAFD does not currently have any plans for new fire stations to be developed in proximity to the Project Site, no impacts are currently anticipated to occur. On this basis, the Proposed Project would not make a cumulatively considerable impact to fire protection services, and, as such cumulative impacts on fire protection would be less than significant.

Cumulative Impacts to Police Services

The Proposed Project, in combination with the related projects, would increase the demand for police protection services in the Project area. Specifically, there would be an increased demand for additional LAPD staffing, equipment, and facilities over time. This need would be funded via

existing mechanisms (e.g., sales taxes, government funding, and developer fees), to which the Proposed Project and related projects would contribute. In addition, each of the related projects would be individually subject to LAPD review and would be required to comply with all applicable safety requirements of the LAPD and the City of Los Angeles in order to adequately address police protection service demands. Furthermore, each of the related projects would likely install and/or incorporate adequate crime prevention design features in consultation with the LAPD, as necessary, to further decrease the demand for police protection services. To the extent cumulative development causes the need for additional police stations to be built throughout the City, the development of such stations would be on small infill lots within existing developed areas and would not likely cause a significant impact upon the environment. Nevertheless, the siting and development of any new police stations would be subject to further CEQA review and evaluated on a case-by-case basis. However, as the LAPD does not currently have any plans for new police stations to be developed in proximity to the Project Site. No impacts are currently anticipated to occur. On this basis, the Proposed Project would not make a cumulatively considerable impact to police protection services, and cumulative impacts on police protection would be less than significant.

Cumulative Impacts to Schools

The Proposed Project, in combination with the related projects is expected to result in a cumulative increase in the demand for school services. Development of the related projects would likely generate additional demands upon school services. These related projects would have the potential to generate students that would attend the same schools as the Proposed Project. This would create an increased cumulative demand on local school districts. However, each of the related projects would be responsible for paying applicable school fees to mitigate the increased demand for school services. Pursuant to Government Code Section 65995, payment of development fees authorized by SB 50 are deemed to be "full and complete school facilities mitigation." With payment of the School Development Fee, any future school infrastructure would be developed as needed, and thus the cumulative impacts on schools from the Proposed Project and any subsequent project would be less than significant.

Cumulative Impacts to Parks

Development of the Proposed Project in conjunction with the related projects could result in an increase in permanent residents residing in the greater Project area. Additional cumulative development would contribute to lowering the City's existing parkland to population ratio, which is currently below the preferred standard. However, each of the residential related projects are required to comply with payment of Quimby Fees (for subdivision projects with greater than 50 units) and/or park and recreation mitigation fees (for all other residential projects). Each residential related project would also be required to comply with the on-site open space requirements of the LAMC. Therefore, with payment of the applicable recreation fees on a project-by-project basis, any future park infrastructure would be developed as needed; therefore, the Proposed Project would not make a cumulatively considerable impact to parks and recreational facilities, and cumulative impacts would be less than significant.

Cumulative Impacts to Libraries

Development of the related projects is projected to generate additional housing and residents within the study area, which would likely generate additional demands upon library services. This increase in resident population would result in a cumulative increase in demands upon public library services. To meet the increased demands upon the City's Public Library system, Los Angeles voters passed a Library Bond Issue for $178.3 million to improve, renovate, expand, and construct 32 branch libraries. Since the Program's inception in 1998, the Library Department and the Department of Public works, Bureau of Engineering have made considerable progress in the design and construction of the branch library facilities. Based on the growth forecasts utilized in the 2015-2020 Strategic Plan, much of this growth has already been accounted for in planning new and expanded library facilities. Additionally, any future growth and development would analyze potential impacts on library services, and future library infrastructure would be developed, as needed. Thus, the additional residents generated by the Proposed Project would not make a cumulatively considerable impact upon the City's library system. Therefore, the cumulative impacts related to library facilities would be less than significant.

Cumulative Impacts Summary (Class 32)

As presented in the analysis above, the Proposed Project would not result in any significant impacts from traffic, noise, air quality, water quality, public services, and public utilities. The Proposed Project would be consistent with the use, type, and density of projects that are permitted by right and otherwise anticipated by the zoning code and General Plan, and when viewed in conjunction with other proposed, approved, or reasonably anticipated projects, would not generate impacts that are cumulatively considerable. Thus, the potential for the Proposed Project to result in cumulative impacts is less than significant.

(c) Significant Effect

There are no unusual circumstances that exist in connection with the Proposed Project or surrounding environmental conditions. The Project Site is located in an urbanized area of the Central City Community Plan Area and is consistent with the existing physical arrangement of the properties within the vicinity of the Project Site. The zoning designation for the Project Site is C2-4D with a General Plan land use designation of Regional Center Commercial. The Proposed Project is consistent with the designated zoning with respect to allowable uses and density and would comply with all applicable provisions of the LAMC. As such, there are no unique or unusual circumstances that exist in connection with the Proposed Project or surrounding environmental conditions that have the potential to result in a significant environmental impact upon the environment.

The Project Site is located in close proximity to significant transit infrastructure, including being within one-half mile of two light rail stations as well as multiple local bus routes. The Proposed Project is located within a defined Transit Priority Area under Senate Bill 743 and City of Los Angeles Zoning Information File No. 2452. Residential developments that provide much needed housing units in close proximity to commercial uses are encouraged and desired in TPAs. Pursuant

to P.R.C. Section 21099(d)(1), parking and aesthetic impacts of infill development projects in TPAs shall be considered less than significant as a matter of law. Thus, the Proposed Project is consistent with the type of development desired in this transit rich location as a matter of both State and local policy.

While no unusual circumstances exist, as described above, there is also not a reasonable possibility that any significant effects could result from development of the Proposed Project. Specifically, the Proposed Project would not result in any significant impacts related to traffic, noise, air quality, water quality, public services, and/or utilities.

(d) Scenic Resources

The Project Site is not bordered by or within the viewshed of any designated scenic highway as identified in the Mobility Element of the City of Los Angeles General Plan or a State scenic highway as identified by the Department of Transportation.[7] The closest designated State scenic highway is the Topanga Canyon State Scenic Highway, State Route 27, which is located approximately 22 miles west of the Project Site. The Proposed Project fronts S. Spring Street, which is not designated as a scenic highway in the City's Mobility Plan. The Project Site contains a one-story commercial building. There are no protected trees, historic resources, or unique geologic features located on the Project Site. Therefore, the Proposed Project would not damage any scenic resources within an officially designated scenic highway.

(e) Hazardous Materials

Pursuant to Government Code Section 65962.5, the Department of Toxic Substances Control (DTSC) shall compile and update as appropriate, at least annually, a list of all hazardous waste facilities subject to corrective action (pursuant to Section 25187.5 of the Health and Safety Code), all land designated as hazardous waste property or border zone property (pursuant to Section 25220 of the Health and Safety Code), all information received by the DTSC on hazardous waste disposals on public land (pursuant to Section 25242 of the Health and Safety Code), and all site listed pursuant to Section 25356 of the Health and Safety Code. Based on a review of the DTSC EnviroStor Database, the Project Site is not listed for cleanup, permitting, or investigation of any hazardous waste contamination (*see Attachment 7, Figure 1 DTSC EnviroStor Map)*. Therefore, the Project Site is not located on a site that the DTSC and the Secretary of the Environmental Protection have identified as being affected by hazardous wastes or clean-up problems. Pursuant to Government code section 65962.5, the Project Site is not listed on any national, state, and local environmental databases for cleanup, permitting, or investigation of any hazardous waste contamination, and this exception does not apply.

(f) Historic Resources

A substantial adverse change in the significance of a historic resource means demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the

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[7] *California Scenic Highway Mapping Systems: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways, accessed June 2021.*

significance of a historical resource would be materially impaired. The Los Angeles Historic Resources Inventory (Historic Places LA) is the City's online database of designated historic resources and undesignated places of historical significance.

The Project Site consists of a one-story commercial office building. According to the Los Angeles Historic Resources Inventory, the Project Site does not contain any historic structures or resources on site. The Project Site is not designated as a Los Angeles Historic-Cultural Monument, is not located within a Historic Preservation Overlay Zone, and is not indicated in ZIMAS as requiring historic preservation review. The Project Site is located in the Central City Community Plan Area and was not identified as significant individually or as a contributing property to a district by SurveyLA, the Citywide historic resource survey. The survey of the Central City Community Plan Area was completed in September 2016.

The nearest historic resource is the Higgins Building, located at 108 W. 2nd Street, approximately 20 feet northeast of the Project Site. Findings in the Los Angeles Historic Resources Inventory show that this building has a local listing as a Los Angeles Historic-Cultural Monument. Since the Project Site does not directly abut this property, the Proposed Project would not directly demolish, relocate, or significantly modify the Higgins Building or its surroundings, such that their significance would be materially impaired. Also, per an email correspondence dated March 18, 2021, the Department of City Planning, Office of Historic Resources confirmed that the existing building is not eligible as a historical resource pursuant to CEQA and the construction of the Project would not impact the adjacent historic resources. Therefore, the Proposed Project will not result in a substantial adverse change to the significance of a historic resource and this exception does not apply.

Section 6. Project Design Features

The following project design features would be implemented as part of the Proposed Project.

Noise

In furtherance of complying with the provisions set forth in LAMC Sections 112.04 and 112.05, above, the Applicant will incorporate the following features into the construction work plans, which shall be conditions of approval of the Proposed Project:

- Demolition and construction activities shall be scheduled so as to avoid operating several pieces of equipment simultaneously, which causes high noise levels.
- The project contractor shall use power construction equipment with noise shielding and muffling devices.
- The project contractor will erect a temporary noise-attenuating sound barrier along the perimeter of the Project Site. The sound wall will be a minimum of 8 feet in height to block the line-of-sight of construction equipment and off-site receptors at the ground level. The sound barrier shall include sound absorbing material capable of achieving a minimum of 15-dBA reduction in sound level.
- During any jackhammering and structural framing, the project contractor shall utilize temporary portable acoustic barriers, partitions, or acoustic blankets to effectively block the line-of-sight between noise producing equipment and the adjacent residential land uses for purposes of ensuring noise levels at the adjacent residential land uses does not exceed 75 dBA L_{eq} over the ambient noise levels.

Section 7. References

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South Coast Air Quality Management District, White Paper on Potential control Strategies to Address Cumulative Impacts From Air Pollution and Appendix, August 2003.

United States Department of Energy, Los Angeles Department of Water and Power, Los Angeles Aqueduct Filtration Plant Modernization – Oxygen Plant Replacement, website: https://betterbuildingssolutioncenter.energy.gov/showcase-projects/los-angeles-department-water-and-power-los-angeles-aqueduct-filtration-plant, accessed June 2021.

United States Environmental Protection Agency, NEPAssist, website: https://www.epa.gov/nepa/nepassist, accessed June 2021.

United States Fish & Wildlife Service, Environmental Conservation Online System, Information for Planning and Consultation (IPaC), website: https://ecos.fws.gov/ipac/, accessed June 2021.

ATTACHMENT 1

U.S. Fish & Wildlife Service,
Information for Planning and
Consultation (IPaC) Resource List,
June 10, 2021.

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IPaC Information for Planning and Consultation **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Los Angeles County, California

Local office

Carlsbad Fish And Wildlife Office

(760) 431-9440
(760) 431-5901

2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385

http://www.fws.gov/carlsbad/

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at

the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS
Coastal California Gnatcatcher *Polioptila californica californica* Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/8178	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Allen's Hummingbird *Selasphorus sasin* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15
Black Swift *Cypseloides niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8878	Breeds Jun 15 to Sep 10

Common Yellowthroat Geothlypis trichas sinuosa This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084	Breeds May 20 to Jul 31
Costa's Hummingbird Calypte costae This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9470	Breeds Jan 15 to Jun 10
Marbled Godwit Limosa fedoa This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere
Nuttall's Woodpecker Picoides nuttallii This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410	Breeds Apr 1 to Jul 20
Oak Titmouse Baeolophus inornatus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9656	Breeds Mar 15 to Jul 15
Rufous Hummingbird selasphorus rufus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002	Breeds elsewhere
Song Sparrow Melospiza melodia This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Feb 20 to Sep 5
Spotted Towhee Pipilo maculatus clementae This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/4243	Breeds Apr 15 to Jul 20
Whimbrel Numenius phaeopus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9483	Breeds elsewhere
Willet Tringa semipalmata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere

Wrentit *Chamaea fasciata* Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

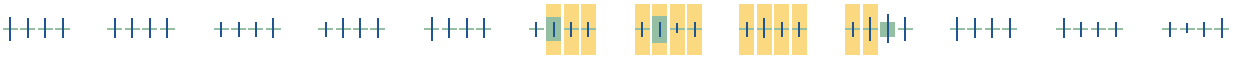
Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

■ probability of presence ■ breeding season | survey effort — no data

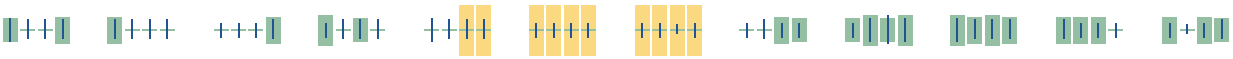
SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Allen's Hummingbird												

BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Black Swift
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



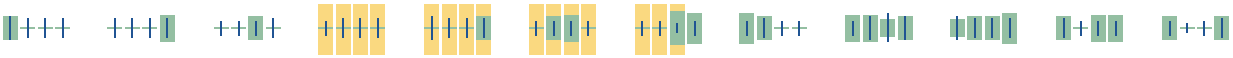
Common Yellowthroat
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



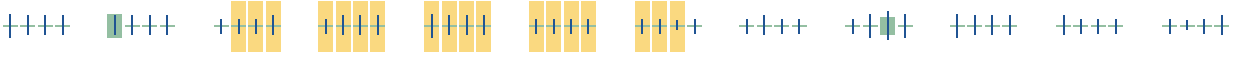
Costa's Hummingbird
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Marbled Godwit
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Nuttall's Woodpecker
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

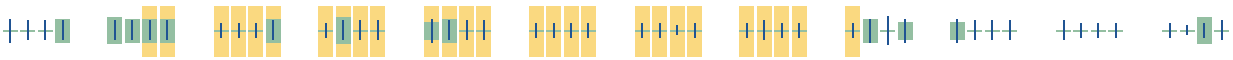


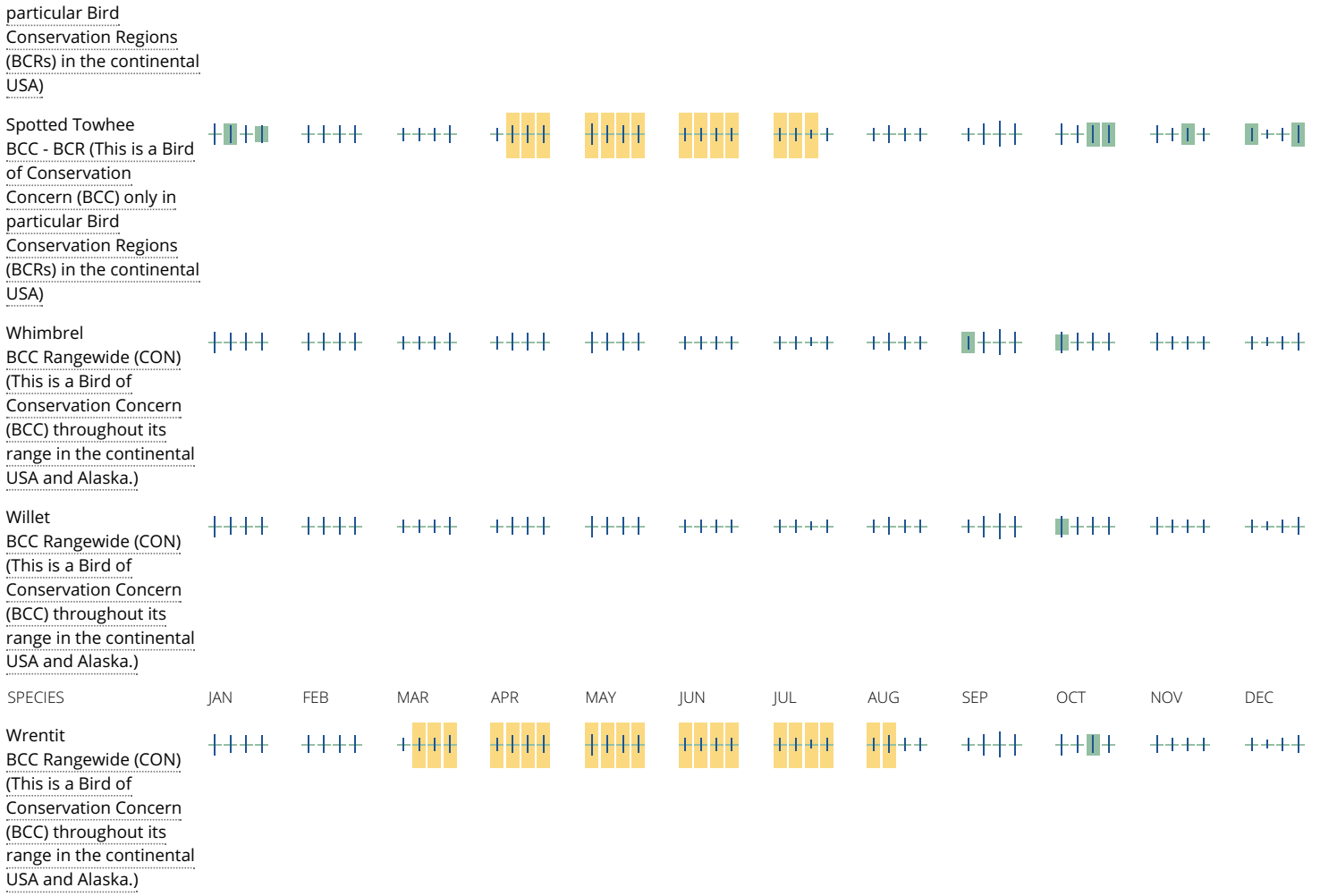
Oak Titmouse
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Rufous Hummingbird
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Song Sparrow
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and

helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

ATTACHMENT 2

LADOT Approval Letter,
Transportation Analysis for the Proposed Mixed-Use Development Project Located at 216 South Spring Street [DIR-2020-7846-DB-SPR-RDP-HCA],
November 23, 2021.

Overland Traffic Consultants, Inc.,
Transportation Impact Assessment for Proposed Mixed-Use Development, Located at 216. S. Spring Street in the City of Los Angeles,
September 2021.

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FORM GEN. 160A (Rev. 1/82)

CITY OF LOS ANGELES

INTER-DEPARTMENTAL CORRESPONDENCE

216 South Spring Street
DOT Case No. CEN21-51507

Date: November 23, 2021

To: Susan Jimenez, Administrative Clerk
Department of City Planning

From: Wes Pringle, Transportation Engineer
Department of Transportation

Subject: **TRANSPORTATION ANALYSIS FOR THE PROPOSED MIXED-USE DEVELOPMENT PROJECT LOCATED AT 216 SOUTH SPRING STREET (DIR-2020-7846-DB-SPR-RDP-HCA)**

The Department of Transportation (DOT) has reviewed the transportation impact study, dated September 2021, prepared by Overland Traffic Consultants, Inc (Overland) for the proposed mixed-use development, located at 216 South Spring Street. In compliance with Senate Bill 743 and the California Environmental Quality Act (CEQA), a vehicle miles traveled (VMT) analysis is required to identify the project's ability to promote the reduction of green-house gas emissions, access to diverse land-uses, and the development of multi-modal networks. The significance of a project's impact in this regard is measured against the VMT thresholds established in DOT's Transportation Assessment Guidelines (TAG), as described below.

DISCUSSION AND FINDINGS

A. Project Description

The proposed project includes construction of 120 apartment units (106 market-rate units and 14 affordable units), as well as approximately 1,992 square feet of restaurant space and 1,033 square feet of retail space. The proposed development would replace the existing site, which is comprised of approximately 14,000 square feet of commercial offices. The project site is generally bounded by existing commercial development to the south, South Spring Street to the west, existing commercial development to the north, and an alley (Harlem Place) the east. The project is expected to be completed by year 2024.

B. CEQA Screening Threshold

Prior to accounting for trip reductions resulting from the application of Transportation Demand Management (TDM) Strategies, a trip generation analysis was conducted to determine if the project would exceed the net 250 daily vehicle trips screening threshold. Using the City of Los Angeles VMT Calculator tool, which draws upon trip rate estimates published in the Institute of Transportation Engineers' (ITE's) Trip Generation, 10th Edition manual as well as applying trip generation adjustments when applicable, based on sociodemographic data and the built environment factors of the project's surroundings, it was determined that the project **does** exceed the net 250 daily vehicle trips threshold. A copy of the VMT calculator screening page, with the corresponding net daily trips estimate, is provided as **Attachment A** to this report.

Additionally, the analysis included further discussion of the transportation impact thresholds:

T-1 Conflicting with plans, programs, ordinances, or policies
T-2.1 Causing substantial vehicle miles traveled
T-3 Substantially increasing hazards due to a geometric design feature or incompatible use.

The assessment determined that the project would **not** have a significant transportation impact under any of the above thresholds. The Project's impacts per Thresholds T-2.1 is determined by using the VMT calculator and is discussed below. A copy of the VMT Calculator summary reports is provided as **Attachment B** to this report.

C. Transportation Impacts

On July 30, 2019, pursuant to SB 743 and the recent changes to Section 15064.3 of the State's CEQA Guidelines, the City of Los Angeles adopted VMT as a criteria in determining transportation impacts under CEQA. The new DOT TAG provide instructions on preparing transportation assessments for land use proposals and defines the significant impact thresholds.

The VMT Calculator tool measures project impact in terms of Household VMT per Capita and Work VMT per Employee. DOT identified distinct thresholds for significant VMT impacts for each of the seven Area Planning Commission (APC) areas in the City. For the Central Los Angeles APC, in which the project is located, the following thresholds have been established:

- Household VMT per Capita: 6.0
- Work VMT per Employee: 7.6

Included in the VMT report as inputs are the following project design features: reduced parking supply and bicycle parking per LAMC.

As cited in the transportation assessment report, the proposed project is projected to have a Household VMT per capita of 2.5 and no Work VMT. The restaurant and retail spaces are considered local serving since they are less than 50,000 square feet. Therefore, it is concluded that implementation of the Project would have a less than significant Household and Work VMT impact.

D. Safety, Access and Circulation

During the preparation of the new CEQA guidelines, the State's Office of Planning and Research stressed that lead agencies can continue to apply traditional operational analysis requirements to inform land use decisions provided that such analyses were outside of the CEQA process. The authority for requiring non-CEQA transportation analysis and requiring improvements to address potential circulation deficiencies, lies in the City of Los Angeles' Site Plan Review authority as established in Section 16.05 of the Los Angeles Municipal Code (LAMC), Section 16.05. Therefore, DOT continues to require and review a project's site access, circulation, and operational plan to determine if any safety and access enhancements, transit amenities,

intersection improvements, traffic signal upgrades, neighborhood traffic calming, or other improvements are needed. In accordance with this authority, the project has completed a circulation analysis using a summary of vehicle queuing, including the change in future queue levels with and without the project. DOT has reviewed this analysis and determined that it adequately discloses operational concerns. A copy of the circulation analysis table that summarizes these potential deficiencies is provided as **Attachment C** to this report.

E. Freeway Safety Analysis

Per the Interim Guidance for Freeway Safety Analysis memorandum issued by LADOT on May 1, 2020 to address Caltrans safety concerns on freeways, the study addresses the project's effects on vehicle queuing on freeway off-ramps. Such an evaluation measures the project's potential to lengthen a forecasted off-ramp queue and create speed differentials between vehicles exiting the freeway off-ramps and vehicles operating on the freeway mainline. Based on the Project's trip generation estimates, and traffic distribution pattern detailed later in this report, the Project would **not** add 25 or more peak hour trips to any freeway off-ramp, thus a complete freeway off-ramp analysis was not required.

PROJECT REQUIREMENTS

A. Highway Dedication and Street Widening Requirements

Per the Mobility Element 2035 of the General Plan, **South Spring Street** has been designated as a Modified Avenue II which would require a 26-foot half-width roadway within a 40-foot half-width right-of-way. The applicant should check with BOE's Land Development Group to determine if there are any other applicable highway dedication, street widening and/or sidewalk requirements for this project.

B. Parking Requirements

The project would provide 69 total parking spaces that would be located on four different levels: 3 spaces on the at-grade level and 22 spaces on each of the three subterranean levels. The project will also provide 89 long-term bicycle spaces and 13 short-term bicycle spaces. Vehicular access to the site will be provided via the adjacent alley (Harlem Place) to the project site. Pedestrian access to the site will be located on South Spring Street. The applicant should check with the Department of Building and Safety on the number of Code-required parking spaces needed for the project.

C. Project Access and Circulation

The conceptual site plan (see **Attachment D**) is acceptable to DOT. However, the review of this study does not constitute approval of the dimensions for any new proposed driveway. This requires separate review and approval and should be coordinated with DOT's Citywide Planning Coordination Section (201 N. Figueroa Street, 5th Floor, Room 550, at 213-482-7024). In order to minimize and prevent last minute building design changes, the applicant should contact DOT for driveway width and internal circulation requirements prior to the commencement of building or parking layout design.

D. TDM Ordinance Requirements

The TDM Ordinance (LAMC 12.26 J) is currently being updated. The updated ordinance, which is

currently progressing through the City's approval process, will:

- Expand the reach and application of TDM strategies to more land uses and neighborhoods,
- Rely on a broader range of strategies that can be updated to keep pace with technology, and
- Provide flexibility for developments and communities to choose strategies that work best for their neighborhood context.

Although not yet adopted, DOT recommends that the applicant be subject to the terms of the proposed TDM Ordinance update. The updated ordinance is expected to be completed prior to the anticipated construction of this project, if approved.

E. Worksite Traffic Control Plan

DOT recommends that a construction worksite traffic control plan be submitted to DOT's Citywide Temporary Traffic Control Section or Permit Plan Review Section for review and approval prior to the start of any construction work. Refer to http://ladot.lacity.org/what-we-do/plan-review to determine which section to coordinate review of the work site traffic control plan. The plan should show the location of any roadway or sidewalk closures, traffic detours, haul routes, hours of operation, protective devices, warning signs and access to abutting properties. DOT also recommends that all construction related truck traffic be restricted to off-peak hours.

E. Development Review Fees

Section 19.15 of the Los Angeles Municipal Code identifies specific fees for traffic study review, condition clearance, and permit issuance. The applicant shall comply with any applicable fees per this ordinance.

If you have any questions, please contact Pete Eyre of my staff at (213) 972-4913.

Attachments

L:\letters\2021\CEN21-51507_216 S Spring Street_mu

c: Emma Howard, Council District 14
Kaylinn Pell, Central District, DOT
Taimour Tanavoli, Case Management, DOT
Hokchi Chui, Central District, BOE
Jerry Overland, Overland Traffic Consultants, Inc.

Attachment A

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project: 216 Spring

Scenario: MOU

Address: 216 S SPRING ST, 90012

Is the project replacing an existing number of residential units with a smaller number of residential units AND is located within one-half mile of a fixed-rail or fixed-guideway transit

Yes No

Existing Land Use

Land Use Type	Value	Unit
Office | General Office	14	ksf
Office | General Office	14	ksf

Click here to add a single custom land use type (will be included in the above list)

Proposed Project Land Use

Land Use Type	Value	Unit
Retail | High-Turnover Sit-Down Restaurant	1.992	ksf
Housing | Multi-Family	106	DU
Retail | General Retail	1.033	ksf
Retail | High-Turnover Sit-Down Restaurant	1.992	ksf
Housing | Affordable Housing - Family	14	DU

Click here to add a single custom land use type (will be included in the above list)

Project Screening Summary

Existing Land Use	Proposed
90 Daily Vehicle Trips	490 Daily Vehicle Trips
727 Daily VMT	3,312 Daily VMT

Tier 1 Screening Criteria

Project will have less residential units compared to existing residential units & is within one-half mile of a fixed-rail station. ☐

Tier 2 Screening Criteria

The net increase in daily trips < 250 trips	400 Net Daily Trips
The net increase in daily VMT ≤ 0	2,585 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	3.025 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

7/16/2021

Attachment B

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: 216 Spring
Scenario: MOU
Address: 216 S SPRING ST, 90012

Proposed Project Land Use Type	Value	Unit
Housing | Multi-Family	106	DU
Retail | General Retail	1.033	ksf
Retail | High-Turnover Sit-Down Restaurant	1.992	ksf
Housing | Affordable Housing - Family	14	DU

TDM Strategies

Select each section to show individual strategies
Use ☑ to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

	Proposed Project	With Mitigation
Max Home Based TDM Achieved?	**No**	**No**
Max Work Based TDM Achieved?	**No**	**No**

- **A** Parking
- **B** Transit
- **C** Education & Encouragement
- **D** Commute Trip Reductions
- **E** Shared Mobility
- **F** Bicycle Infrastructure

Implement/Improve On-street Bicycle Facility
☐ Proposed Prj ☐ Mitigation — Select Proposed Prj or Mitigation to include this strategy

Include Bike Parking Per LAMC
☑ Proposed Prj ☐ Mitigation — Select Proposed Prj or Mitigation to include this strategy

Include Secure Bike Parking and Showers
☐ Proposed Prj ☐ Mitigation — Select Proposed Prj or Mitigation to include this strategy

- **G** Neighborhood Enhancement

Analysis Results

Proposed Project	With
427 Daily Vehicle Trips	**427** Daily Vehicle Trips
2,880 Daily VMT	**2,880** Daily VMT
2.5 Household VMT per Capita	**2.5** Household VMT
N/A Work VMT per Employee	**N/A** Work VMT per Employee

Significant VMT Impact?

Household: No Threshold = 6.0 15% Below APC	**Household: No** Threshold = 6.0 15% Below APC
Work: N/A Threshold = 7.6 15% Below APC	**Work: N/A** Threshold = 7.6 15% Below APC

Measuring the Miles

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: July 16, 2021
Project Name: 216 Spring
Project Scenario: MOU
Project Address: 216 S SPRING ST, 90012

Version 1.3

Project Information

Land Use Type		Value	Units
Housing	*Single Family*	*0*	*DU*
	Multi Family	106	DU
	Townhouse	*0*	*DU*
	Hotel	*0*	*Rooms*
	Motel	*0*	*Rooms*
Affordable Housing	Family	14	DU
	Senior	*0*	*DU*
	Special Needs	*0*	*DU*
	Permanent Supportive	*0*	*DU*
Retail	General Retail	1.033	ksf
	Furniture Store	*0.000*	*ksf*
	Pharmacy/Drugstore	*0.000*	*ksf*
	Supermarket	*0.000*	*ksf*
	Bank	*0.000*	*ksf*
	Health Club	*0.000*	*ksf*
	High-Turnover Sit-Down Restaurant	1.992	ksf
	Fast-Food Restaurant	*0.000*	*ksf*
	Quality Restaurant	*0.000*	*ksf*
	Auto Repair	*0.000*	*ksf*
	Home Improvement	*0.000*	*ksf*
	Free-Standing Discount	*0.000*	*ksf*
	Movie Theater	*0*	*Seats*
Office	*General Office*	*0.000*	*ksf*
	Medical Office	*0.000*	*ksf*
Industrial	*Light Industrial*	*0.000*	*ksf*
	Manufacturing	*0.000*	*ksf*
	Warehousing/Self-Storage	*0.000*	*ksf*
School	*University*	*0*	*Students*
	High School	*0*	*Students*
	Middle School	*0*	*Students*
	Elementary	*0*	*Students*
	Private School (K-12)	*0*	*Students*
Other		*0*	*Trips*

Analysis Results

Total Employees: 10
Total Population: 283

Proposed Project		*With Mitigation*	
427	**Daily Vehicle Trips**	**427**	**Daily Vehicle Trips**
2,880	**Daily VMT**	**2,880**	**Daily VMT**
2.5	**Household VMT per Capita**	**2.5**	**Household VMT per Capita**
N/A	**Work VMT per Employee**	**N/A**	**Work VMT per Employee**

Significant VMT Impact?

APC: Central

Impact Threshold: 15% Below APC Average
Household = 6.0
Work = 7.6

Proposed Project		*With Mitigation*	
VMT Threshold	**Impact**	**VMT Threshold**	**Impact**
Household > 6.0	No	Household > 6.0	No
Work > 7.6	N/A	Work > 7.6	N/A

TDM Strategy Inputs

Strategy Type		Description	Proposed Project	Mitigations
Parking	Reduce parking supply	City code parking provision (spaces)	147	147
		Actual parking provision (spaces)	69	69
	Unbundle parking	*Monthly cost for parking ($)*	*$0*	*$0*
	Parking cash-out	*Employees eligible (%)*	*0%*	*0%*
	Price workplace parking	*Daily parking charge ($)*	*$0.00*	*$0.00*
		Employees subject to priced parking (%)	*0%*	*0%*
	Residential area parking permits	*Cost of annual permit ($)*	*$0*	*$0*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Transit	*Reduce transit headways*	*Reduction in headways (increase in frequency) (%)*	*0%*	*0%*
		Existing transit mode share (as a percent of total daily trips) (%)	*0%*	*0%*
		Lines within project site improved (<50%, >=50%)	*0*	*0*
	Implement neighborhood shuttle	*Degree of implementation (low, medium, high)*	*0*	*0*
		Employees and residents eligible (%)	*0%*	*0%*
	Transit subsidies	*Employees and residents eligible (%)*	*0%*	*0%*
		Amount of transit subsidy per passenger (daily equivalent) ($)	*$0.00*	*$0.00*
Education & Encouragement	*Voluntary travel behavior change program*	*Employees and residents participating (%)*	*0%*	*0%*
	Promotions and marketing	*Employees and residents participating (%)*	*0%*	*0%*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Commute Trip Reductions	*Required commute trip reduction program*	*Employees participating (%)*	*0%*	*0%*
	Alternative Work Schedules and Telecommute	*Employees participating (%)*	*0%*	*0%*
		Type of program	*0*	*0*
	Employer sponsored vanpool or shuttle	*Degree of implementation (low, medium, high)*	*0*	*0*
		Employees eligible (%)	*0%*	*0%*
		Employer size (small, medium, large)	*0*	*0*
	Ride-share program	*Employees eligible (%)*	*0%*	*0%*
Shared Mobility	*Car share*	*Car share project setting (Urban, Suburban, All Other)*	*0*	*0*
	Bike share	*Within 600 feet of existing bike share station - OR- implementing new bike share station (Yes/No)*	*0*	*0*
	School carpool program	*Level of implementation (Low, Medium, High)*	*0*	*0*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Bicycle Infrastructure	*Implement/Improve on-street bicycle facility*	*Provide bicycle facility along site (Yes/No)*	*0*	*0*
	Include Bike parking per LAMC	Meets City Bike Parking Code (Yes/No)	Yes	Yes
	Include secure bike parking and showers	*Includes indoor bike parking/lockers, showers, & repair station (Yes/No)*	*0*	*0*
Neighborhood Enhancement	*Traffic calming improvements*	*Streets with traffic calming improvements (%)*	*0%*	*0%*
		Intersections with traffic calming improvements (%)	*0%*	*0%*
	Pedestrian network improvements	*Included (within project and connecting off-site/within project only)*	*0*	*0*

TDM Adjustments by Trip Purpose & Strategy

Place type: Urban

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Parking	Reduce parking supply	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	TDM Strategy Appendix, Parking sections 1 - 5
	Unbundle parking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Parking cash-out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Price workplace parking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Residential area parking permits	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Transit	Reduce transit headways	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Transit sections 1 - 3
	Implement neighborhood shuttle	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Transit subsidies	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Education & Encouragement	Voluntary travel behavior change program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Education & Encouragement sections 1 - 2
	Promotions and marketing	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Commute Trip Reductions	Required commute trip reduction program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Commute Trip Reductions sections 1 - 4
	Alternative Work Schedules and Telecommute Program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Employer sponsored vanpool or shuttle	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Ride-share program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Shared Mobility	Car-share	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	TDM Strategy Appendix, Shared Mobility sections 1 - 3
	Bike share	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
	School carpool program	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

TDM Adjustments by Trip Purpose & Strategy, Cont.

Place type: Urban

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Bicycle Infrastructure	Implement/ Improve on-street bicycle facility	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	TDM Strategy Appendix, Bicycle Infrastructure sections 1 - 3
	Include Bike parking per LAMC	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	
	Include secure bike parking and showers	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	
Neighborhood Enhancement	Traffic calming improvements	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	TDM Strategy Appendix, Neighborhood Enhancement
	Pedestrian network improvements	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	

Final Combined & Maximum TDM Effect

	Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*	
	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated
COMBINED TOTAL	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*
MAX. TDM EFFECT	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*

= Minimum (X%, 1-[(1-A)*(1-B)…])

where X%=

PLACE TYPE MAX:	urban	75%
	compact infill	*40%*
	suburban center	*20%*
	suburban	*15%*

Note: (1-[(1-A)*(1-B)…]) reflects the dampened combined effectiveness of TDM Strategies (e.g., A, B,...). See the TDM Strategy Appendix (*Transportation Assessment Guidelines Attachment G)* for further discussion of dampening.

CITY OF LOS ANGELES VMT CALCULATOR

Report 4: MXD Methodology

Date: July 16, 2021
Project Name: 216 Spring
Project Scenario: MOU
Project Address: 216 S SPRING ST, 90012

Version 1.3

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	107	-31.8%	73	5.0	535	365
Home Based Other Production	296	-67.9%	95	4.7	1,391	447
Non-Home Based Other Production	185	-11.4%	164	8.5	1,573	1,394
Home-Based Work Attraction	15	-53.3%	7	8.5	128	60
Home-Based Other Attraction	248	-67.3%	81	6.0	1,488	486
Non-Home Based Other Attraction	80	-12.5%	70	8.0	640	560

MXD Methodology with TDM Measures

	Proposed Project			*Project with Mitigation Measures*		
	TDM Adjustment	Project Trips	Project VMT	TDM Adjustment	Mitigated Trips	Mitigated VMT
Home Based Work Production	-13.0%	63	317	-13.0%	63	317
Home Based Other Production	-13.0%	83	389	-13.0%	83	389
Non-Home Based Other Production	-13.0%	143	1,212	-13.0%	143	1,212
Home-Based Work Attraction	-13.0%	6	52	-13.0%	6	52
Home-Based Other Attraction	-13.0%	71	423	-13.0%	71	423
Non-Home Based Other Attraction	-13.0%	61	487	-13.0%	61	487

MXD VMT Methodology Per Capita & Per Employee

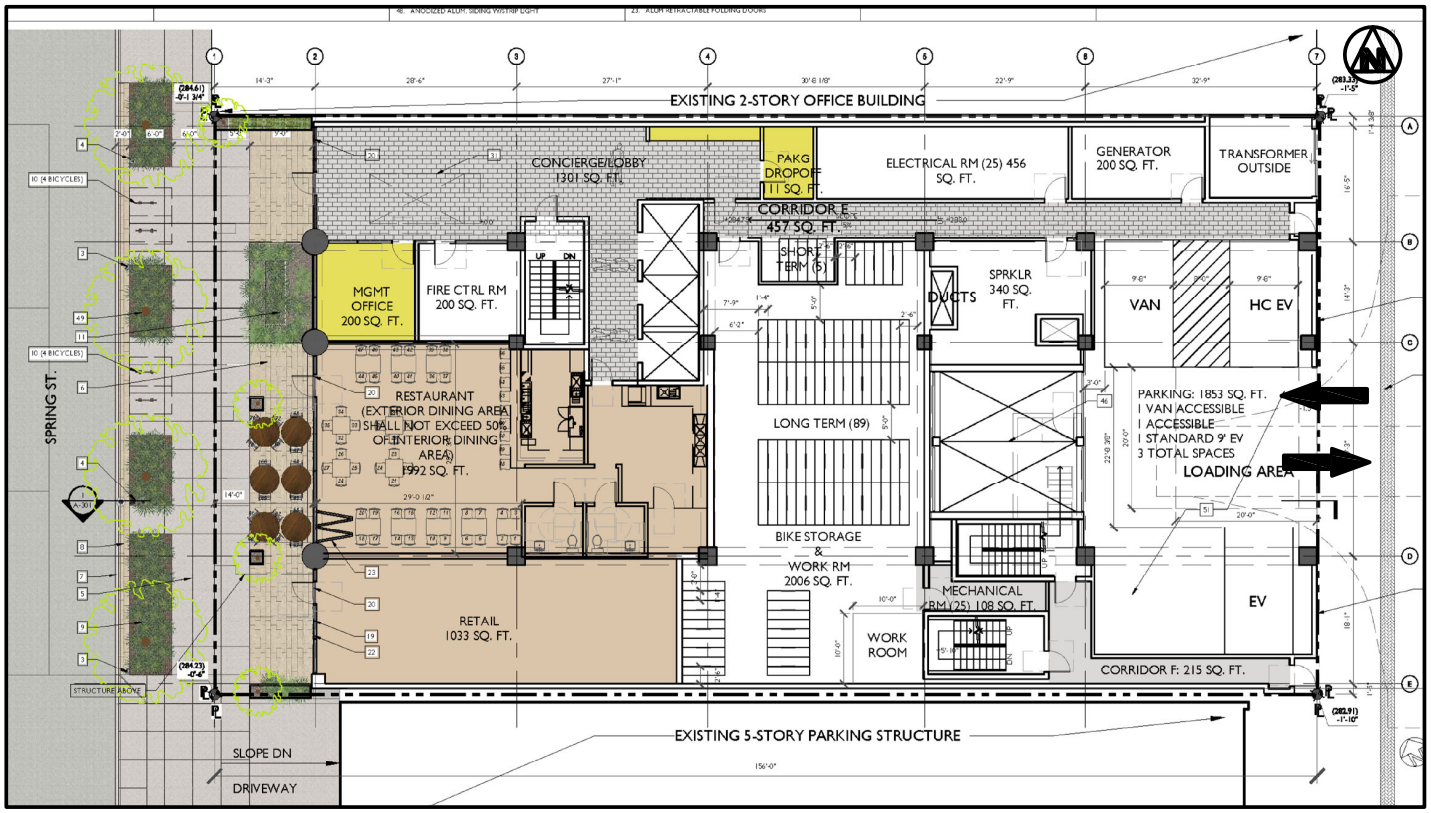
Total Population: 283
Total Employees: 10
APC: Central

	Proposed Project	*Project with Mitigation Measures*
Total Home Based Production VMT	**706**	**706**
Total Home Based Work Attraction VMT	**52**	**52**
Total Home Based VMT Per Capita	**2.5**	**2.5**
Total Work Based VMT Per Employee	**N/A**	**N/A**

Table 5
Traffic Conditions
Without and With Project

No.	Intersection	Peak Hour	Existing 2021		Existing + Project		Future (2024) Without Project		Future (2024) With Project	
			Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
1	Spring Street &	AM	27.0	C	27.0	C	41.9	D	43.1	D
	2nd Street	PM	19.1	B	19.0	B	27.2	C	27.2	C
2	Main Street &	AM	17.8	B	17.4	B	24.0	C	24.1	C
	3rd Street	PM	25.9	C	25.9	C	31.0	C	30.9	C
3	Main Street &	AM	25.8	C	25.6	C	28.5	C	28.5	C
	2nd Street	PM	29.6	C	29.6	C	53.2	D	53.9	D

s = seconds



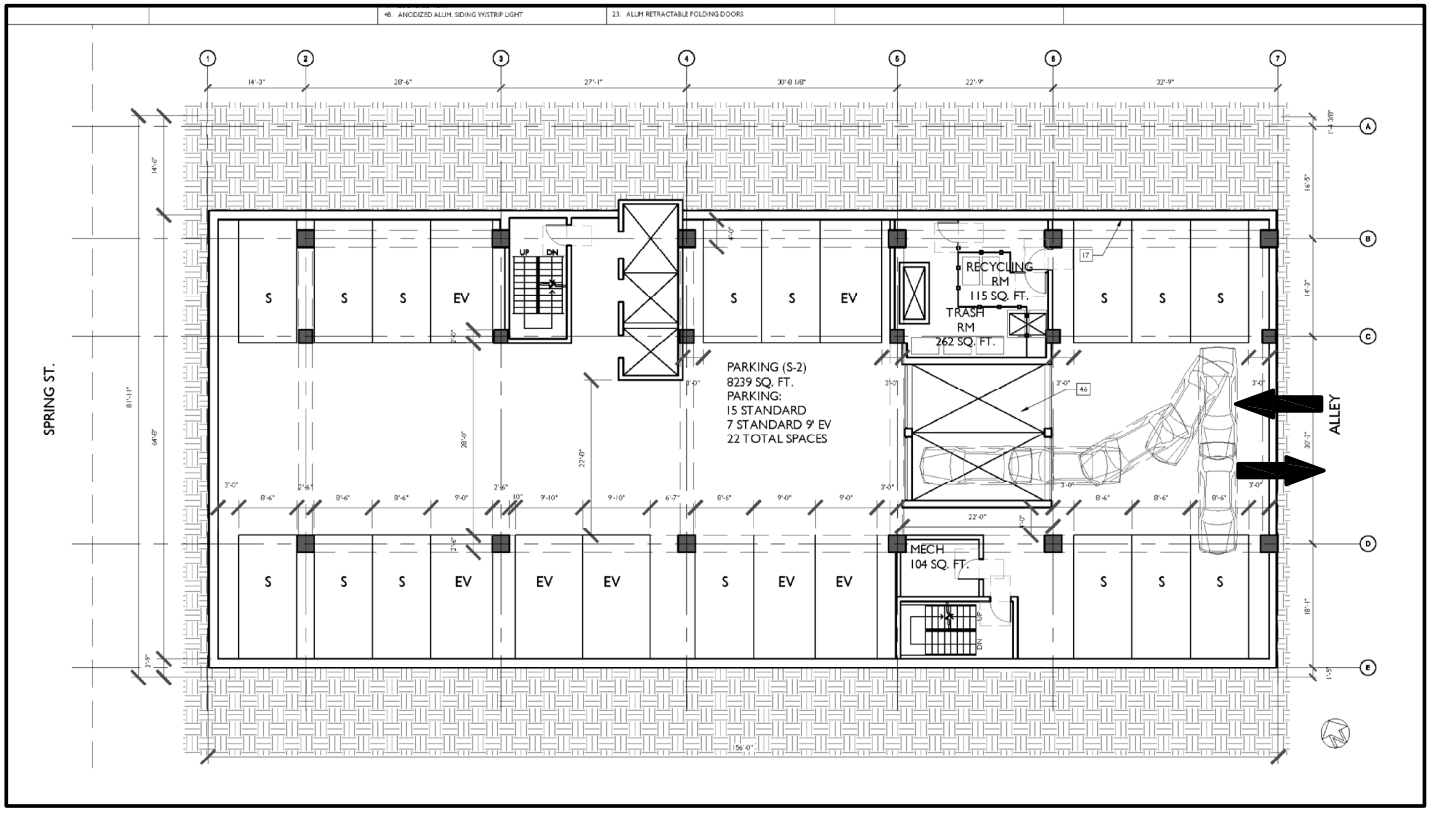


FIGURE 3

7/2021

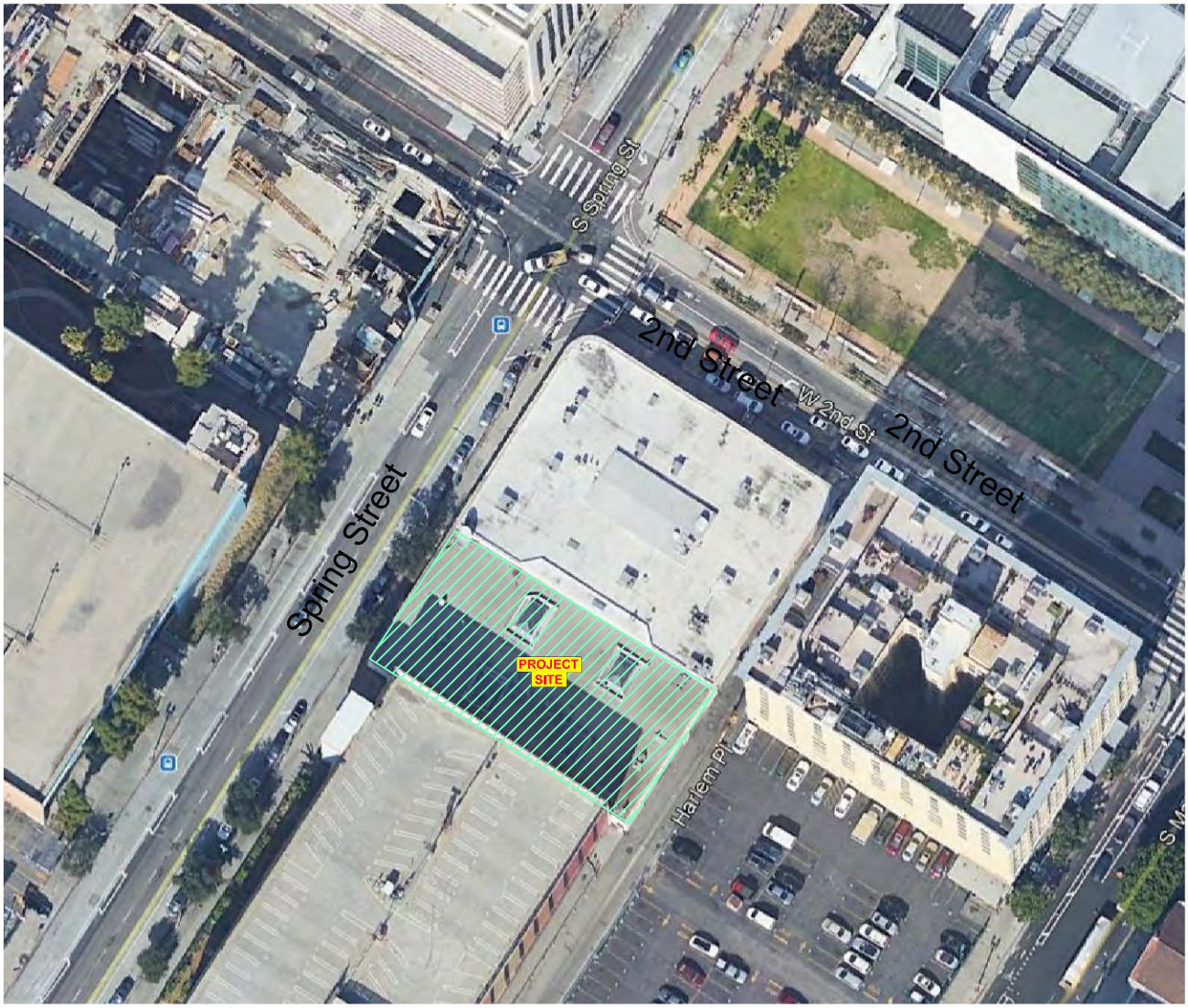
PROJECT SITE PLAN
GROUND FLOOR AND TYPICAL PARKING LEVEL

Overland Traffic Consultants, Inc.
24325 Main Street #202, Santa Clarita, CA 91321
(661) 799-8423 OTC@overlandtraffic.com

Overland Traffic Consultants, Inc.

TRANSPORTATION IMPACT ASSESSMENT FOR PROPOSED MIXED - USE DEVELOPMENT

Located at 216 S. Spring Street in the City of Los Angeles



Prepared by:
Overland Traffic Consultants, Inc.
24325 Main Street #202
Santa Clarita, California 91321
(661) 799 - 8423

September 2021

TRANSPORTATION ASSESSMENT
MIXED – USE DEVELOPMENT
(DIR-2020-7846-DB-SPR-RDP-HCA)
(LADOT CEN21-51507)

Located at 216 S. Spring Street
in the Central City Community Plan Area
of the City of Los Angeles

Prepared by:

Overland Traffic Consultants, Inc.
952 Manhattan Beach Bl., Suite 100
Manhattan Beach, California 90266
(310) 930 -3303

September 2021

EXECUTIVE SUMMARY

Introduction

Overland Traffic Consultants has prepared this assessment of the potential CEQA transportation impacts for a proposed mixed – use development in the Central City Community Plan Area of the City of Los Angeles. See the aerial view for the Project's location on Figure 1.

The purpose of this Transportation Assessment (TA) is to document potential transportation impacts associated with the Project using the Los Angeles Department of Transportation's (LADOT) Transportation Assessment Guidelines (TAG). The TAG establishes procedures and methods for review of development projects pursuant to the California Environmental Quality Act (CEQA) guidelines. LADOT has determined that a Transportation Assessment (TA) is required and has set the study parameters in a Memorandum of Understanding (MOU) (see LADOT MOU Appendix A).

Project Description

The Project Site is in the Central City Community Plan area at 216 S. Spring Street (Project Site) on one lot with a total lot area of approximately 12,718 square feet (0.292 acres). The lot is currently occupied with approximately 14,000 square feet of commercial office use. The mixed – use development consists of 120 apartments (106 market rate apartments and 14 affordable units), approximately 1,992 square feet of restaurant floor area and 1,033 square feet of retail floor area (Project).

Project Parking and Access

Vehicular access to the Project Site's parking garage is via Harlem Place, a 20 - foot one-way northbound alley located east of Spring Street between 2nd and 3rd Streets. The parking garage will provide 69 total parking spaces for the residents of the project (3 parking spaces at-grade plus loading area, and 22 parking spaces on each of the three basement levels). A parking garage elevator with 2 auto lifts connects the at-grade vehicular access to the 3 basement parking levels. The Project is providing 102 bicycle parking spaces (89 long-term spaces and 13 short-term spaces).

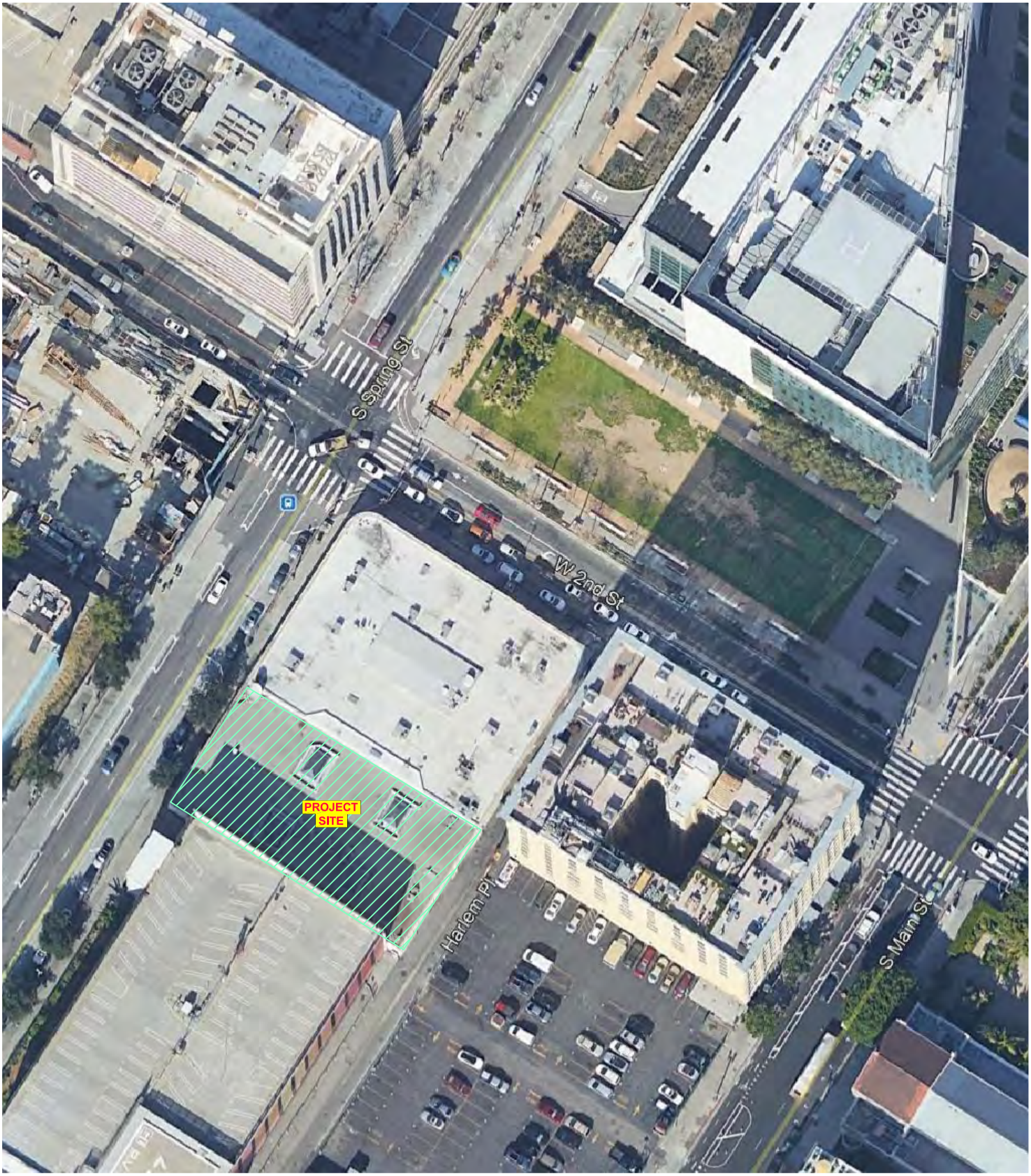


FIGURE 1

7/2021

PROJECT SETTING

Overland Traffic Consultants, Inc.
24325 Main Street #202, Santa Clarita, CA 91321
(661) 799-8423 OTC@overlandtraffic.com

Transportation Assessment CEQA and NON – CEQA Review

On July 30, 2019, the City of Los Angeles adopted the vehicle miles traveled (VMT) metric as its criterion for determining transportation impacts under the California Environmental Quality Act (CEQA). These changes are mandated by requirements of the State of California Senate Bill 743 (SB 743) and the State's CEQA Guidelines.

These new CEQA guidelines for evaluating transportation impacts no longer focus on measuring automobile delay and level of service (LOS). Instead, SB 743 directed lead agencies to revise transportation assessment guidelines to include a transportation performance metric that promotes: the reduction of greenhouse gas emissions, the development of multimodal networks, and access to diverse land uses.

The July 2020 LADOT TAG is the City of Los Angeles' document providing guidance for conducting CEQA transportation analyses for land development projects. The TAG identifies three CEQA thresholds for identifying significant transportation impacts in accordance with SB 743 that are applicable to the Project.

- Threshold T-1: Conflicting with Plans, Programs, Ordinances, or Policies
- Threshold T-2.1: Causing Substantial Vehicle Miles Traveled (VMT)
- Threshold T-3: Substantially Increasing Hazards Due to a Geometric Design Feature or Incompatible Use

The City's adopted process also requires additional non-CEQA analysis and review for land development projects. The purpose of this review is to evaluate how projects affect vehicular access, circulation, and safety for all users of the transportation system.

Findings

Based on the evaluation discussed in Chapters 2 and 3, no significant CEQA VMT transportation impacts or significant circulation, access, and safety deficiencies (non-CEQA) were identified by the development of the Project. No transportation mitigation measures are required of the Project.

Cumulative VMT impacts have been evaluated through a consistency check with the Southern California Association of Governments' (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (2016-2040 RTP/SCS) plan. The RTP/SCS is the regional plan that demonstrates compliance with air quality conformity requirements and greenhouse gas (GHG) reduction targets.

Per the LADOT TAG, projects that are consistent with the RTP/SCS plan in terms of development location and density are part of the regional solution for meeting air pollution and GHG goals. Projects that have less than a significant VMT impact are deemed to be consistent with the SCAG's 2016-2040 RTP/SCS and would have a less-than-significant cumulative impact on VMT. The Project is consistent with the RTP/SCS plan.

No cumulative development project impacts have been identified that would preclude the City's ability to provide transportation mobility in the area. As such, the Project will not create any cumulative operational impacts, emergency access impacts, and/or hazardous geometric design features.

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CHAPTER 1 PROJECT DESCRIPTION

The Project Site is in the Central City Community Plan area. The address of the Project Site is 216 S. Spring Street on the east side of Spring Street south of 2nd Street. Figure 2 illustrates the map location of the Project Site.

The Project Site consists of 1 lot with a total lot area of approximately 12,718 square feet (0.292 acres) and occupied with approximately 14,000 square feet of commercial office use. The mixed – use development consists of 120 apartments (106 market rate apartments and 14 affordable units), approximately 1,992 square feet of restaurant floor area and 1,033 square feet of retail floor area (Project).

Project Parking and Access

Vehicular access to the Project Site's parking garage is via Harlem Place, a 20 - foot one-way northbound alley located east of Spring Street between 2nd and 3rd Streets. The parking garage will provide 69 total parking spaces for the residents of the project (3 parking spaces at-grade plus loading area, and 22 parking spaces on each of the three basement levels). A parking garage elevator with 2 auto lifts connects the at-grade vehicular access to the 3 basement parking levels.

The Project is providing 102 bicycle parking spaces (89 long-term spaces and 13 short-term spaces).

Figure 3 shows the ground floor and the typical parking level. Figure 4 illustrates lot survey and City of Los Angeles' Cadastral map of the site.

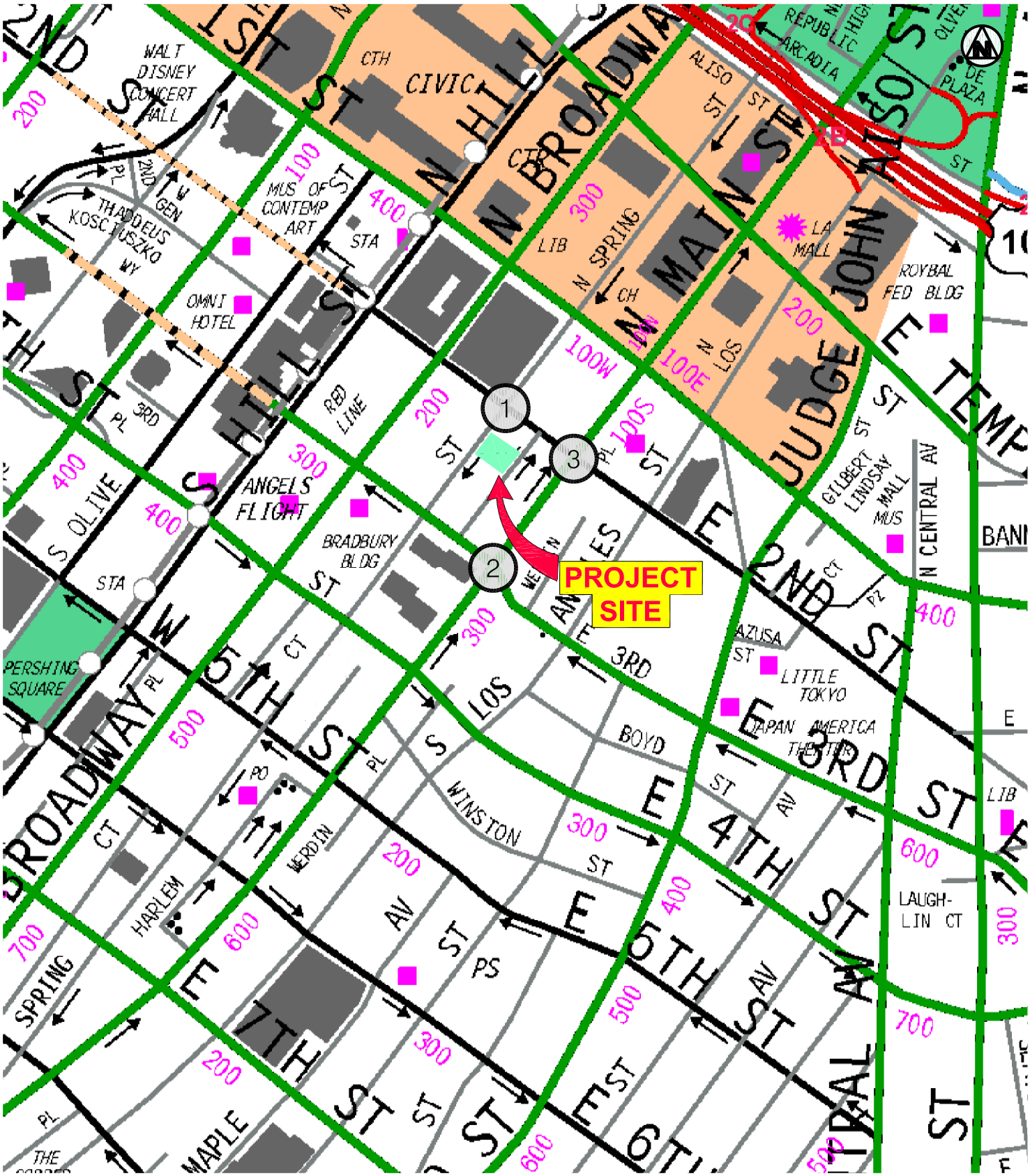
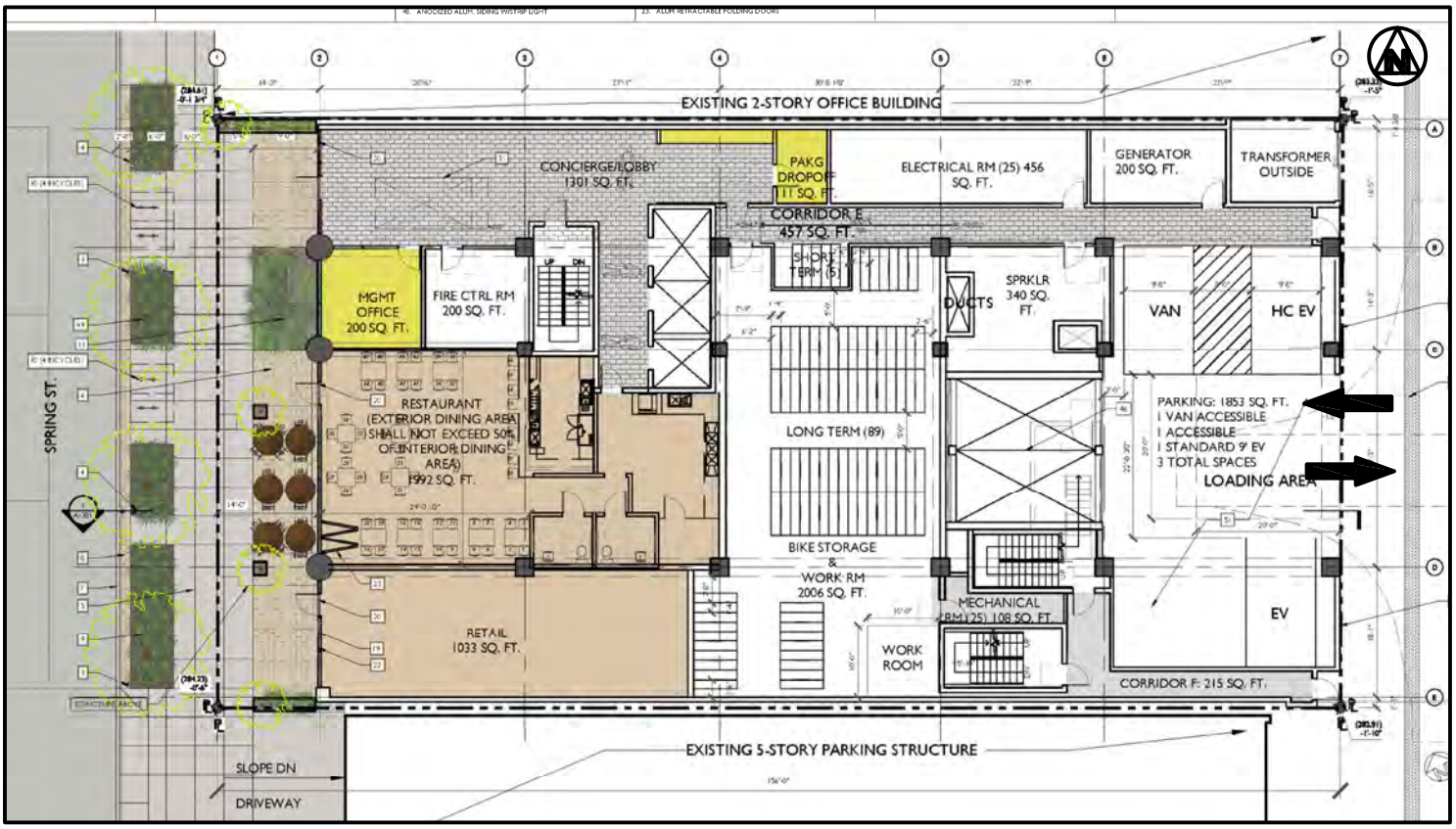


FIGURE 2

7/2021

PROJECT LOCATION

Overland Traffic Consultants, Inc.
24325 Main Street #202, Santa Clarita, CA 91321
(661) 799-8423 OTC@overlandtraffic.com



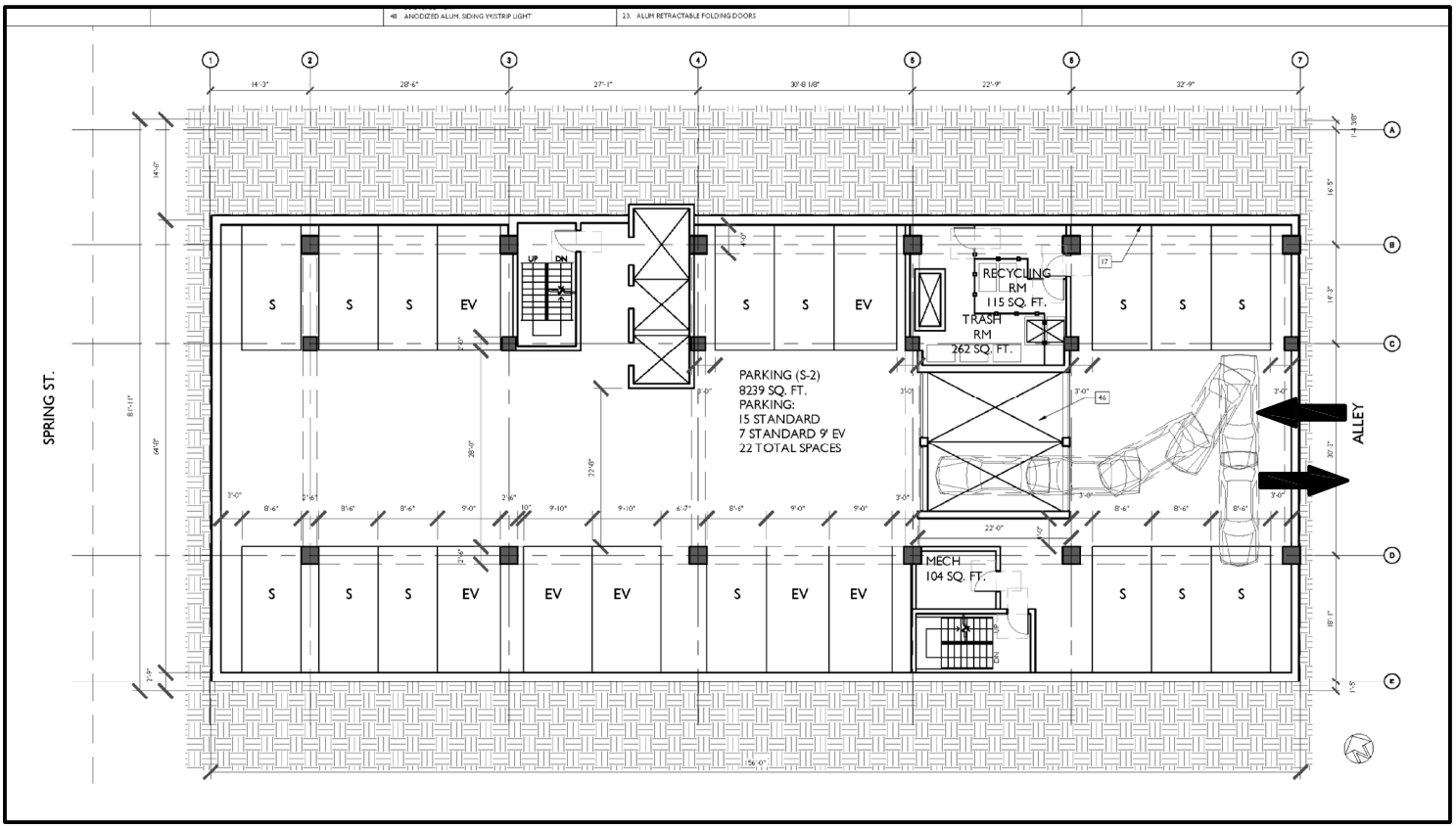
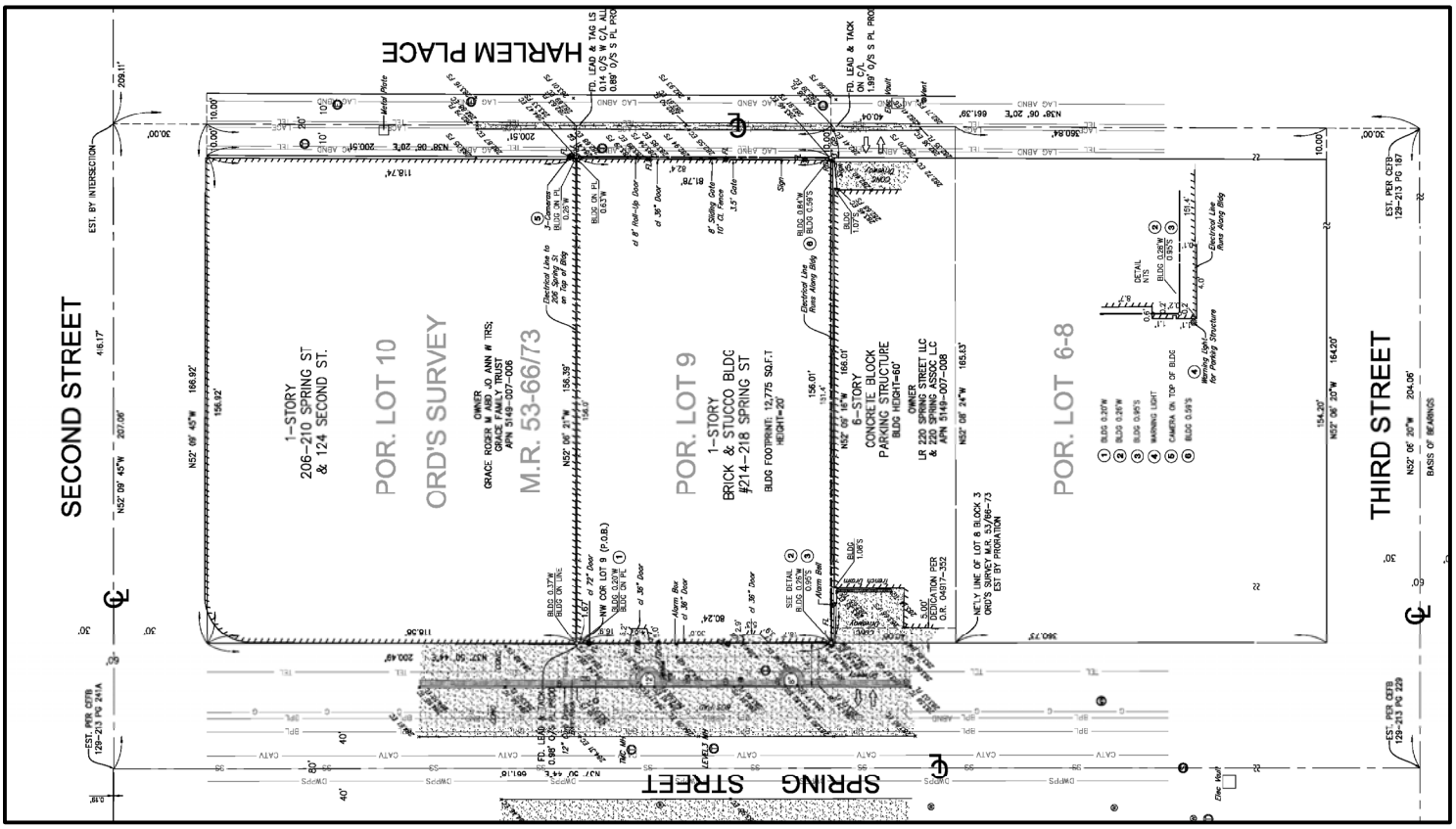


FIGURE 3

7/2021

PROJECT SITE PLAN
GROUND FLOOR AND TYPICAL PARKING LEVEL

Overland Traffic Consultants, Inc.
24325 Main Street #202, Santa Clarita, CA 91321
(661) 799-8423 OTC@overlandtraffic.com



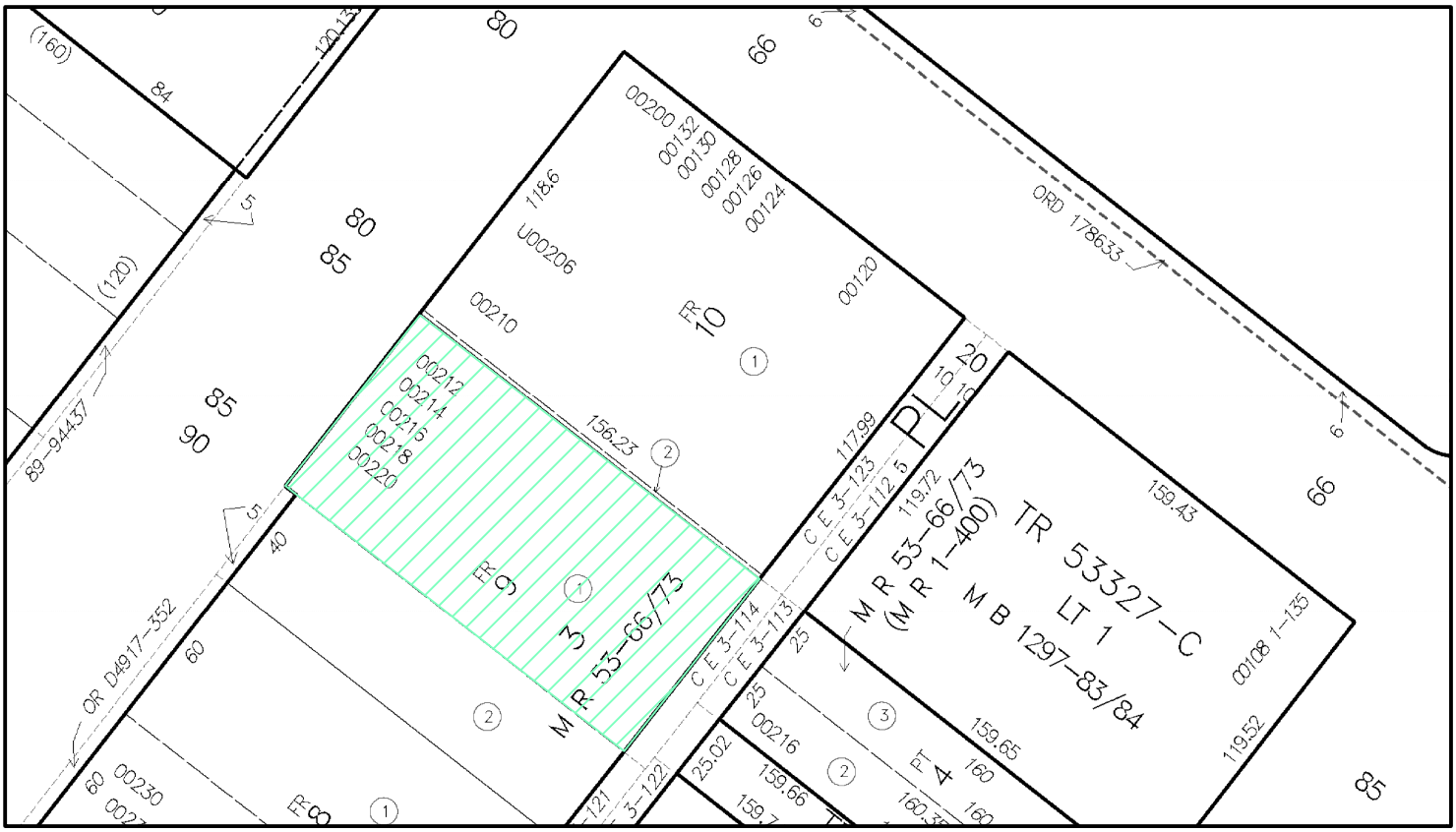


FIGURE 4

7/2021

PROJECT SITE
(parcel and cadastral map)

Overland Traffic Consultants, Inc.
24325 Main Street #202, Santa Clarita, CA 91321
(661) 799-8423 OTC@overlandtraffic.com

The TAG is the City document that establishes procedures and methods for conducting CEQA transportation analyses for land development projects. The TAG identifies three CEQA thresholds for identifying significant transportation impacts in accordance with SB 743 that are applicable to the Project.

- Threshold T-1: Conflicting with Plans, Programs, Ordinances, or Policies
- Threshold T-2.1: Causing Substantial Vehicle Miles Traveled (VMT)
- Threshold T-3: Substantially Increasing Hazards Due to a Geometric Design Feature or Incompatible Use

I. Conflicts with Plans, Programs, Ordinances or Policies (Threshold T-1)

To guide the City's Mobility Plan 2035 (Transportation Element of the General Plan), the City adopted programs, plans, ordinances, and policies that establish the transportation planning framework for all travel modes, including vehicular, transit, bicycle, and pedestrian facilities. Land development projects shall be evaluated for conformance with these City adopted transportation plans, programs, and policies.

Per the TAG guidelines, the Threshold T-1 CEQA question (impact criteria) would be if a project conflicts with a program, plan, ordinance(s), or policy addressing the circulation system? However, a project would not be shown to result in an impact merely based on whether a project would not implement a program, policy, or plan. Rather, it is the intention of this threshold test to ensure that proposed development does not conflict with nor preclude the City from implementing adopted programs, plans, and policies.

Screening Criteria for Policy Analysis

If the development project requires a discretionary action, and the answer is yes to any of the following screening threshold questions, further analysis may be required to assess whether the proposed project would conflict with plans, programs, ordinances, or policies.

1. Does the project require a discretionary action that requires the decision maker to find that the decision substantially conforms to the purpose, intent, and provisions of the General Plan?
   Yes, the Project requires a discretionary action.

2. Is the Project known to directly conflict with a transportation plan, policy or program adopted to support multi-modal transportation options or public safety?
   No, the Project would not conflict with these key City planning documents, and potential impacts would be less than significant, see Table 1, Consistency Check.

3. Is the Project proposing to, or required to, make any voluntary or required, modifications to the public right-of-way (i.e., street dedications, reconfigurations of curb lines, etc.)?
   No, Pursuant to the following Mobility Element Street Standards for the Project's adjacent street standards. The Project has no dedication requirements.

   Spring Street is designated a Modified Avenue II roadway which requires an 80-foot right-of-way (40-foot half width) and 52-foot (26-foot half width) roadway.

   - Spring Street is dedicated to a 40-foot half width and a 26-foot half street adjacent to the Project Site. No dedication or street widening is necessary to satisfy the Modified Avenue II Street standard.
   - Harlem Place (adjacent alley) is fully dedicated to 20 feet; therefore, no additional dedication is necessary.

The TAG provides a list of key City plans, policies, programs, and ordinances for consistency review as shown in Table 1. Projects that generally conform with and do not conflict with the City's development policies and standards addressing the circulation system, will generally be considered consistent.

Table 1
Consistency Check with Key City Plans, Programs, Ordinances or Policies

TAG Table 2.1-1: City Documents that Establish the Regulatory Framework				
	Plan or Policy	Consistent?	Notes	Preclude City Implementation?
1.	LA Mobility Plan 2035	Yes	The Project will comply with the LA Mobility Plan 2035 street standards for Spring Street and Harlem Place (Alley), as required by the Bureau of Engineering.	No
2.	Plan for Healthy LA	Yes	The Project would support Policy 5.7, Land Use Planning for Public Health and Greenhouse Gas (GHG) Emission Reduction by reducing single-occupant vehicle trips by its location within a Transit Priority Area (TPA) service area and by providing bike parking. The Project provides pedestrian access separate from the vehicular access. The Project would not conflict with policies in the Plan for Healthy LA.	No
3.	Land Use Element of the General Plan (35 Community Plans)	Yes	The Project is in the Central City Community Plan area. The Project would be in substantial conformance with the purposes, intent, and provisions of the General Plan and the Community Plan. Note the Central City Community Plan is being updated.	No
4.	Specific Plans	Yes	The Project is not located in a Specific Plan area.	N/A
5.	LAMC Section 12.21A.16 (Bicycle Parking)	Yes	The Project complies with the ratio of short and long-term bicycle parking pursuant to LAMC Section 12.21. A.16.	No
6.	LAMC Section 12.26J (TDM Ordinance)	Yes	LAMC Section 12.26J for Transportation Demand Management and Trip Reduction Measures applies only to the construction of new non-residential floor area greater than 25,000 s.f. The Project does not have commercial floor area exceeding 25,000 s.f..	No
7.	LAMC Section 12.37 (Waivers of Dedications and Improvement)	Yes	The Project is not seeking a waiver of the dedication and widening.	N/A
	Plan or Policy	Consistent?	Notes	Preclude City Implementation?
8.	Vision Zero Action Plan	Yes	The Project would not preclude or conflict with the implementation of future Vision Zero projects in the public right-of-way.	No
9.	Vision Zero Corridor Plan	Yes	The Project would not preclude or conflict with the implementation of future Vision Zero projects in the public right-of-way, No Vision Zero projects have been identified near the Project Site. See https://ladotlivablestreets.org/programs/vision-zero/maps	No

10.	Citywide Design guidelines	Yes		No
	Guideline 1: Promote a safe, comfortable, and accessible pedestrian experience for all	Yes	The Project will create a continuous and straight sidewalk clear of obstructions for pedestrian travel. The Project will provide adequate sidewalk width and right-of-way that accommodates pedestrian flow and activity. Pedestrian access will be provided at street level with direct access to the surrounding neighborhood and amenities.	No
	Guideline 2: Carefully incorporate vehicular access such that it does not degrade the pedestrian experience.	Yes	The Project complies with the Citywide Design Guidelines incorporating vehicle access locations that do not discourage and/or inhibit the pedestrian experience. All vehicular access is provided from the adjacent alley and not on adjacent streets.	No
	Guideline 3: Design projects to actively engage with streets and public space and maintain human scale.	Yes	The building design uses attractive architectural elements. The Project would not preclude or conflict with the implementation of future streetscape projects in the public right-of-way.	No

Cumulative Consistency Check

Pursuant to the TAG, each of the plans, programs, ordinances, and policies to assess potential conflicts with proposed projects should be reviewed to assess cumulative impacts that may result from the Project in combination with other nearby development projects. In accordance with the TAG, the cumulative analysis must include Related Projects within 0.5 miles of the Project Site. A listing of the Related Projects considered in the analysis is provided in Appendix G.

A cumulative impact could occur if the Project, with other future development projects located on the same block were to cumulatively preclude the City's ability to serve transportation user needs as defined by the City's transportation policy framework. One other development project has been identified on the same block (121 W. 3rd Street, related project #19). Note that Related Projects would be individually responsible for complying with the City's transportation plans, programs ordinances and policies, no cumulative impacts to the Mobility Element 2035 goals that define the development of the citywide transportation infrastructure been identified.

The Project does not have a significant transportation impact under CEQA Threshold T-1 (Conflicting with Plans, Programs, Ordinances, or Policies).

Criteria for Transportation Projects - Would the Transportation Project include the addition of through traffic lanes on existing or new highways, including general purpose lanes, high-occupancy vehicle (HOV) lanes, peak period lanes, auxiliary lanes, and lanes through grade-separated interchanges (except managed lanes, transit lanes, and auxiliary lanes of less than one mile in length designed to improve roadway safety)?

Not Applicable **-** This analysis for Transportation Projects is not applicable to land development projects and the Project is not a transportation project because the Project is a land development project. Therefore, the Transportation Project analysis is not part of the Project's CEQA review.

II. Causing Substantial Vehicle Miles Traveled (Threshold T - 2.1)

The intent of this threshold question is to assess whether a land development project causes a substantial VMT impact. CEQA Guidelines Section 15064.3(b) relates to use of VMT as the methodology for analyzing transportation impacts.

To address this question, LADOT's TAG identified significant VMT impact thresholds for each of seven Area Planning Commission (APC) sub-areas in the City of Los Angeles. A project's VMT is compared against the City's APC threshold goals for household VMT per capita and work VMT per employee to evaluate the significance of the project's VMT.

A development project will have a potential impact if the development project would generate VMT exceeding 15% below the existing average VMT for the Area Planning Commission (APC) area in which the project is located per TAG's Table 2.2-1.

The Project is in the Central APC sub - area which limits daily household VMT per capita to a threshold value of 6.0 and a daily work VMT per employee to a threshold value of 7.6 (15% below the existing VMT for the Central APC).

The Project's household VMT per capita is estimated at 2.5 which is significantly below the VMT threshold for the Central APC. The work VMT per employee is not applicable because the commercial space is less than the 50,000 s.f. threshold. Results of the Project's VMT calculation (as shown in Appendix F).

<u>Transportation Demand Management (TDM)</u>

The Project's design features include TDM measures that reduce trips and VMT through TDM strategies selected in the VMT calculator. Specifically, the Project's TDM program includes reduced parking and bike parking which is a regulatory measure and part of the Project's design features. These strategies as described by LADOT'S TAG are listed below:

- <u>Parking Strategy – Reduced Parking Supply</u> – This strategy changes the on-site parking supply to provide less than the amount of vehicle parking required by direct application of the Los Angeles Municipal Code (LAMC) without consideration of parking reduction

mechanisms permitted in the code. Permitted reductions in parking supply could utilize parking reduction mechanisms such as TOC, Density Bonus, Bike Parking ordinance, or locating in an Enterprise Zone or Specific Plan area.

- Bike Parking - This strategy involves implementation of short and long-term bicycle parking to support safe and comfortable bicycle travel by providing parking facilities at destinations under existing LAMC regulations applicable to the Project (LAMC Section 12.21.A.16). The Project provides bicycle parking consistent with LAMC Section 12.21.A.16 - The Project will provide 102 bicycle parking spaces (89 long-term spaces and 13 short-term spaces).

The effectiveness of the TDM strategies included in the VMT Calculator is based primarily on research documented in the 2010 California Air Pollution Control Officers Association (CAPCOA) publication, Quantifying Greenhouse Gas Mitigation Measures (CAPCOA, 2010).

Cumulative VMT Consistency Check

Cumulative VMT impacts are evaluated through a consistency check with the Southern California Association of Governments' (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (2016-2040 RTP/SCS) plan. The RTP/SCS is the regional plan that demonstrates compliance with air quality conformity requirements and greenhouse gas (GHG) reduction targets.

Per the City's TAG, projects that are consistent with the RTP/SCS plan in terms of development location and density are part of the regional solution for meeting air pollution and GHG goals. Projects that have less than a significant VMT impact are deemed to be consistent with the SCAG's 2016-2040 RTP/SCS and would have a less-than-significant cumulative impact on VMT.

As shown, the Project VMT impact would not exceed the City's Central APC VMT impact thresholds and as such, the Project's contribution to the cumulative VMT impact is adequate to demonstrate there is no cumulative VMT impact that would preclude the City's ability to provide transportation mobility in the area.

III. Substantially Increasing Hazards Due to a Geometric Design Feature or Incompatible Use (Threshold T- 3.1)

Impacts regarding the potential increase of hazards due to a geometric design feature generally relate to the design of access points to and from the project site, and may include safety, operational, or capacity impacts. Impacts can be related to vehicle conflicts as well as to operational delays caused by vehicles slowing and/or queuing to access a project site.

No deficiencies are apparent in the site access plans which would be considered significant. This determination considers the following factors:

1. Vehicle access to the parking will be from the adjacent north – south alley.
2. The Project's access is consistent with LADOT driveway width and placement per LADOT Manual of Policies and Procedures, Section 321, Driveway Design.
3. The net Project peak hour trip generation is 36 vehicles per hour (VPH) during the morning peak hour and 38 VPH during the afternoon peak hour. This level of added traffic would not create a transportation hazard or create any operational issues.

A review of the Project Site plan does not present any hazardous geometric design features that would result in vehicle/pedestrian, vehicle/bicycle, or vehicle/vehicle safety hazards. Therefore, the Project does not have a significant transportation impact under CEQA Threshold T-3.1 (Substantially Increasing Hazards Due to a Geometric Design Feature).

CHAPTER 3 NON-CEQA TRANSPORTATION ASSESSMENT

In addition to conducting a CEQA review of development projects pursuant to SB743, LAMC Section 16.05 (Site Plan Review) authorizes a non-CEQA transportation analysis of development projects to identify deficiencies that may occur in the area due to the Project. LADOT retains the ability to impose development conditions to improve operational safety and access around a project site and to better assess how proposed projects may affect the City's transportation system under the non-CEQA assessment.

To assist in the Project's non-CEQA evaluation, the following information summaries the environmental conditions in which the Project Site is located.

ENVIRONMENTAL SETTING

Land Use

The Project Site is in the Central City Community Plan area located in downtown Los Angeles. The Project is also located within the Civic Cener District of Los Angeles Council District 14 and the Downtown Los Angeles Neighborhood Council area.

The Community Plan area is located predominately south of Sunset Boulevard / Cesar Chavez Avenue, north of the Santa Monica Freeway (I-10), west of Alameda Street and east of the Harbor Freeway (I-110).

The adopted Central City Community Plan includes areas for residential uses, commercial uses, industrial uses, open space, and public facilities. The summary of land use (provided in Appendix B) indicates that the community plan area is 2,161 acres with approximately 5% residential, 38% commercial, 40% industrial with the balance open space and public facilities. A community plan update process is actively underway because the Central City Community Plan currently in effect was adopted in 2003.

Appendix B contains the Central City Community Plan land use map.

Transportation Facilities

The City of Los Angeles has adopted the Mobility Plan 2035 as an update to the City's General Plan Transportation Element to incorporate the complete streets principles for integrating multi-mode transportation networks. The Mobility Plan 2035 dictates the street standards and designations for all users. Appendix C provides the community plan circulation map of the area roadway designations and roadway design standards.

Pursuant to the City of Los Angeles Mobility Element, arterial roadways are designated Boulevards and Avenues. Boulevards represent the City's widest streets that typically provide regional access to major destinations; the roadway standard for a Boulevard II roadway is a right - of - way width of 110 feet and a roadway width of 80 feet. Avenues may vary in their land use context, with some streets passing through both residential and commercial areas; the roadway standard for an Avenue II roadway is a right - of - way width of 86 feet and a roadway width of 56 feet.

Non - arterial roadways connect arterial roadways to local residential neighborhoods or industrial areas. Non - arterial roadways are designated collector or local streets. The standard for a collector street is a right - of - way width of 66 feet and a roadway width of 40 feet; a hillside collector has a reduced right - of - way width of 50 feet and a roadway width of 40 feet; the standard for a local street is a right - of - way width of 60 feet and a roadway width of 36 feet with a hillside local street right - of - way width of 44 feet and a roadway width of 36 feet.

Regional access to Project area is provided by the Harbor Freeway (I-110) and the Santa Ana Freeway (US-101). The Harbor Freeway is a north-south freeway approximately 0.7 mile west of the Project Site and accessible with a full access on and off ramps at 3rd^{h} Street. The Harbor Freeway provides four lanes in each direction with access auxiliary lanes. The Santa Ana Freeway is an east-west freeway located approximately 0.4 mile north of the Project Site and accessible with access ramps on Broadway and Los Angeles Street. Both regional Freeways provides four lanes in each direction with access auxiliary lanes.

Major east - west streets serving the study area include 2nd Street and 3rd Street. Key north - south streets providing access to the Project Site include Spring Street and Main Street.

2nd Street is an east - west roadway designated a Modified Avenue II roadway. 2nd Street is included in the Pedestrian Network, and Tier 1 Bike Network (west of Main Street) and Tier 2 Bike Network (east of Main Street) of the Mobility Plan. 2nd Street provides one lane in each direction, metered parking, and left turn lanes.

3rd Street is an east - west roadway designated a Modified Avenue II roadway. 2nd Street is included in the Pedestrian Network, and Tier 1 Bike Network (east of Spring Street) of the Mobility Plan 3rd Street provides one lane in each direction, metered parking, and left turn median lanes.

Spring Street is a north-south roadway designated a Modified Avenue II roadway. Spring Street is included in the Pedestrian Network, and Tier 1 Bike Network of the Mobility Plan. Two lanes are provided southbound, bike lanes and on-street parking.

Main Street is a north-south roadway designated an Avenue II roadway that provides 2 lanes northbound, bike lanes and on-street parking. Main Street is included in the Pedestrian Network, and Tier 1 Bike Network of the Mobility Plan

Transit Information

The NextGen Bus Plan was approved by the Metro Board of Directors and is ready for implementation with a 3-phased roll-out that begins in December 2020 and continues through the end of 2021. The approved Bus Plan is a reimagined bus system that focuses on providing fast, frequent, reliable, and accessible service to meet the needs of today's riders. In addition to the improved bus system, the Project Site is in a designated Tier 4 Transit Oriented Community (TOC).

Multiple public transportation opportunities are provided in downtown Los Angeles. Public transportation is provided by the Metropolitan Transportation Authority (Metro), the City of Los Angeles Department of Transportation Dash service (DASH), and other

municipal transit agencies. The Project Site is located near the Metro Rail's Historic Broadway station located on 2nd Street between Broadway and Spring Street. This new station under construction is part of the 1.9 mile underground light rail system connecting Metro Rail's L Line (Gold) to the 7th Street/Metro Center Station.

Metro Local routes include Lines 30 and 210 with the nearest stops located at the intersection of Pico Boulevard and Crenshaw Boulevard (less than 500 feet). These Metro transit lines are described below:

The transit line route maps are illustrated in Appendix D.

Complete Streets Mobility Networks (Vehicle, Bicycle, Transit and Neighborhood)

The Mobility Plan Element establishes a layered network of street standards that are designed to emphasize mobility modes within the larger system. This approach maintains the primary function of the streets that exist but identifies streets for potential alternative transportation modes providing a range of options available when selecting the appropriate design elements. Street may be listed in several networks with the goal of selecting a variety of mobility enhancements.

Network layers have been created for the Complete Street Network that prioritizes a certain mode within each layer with the goal of providing better connectivity. The network layers are Vehicle Enhanced network, Transit Enhanced network, Bicycle Enhanced network, Neighborhood Enhanced network, and Pedestrian Enhanced District. Definitions of these networks per the Complete Street Design Guidelines are provide below. Mobility Element maps, Walkability Index maps, bicycle plan maps, and pedestrian destination maps are included in Appendix E.

Vehicle Enhanced Network (VEN) - The VEN includes a select number of arterials that carry high volume of traffic for long distance travel on corridors with freeway access. Moderate enhancements typically include technology upgrades and peak-hour restrictions for parking and turning movements. Comprehensive enhancements can include improvements to access management, all-day lane conversions of parking, and all-day turning movement restrictions or permanent access control.

- No study area streets are identified on Vehicle Network Map.

Transit Enhanced Network (TEN) - The TEN is comprised of streets that prioritize travel for transit riders.

- Broadway – Comprehensive Transit Enhanced Street.
- First Street – Moderate Plus Transit Enhanced Street.

Bicycle Enhanced Network (BEN) – The BEN is comprised of a network of low – stressed protected bike lanes (Tier 1) and bike paths prioritize bicycle travel by providing specific bicycle facilities and improvements. The BEN proposes bike facilities on arterial roadways with a striped separation. Tier 1 corresponding to protected bicycle lanes, and Tier 2 and Tier 3 bicycle lanes on arterial roads with a striped separation that are differentiated only by their potential implementation phasing - The difference between Tier 2 and Tier 3 implies probability that some lanes are not expected to be implemented by 2035.

The City of Los Angeles adopted a 2010 Bicycle Master Plan to encourage alternative modes of transportation throughout the City of Los Angeles. The Master Plan was developed to provide a network system that is safe and efficient to use in coordination with the vehicle and pedestrian traffic on the city street systems. The Master Plan has mapped out the existing, funded, and potential future Bicycle Paths, Bicycle Lanes, and Bicycle Routes. A brief definition of the bicycle facilities is provided below:

Bicycle Path – A bicycle path is a facility that is separated from the vehicular traffic for the exclusive use of the cyclist (although sometimes combined with a pedestrian lane). The designated path can be completely separated from vehicular traffic or cross the vehicular traffic with right-of-way assigned through signals or stop signs.

- No streets in the vicinity of the Project Site are designated a bicycle path.

Bicycle Lane – A bicycle lane is typically provided on street with a designated lane striped on the street for the exclusive use of the cyclist. The bicycle lanes are occasionally curbside, outside the parking lane, or along a right turn lane at intersections.

- Second Street west of Main Street is identified as part of the BEN – Tier 1.
- Second Street east of Main Street is identified as part of the BEN – Tier 2.
- Third Street and First Street east of Spring Street are identified as part of the BEN – Tier 1.
- First Street west of Spring Street are identified as part of the BEN – Tier 2.
- Spring Street is identified as part of the BEN – Tier 1.
- Main Street is identified as part of the BEN – Tier 1.
- Los Angeles Street north of First Street is identified as part of the BEN – Tier 2.

Bicycle Route – A bicycle route is a designated route in a cycling system where the cyclist shares the lane with the vehicle. Cyclist would follow the route and share the right-of-way with the vehicle.

- No streets in the vicinity of the Project Site are designated bike routes per the network maps.

Neighborhood Enhanced Network (NEN) - NEN is comprised of local streets intended to benefit from pedestrian and bicycle related safety enhancements for more localized travel of slower means of travel while preserving the connectivity of local streets to other enhanced networks. These enhancements encourage lower vehicle speeds, providing added safety for pedestrians and bicyclists.

- No streets in the vicinity of the Project Site are identified as part of the City's NEN.

Pedestrian Enhanced District (PEDs) - In addition to these street networks, many arterial streets that could benefit from additional pedestrian features to provide better walking connections are identified as Pedestrian Enhanced Districts. The PED segments provided in the mobility map identify streets where pedestrian improvements on arterial streets could be prioritized to provide better walking connections to and from the major destinations within communities.

- All the streets in the study area have been identified as pedestrian enhanced street segments with the goal of providing a more attractive environment to promote walking for shorter trips.

The Complete Streets guide acknowledges that adding pedestrian design features and street trees encourages people to take trips on foot instead of by car. Thereby helping to reduce the volume of cars on the road and emissions, increases economic vitality, and make the City of Los Angeles feel like a more vibrant place.

PROJECT TRAFFIC GENERATION

As part of the non-CEQA assessment, an operational analysis of the peak hour traffic flow with the Project has been requested. This evaluation is based on peak hour traffic flow level of service (LOS) methodologies which determines vehicle delay using current traffic volume data, traffic signal and street characteristics.

Traffic generating characteristics of land uses have been studied by the Institute of Transportation Engineers (ITE) and LADOT. The results of these studies are published in ITE Trip Generation, 10th Edition Handbook and the LADOT TAG (LADOT has adopted traffic rates for affordable apartments). Using these traffic rates, the Project traffic has been estimated at 337 net daily trips (LADOT VMT Calculator Tool) with 36 morning and 38 afternoon peak hour trips using the ITE peak hour traffic rates, as shown in Tables 2 and 3.

Table 2
Project Trip Generation Rates

ITE		Daily	AM Peak Hour			PM Peak Hour		
Code	Description	Traffic	In	Out	Total	In	Out	Total
710	Office (per 1,000 s.f.)	9.74	86%	14%	1.16	16%	84%	1.15
820	Retail (per 1,000 s.f.)	37.75	62%	38%	0.94	48%	52%	3.81
932	Restaurant (per 1,000 s.f.)	112.18	55%	45%	9.94	62%	38%	9.77
222	Apartments high-rise Center City Core (per unit)	2.16	24%	76%	0.31	61%	39%	0.36
LADOT	Affordable Apartments (per unit inside TPA)	4.16	37%	63%	0.49	56%	44%	0.35

Table 3
Estimated Project Traffic Generation

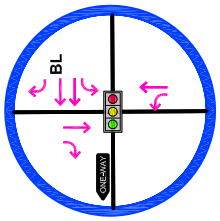
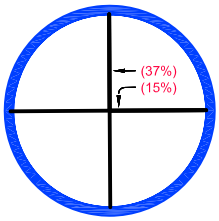
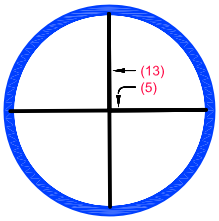
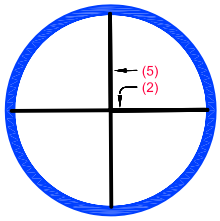
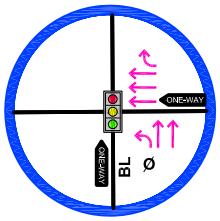
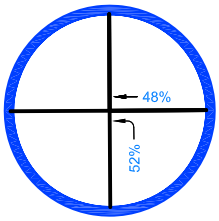
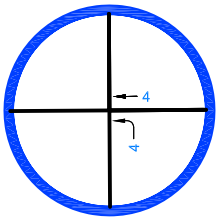
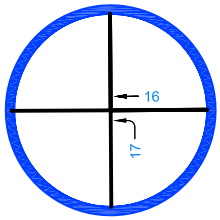
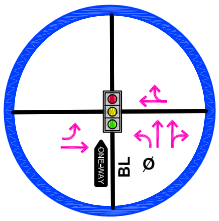
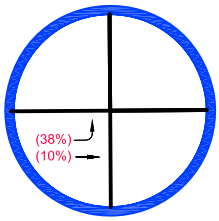
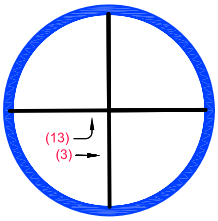
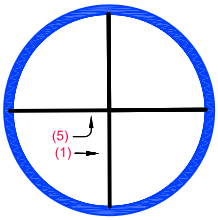
ITE Code	Description	Size	VMT Calculator	Daily Traffic	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
	Proposed Project									
222	Apartments high-rise Center City Core (per unit)	106 units		229	8	25	33	23	15	38
LADOT	Affordable Apartments (per unit inside TPA)	14 units		58	3	4	7	3	2	5
933	Restaurant Fast Food (per 1,000 s.f.)	1,992 sf		223	11	9	20	12	7	19
	Transit/Walk*	25%		(56)	(3)	(2)	(5)	(3)	(2)	(5)
	Pass By	50%		(84)	(3)	(3)	(6)	(5)	(3)	(8)
820	Retail (per 1,000 s.f.)	1,033 sf		39	1	0	1	2	2	4
	Transit/Walk	15%		(6)	(0)	(0)	(0)	(1)	(0)	(1)
	Street Traffic		427	403	17	33	50	31	21	52
	Driveway Traffic			487	20	36	56	36	24	60
	Existing									
710	Office (per 1,000 s.f.)	14,000 sf		136	14	2	16	3	13	16
	Transit/Walk	15%		(20)	(2)	0	(2)	0	(2)	(2)
	Existing Street Traffic		90	116	12	2	14	3	11	14
	Existing Driveway Traffic			116	12	2	14	3	11	14
	Net Street Traffic		337	287	5	31	36	28	10	38
	Net Driveway Traffic			371	8	34	42	33	13	46

* Regional Rail Connector project under construction with Historic Broadway Station just west of Project Site.

Using the traffic assignment at each intersection presented in Figure 5 and the estimated peak hour traffic volume as provided in the Table 3, the Project's peak hour traffic volume at each study intersection has been calculated. Figure 5 shows the estimated project traffic distribution percentages and assignment of Project's peak hour traffic for the analysis.

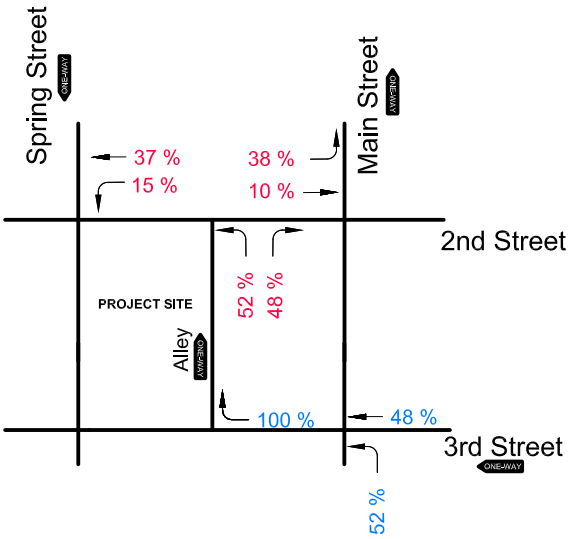
Trip Assignment Source: DOT Case No. CEN16-44536 (222 W. 2nd St.)

LEGEND
XX INBOUND
(XX) OUTBOUND

		LANE CONFIGURATION	PROJECT TRAFFIC ASSIGNMENT PERCENTAGE	PROJECT TRAFFIC AM PEAK HOUR VOLUME	PROJECT TRAFFIC PM PEAK HOUR VOLUME
1	SPRING STREET & 2ND STREET				
2	MAIN STREET & 3RD STREET				
3	MAIN STREET & 2ND STREET				

PROJECT NET TRIP GENERATION

AM TRIPS		PM TRIPS	
IN	OUT	IN	OUT
8	34	33	13



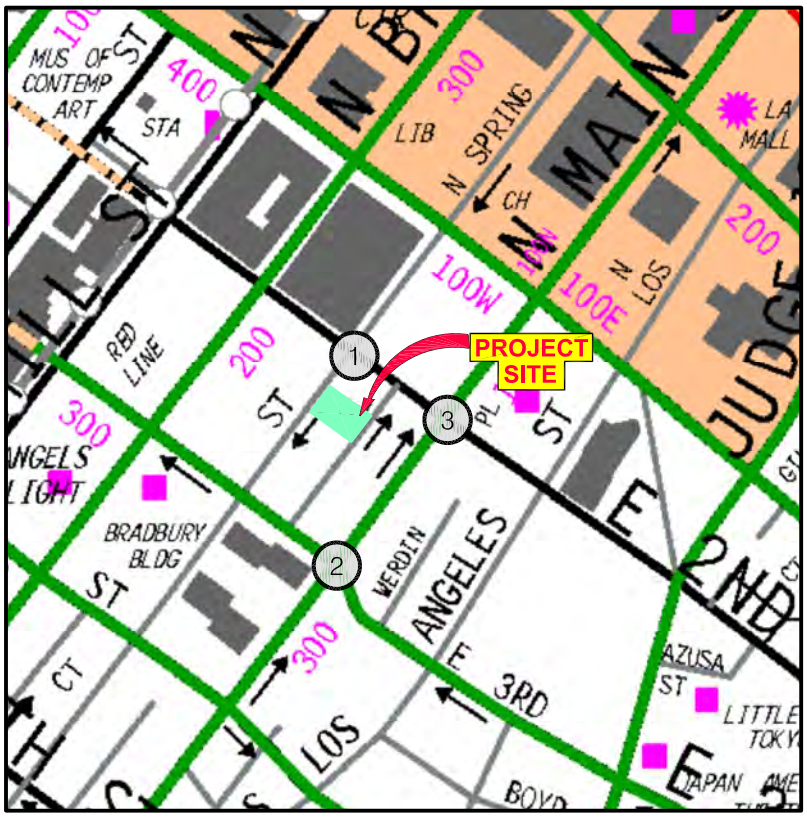


FIGURE 5

7/2021

PROJECT TRAFFIC ASSIGNMENT

Overland Traffic Consultants, Inc.
952 Manhattan Beach Bl, #100, Manhattan Beach, CA 90266
(310) 545 - 1235, OTC@overlandtraffic.com

PEDESTRIAN, BICYCLE AND TRANSIT ACCESS ASSESSMENT

Purpose - The pedestrian, bicycle and transit assessments are intended to determine a project's potential effect on pedestrian, bicycle, and transit facilities in the vicinity of the Project Site. Any deficiencies could be physical (through removal, modification, or degradation of facilities) or demand-based (by adding pedestrian or bicycle demand to inadequate facilities).

Removal or Degradation of Facilities

The Project will not remove, modify, or degrade any pedestrian, bicycle, and transit facility in the vicinity of the Project Site. In fact, any damaged or off grade sidewalk, curb and gutter along the property frontage(s) will be repaired under Section 12.37 of the Los Angeles Municipal Code (LAMC). Furthermore, the Project will not add any driveways on Spring Street, all vehicle access to and from Harlem Place (designated alley).

Project Intensification of Use

Generally, projects that contribute to efficient land use patterns enabling higher levels of walking, cycling, and transit as well as lower than average trip length are considered to have a less than significant impact on transportation. Governor's Office of Planning and Research (OPR) December 2018 Technical Advisory on Evaluating Transportation Impacts in CEQA, identifies projects and areas presumed to have a less than significant transportation impact to include:

- Residential, office, or retail projects within a Transit Priority Area, where a project is within a ½ mile of an existing or major transit stop or an existing stop along a high - quality transit corridor. A major transit stop is defined as a site containing an existing rail transit station, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods (Pub. Resources Code, § 21064.3). The Project is in a TPA and TOC Tier 4 designated area.

- A high-quality transit corridor is defined as a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours (Pub. Resources 215 Code, § 21155). Existing service performance (stop level ridership map) near the Project Site can be reviewed by exploring the Metro Next Generation Bus Plan portal using the link below.

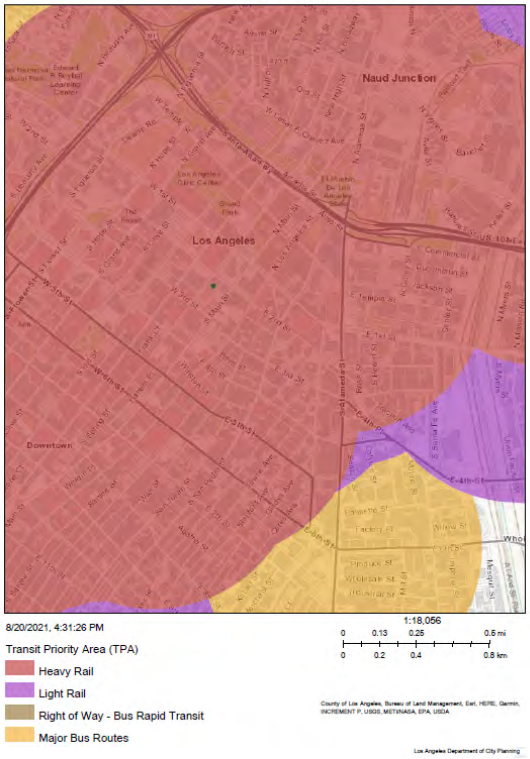
https://la-metro.maps.arcgis.com/apps/MapSeries/index.html?appid=8decc337ba35474ba28d0b4e9ad71647#

- An area pre-screened by an agency as having low residential or office VMT. The Project is in the Central CPA which has the lowest work VMT per employee and household VMT per capita in the City of Los Angeles
- The Project has a Walk Score of 96 out of 100 (very walkable); Walk Score measures the walkability of any address based on the distance to nearby places and pedestrian friendliness.

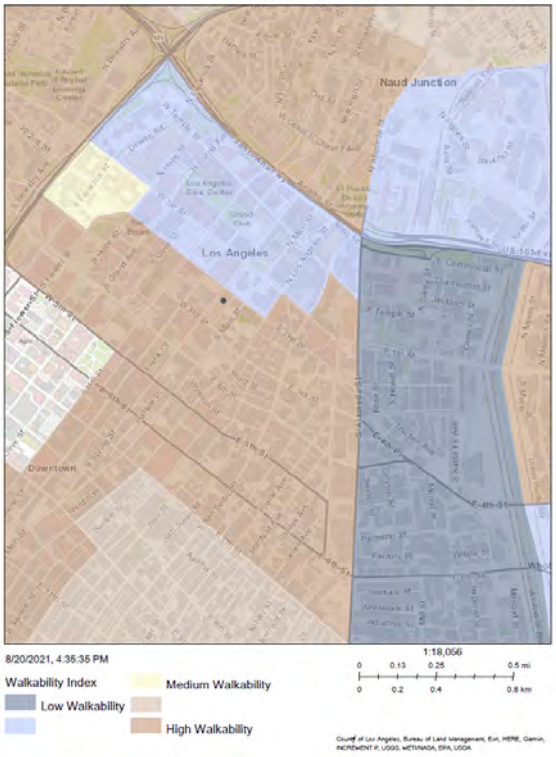
https://www.walkscore.com/score/216-s-spring-st-los-angeles-ca-90012

Network exhibits shown below are created by the Great Street Challenge interactive map which show the Projects location within the TPA and Walkability Index area.

TRANSIT PRIORITY AREA (TPA)



WALKABILITY INDEX



It is estimated that the Project would have a residential population of approximately 283 persons and 10 employees per the VMT Calculator. It should be noted that the Project generates less than the 1,000 daily vehicle trip threshold (337 net daily trips using the VMT calculator) to assess if the Project would negatively affect existing pedestrians, bicycle, or transit facilities. This level of intensification would not require any additional pedestrian, transit, or bike facilities assessment or new facilities to be constructed.

High Injury Network

Vision Zero Los Angeles identified a strategic plan to reduce traffic deaths to zero by focusing on engineering, enforcement, education, and evaluation. The priority identified in the report is safety with a goal to make the streets of the City of Los Angeles the safest in the nation. As part of an effort to achieve this goal, LADOT identified a High Injury Network (HIN) of city streets. The HIN identifies streets with a high number of traffic-related severe injuries and deaths across all modes of travel with emphasis on those involving pedestrians and cyclists.

Spring Street is included in the High Injury Network, as indicated on the HIN map in Appendix C. Preventive measures by the Project include providing site access from the Harlem Place alley will maintain the safety of pedestrians, passing motorists and bicyclist traveling on Spring Street bike lanes.

PROJECT ACCESS, SAFETY AND CIRCULATION EVALUATION

Purpose – Project access and circulation is evaluated for safety, operational, and capacity constraints to identify circulation and access deficiencies that may require specific operational improvements.

Operational Evaluation

Per the TAG, the Transportation Assessment should include a quantitative evaluation of the project's expected access and circulation operations. Project access is considered constrained if the project's traffic would contribute to unacceptable queuing at project driveway(s) or would cause or substantially extend queuing at nearby signalized intersections. It should be noted that this analysis is not intended to be interpreted as a threshold of

significance for the purposes of CEQA review and does not affect the CEQA VMT Impact analysis.

The circulation level of service evaluation has been prepared using the Highway Capacity Manual (HCM) methodology which calculates the amount of delay per vehicle based upon the intersection traffic volumes, lane configurations, and signal timing.

Once the vehicle delay value has been calculated, operating characteristics are assigned a level of service grade (A through F) to estimate the level of congestion and stability of the traffic flow. The term "Level of Service" (LOS) is used by traffic engineers to describe the quality of traffic flow. Definitions of the LOS grades in terms of vehicle delay are shown in Table 4.

Table 4
Level of Service Definitions

LOS	HCM (delay in seconds)	Operating Conditions
A	Less than 10	No loaded cycles and few are even close. No approach phase is fully utilized with no delay.
B	>10 to 20	A stable flow of traffic.
C	>20 to 35	Stable operation continues. Loading is intermittent. Occasionally drivers may have to wait more on red signal and backups may develop behind turning vehicles.
D	>35-55	Approaching instability. Delays may be lengthy during short time periods within the peak hour. Vehicles may be required to wait through more than one signal cycle.
E	>55 to 80	At or near capacity with possible long queues for left-turning vehicles. Full utilization of every signal cycle is seldom attained.
F	> 80	Gridlock conditions with stoppages of long duration.

Analysis of Existing and Future Traffic Conditions

Adjusted baseline (2009 and 2017) traffic counts were obtained from LADOT. These historic counts were used for consistency with approved nearby traffic studies (Times Mirror Square and 222 West 2nd Street) and because new traffic data cannot be collected during the COV-19 pandemic, as directed by LADOT. These baseline traffic counts have been increased by 1 percent per year to reflect current 2021 conditions.

The intersections analyzed include:

1. Spring Street and 2nd Street
2. Main Street and 3rd Street
3. Main Street and 2nd Street

The future cumulative analysis includes an ambient growth factor of 1% to future year 2024 and other related development project located within the study area.

Results of the analysis are shown in Table 5 below for Existing (2021) and Future (2024) traffic conditions without and with the Project's peak hour traffic volume. As shown below, the existing and future LOS traffic conditions do not change with the addition of Project's peak hour traffic volume. Furthermore, the worksheets for the without and with Project scenarios do not show any change in the vehicle queuing lengths by the addition of the Project's peak hour traffic volume. Level of Service standard D or better is considered operating at an acceptable design level.

Table 5
Traffic Conditions
Without and With Project

No.	Intersection	Peak Hour	Existing 2021		Existing + Project		Future (2024) Without Project		Future (2024) With Project	
			Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
1	Spring Street &	AM	27.0	C	27.0	C	41.9	D	43.1	D
	2nd Street	PM	19.1	B	19.0	B	27.2	C	27.2	C
2	Main Street &	AM	17.8	B	17.4	B	24.0	C	24.1	C
	3rd Street	PM	25.9	C	25.9	C	31.0	C	30.9	C
3	Main Street &	AM	25.8	C	25.6	C	28.5	C	28.5	C
	2nd Street	PM	29.6	C	29.6	C	53.2	D	53.9	D

s = seconds

Figure 6 illustrates the existing and future peak hour traffic volumes used in the analyses. HCM worksheets are provided in Appendix H.

Based on the traffic conditions analysis, no Project access and circulation constraints have been identified. The results of this evaluation show that the Project will not create any non–CEQA circulation and access deficiencies.

PROJECT TRIP GENERATION

AM TRIPS		PM TRIPS	
IN	OUT	IN	OUT
8	34	33	13

AM PEAK HOUR

	EXISTING TRAFFIC VOLUME	EXISTING + PROJECT TRAFFIC VOLUME	FUTURE W/O PROJECT TRAFFIC VOLUME	FUTURE WITH PROJECT TRAFFIC VOLUME
1 SPRING STREET AND SECOND STREET	89, 1154, 26, 363, 113, 377, 331	89, 1154, 26, 376, 118, 377, 331	95, 1492, 29, 466, 200, 573, 372	95, 1492, 29, 479, 205, 573, 372
2 MAIN STREET AND THIRD STREET	181, 1505, 172, 496	181, 1509, 176, 496	223, 1891, 221, 946	223, 1895, 225, 946
3 MAIN STREET AND SECOND STREET	35, 348, 65, 367, 87, 545, 75	35, 348, 78, 370, 87, 545, 75	37, 501, 72, 559, 184, 861, 156	37, 501, 85, 562, 184, 861, 156

PM PEAK HOUR

	EXISTING TRAFFIC VOLUME	EXISTING + PROJECT TRAFFIC VOLUME	FUTURE W/O PROJECT TRAFFIC VOLUME	FUTURE WITH PROJECT TRAFFIC VOLUME
1 SPRING STREET AND SECOND STREET	25, 522, 16, 556, 59, 506, 184	25, 522, 16, 561, 61, 506, 184	73, 953, 19, 730, 164, 678, 212	73, 953, 19, 735, 166, 678, 212
2 MAIN STREET AND THIRD STREET	400, 951, 197, 1146	400, 967, 214, 1146	434, 1498, 263, 1540	434, 1514, 280, 1540
3 MAIN STREET AND SECOND STREET	46, 481, 101, 450, 107, 1129, 57	46, 481, 106, 451, 107, 1129, 57	52, 673, 104, 620, 195, 1419, 111	52, 673, 109, 621, 195, 1419, 111

FIGURE 6

8/2021

EXISTING AND FUTURE TRAFFIC VOLUME
AM AND PM PEAK HOUR

Overland Traffic Consultants, Inc.
952 Manhattan Beach Bl, #100, Manhattan Beach, CA 90266
(310) 930 - 3303, OTC@overlandtraffic.com

Safety Evaluation

No deficiencies are apparent in the site access plans which would be considered significant. All emergency ingress/egress associated with the Project would be designed and constructed in conformance to all applicable City Building and Safety Department, LADOT, and LAFD standards and requirements for design and construction. This would also ensure pedestrian safety.

Passenger Loading Evaluation

All required parking is located on – site in a parking garage. It is anticipated that all loadings will occur from within the parking garage or from the on-site loading area. In addition, one existing yellow loading zone is present on Spring Street adjacent to the Project Site.

Guidance for Freeway Safety Analysis

On May 1, 2020, LADOT issued an Interim Guidance for Freeway Safety Analysis memorandum. The purpose of this memorandum is to provide interim guidance on the preparation of freeway safety analysis for land use proposals that are required by LADOT to prepare Transportation Assessments.

LADOT has developed the following criteria for a project freeway safety analysis to be included in Transportation Assessments for land development projects. The initial step is to identify the number of Project trips expected to be added to nearby freeway off-ramps serving the Project Site.

If the Project adds 25 or more trips to any off ramp in either the morning or afternoon peak hour, then that ramp should be studied for potential queuing impacts. If the Project is not expected to generate more than 25 or more peak hour trips at any freeway off-ramps, then a freeway ramp analysis is not required.

As shown in the trip generation Table 3 and Project traffic assignment in Figure 4, the Project generates less than 25 peak hour trips. No further freeway safety analysis is necessary for the Project analysis using this guidance criteria.

The LADOT interim guidance remains in effect until Caltrans releases their "Safety Analysis Guide." The Caltrans "Safety Analysis Guide" is expected to be developed and released in 2022.

Construction Overview

Project construction is evaluated to determine if activities substantially interfere with pedestrian, bicycle, transit, or vehicle mobility. Factors to be considered are the location of the Project Site, the functional classification of the adjacent street affected, temporary loss of bus stops or rerouting of transit lines, and the loss of vehicle, bicycle, or pedestrian access. LADOT's TAG considers three areas to be considered when evaluating project construction activities. The Project applicant may be required to submit formal Work Area Traffic Control Plans for review and approval by the City prior to the issuance of any construction permits.

1. Temporary Transportation Constraints

As part of the Project's construction, the City of Los Angeles may require a Construction Traffic Management Plan (Plan) to be implemented during the construction phase to minimize potential conflicts with vehicles, pedestrians, bicycle, and transit facilities associated with the Project's construction. The Plan should include a construction schedule, the location of any traffic lane or sidewalk closures, any traffic detours, haul routes, hours of operation, access plans to abutting properties, and contact information.

Construction workers are typically expected to arrive at the Project Site before 7:00 AM and depart before or after the weekday peak hours of 4:00 to 6:00 PM. Deliveries of construction materials will be coordinated to non-peak travel periods, to the extent possible and occur from the parking lane along the Project's Spring Street and alley frontages.

For off-site activities, Worksite Traffic Control Plans would be prepared for any temporary traffic lane or sidewalk closures in accordance with City guidelines. These worksite plans will require a formal review and approval by the City prior to the issuance

of any construction permits. In addition, the City of Los Angeles will require a Truck Haul Route plan including permitted hauling hours and a haul route to and from the landfill.

No detours around the construction site are expected; however, flagmen would be used to control traffic movement during the ingress and egress of construction trucks.

Since Project construction would not substantially interfere with pedestrian, bicycle or vehicle mobility, the construction impacts would be less than significant.

2. Temporary Loss of Access

Vehicular access to the adjacent properties will be maintained. Safe pedestrian circulation paths adjacent to or around the work areas will be provided by covered pedestrian walkways if necessary and will be maintained as required by City-approved Work Area Traffic Control Plans.

Since Project construction would not result in complete loss of vehicular or pedestrian access, the construction impacts on loss of access would be less than significant.

3. Temporary Loss of Bus Stops or Rerouting of Bus Lines

No bus stops are located within the work zone adjacent to the Project Site that would need to be temporarily relocated. There will be no loss of pedestrian access to transit stops and no rerouting of bus lines are necessary.

Since Project construction would not require relocation of bus stops or bus lines, the construction impacts on transit operations would be less than significant.

APPENDIX A

LADOT Memorandum of Understanding (MOU

REFERRAL FORMS:

TRANSPORTATION STUDY ASSESSMENT

DEPARTMENT OF TRANSPORTATION - REFERRAL FORM

RELATED CODE SECTION: Los Angeles Municipal Code Section 16.05 and various code sections.

PURPOSE: The Department of Transportation (LADOT) Referral Form serves as an initial assessment to determine whether a project requires a Transportation Assessment.

GENERAL INFORMATION

- Administrative: Prior to the submittal of a referral form with LADOT, a Planning case must have been filed with the Department of City Planning.
- All new school projects, including by-right projects, must contact LADOT for an assessment of the school's proposed drop-off/pick-up scheme and to determine if any traffic controls, school warning and speed limit signs, school crosswalk and pavement markings, passenger loading zones and school bus loading zones are needed.
- Unless exempted, projects located within a transportation specific plan area may be required to pay a traffic impact assessment fee regardless of the need to prepare a transportation assessment.
- Pursuant to LAMC Section 19.15, a review fee payable to LADOT may be required to process this form. The applicant should contact the appropriate LADOT Development Services Office to arrange payment.
- LADOT's Transportation Assessment Guidelines, VMT Calculator, and VMT Calculator User Guide can be found at **http://ladot.lacity.org**.
- A transportation study is not needed for the following project applications:
  - Ministerial / by-right projects
  - Discretionary projects limited to a request for change in hours of operation
  - Tenant improvement within an existing shopping center for change of tenants
  - Any project only installing a parking lot or parking structure
  - Time extension
  - Single family home (unless part of a subdivision)
- This Referral Form is not intended to address the project's site access plan, driveway dimensions and location, internal circulation elements, dedication and widening, etc. These items require separate review and approval by LADOT.

SPECIAL REQUIREMENTS

When submitting this referral form to LADOT, include the completed documents listed below.

☐ Copy of Department of City Planning Application (CP-7771.1).

☐ Copy of a fully dimensioned site plan showing all existing and proposed structures, parking and loading areas, driveways, as well as on-site and off-site circulation.

☐ If filing for purposes of Site Plan Review, a copy of the Site Plan Review Supplemental Application.

☐ Copy of project-specific VMT Calculator[1] analysis results.

TO BE VERIFIED BY PLANNING STAFF PRIOR TO LADOT REVIEW

LADOT DEVELOPMENT SERVICES DIVISION OFFICES: Please route this form for processing to the appropriate LADOT Office as follows:

Metro	**West LA**	**Valley**
213-972-8482	*213-485-1062*	*818-374-4699*
100 S. Main St, 9th Floor	7166 W. Manchester Blvd	6262 Van Nuys Blvd, 3rd Floor
Los Angeles, CA 90012	Los Angeles, CA 90045	Van Nuys, CA 91401

1. PROJECT INFORMATION

Case Number: DIR-2020-7846-DB-SPR-HCA

Address: 216, 214, 216, 218, 220 South Spring Street

Project Description: New 17 story mixed use120 unit apartment tower with subterranean parking

Seeking Existing Use Credit (will be calculated by LADOT): Yes ✓ No _____ Not sure _____

Applicant Name: David Gray Architects

Applicant E-mail: blaise@davidgrayarchitects.com Applicant Phone: 2132435707

Planning Staff Initials: _____ **Date:** _____

2. PROJECT REFERRAL TABLE

	Land Use (list all)	**Size / Unit**	**Daily Trips**[1]
Proposed[1]	Dwelling units	120	324
	Restaurant	2000 SF	107
	Retail	1000 SF	24
		Total trips[1]*:*	499

a. Does the proposed project involve a discretionary action? **Yes** ☑ **No** ☐

b. Would the proposed project generate 250 or more daily vehicle trips[2]? **Yes** ☑ **No** ☐

c. If the project is replacing an existing number of residential units with a smaller number of residential units, is the proposed project located within one-half mile of a heavy rail, light rail, or bus rapid transit station[3]? **Yes** ☐ **No** ☑

If **YES** to **a.** and **b.** or **c.**, or to **all** of the above, the Project must be referred to LADOT for further assessment.

Verified by: Planning Staff Name:_____ Phone: _____

Signature: _____ Date: _____

[1] Qualifying Existing Use to be determined by LADOT staff on following page, per LADOT's Transportation Assessment Guidelines.

[2] To calculate the project's total daily trips, use the VMT Calculator. Under 'Project Information', enter the project address, land use type, and intensity of all proposed land uses. Select the '**+**' icon to enter each land use. After you enter the information, copy the 'Daily Vehicle Trips' number into the total trips in this table. Do not consider any existing use information for screening purposes. For additional questions, consult LADOT's VMT Calculator User Guide and the LADOT Transportation Assessment Guidelines (available on the LADOT website).

[3] Relevant transit lines include: Metro Red, Purple, Blue, Green, Gold, Expo, Orange, and Silver line stations; and Metrolink stations.

TO BE COMPLETED BY LADOT

3. PROJECT INFORMATION

	Land Use (list all)	**Size / Unit**	**Daily Trips**
Proposed	Apartments	120 Units	
	Retail	1000 SF	
	Restaurant	2000 SF	
		Total new trips:	499
Existing	Office	14000 SF	
		Total existing trips:	90
		Net Increase / Decrease (+ or -)	409

a. Is the project a single retail use that is less than 50,000 square feet? **Yes** ☐ **No** ☒

b. Would the project generate a net increase of 250 or more daily vehicle trips? **Yes** ☒ **No** ☐

c. Would the project result in a net increase in daily VMT? **Yes** ☒ **No** ☐

d. If the project is replacing an existing number of residential units with a smaller number of residential units, is the proposed project located within one-half mile of a heavy rail, light rail, or bus rapid transit station? **Yes** ☐ **No** ☒

e. Does the project trigger Site Plan Review (LAMC 16.05)? **Yes** ☐ **No** ☐

f. Project size:

- **i.** Would the project generate a net increase of 1,000 or more daily vehicle trips? **Yes** ☐ **No** ☒
- **ii.** Is the project's frontage 250 linear feet or more along a street classified as an Avenue or Boulevard per the City's General Plan? **Yes** ☐ **No** ☒
- **iii.** Is the project's building frontage encompassing an entire block along a street classified as an Avenue or Boulevard per the City's General Plan? **Yes** ☐ **No** ☒

VMT Analysis (CEQA Review)
If **YES** to **a.** and **NO** to **d.** a VMT analysis is **NOT** required.
If **YES** to both **b.** and **c.**; or to **d.** a VMT analysis **is** required.

Access, Safety, and Circulation Assessment (Corrective Conditions)
If **YES** to **b.**, a project access, safety, and circulation evaluation may be required.
If **YES** to **e.** and either **f.i.**, **f.ii.**, or **f.iii.**, an access assessment may be required.

LADOT Comments:

Please note that this form is not intended to address the project's site access plan, driveway dimensions and location, internal circulation elements, dedication and widening, etc. These items require separate review and approval by LADOT. Qualifying Existing Use to be determined per LADOT's Transportation Assessment Guidelines.

4. Specific Plan with Trip Fee or TDM Requirements: **Yes** ☐ **No** ☒

Fee Calculation Estimate: _____

VMT Analysis Required (Question b. satisfied): **Yes** ☒ **No** ☐

Access, Safety, and Circulation Evaluation Required (Question b. satisfied): **Yes** ☒ **No** ☐

Access Assessment Required (Question b., e., and either f.i., f.ii. or f.iii satisfied): **Yes** ☐ **No** ☒

Prepared by DOT Staff Name: Wes Pringle Phone: 213-972-8482

Signature: _____ Date: May 10, 2021

Transportation Assessment Memorandum of Understanding (MOU)

This MOU acknowledges that the Transportation Assessment for the following Project will be prepared in accordance with the latest version of LADOT's Transportation Assessment Guidelines:

I. PROJECT INFORMATION

Project Name: 216 SPRING

Project Address: 216 S. Spring Street

Project Description: 120 Apartments (106 market rate and 14 affordable units), 1,992 sf restaurant and 1,033 sf retail. Remove existing 14,000 sf office.

LADOT Project Case Number: CEN21-51507 Project Site Plan attached? *(Required)* ☒ Yes ☐ No

II. TRANSPORTATION DEMAND MANAGEMENT (TDM) MEASURES

Select any of the following TDM measures, which may be eligible as a Project Design Feature[1], that are being considered for this project:

X	Reduced Parking Supply[2]	X	Bicycle Parking and Amenities		Parking Cash Out

List any other TDM measures (e.g. bike share kiosks, unbundled parking, microtransit service, etc.) below that are also being considered and would require LADOT staff's determination of its eligibility as a TDM measure. LADOT staff will make the final determination of the TDM measure's eligibility for this project.

1 _____ 4 _____

2 _____ 5 _____

3 _____ 6 _____

III. TRIP GENERATION

Trip Generation Rate(s) Source: ITE 10th Edition / Other ITE 1OTH Edition and LADOT Affordable Housing

Trip Generation Adjustment *(Exact amount of credit subject to approval by LADOT)*	**Yes**	**No**
Transit Usage	☒	☐
Existing Active or Previous Land Use	☒	☐
Internal Trip	☐	☒
Pass-By Trip	☒	☐
Transportation Demand Management (See above)	☐	☒

Trip generation table including a description of the existing and proposed land uses, rates, estimated morning and afternoon peak hour volumes (ins/outs/totals), proposed trip credits, etc. attached? *(Required)* ☒ Yes ☐ No

	IN	OUT	TOTAL
AM Trips	5	31	36
PM Trips	28	10	38

NET Daily Vehicle Trips (DVT)
287 DVT (ITE 10 ed.)
427 DVT (VMT Calculator ver. 1.3)

[1] At this time Project Design Features are only those measures that are also shown to be needed to comply with a local ordinance, affordable housing incentive program, or State law.

[2] Select if reduced parking supply is pursued as a result of a parking incentive as permitted by the City's Bicycle Parking Ordinance, State Density Bonus Law, or the City's Transit Oriented Community Guidelines.

IV. STUDY AREA AND ASSUMPTIONS

Project Buildout Year: 2024 Ambient Growth Rate: 1 % Per Yr.

Related Projects List, researched by the consultant and approved by LADOT, attached? *(Required)* ☒ Yes ☐ No

STUDY INTERSECTIONS and/or STREET SEGMENTS:
(May be subject to LADOT revision after access, safety, and circulation evaluation.)

1 Spring Street and 2nd Street
2 Main Street and 3rd Street
3 Spring Street and 2nd Street
4
5
6

Provide a separate list if more than six study intersections and/or street segments.

Is this Project located on a street within the High Injury Network? ☒ Yes ☐ No

If a study intersection is located within a ¼-mile of an adjacent municipality's jurisdiction, signature approval from said municipality is required prior to MOU approval. n/a

V. ACCESS ASSESSMENT

a. Does the project exceed 1,000 net DVT? ☐ Yes ☒ No
b. Is the project's frontage 250 linear feet or more along an Avenue or Boulevard as classified by the City's General Plan? ☐ Yes ☒ No
c. Is the project's building frontage encompassing an entire block along an Avenue or Boulevard as classified by the City's General Plan? ☐ Yes ☒ No

VI. ACCESS ASSESSMENT CRITERIA

If Yes to any of the above questions a., b., or c., complete **Attachment C.1: Access Assessment Criteria**.

VII. SITE PLAN AND MAP OF STUDY AREA

Please note that the site plan should also be submitted to the Department of City Planning for cursory review.

Does the attached site plan and/or map of study area show	Yes	No	Not Applicable
Each study intersection and/or street segment	☒	☐	☐
*Project Vehicle Peak Hour trips at each study intersection	☒	☐	☐
*Project Vehicle Peak Hour trips at each project access point	☒	☐	☐
*Project trip distribution percentages at each study intersection	☒	☐	☐
Project driveways designed per LADOT MPP 321 (show widths and directions or lane assignment)	☒	☐	☐
Pedestrian access points and any pedestrian paths	☒	☐	☐
Pedestrian loading zones	☐	☒	☐
Delivery loading zone or area	☒	☐	☐
Bicycle parking onsite	☒	☐	☐
Bicycle parking offsite (in public right-of-way)	☐	☒	☐

*For mixed-use projects, also show the project trips and project trip distribution by land use category.

VIII. FREEWAY SAFETY ANALYSIS SCREENING

Will the project add 25 or more trips to any freeway off-ramp in either the AM or PM peak hour? ☐ **YES** ☒ **NO**

Provide a brief explanation or graphic identifying the number of project trips expected to be added to the nearby freeway off-ramps serving the project site. If Yes to the question above, a freeway ramp analysis is required.

Project is a low traffic generator, a net increase of 5 am peak hour trips inbound and 28 pm peak hour trips inbound

IX. CONTACT INFORMATION

	CONSULTANT	DEVELOPER
Name:	Overland Traffic Consultants	216 Spring Street LLC
Address:	24325 Main Street #202 Santa Clarita CA	353 S. Broadway Ste 20o0 Los Angeles CA
Phone Number:	310.930.3303	213.243.5707
E-Mail:	otc@overlandtraffic.com	blaise@davidgreyarchitects.com

Approved by:	x	7/16/2021	x	7/29/2021
	Consultant's Representative	Date	LADOT Representative	**Date
Adjacent Municipality:		Approved by:		
		(if applicable)	Representative	Date

**MOUs are generally valid for two years after signing. If after two years a transportation assessment has not been submitted to LADOT, the developer's representative shall check with the appropriate LADOT office to determine if the terms of this MOU are still valid or if a new MOU is needed.

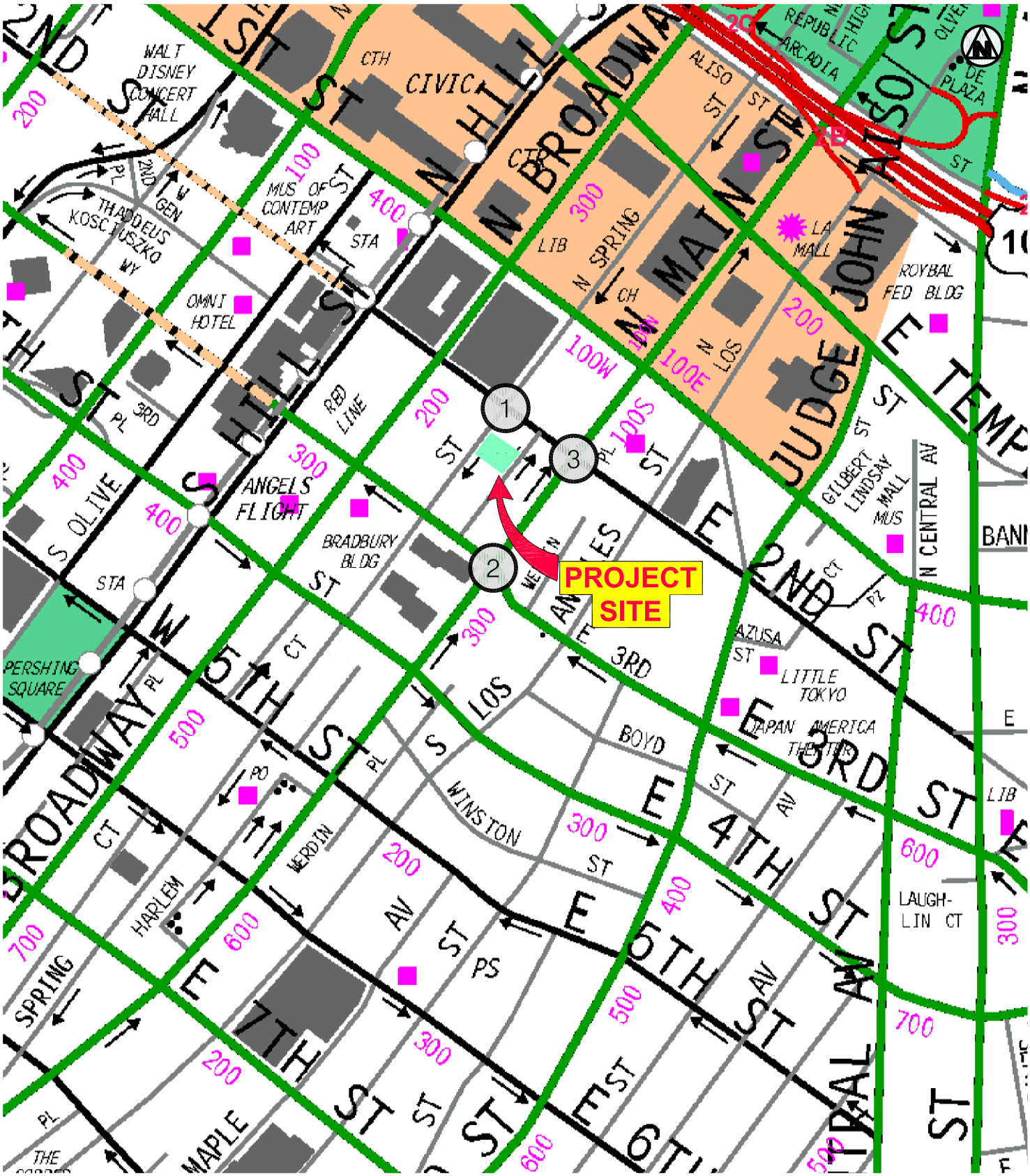


FIGURE 1

7/2021

PROJECT LOCATION

Overland Traffic Consultants, Inc.
24325 Main Street #202, Santa Clarita, CA 91321
(661) 799-8423 OTC@overlandtraffic.com

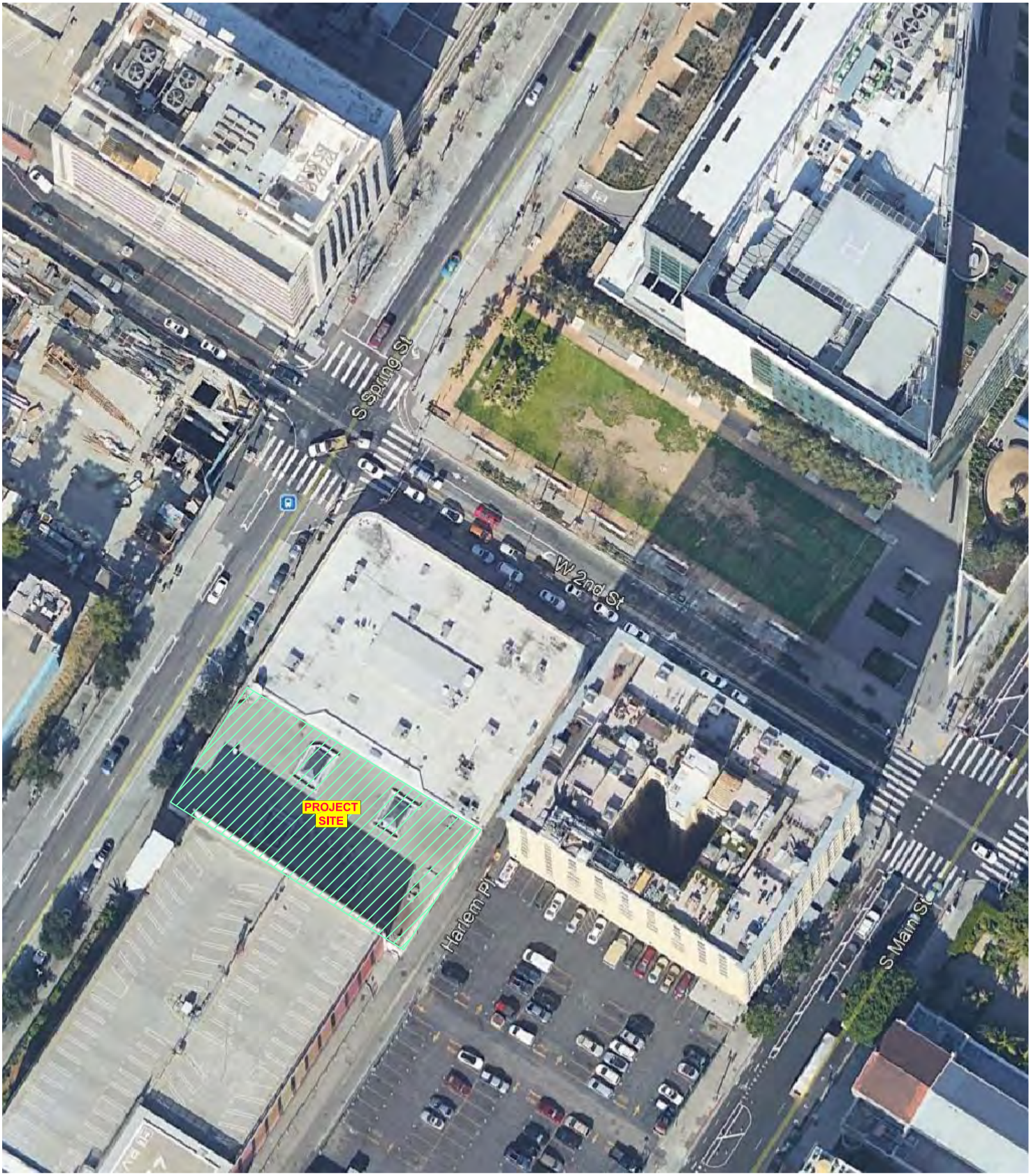
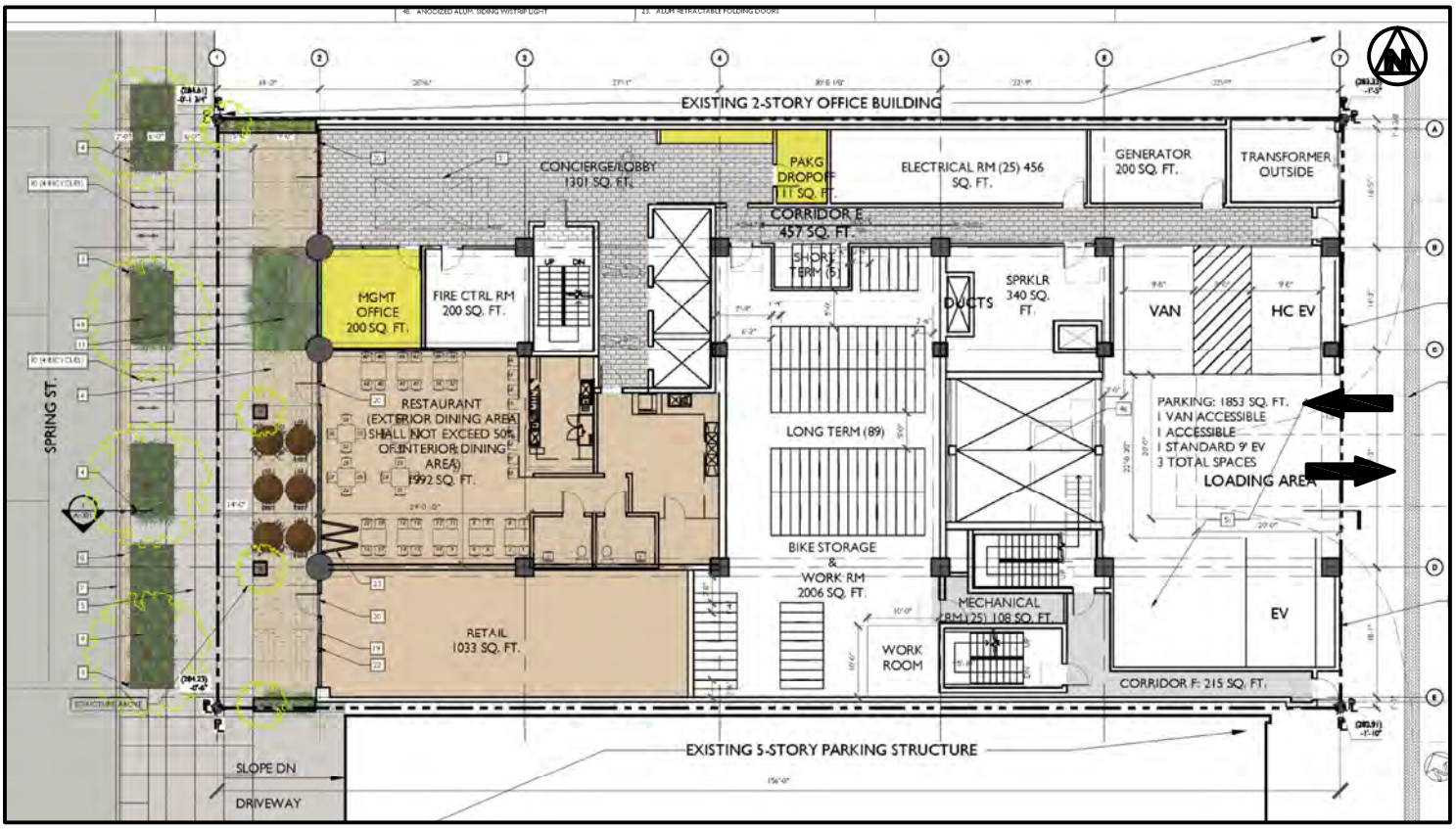


FIGURE 2

7/2021

PROJECT SETTING

Overland Traffic Consultants, Inc.
24325 Main Street #202, Santa Clarita, CA 91321
(661) 799-8423 OTC@overlandtraffic.com



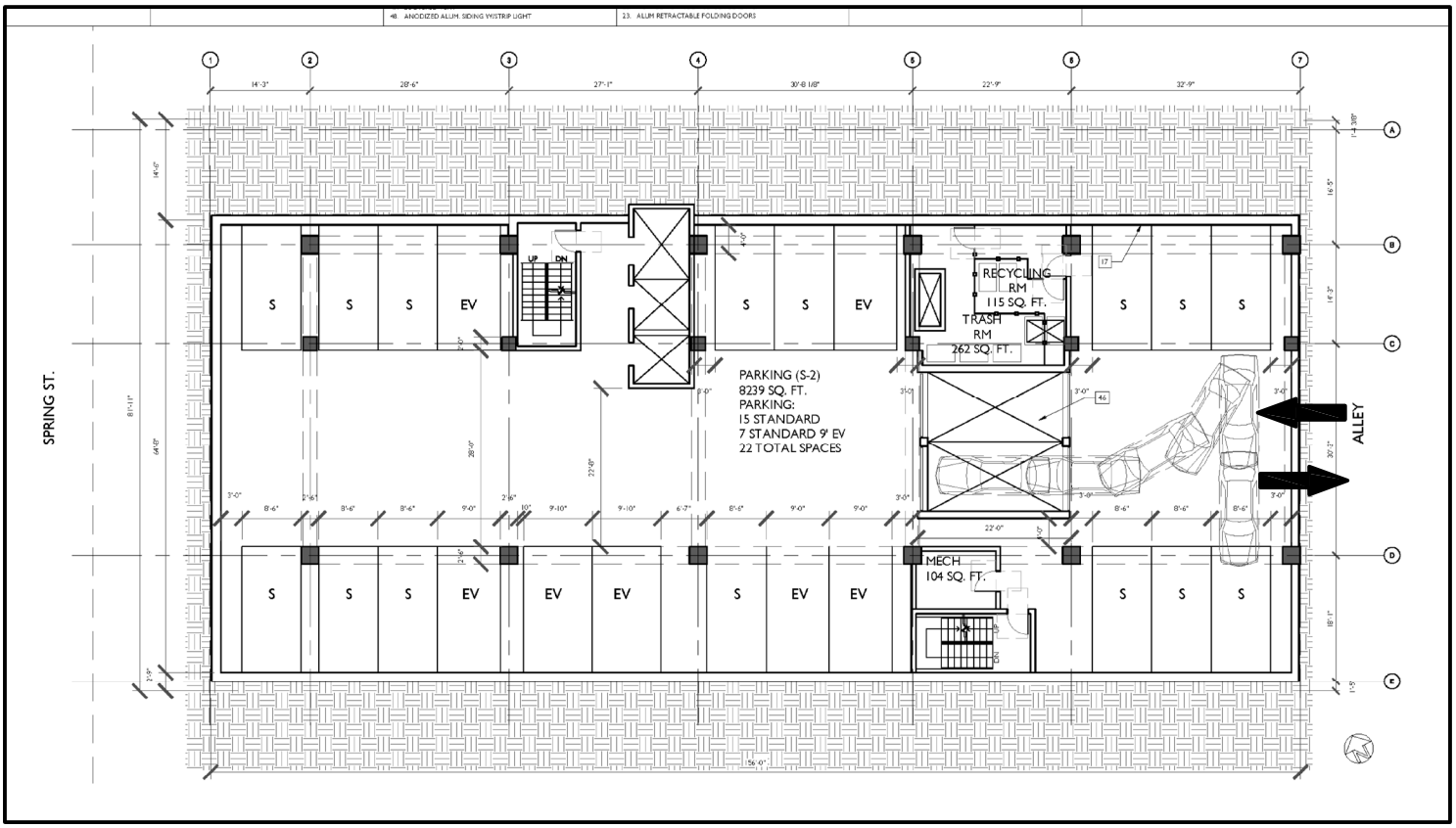
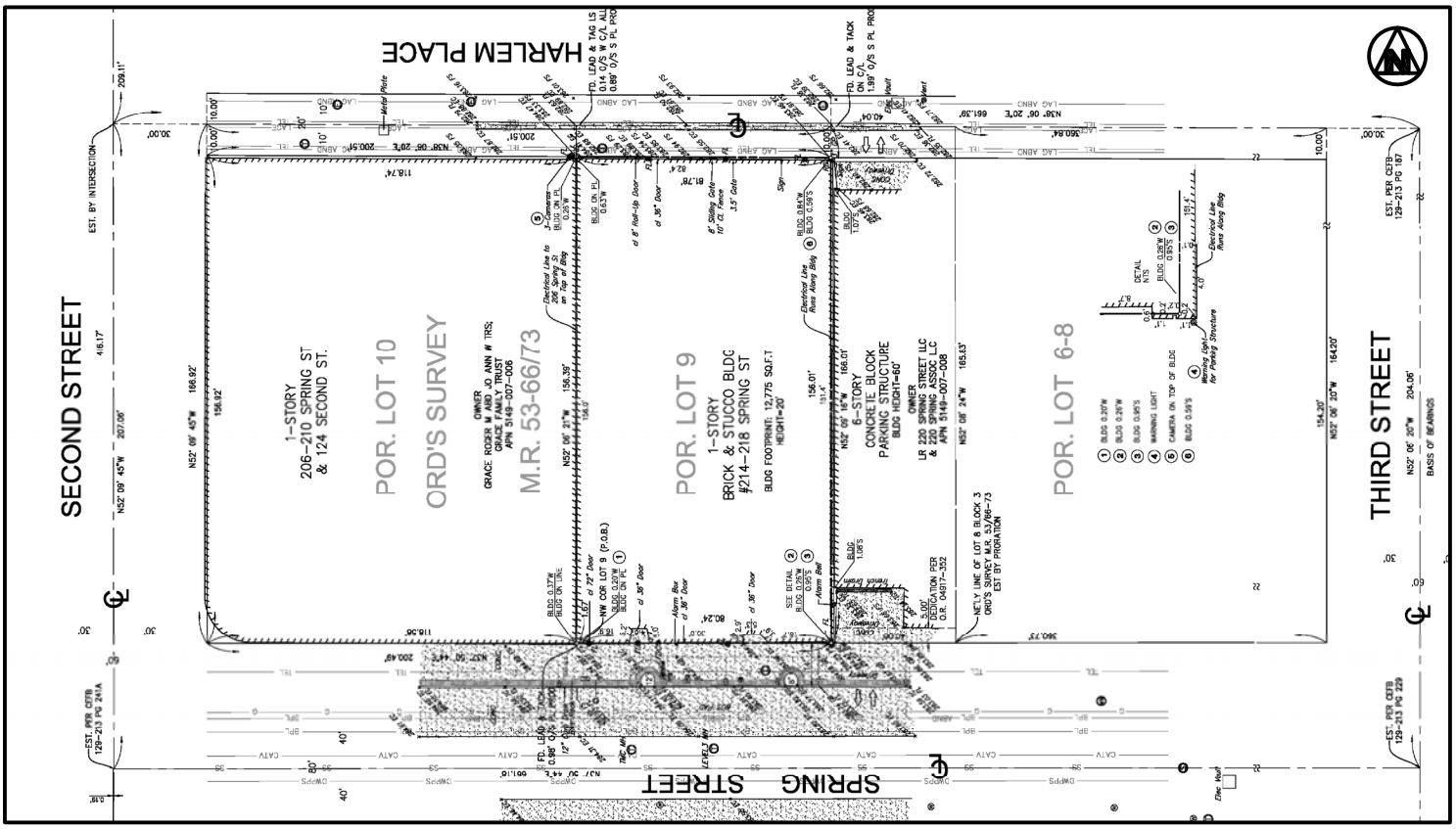


FIGURE 3

7/2021

PROJECT SITE PLAN

Overland Traffic Consultants, Inc.
24325 Main Street #202, Santa Clarita, CA 91321
(661) 799-8423 OTC@overlandtraffic.com



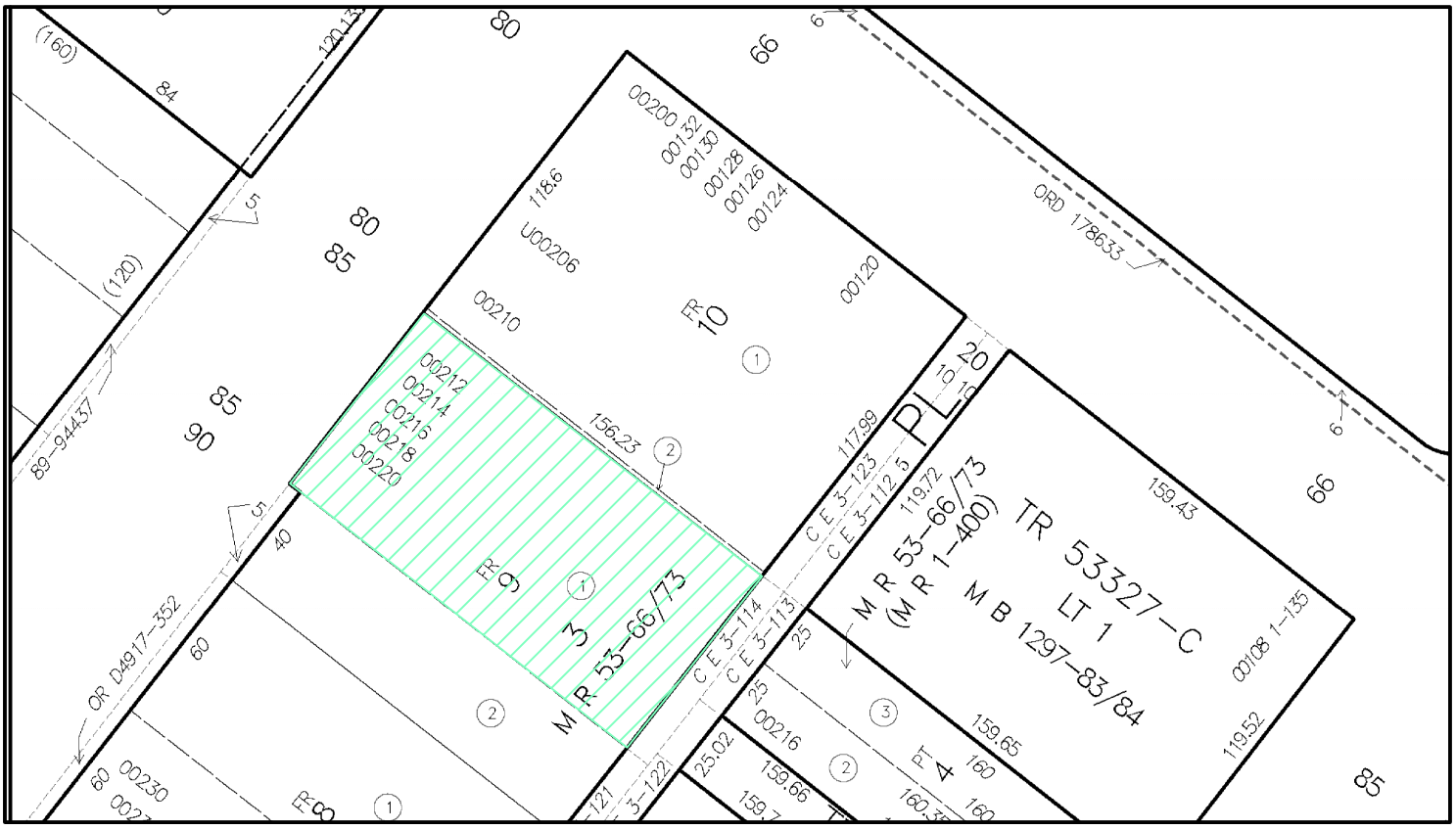


FIGURE 4

7/2021

PROJECT SITE PLAN
(parcel and cadastral map)

Overland Traffic Consultants, Inc.
24325 Main Street #202, Santa Clarita, CA 91321
(661) 799-8423 OTC@overlandtraffic.com

TRIP GENERATION RATES AND CALCULATIONS

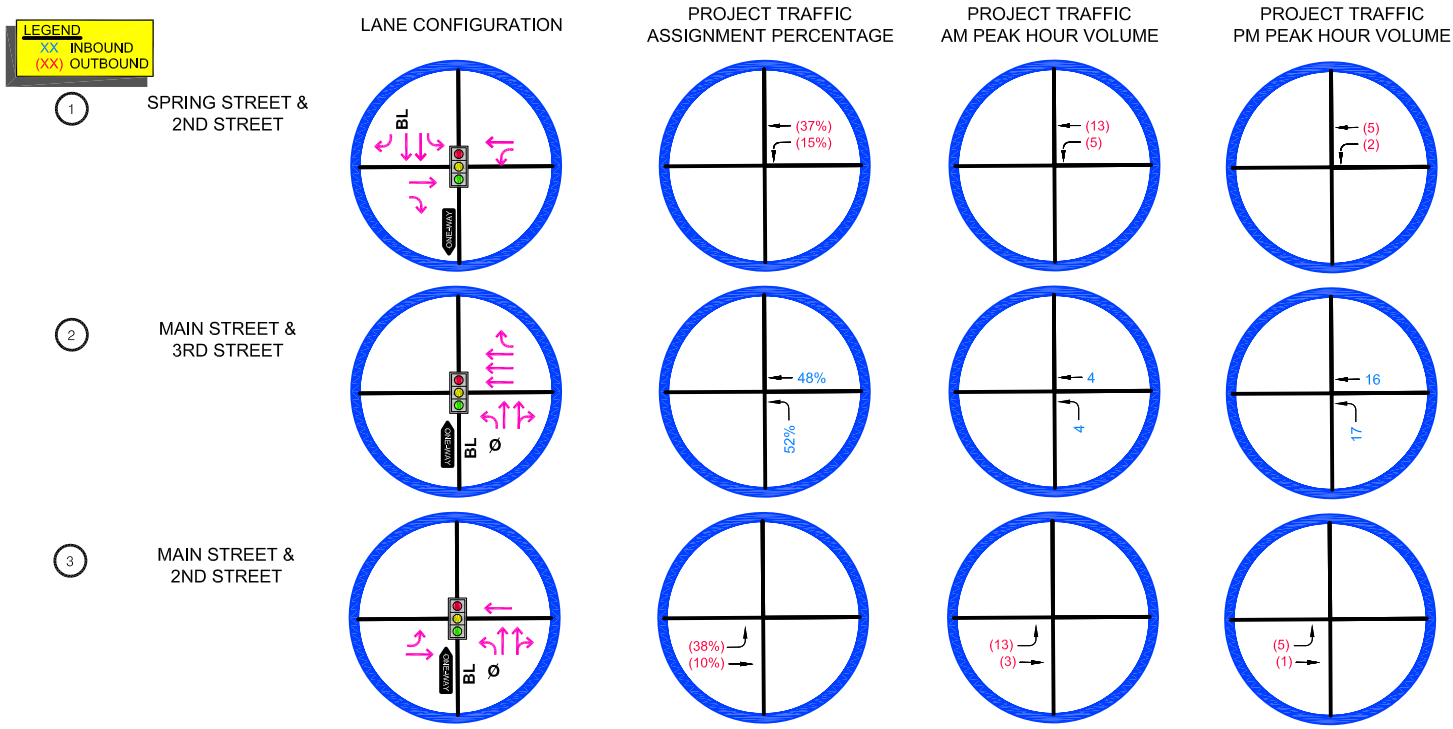
ITE 10TH EDITION AND LADOT AFFORDABLE HOUSING TRIP GENERATION RATES

ITE Code	Description	Daily Traffic	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
710	Office (per 1,000 s.f.)	9.74	86%	14%	1.16	16%	84%	1.15
820	Retail (per 1,000 s.f.)	37.75	62%	38%	0.94	48%	52%	3.81
932	Restaurant (per 1,000 s.f.)	112.18	55%	45%	9.94	62%	38%	9.77
222	Apartments high-rise Center City Core (per unit)	2.16	24%	76%	0.31	61%	39%	0.36
LADOT	Affordable Apartments (per unit inside TPA)	4.16	37%	63%	0.49	56%	44%	0.35

PROJECT TRIPS

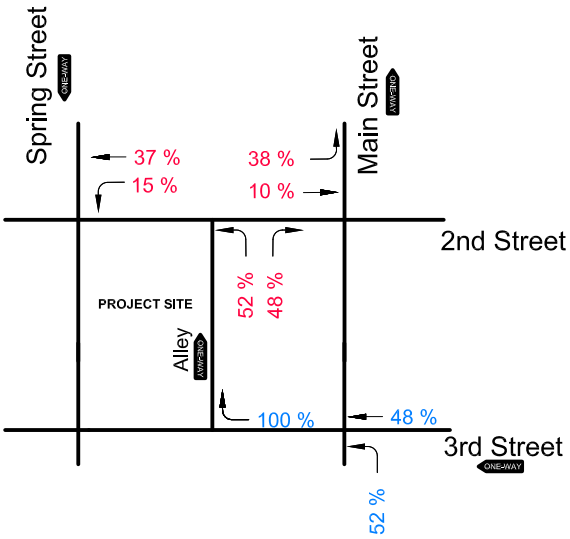
ITE Code	Description	Size	Daily Traffic	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
	Proposed Project								
222	Apartments high-rise Center City Core (per unit)	106 units	229	8	25	33	23	15	38
LADOT	Affordable Apartments (per unit inside TPA)	14 units	58	3	4	7	3	2	5
933	Restaurant Fast Food (per 1,000 s.f.)	1,992 sf	223	11	9	20	12	7	19
	Transit/Walk*	25%	(56)	(3)	(2)	(5)	(3)	(2)	(5)
	Pass By	50%	(84)	(3)	(3)	(6)	(5)	(3)	(8)
820	Retail (per 1,000 s.f.)	1,033 sf	39	1	0	1	2	2	4
	Transit/Walk	15%	(6)	(0)	(0)	(0)	(1)	(0)	(1)
	Street Traffic		403	17	33	50	31	21	52
	Driveway Traffic		487	20	36	56	36	24	60
	Existing								
710	Office (per 1,000 s.f.)	14,000 sf	136	14	2	16	3	13	16
	Transit/Walk	15%	(20)	-2	0	-2	0	-2	-2
	Existing Street Traffic		116	12	2	14	3	11	14
	Existing Driveway Traffic		116	12	2	14	3	11	14
	Net Street Traffic		287	5	31	36	28	10	38
	Net Driveway Traffic		371	8	34	42	33	13	46

Trip Assignment Source: DOT Case No. CEN16-44536 (222 W. 2nd St.)



PROJECT NET TRIP GENERATION

AM TRIPS		PM TRIPS	
IN	OUT	IN	OUT
8	34	33	13



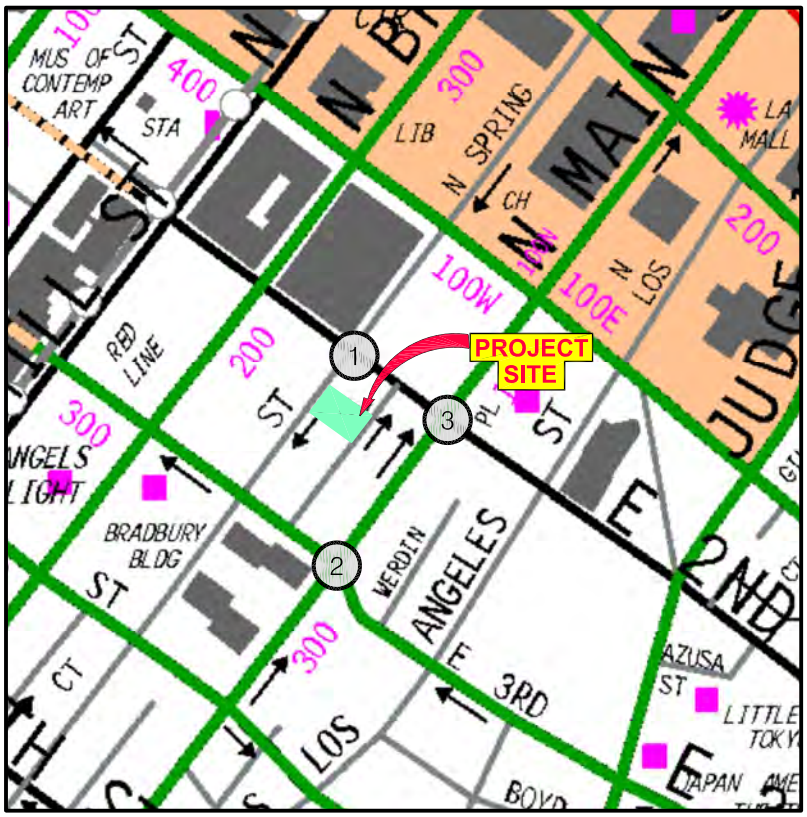


FIGURE 5

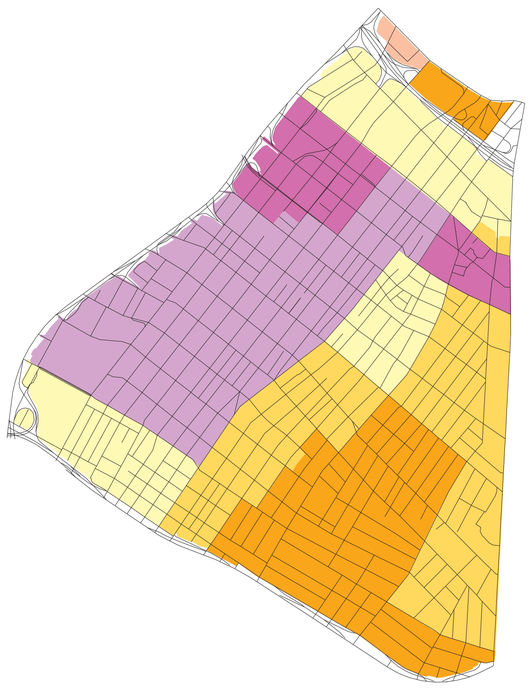
7/2021

PROJECT TRAFFIC ASSIGNMENT

Overland Traffic Consultants, Inc.
952 Manhattan Beach Bl, #100, Manhattan Beach, CA 90266
(310) 545 - 1235, OTC@overlandtraffic.com

APPENDIX B

Community Plan Land Use Map



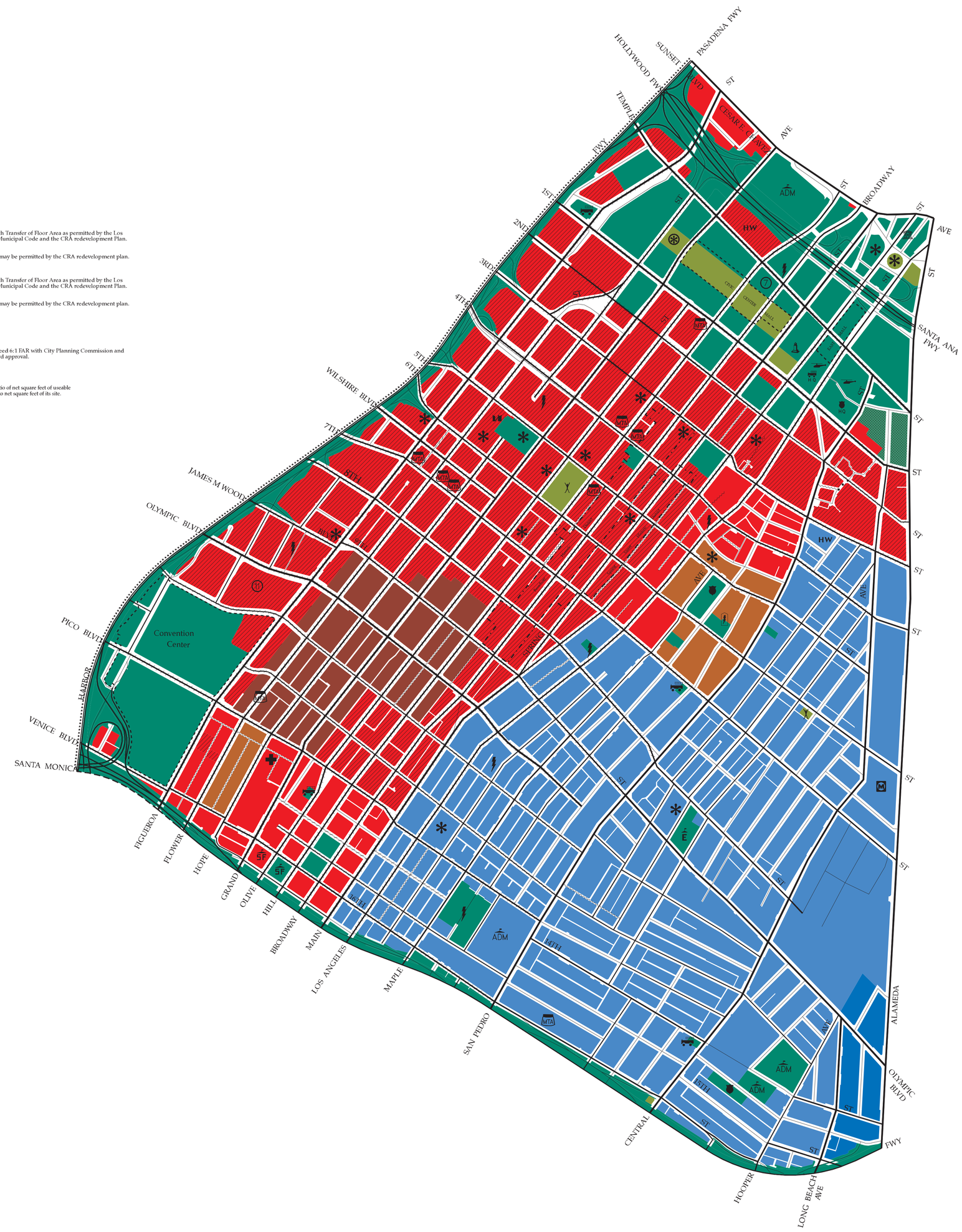
LEGEND:

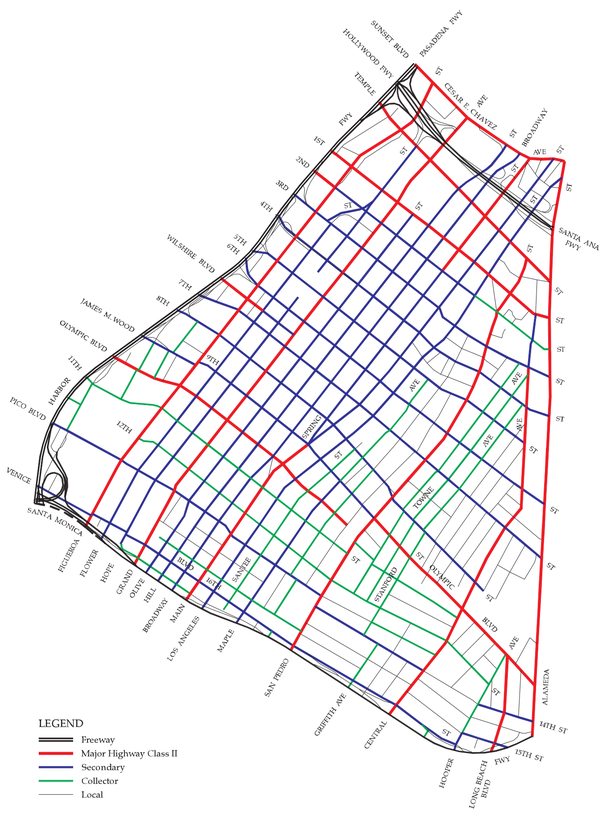
- 6:1 FAR except with Transfer of Floor Area as permitted by the Los Angeles Municipal Code and the CRA redevelopment Plan.
- 6:1 FAR except as may be permitted by the CRA redevelopment plan.
- 3:1 FAR except with Transfer of Floor Area as permitted by the Los Angeles Municipal Code and the CRA redevelopment Plan.
- 3:1 FAR except as may be permitted by the CRA redevelopment plan.
- 3:1 FAR
- 3:1 FAR not to exceed 6:1 FAR with City Planning Commission and CRA Board approval.

NOTE:
**Floor Area ratio is the ratio of net square feet of useable floor space in a building to net square feet of its site.

FLOOR AREA RATIO

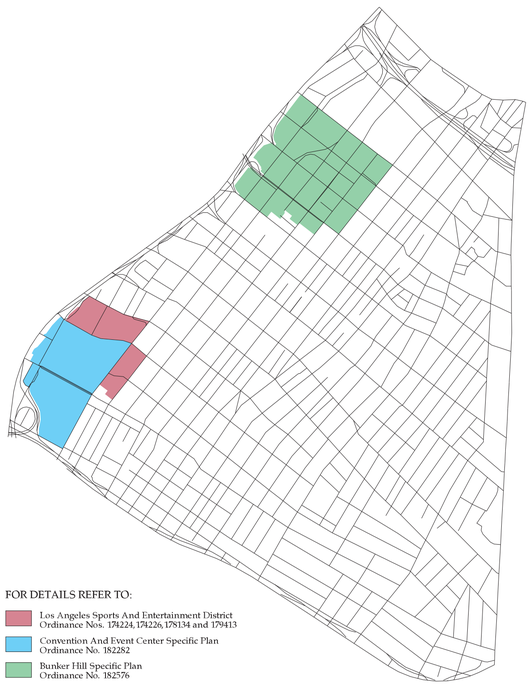
(*See individual FAR limitations, Ordinance No. 164307)





GENERALIZED CIRCULATION

(See Note "D")



FOR DETAILS REFER TO:

- Los Angeles Sports And Entertainment District Ordinance Nos. 174224,174226,178134 and 179413
- Convention And Event Center Specific Plan Ordinance No. 182282
- Bunker Hill Specific Plan Ordinance No. 182576

SPECIFIC PLAN AREA

LAND USE

RESIDENTIAL[10]	CORRESPONDING[13] ZONES
MULTIPLE FAMILY	
HIGH MEDIUM[2,4]	R4
HIGH[3]	R5
INDUSTRIAL	
LIGHT[2,4]	MR2,M2
HEAVY[2,4]	M3

	CORRESPONDING[13] ZONES
COMMERCIAL	
COMMUNITY[2,4]	CR,C2,C4, RAS3,RAS4
REGIONAL[3]	CR,C1.5,C2,C4,C5[12] R3,R4,R5,RAS3,RAS4
OPEN SPACE,PUBLIC/ QUASI-PUBLIC	
OPEN SPACE	OS,A1
PUBLIC FACILITIES[2,14,15]	PF
OTHER PUBLIC OPEN SPACE*	

Properties designated as Public/Quasi-Public on this map still need to be corrected in accordance with AB283 (General Plan/Zoning Consitency) requirements.

CIRCULATION

- Freeway[6]
- Scenic Freeway
- Major Highway II
- Modified Major Highway II
- Secondary Highway
- Modified Secondary Hwy
- Collector Street
- Modified Collector Street
- Local Street[6]
- Modified Local
- Pedestrian Walk
- Alley
- Modified Alley

SPECIAL BOUNDARY[7]

- Historical Preservation
- Site

ADMINISTRATIVE BOUNDARY

- Community Boundary

SERVICE SYSTEMS

SCHOOL SITES

- Public Elementary School
- Special School Facility
- School District Headquaters

RECREATIONAL SITES

- Neighborhood Park

OTHER FACILITIES

- Cultural and Historical Site
- Health Center
- City Hall
- Police Station
- Police Headquarters
- Heliport
- Fire Station
- Fire Headquarters
- Power Receiving Station
- Power Distribution Station
- Community Library
- House Of Worship
- Historical/Cultural Monument
- Performing Arts Center
- Metro Rail Station
- MTA Station

FOOTNOTES

1. Gross acreage includes streets.
2. Corresponds to Height District No. 2-D for commercial, industrial and public facilities zones; D Limitation to 3:1 FAR, except for transfer of floor area up to 6:1 FAR.
3. Corresponds to Height District 3-D and 4-D; D limitation to 6:1 FAR, except for transfer of floor area up to 10:1 or 13:1, respectively.
4. Corresponds to Height District No. 2.
5. Corresponds to Height District No. 4.
6. Local streets and freeways are shown for reference only.
7. Appropriate land uses in the Civic Center (the area generally bounded by the Hollywood Freeway, Alameda St., First St. and the Harbor Freeway) include the following:
   A. Government activities, on publicly owned land;
   B. Activities and uses related to the government complex, such as office space, retail stores, restaurants, clubs, hotels, etc., on privately owned land; and,
   C. Joint public-private uses, such as parking garages above or below retail stores.
8. Permitted floor area ratio for development projects in the absence of a transfer of floor area pursuant to Section 14.5.1 of the LAMC.
9. Maximum floor area ratio for development projects with a transfer of floor area pursuant to Section 14.5.1 of the LAMC.
10. The Plan contemplates that certain commercial uses may be allowed under Section 12.22-A.18 of the Los Angeles Municipal Code. The type and intensity of such commercial uses should be controlled by appropriate "Q" conditions or other means. Whenever possible, commercial uses should be located at street level, with residential uses on the upper levels.
11. FAR in the Los Angeles Sports and Entertainment District Specific Plan area may exceed 6:1 up to 13:1 pursuant to the provisions of the transfer of floor area provisions of the specific plan.
12. The C5 Zone shall be limited to the area generally bounded by Fifth Street, Spring Street, Ninth Street and Olive Street.
13. Each Plan category permits all indicated corresponding zones as well as those zones referenced in the Los Angeles Municipal Code (LAMC) as permitted by such zones unless further restricted by adopted Specific Plans, specific conditions and/or limitations of project approval, Plan footnotes or other Plan map or text notations.
    Zone established in the LAMC subsequent to the adoption of the Plan shall not be deemed as corresponding to any particular Plan category unless the Plan is amended to so indicate.
    It is the intent of the Plan that the entitlements granted shall be one of the zone designatios within the corresponding zones shown on the Plan, unless accompanied by a concurrent Plan Plan Amendment.
14. The Public Facility (PF) planning land use designation is premised on the ownership and use of the property by a government agency. The designation of the PF Zone as a corresponding zone is based on the same premise. The Plan also intends that when a board or governing body of a government agency officially determines that a property zone PF is surplus, and no other public agency has indicated an intent to acquire, and the City is notified that the agency intends to offer the property for sale to a private purchaser, then the property may be rezoned to the zone(s) most consistent within 500 feet of the property boundary and still be considered consistent with the adopted Plan.
15. The Convention and Event Center Specific Plan Zone (CEC) shall be a corresponding zone with respect to the Public Facilities land use designation and, notwithstanding the above footnotes, the FAR, height, and other development standards within the Convention and Event Center Specific Plan area zoned CEC shall be those set forth in the Convention and Event Center Specific Plan.

* Bikeways are shown on the Citywide Bikeways System maps contained in the City's 2010 Bicycle Plan, a component of the Transportation Element of the General Plan, which was adopted by the City Council on March 1, 2011.

Notes :
A. The text of the Community Plan can be accessed on the City Of Los Angeles' Web Page (http://www.planning.lacity.org).
B. Other Special Area Maps may not be included on this document.
C. Parcel level information (plan designation and zoning) can be found on the City Of Los Angeles' ZIMAS Map Automation Web Site.
D. Generalized Circulation is for reference only. For detailed information, see the "Street and Highway Designation" maps prepared and maintained by Public Works/Bureau of Engineering.

Disclaimer : The City Of Los Angeles is neither responsible nor liable for any inaccuracies,errors or omissions with respect to the material contained on this map. This map and all materials contained on it are distributed and transmitted "as is" without warranties of any kind, either express or implied, including without limitation,warranties of title or implied warranties of merchantability or fitness for a particular purpose. The City Of Los Angeles is not responsible for any special, indirect, incidental, or consequential damages that may arise from the use of, or the inability to use,the map and\or the materials contained on the map whether the materials contained on the map are provided by the City Of Los Angeles, or a third party.

GENERAL PLAN LAND USE MAP (as of July 07 2009)

CENTRAL CITY COMMUNITY PLAN

A PART OF THE GENERAL PLAN OF THE CITY OF LOS ANGELES

City Of Los Angeles - City Planning Department - Systems And GIS Division Michael LoGrande - Director

NORTH

0 700 1400
FEET

PLOT DATE : 06/11/15

DATA SOURCES:
LANDUSE (gp map) path1 : CCYgdbGENPLAN(from MNT.GENPLAN@PLY@68ggisdb.sde)
LANDUSE (gp map) path2 : NA ' '
LANDUSE (gp map) path3 : NA ' '
CL cpln cover : h:\dgarcia\bs\covs\CCY\CCYGDBcl
MISC cpln cover : h:\chernand\gislwrk\dbupdate\CCY
MAPS cpln cover : x:\cpln\gpdata\CCY
BSANNO cpln cover : h:\dgarcia\bs\covs\CCY
BSICONS cpln cover : h:\chernand\gislwrk\dbupdate\CCY
LUmask cover : h:\chernand\gislwrk\dbupdate\CCY

APPENDIX C

Street Standards, Circulation & High Injury Network Map

CENTRAL CITY

CIRCULATION

LEGEND

- Boulevard II
- Boulevard II Modified
- Avenue I
- Avenue I Modified
- Avenue II
- Avenue II Modified
- Avenue III
- Avenue III Modified
- Collector
- Collector Modified
- Local
- Local Modified
- Pedestrian Walk / Stairway
- Private Street
- Alley
- Community Plan Area Boundary

Date: 2/1/2017

DEPARTMENT OF CITY PLANNING
INFORMATION TECHNOLOGIES DIVISION

Disclaimer:
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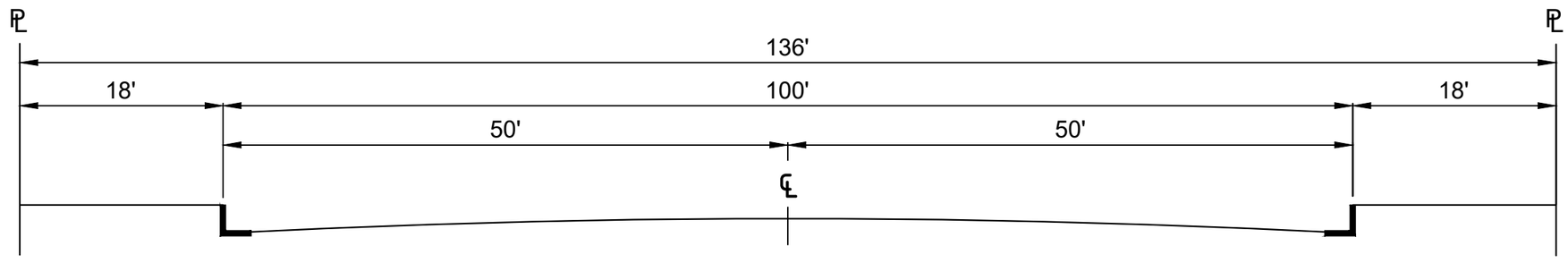
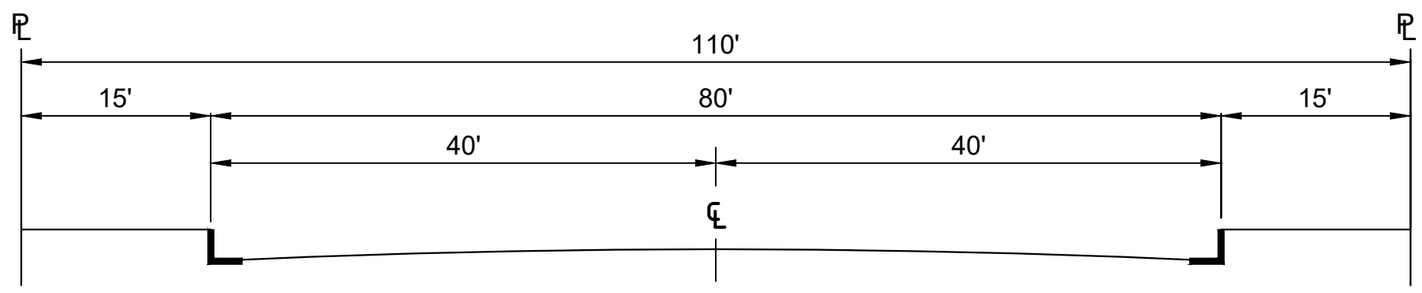
N
W E
S

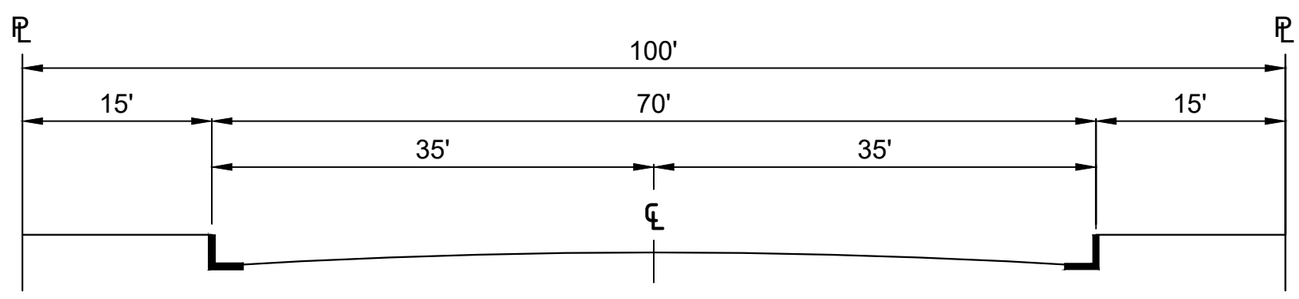
ARTERIAL STREETS



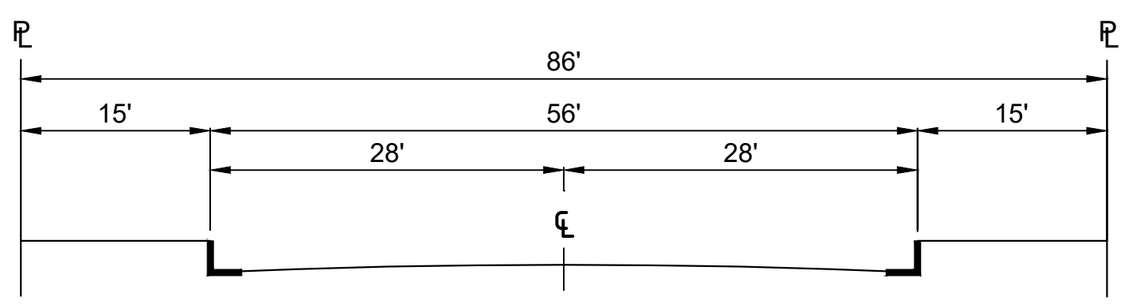
BOULEVARD I (MAJOR HIGHWAY CLASS I)



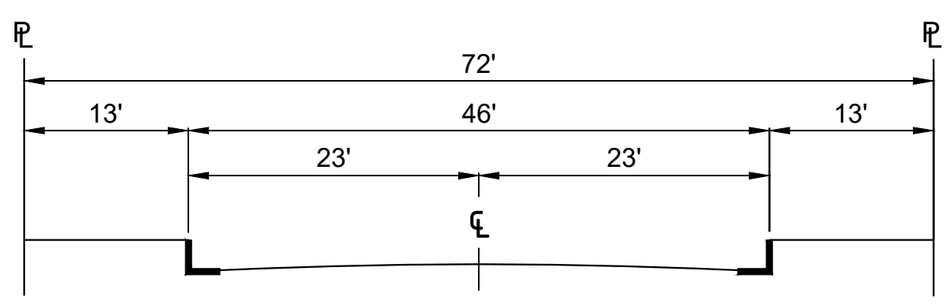
BOULEVARD II (MAJOR HIGHWAY CLASS II)



AVENUE I (SECONDARY HIGHWAY)



AVENUE II (SECONDARY HIGHWAY)



AVENUE III (SECONDARY HIGHWAY)

THIS STANDARD PLAN BECOMES EFFECTIVE CONCURRENT WITH THE ADOPTION OF THE MOBILITY PLAN 2035.

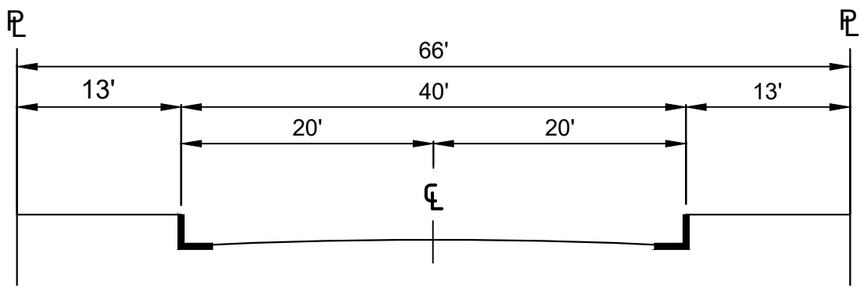
BUREAU OF ENGINEERING | DEPARTMENT OF PUBLIC WORKS | CITY OF LOS ANGELES

--- DRAFT --- STANDARD STREET DIMENSIONS

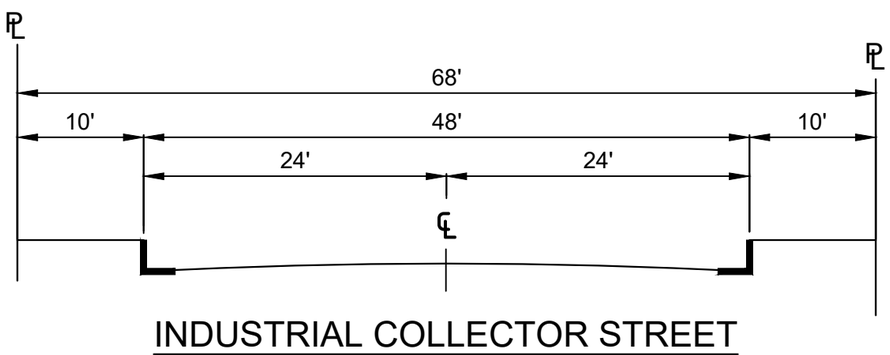
STANDARD PLAN
S-470-1

PREPARED	SUBMITTED	APPROVED		SUPERSEDES	REFERENCES
HAMID MADANI, P.E. BUREAU OF ENGINEERING	SAMARA ALI-AHMAD, P.E. DATE ENGINEER OF DESIGN BUREAU OF ENGINEERING	GARY LEE MOORE, P.E., ENV. SP. DATE CITY ENGINEER	REGISTERED PROFESSIONAL ENGINEER GARY LEE MOORE No. C-49446 Exp. CIVIL STATE OF CALIFORNIA	D-22549 S-470-0	
CHECKED RAFFI MASSABKI, P.E. BUREAU OF ENGINEERING	KENNETH REDD, P.E. DATE DEPUTY CITY ENGINEER	DEPARTMENT OF TRANSPORTATION DATE GENERAL MANAGER DIRECTOR OF PLANNING DATE		VAULT INDEX NUMBER:	
				SHEET 1 OF 4 SHEETS	

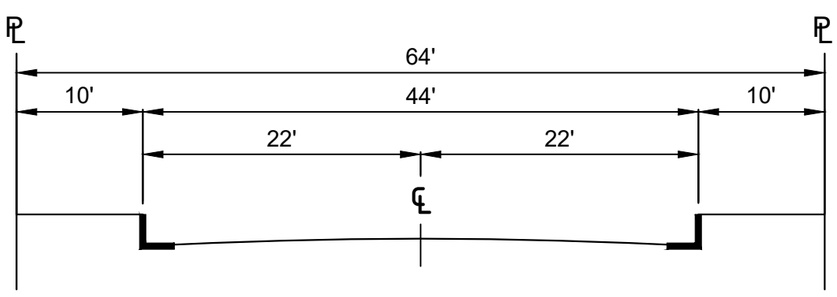
NON-ARTERIAL STREETS



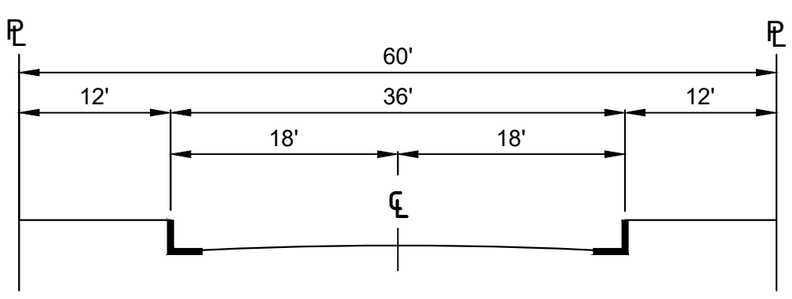
COLLECTOR STREET



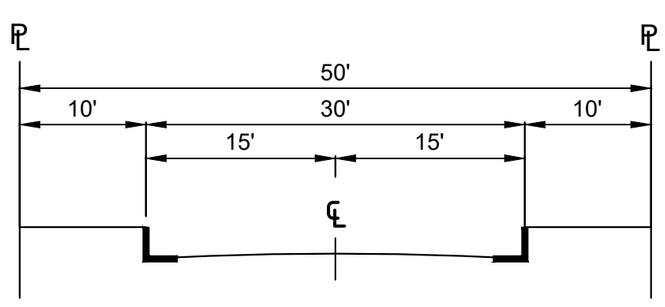
INDUSTRIAL COLLECTOR STREET



INDUSTRIAL LOCAL STREET

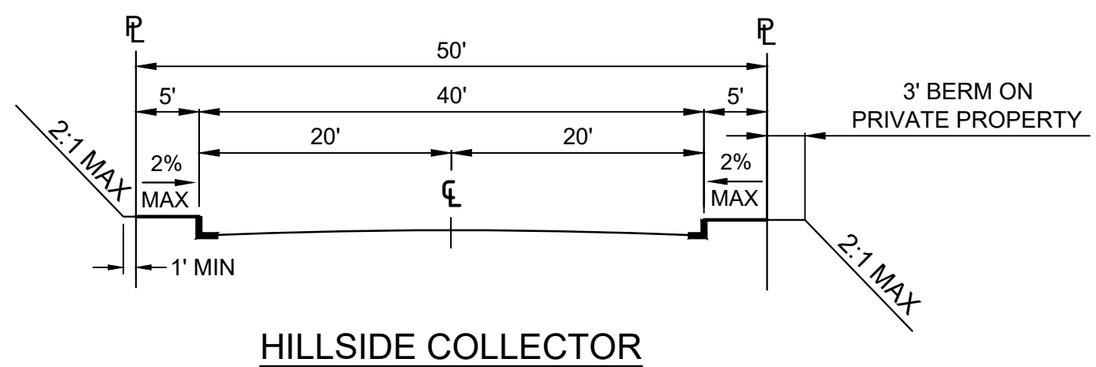


LOCAL STREET - STANDARD

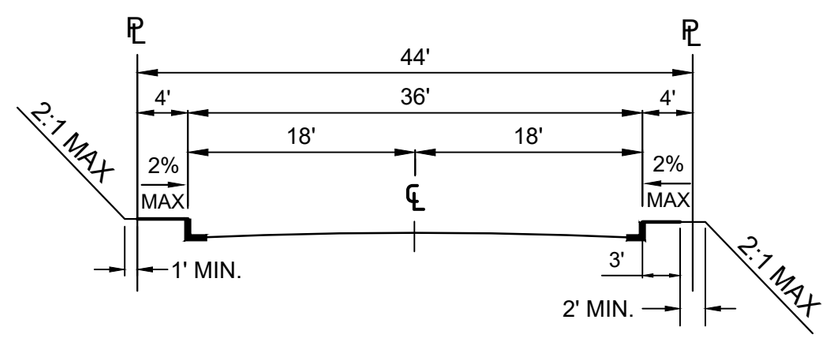


LOCAL STREET - LIMITED

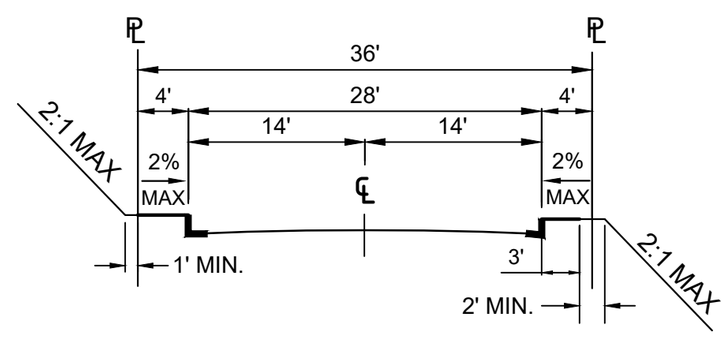
HILLSIDE STREETS



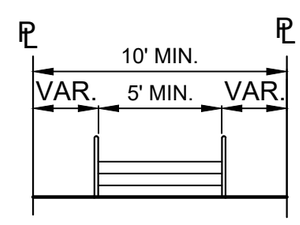
HILLSIDE COLLECTOR



HILLSIDE LOCAL



HILLSIDE LIMITED STANDARD

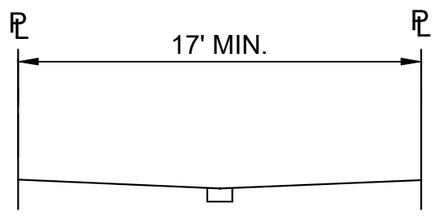


PUBLIC STAIRWAY

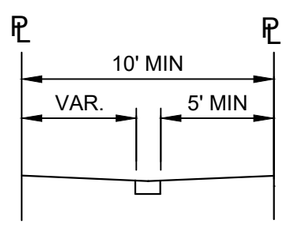
CONSTRUCTED IN ACCORDANCE WITH
BUREAU OF ENGINEERING STANDARD PLANS

STANDARD PLAN NO. S-470-1	VAULT INDEX NUMBER B-	SHEET 2 OF 4 SHEETS

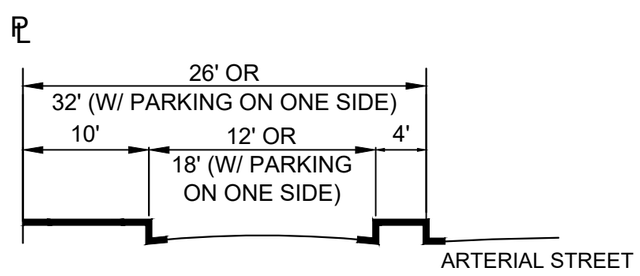
OTHER PUBLIC RIGHTS-OF-WAY



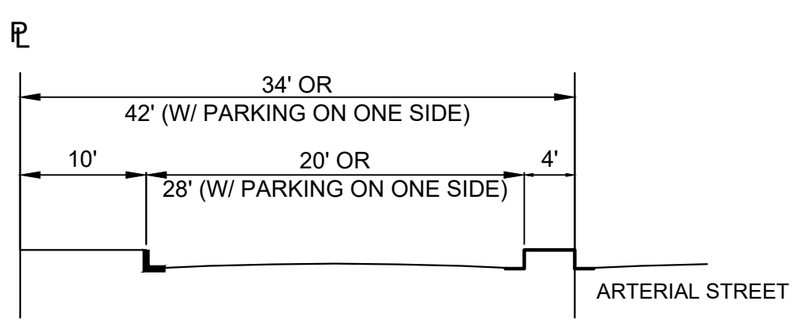
SHARED STREET



PEDESTRIAN WALKWAY

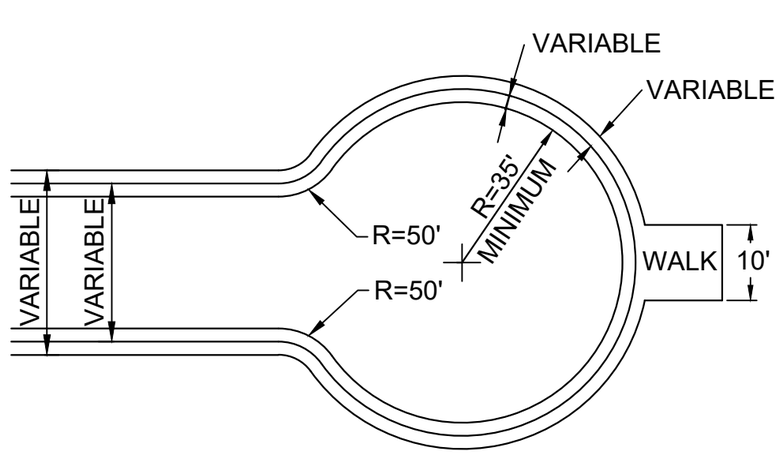


ONE-WAY SERVICE ROAD



BI-DIRECTIONAL SERVICE ROAD

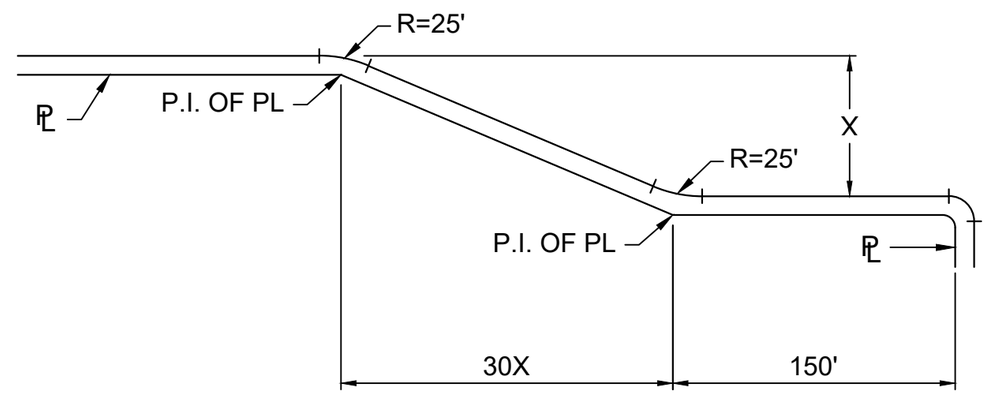
CUL-DE-SAC



MAY BE UNSYMMETRICAL
(PLAN VIEW)

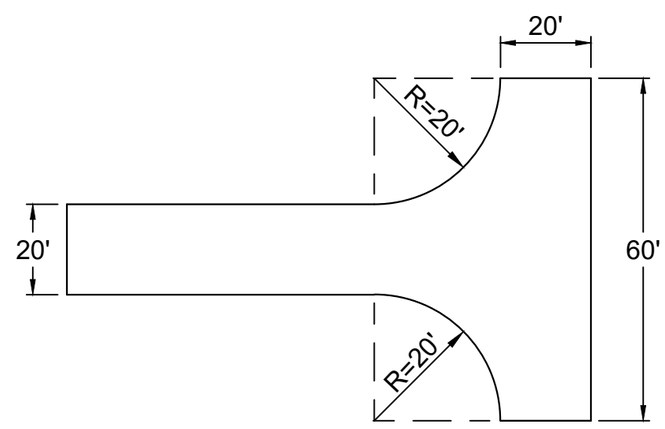
NOTE: FOR FIRE TRUCK CLEARANCE, NO OBSTRUCTION TALLER THAN 6" SHALL BE PERMITTED WITHIN 3FT. OF THE CURB. ON-STREET PARKING SHALL BE PROHIBITED.

TRANSITIONAL EXTENSIONS

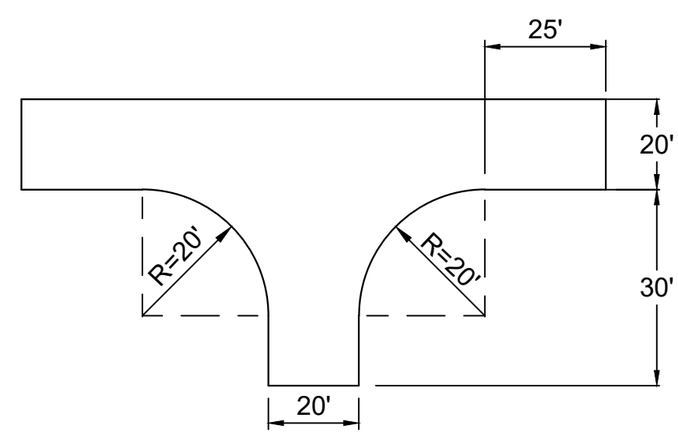


STANDARD FLARE SECTION
(PLAN VIEW)

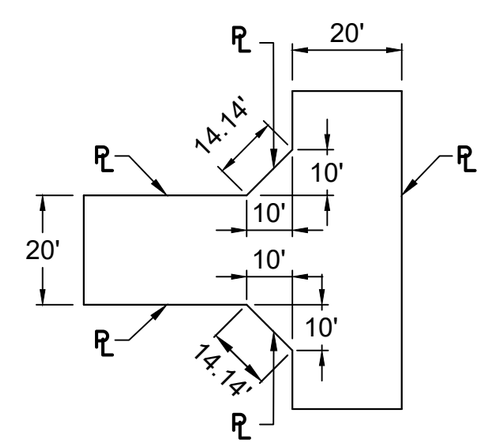
ALLEYS



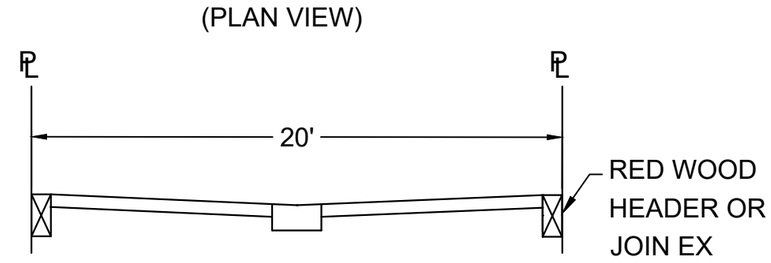
STANDARD TURNING AREA
(PLAN VIEW)



MINIMUM TURNING AREA
(PLAN VIEW)



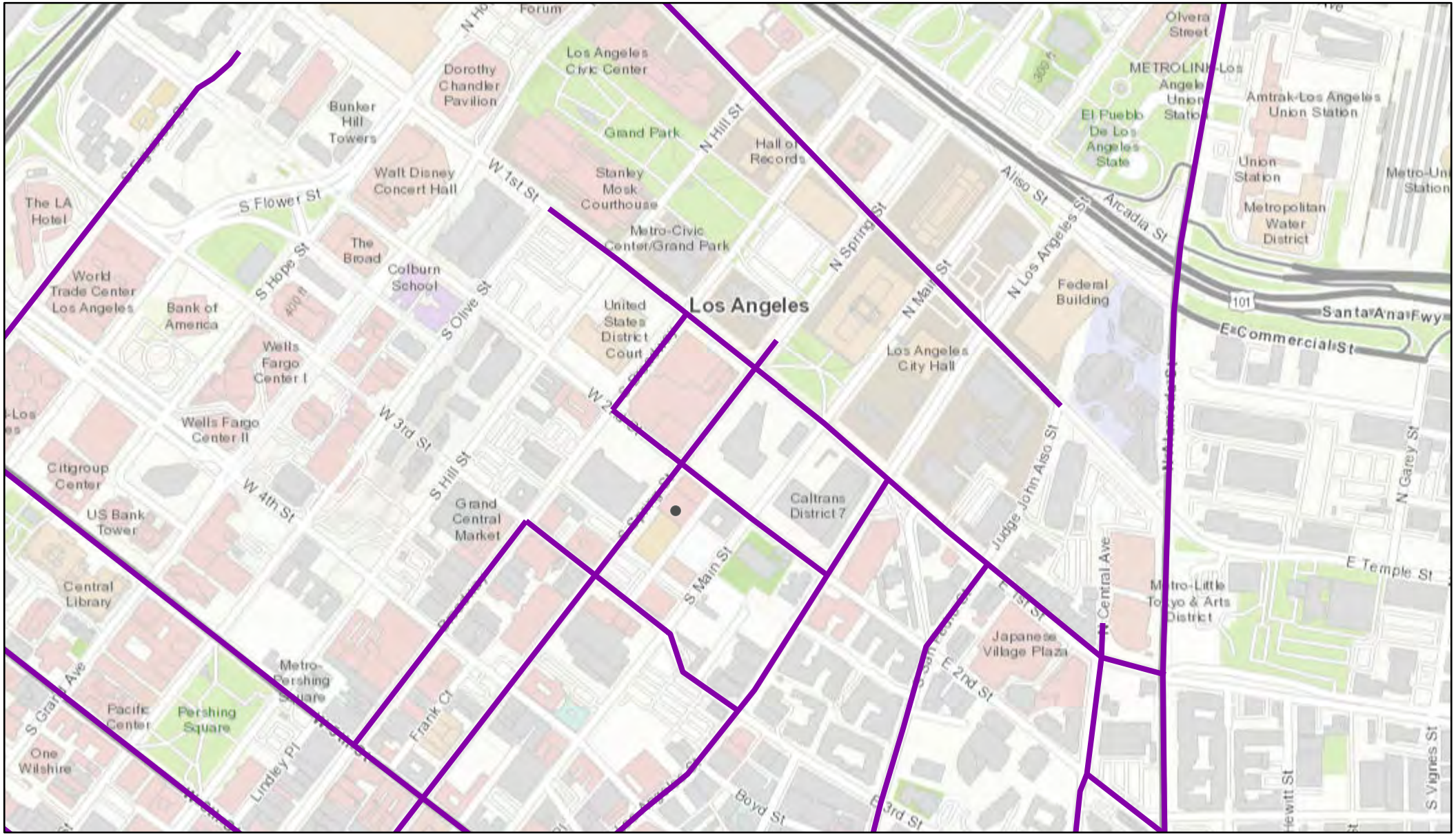
STANDARD CUT CORNERS
FOR 90° INTERSECTION
(PLAN VIEW)



STANDARD CROSS-SECTION
(PLAN VIEW)

STANDARD PLAN NO. S-470-1	VAULT INDEX NUMBER B-	SHEET 3 OF 4 SHEETS

HIGH INJURY NETWORK



7/16/2021, 8:17:52 AM

High Injury Network

1:9,028

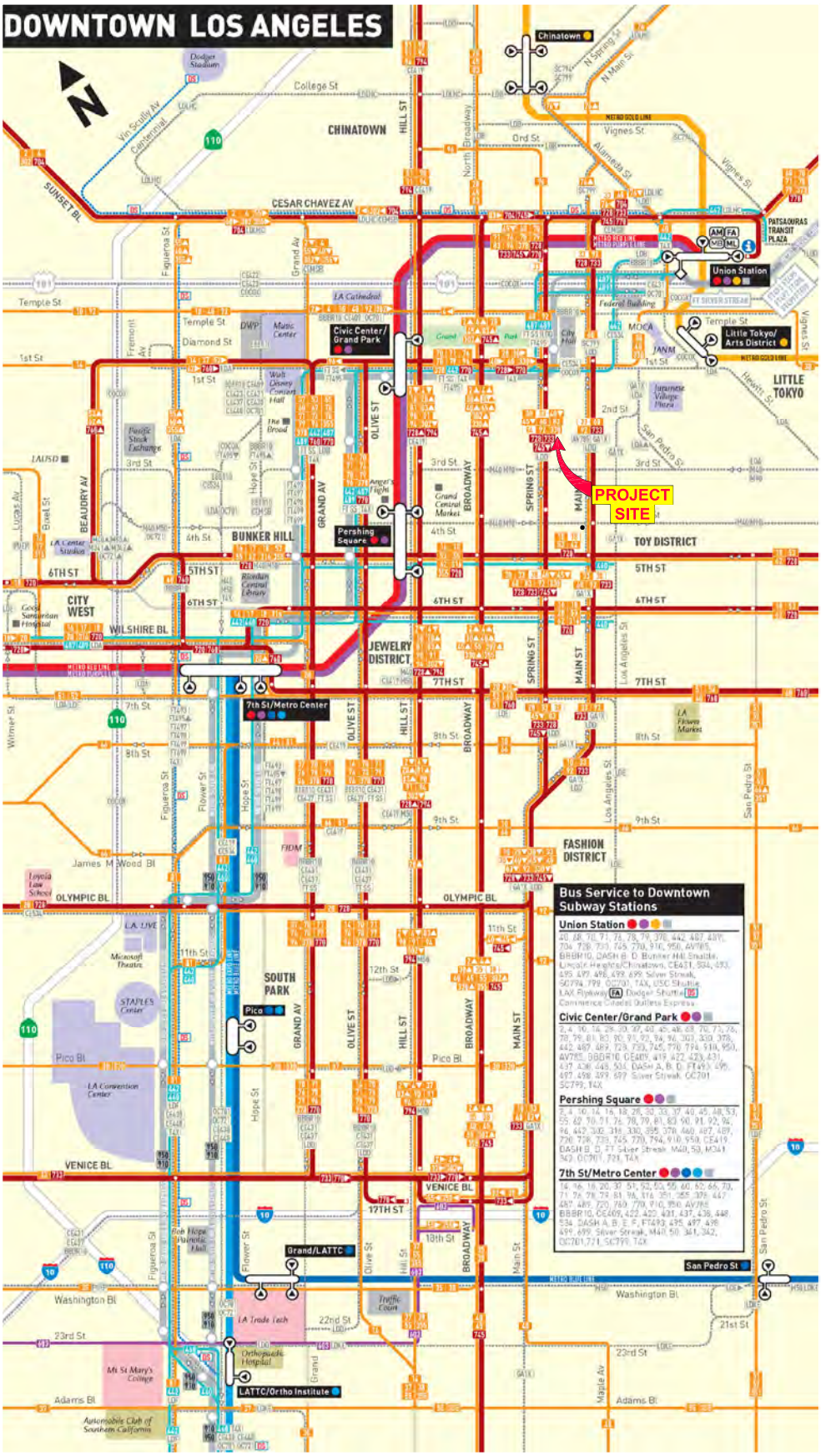
0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA

APPENDIX D

Transit System Map



9/2021

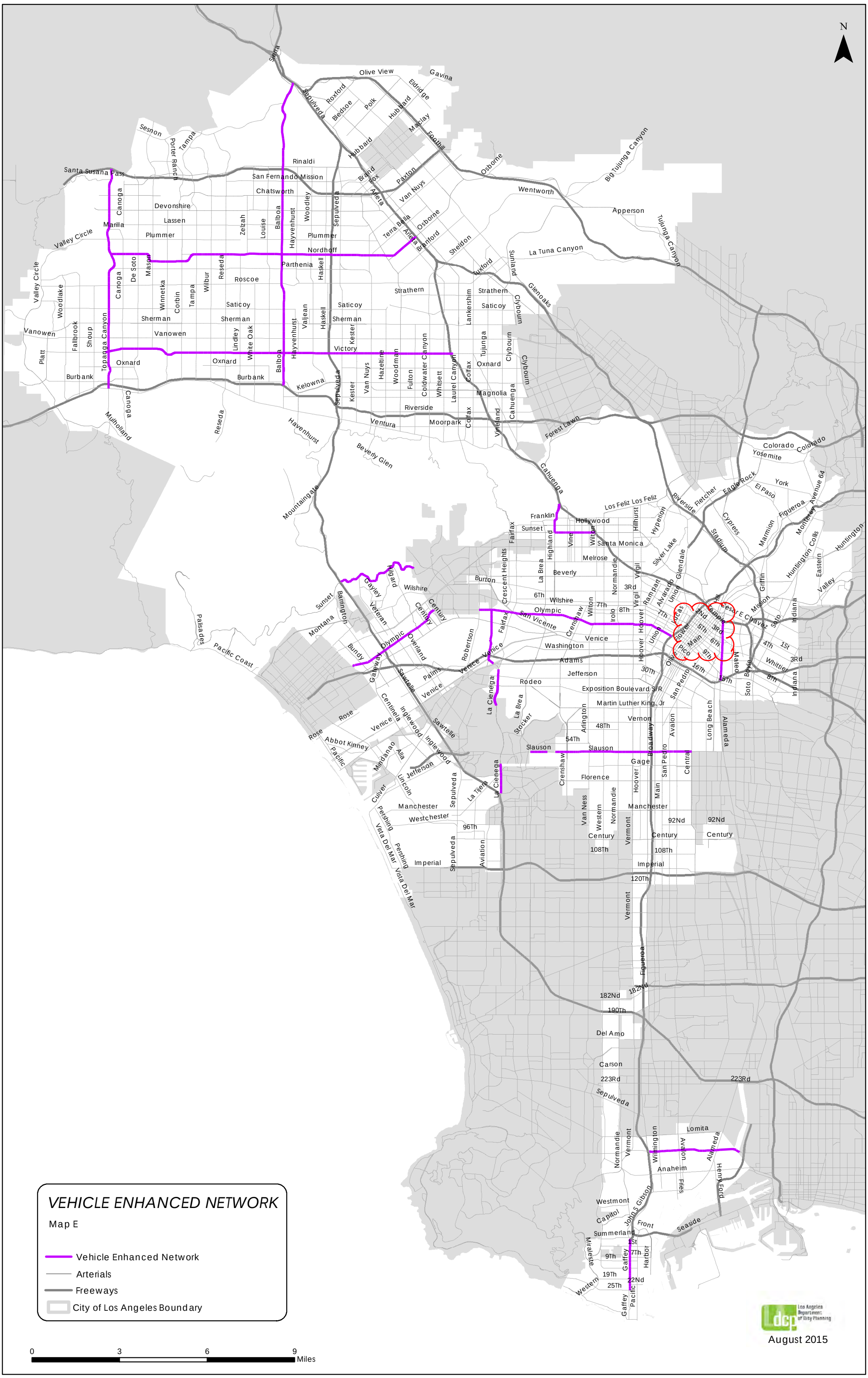
DOWNTOWN LOS ANGELES
TRANSIT MAP

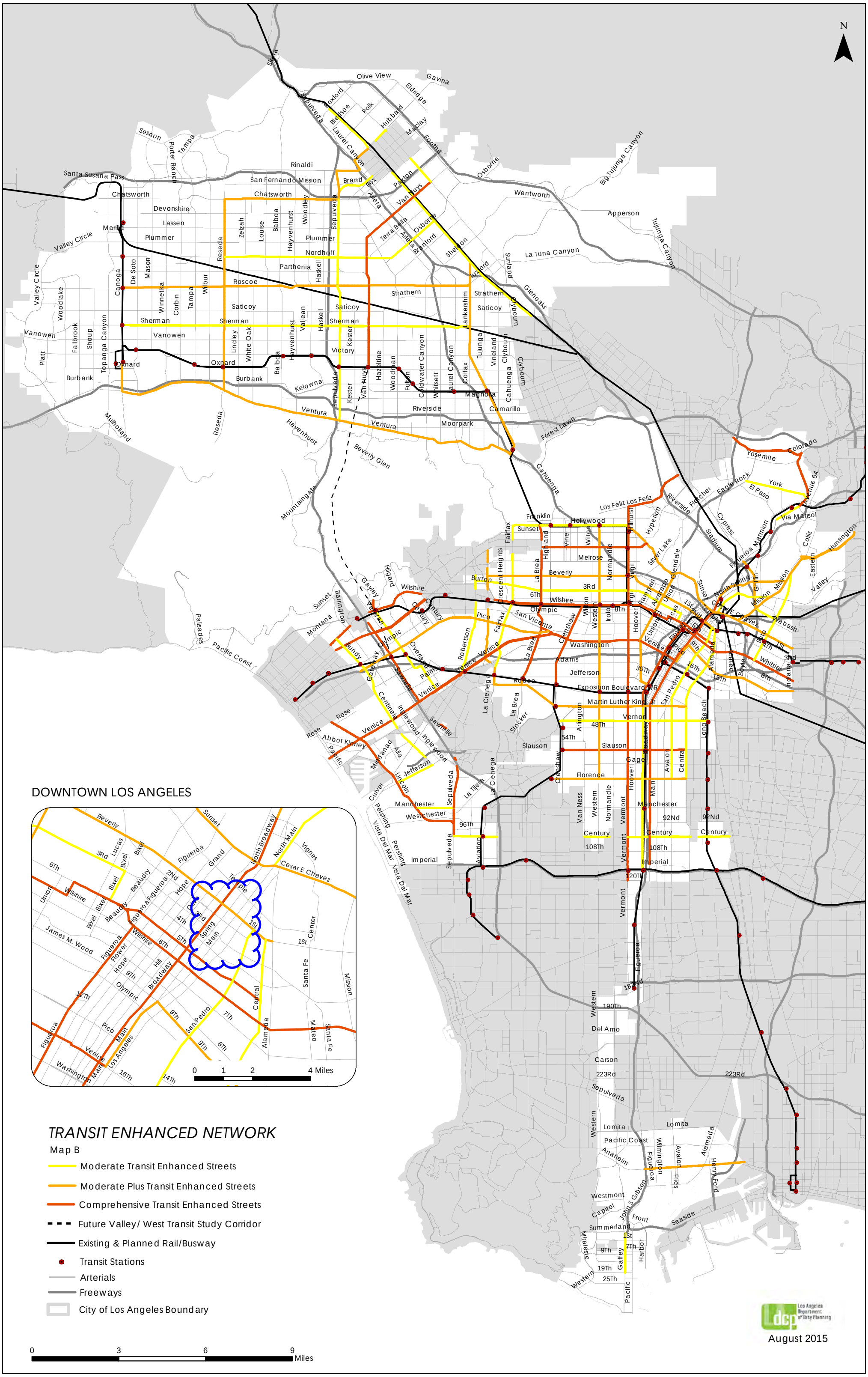
Overland Traffic Consultants, Inc.
24325 Main Street #202, Santa Clarita, CA 91321
(661) 799-8423 OTC@overlandtraffic.com

216 S SPRING STREET

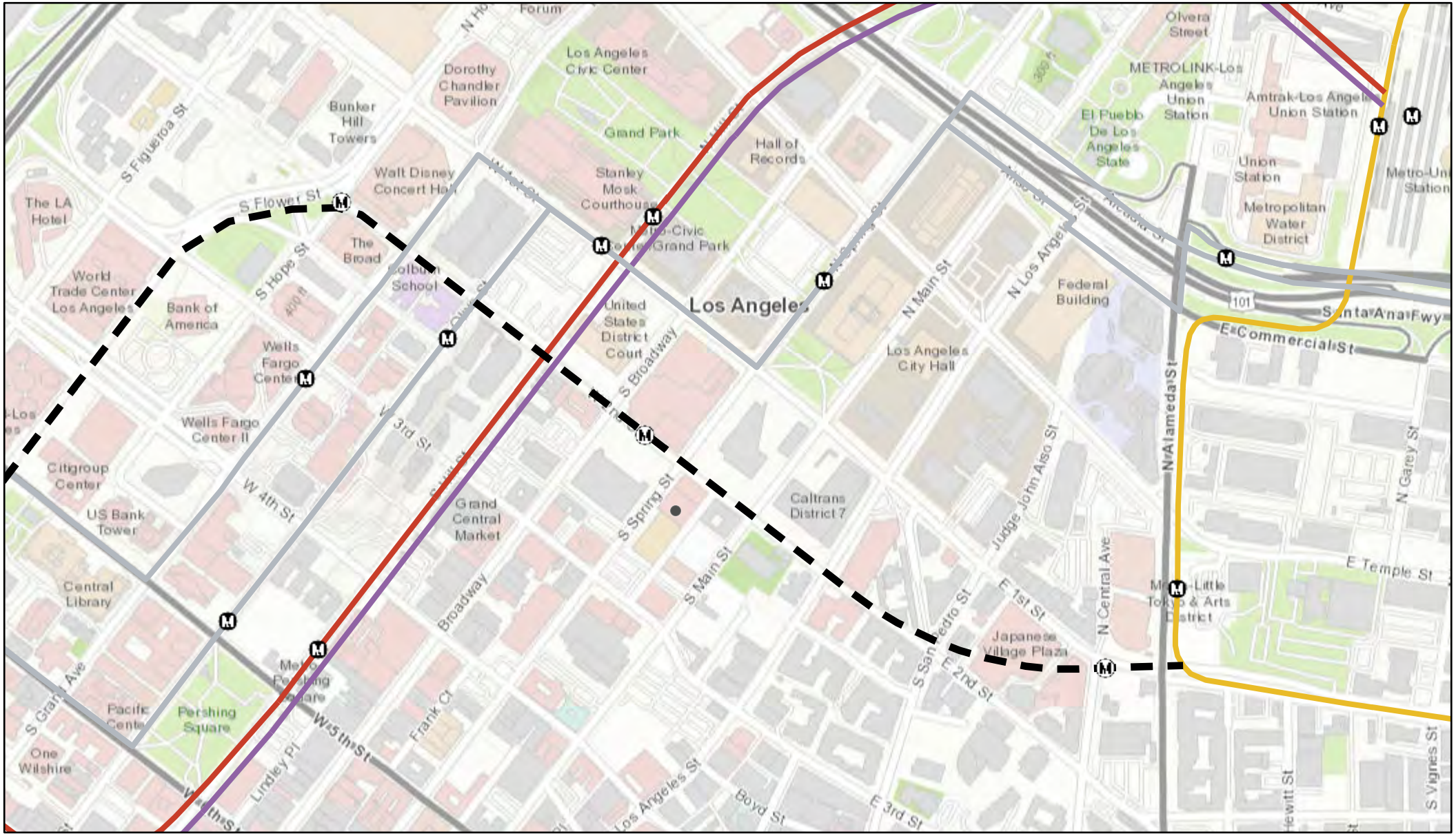
APPENDIX E

Mobility Network Maps


N
VEHICLE ENHANCED NETWORK
Map E
Vehicle Enhanced Network
Arterials
Freeways
City of Los Angeles Boundary
0
3
6
9
Miles
Los Angeles Department of City Planning
August 2015


N
DOWNTOWN LOS ANGELES
TRANSIT ENHANCED NETWORK
Map B
Moderate Transit Enhanced Streets
Moderate Plus Transit Enhanced Streets
Comprehensive Transit Enhanced Streets
Future Valley/ West Transit Study Corridor
Existing & Planned Rail/Busway
Transit Stations
Arterials
Freeways
City of Los Angeles Boundary
0 3 6 9 Miles
0 1 2 4 Miles
August 2015

METRO STATIONS AND LINES



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1:9,028

0 0.05 0.1 0.2 mi

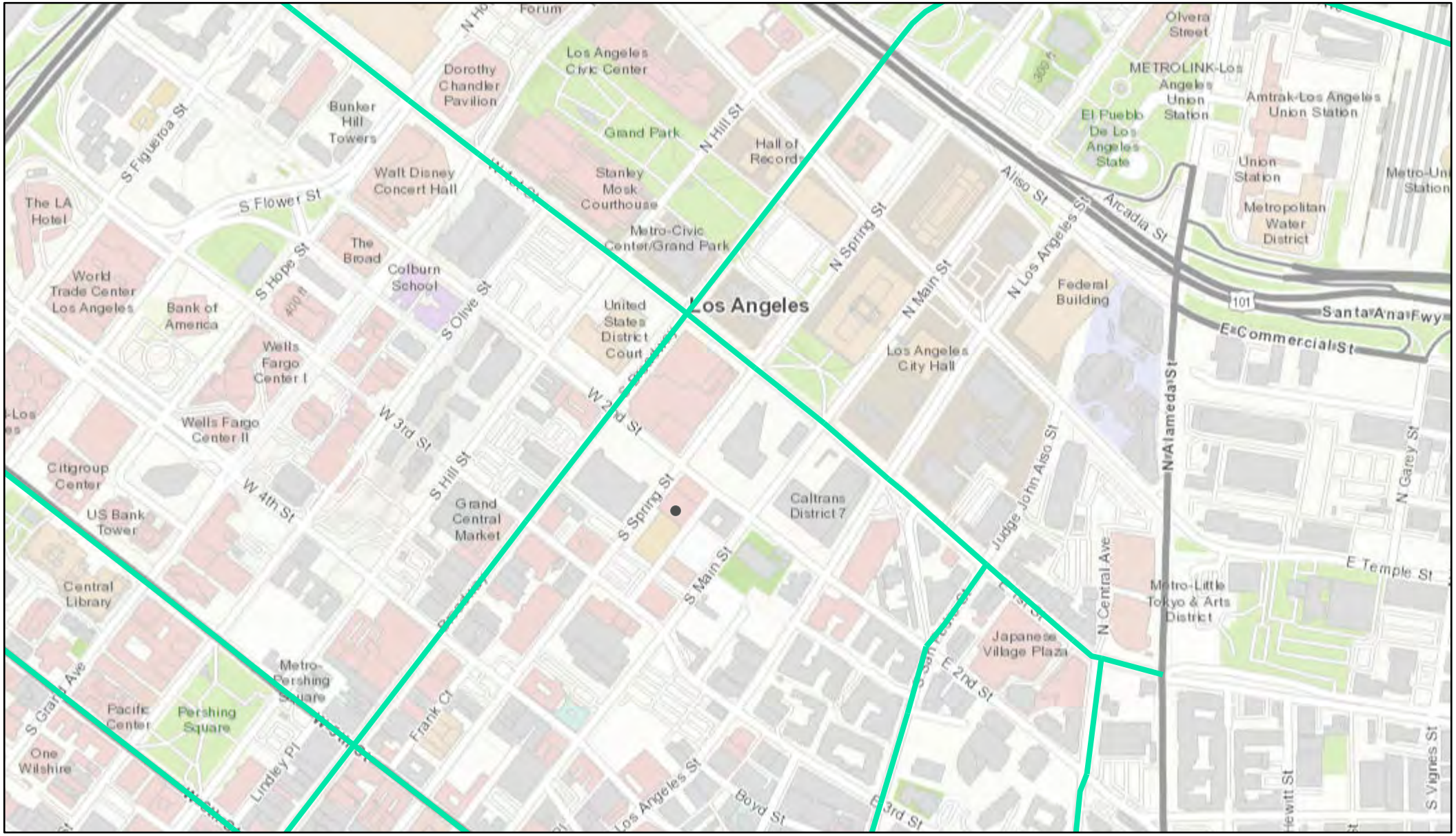
0 0.1 0.2 0.4 km

County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA

Metro Stations	Metro Lines	
Existing	Red Line	Gold Line
Proposed	Purple Line	Silver Line
		Regional Connector (Planned)

Los Angeles Department of City Planning

TRANSIT ENHANCED NETWORK (TEN)



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Transit Enhanced Network (TEN)

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0 0.1 0.2 0.4 km

County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA

TRANSIT PRIORITY AREA (TPA)

7/16/2021, 8:09:43 AM

Transit Priority Area (TPA)

- Heavy Rail
- Light Rail
- Right of Way - Bus Rapid Transit
- Major Bus Routes

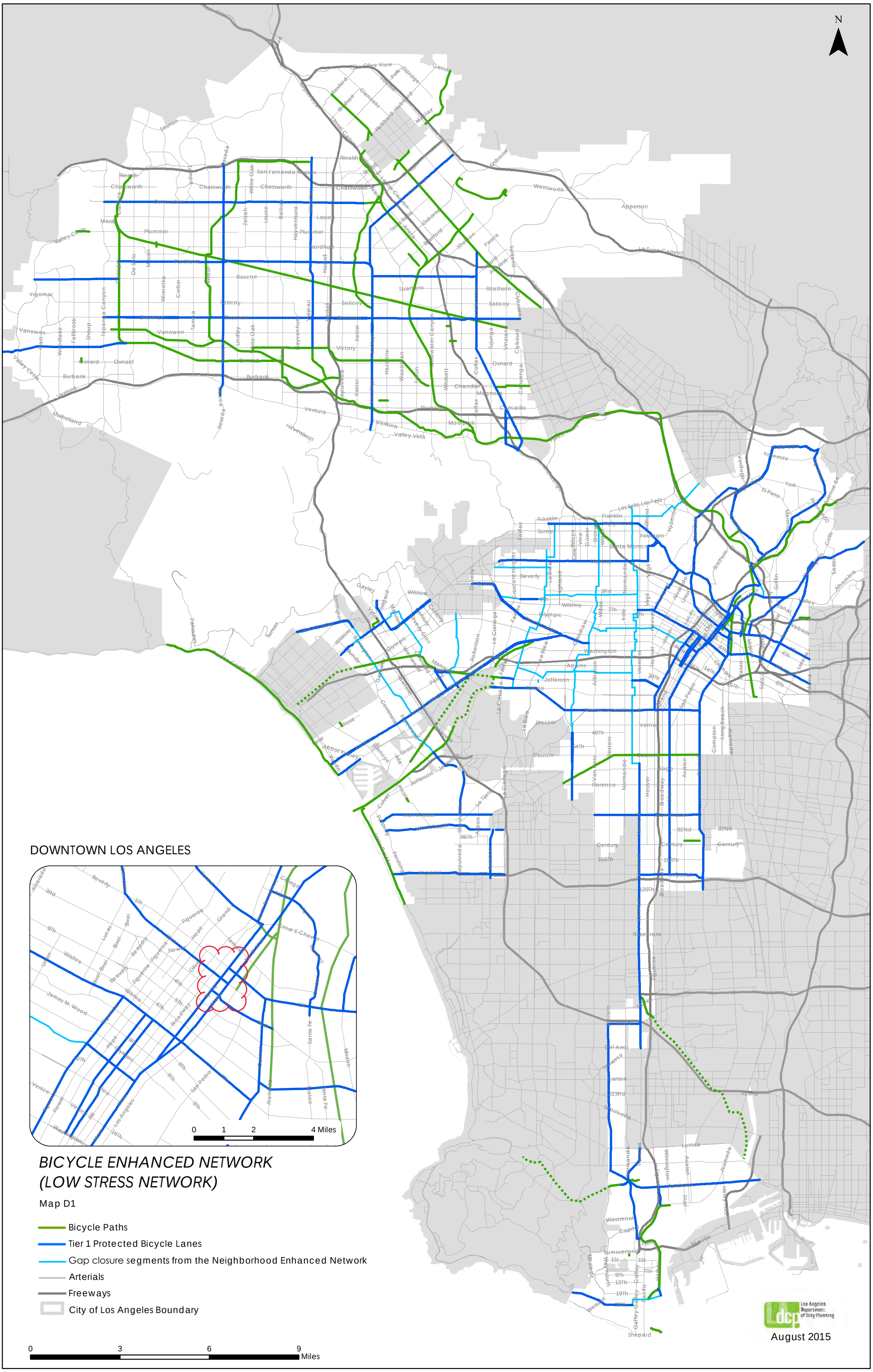
1:9,028

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA

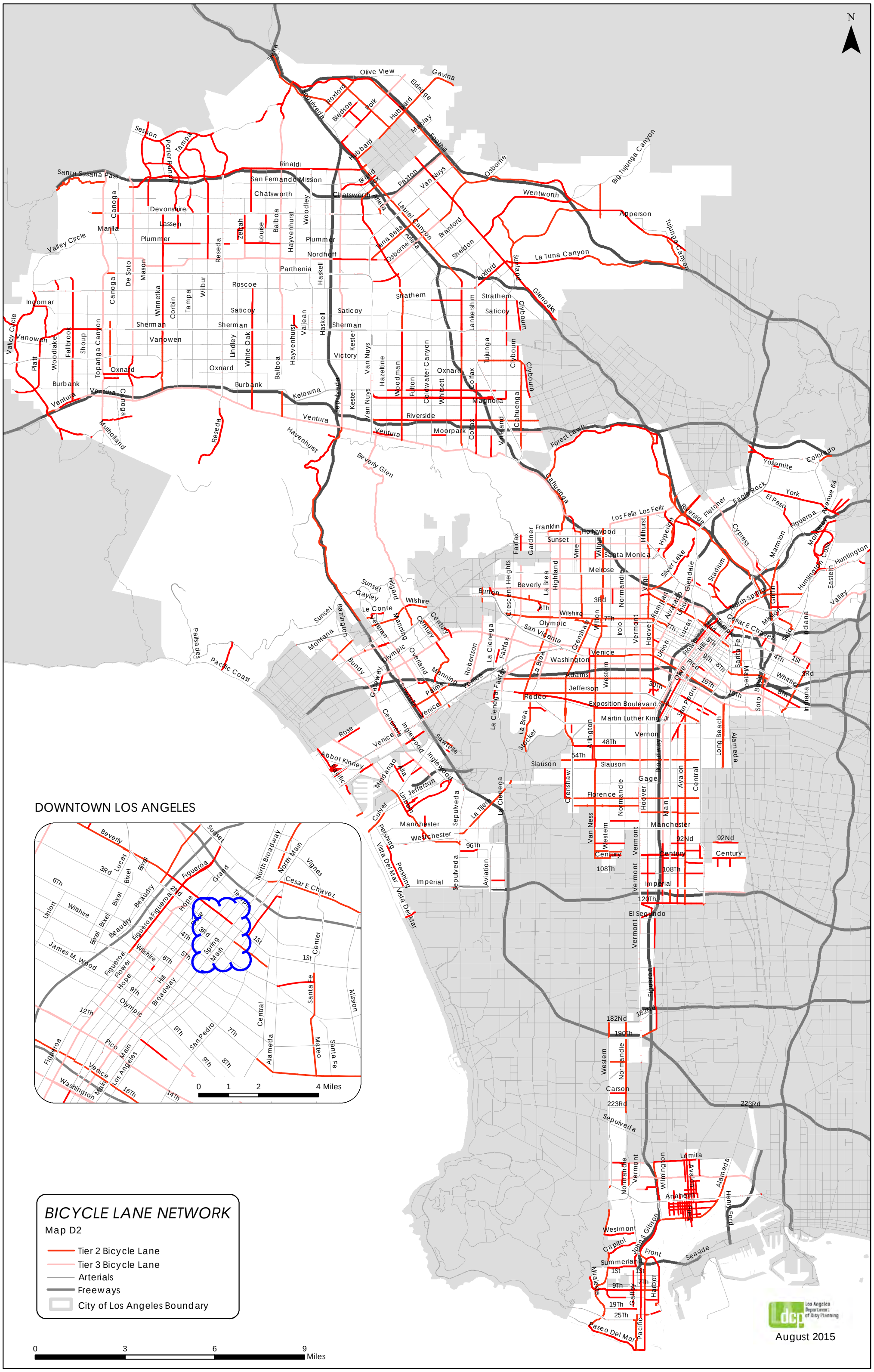
Los Angeles Department of City Planning



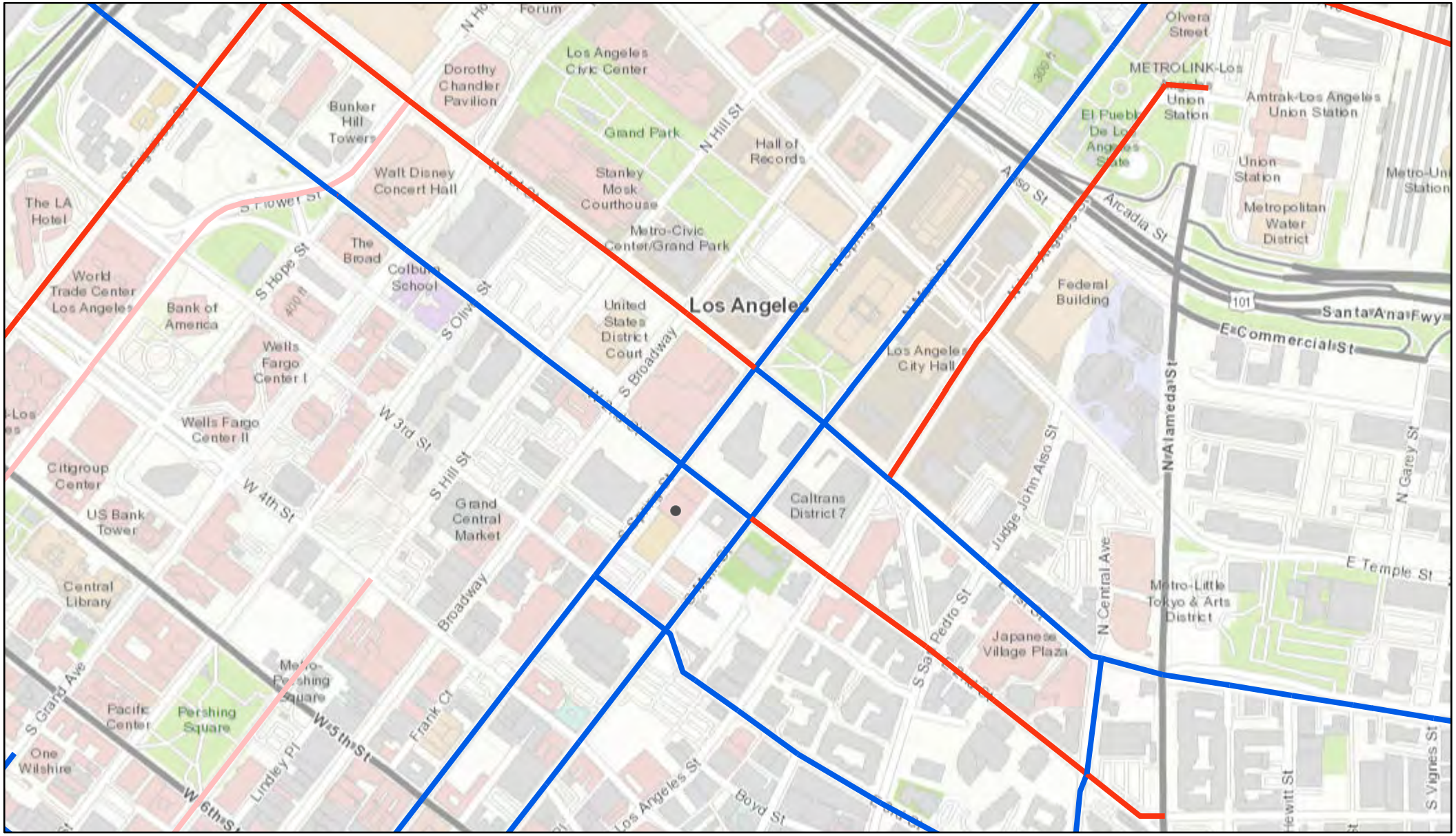
BICYCLE ENHANCED NETWORK
(LOW STRESS NETWORK)

Map D1

- Bicycle Paths
- Tier 1 Protected Bicycle Lanes
- Gap closure segments from the Neighborhood Enhanced Network
- Arterials
- Freeways
- City of Los Angeles Boundary


N
DOWNTOWN LOS ANGELES
BICYCLE LANE NETWORK
Map D2
Tier 2 Bicycle Lane
Tier 3 Bicycle Lane
Arterials
Freeways
City of Los Angeles Boundary
0 3 6 9 Miles
0 1 2 4 Miles
Los Angeles Department of City Planning
August 2015

BICYCLE ENHANCED NETWORK (BEN)



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Bicycle Network

Tier 2 (BLN)

Tier 3 (BLN)

Tier 1 (BEN)

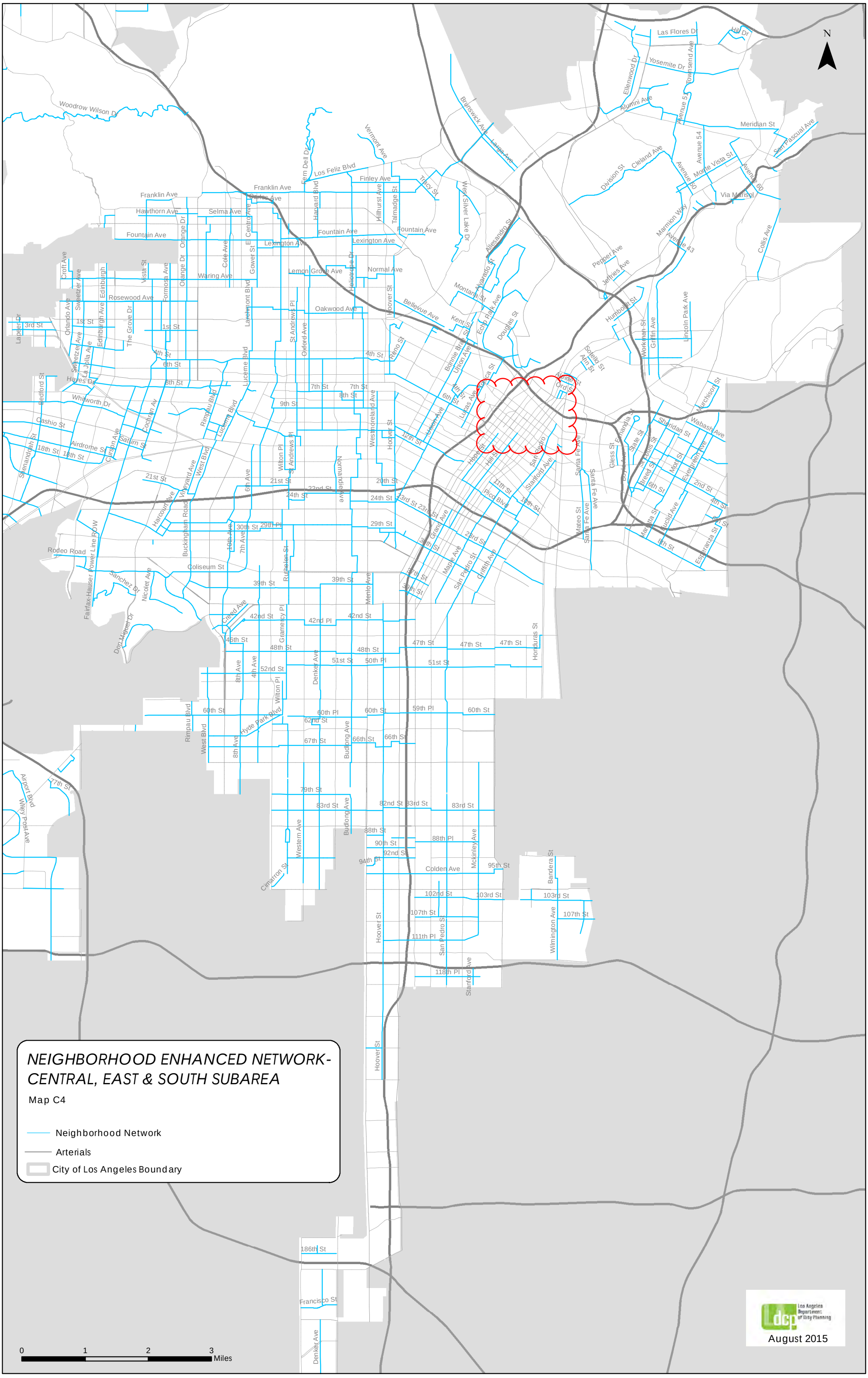
1:9,028

0 0.05 0.1 0.2 mi

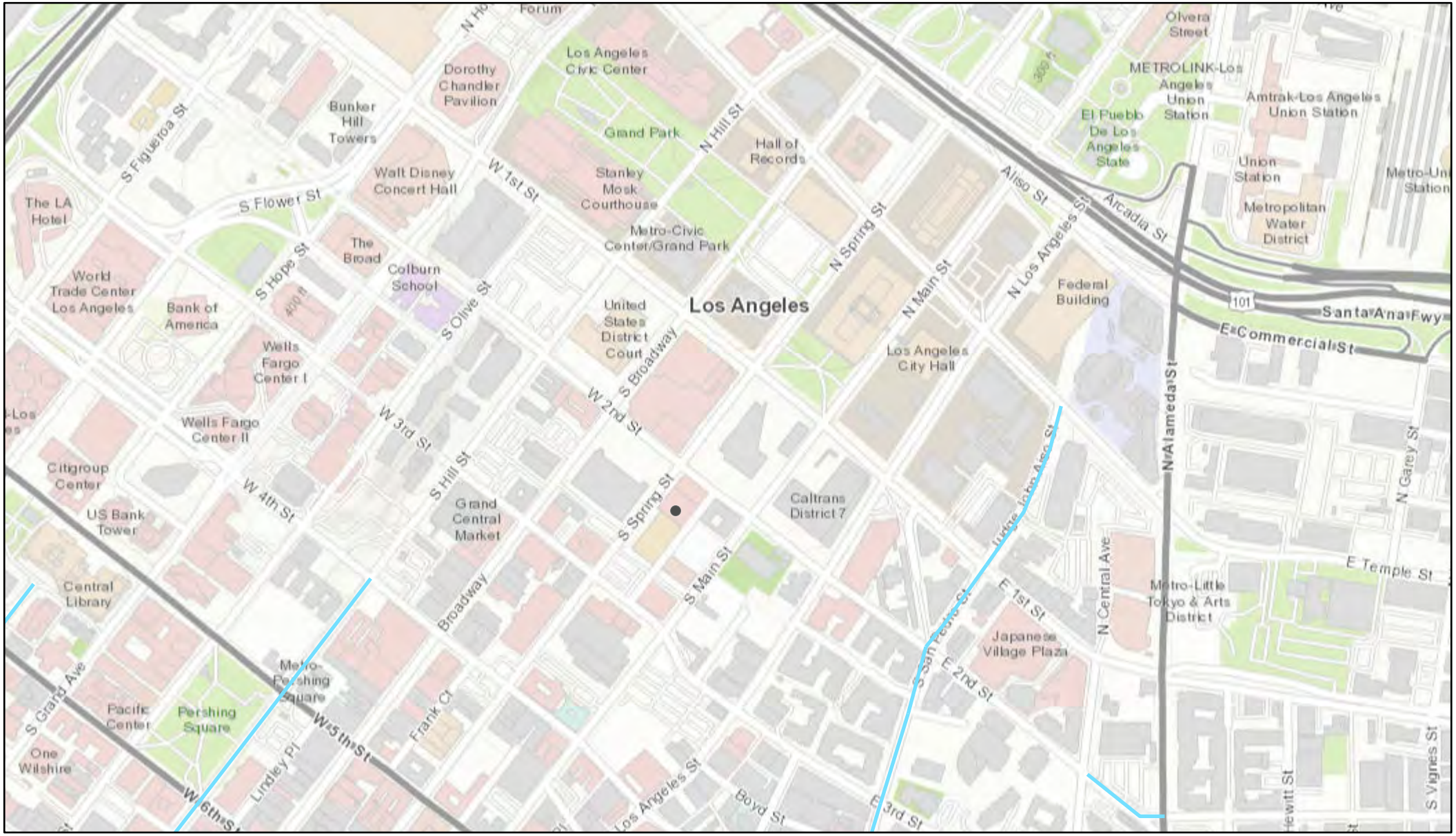
0 0.1 0.2 0.4 km

County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA

Los Angeles Department of City Planning


NEIGHBORHOOD ENHANCED NETWORK-
CENTRAL, EAST & SOUTH SUBAREA
Map C4
Neighborhood Network
Arterials
City of Los Angeles Boundary
0
1
2
3
Miles
N
August 2015

NEIGHBORHOOD ENHANCED NETWORK (NEN)



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Neighborhood Network (NEN)

Tier 2 NEN

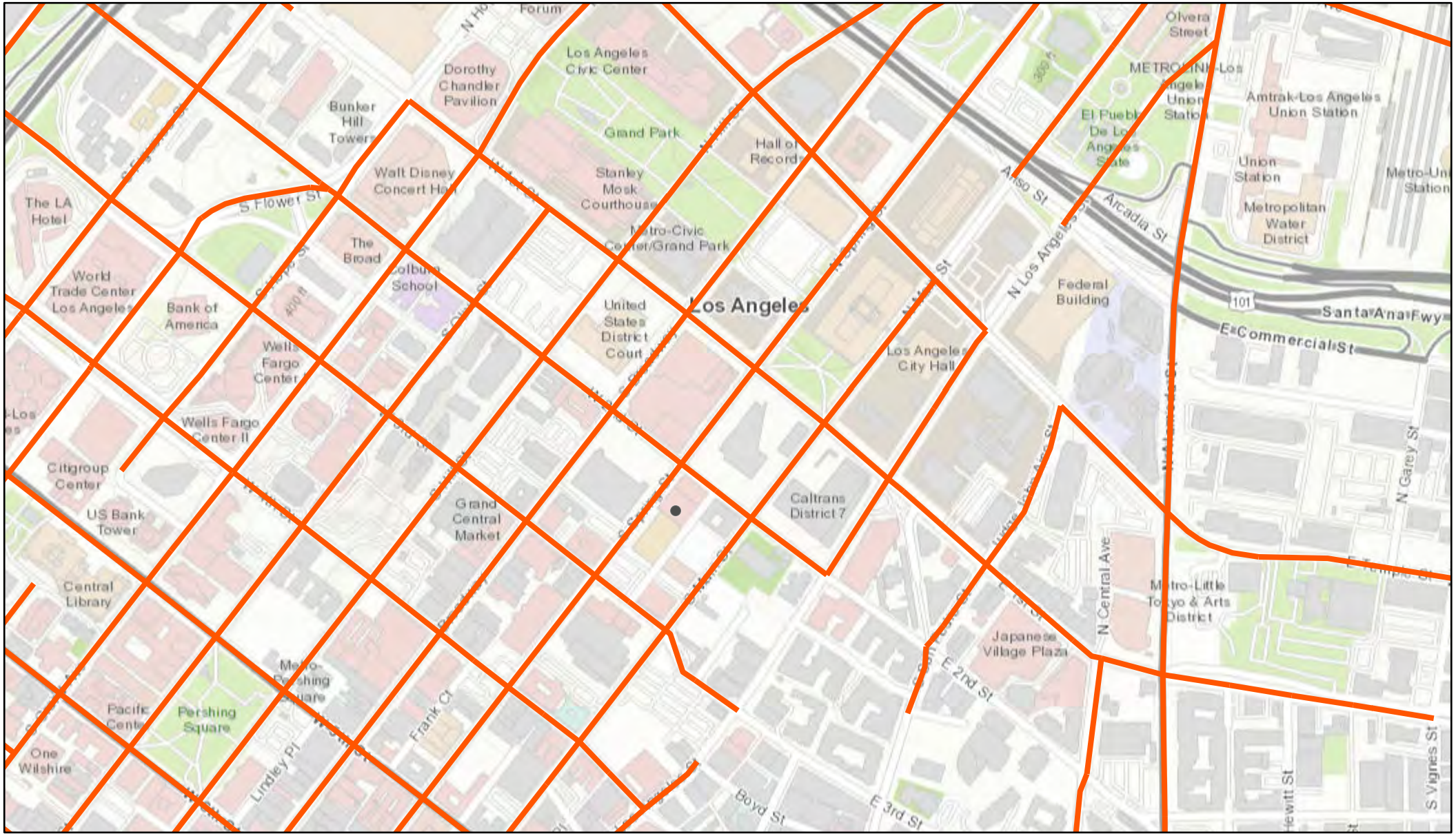
1:9,028

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA

PEDESTRIAN ENHANCED DISTIRCT (PEDs)



7/16/2021, 8:17:08 AM

Pedestrian Enhanced Districts (PEDs)

1:9,028

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA

Los Angeles Department of City Planning

WALKABILITY INDEX

7/16/2021, 8:19:12 AM

Walkability Index

Low Walkability

Medium Walkability

High Walkability

1:9,028

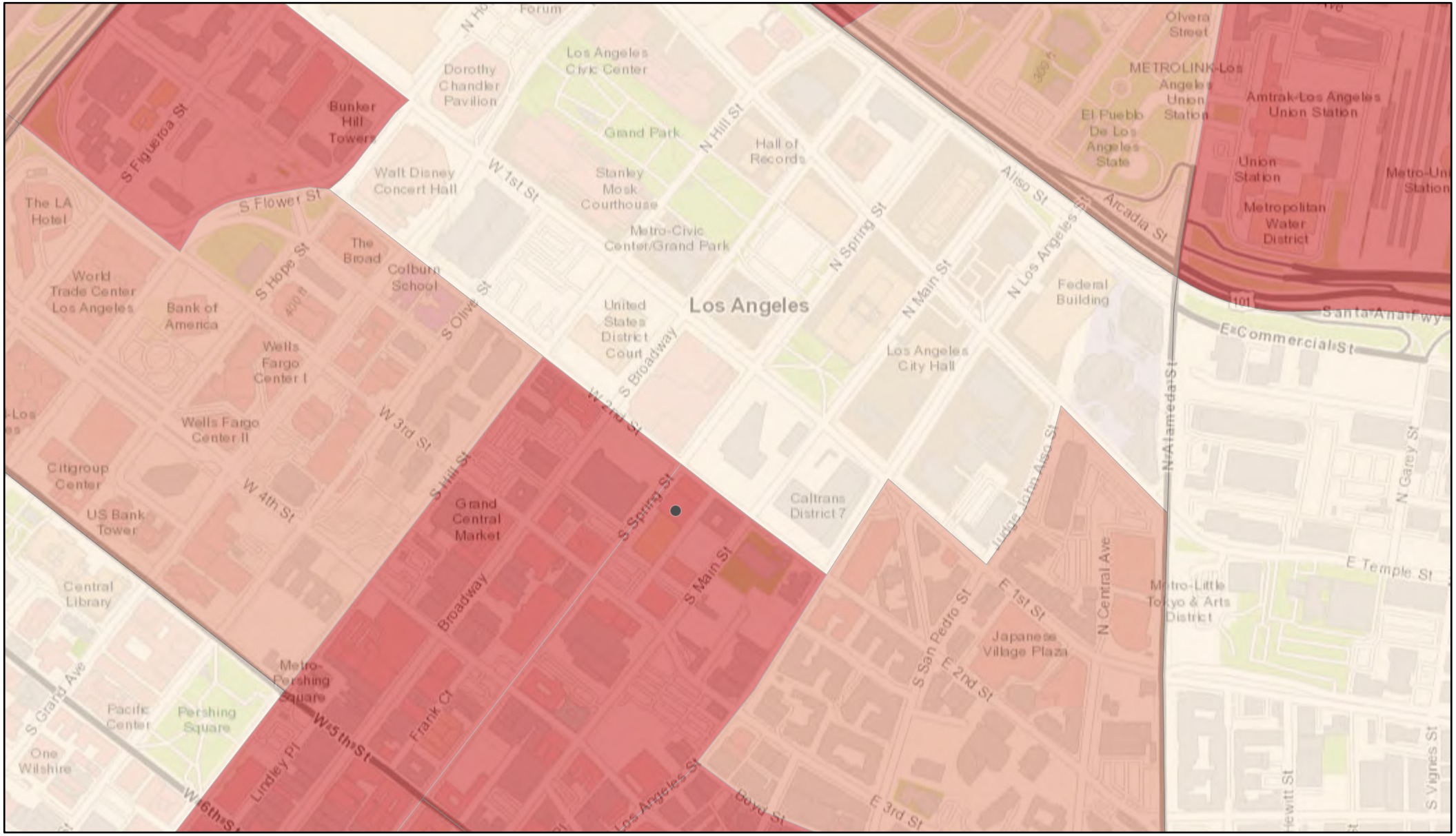
0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA

Los Angeles Department of City Planning

POPULATION DENSITY



7/16/2021, 8:20:02 AM

Population Density

Low Density

Medium Density

High Density

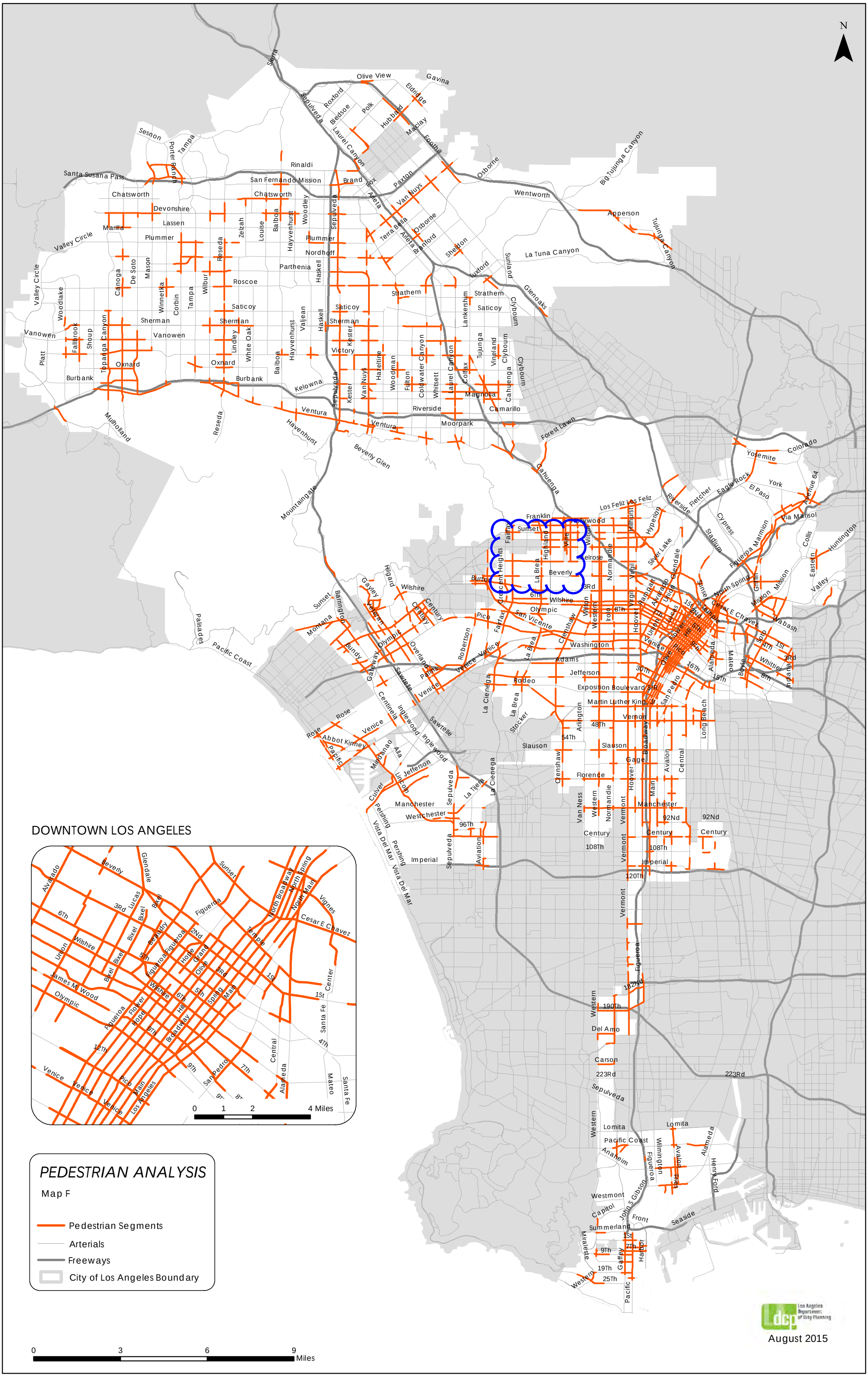
1:9,028

0 0.05 0.1 0.2 mi

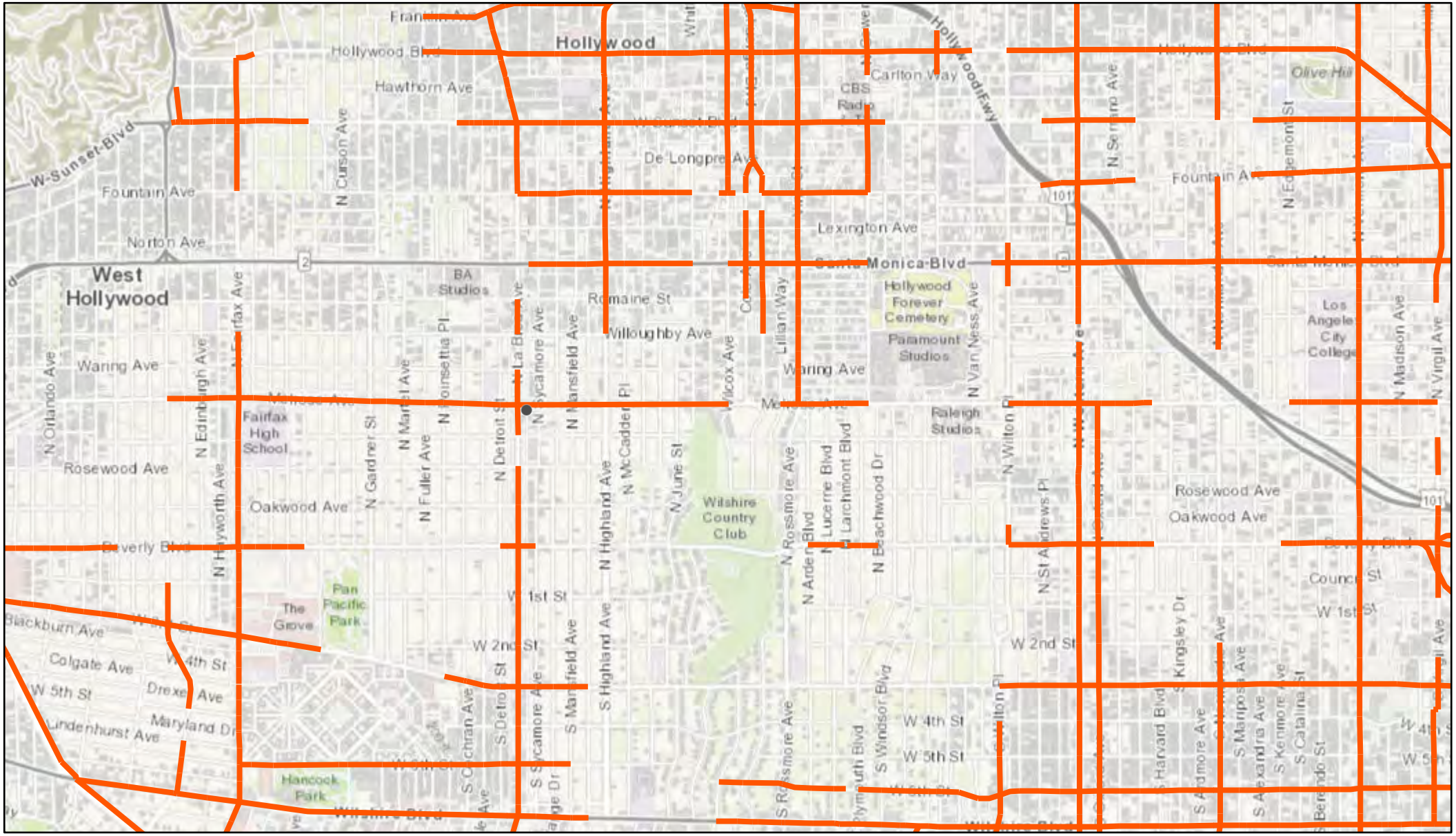
0 0.1 0.2 0.4 km

County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA

Los Angeles Department of City Planning


N
DOWNTOWN LOS ANGELES
0 1 2 4 Miles
PEDESTRIAN ANALYSIS
Map F
Pedestrian Segments
Arterials
Freeways
City of Los Angeles Boundary
0 3 6 9 Miles
Los Angeles Department of City Planning
August 2015

PEDESTRIAN ENHANCED DISTRICT (PEDs))



7/27/2021, 12:11:15 PM

Pedestrian Enhanced Districts (PEDs)

1:36,112

0 0.25 0.5 1 mi

0 0.4 0.8 1.6 km

County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA

Los Angeles Department of City Planning

Overland Traffic Consultants, Inc.

APPENDIX F

VMT Report

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project: 216 Spring

Scenario: MOU

Address: 216 S SPRING ST, 90012

Is the project replacing an existing number of residential units with a smaller number of residential units AND is located within one-half mile of a fixed-rail or fixed-guideway transit

○ Yes ○ No

Existing Land Use

Land Use Type	Value	Unit
Office | General Office	14	ksf
Office | General Office	14	ksf

☐ Click here to add a single custom land use type (will be included in the above list)

Proposed Project Land Use

Land Use Type	Value	Unit
Retail | High-Turnover Sit-Down Restaurant	1.992	ksf
Housing | Multi-Family	106	DU
Retail | General Retail	1.033	ksf
Retail | High-Turnover Sit-Down Restaurant	1.992	ksf
Housing | Affordable Housing - Family	14	DU

☐ Click here to add a single custom land use type (will be included in the above list)

Project Screening Summary

Existing Land Use	Proposed
90 Daily Vehicle Trips	490 Daily Vehicle Trips
727 Daily VMT	3,312 Daily VMT

Tier 1 Screening Criteria

Project will have less residential units compared to existing residential units & is within one-half mile of a fixed-rail station. ☐

Tier 2 Screening Criteria

The net increase in daily trips < 250 trips	400 Net Daily Trips
The net increase in daily VMT ≤ 0	2,585 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	3.025 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: 216 Spring

Scenario: MOU

Address: 216 S SPRING ST, 90012

Proposed Project Land Use Type	Value	Unit
Housing | Multi-Family	106	DU
Retail | General Retail	1.033	ksf
Retail | High-Turnover Sit-Down Restaurant	1.992	ksf
Housing | Affordable Housing - Family	14	DU

TDM Strategies

Select each section to show individual strategies

Use ☑ to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

	Proposed Project	With Mitigation
Max Home Based TDM Achieved?	**No**	**No**
Max Work Based TDM Achieved?	**No**	**No**

A Parking

B Transit

C Education & Encouragement

D Commute Trip Reductions

E Shared Mobility

F Bicycle Infrastructure

Implement/Improve On-street Bicycle Facility — Select Proposed Prj or Mitigation to include this strategy
☐ Proposed Prj ☐ Mitigation

Include Bike Parking Per LAMC — Select Proposed Prj or Mitigation to include this strategy
☑ Proposed Prj ☐ Mitigation

Include Secure Bike Parking and Showers — Select Proposed Prj or Mitigation to include this strategy
☐ Proposed Prj ☐ Mitigation

G Neighborhood Enhancement

Analysis Results

Proposed Project	With
427 Daily Vehicle Trips	**427** Daily Vehicle Trips
2,880 Daily VMT	**2,880** Daily VMT
2.5 Household VMT per Capita	**2.5** Household VMT
N/A Work VMT per Employee	**N/A** Work VMT per Employee

Significant VMT Impact?

Household: No Threshold = 6.0 15% Below APC	**Household: No** Threshold = 6.0 15% Below APC
Work: N/A Threshold = 7.6 15% Below APC	**Work: N/A** Threshold = 7.6 15% Below APC

Measuring the Miles

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: July 16, 2021
Project Name: 216 Spring
Project Scenario: MOU
Project Address: 216 S SPRING ST, 90012

Version 1.3

Project Information

Land Use Type		Value	Units
Housing	*Single Family*	*0*	*DU*
	Multi Family	106	DU
	Townhouse	*0*	*DU*
	Hotel	*0*	*Rooms*
	Motel	*0*	*Rooms*
Affordable Housing	Family	14	DU
	Senior	*0*	*DU*
	Special Needs	*0*	*DU*
	Permanent Supportive	*0*	*DU*
Retail	General Retail	1.033	ksf
	Furniture Store	*0.000*	*ksf*
	Pharmacy/Drugstore	*0.000*	*ksf*
	Supermarket	*0.000*	*ksf*
	Bank	*0.000*	*ksf*
	Health Club	*0.000*	*ksf*
	High-Turnover Sit-Down Restaurant	1.992	ksf
	Fast-Food Restaurant	*0.000*	*ksf*
	Quality Restaurant	*0.000*	*ksf*
	Auto Repair	*0.000*	*ksf*
	Home Improvement	*0.000*	*ksf*
	Free-Standing Discount	*0.000*	*ksf*
	Movie Theater	*0*	*Seats*
Office	*General Office*	*0.000*	*ksf*
	Medical Office	*0.000*	*ksf*
Industrial	*Light Industrial*	*0.000*	*ksf*
	Manufacturing	*0.000*	*ksf*
	Warehousing/Self-Storage	*0.000*	*ksf*
School	*University*	*0*	*Students*
	High School	*0*	*Students*
	Middle School	*0*	*Students*
	Elementary	*0*	*Students*
	Private School (K-12)	*0*	*Students*
Other		*0*	*Trips*

Analysis Results

Total Employees: 10
Total Population: 283

Proposed Project		*With Mitigation*	
427	**Daily Vehicle Trips**	**427**	**Daily Vehicle Trips**
2,880	**Daily VMT**	**2,880**	**Daily VMT**
2.5	**Household VMT per Capita**	**2.5**	**Household VMT per Capita**
N/A	**Work VMT per Employee**	**N/A**	**Work VMT per Employee**

Significant VMT Impact?

APC: Central

Impact Threshold: 15% Below APC Average
Household = 6.0
Work = 7.6

Proposed Project		*With Mitigation*	
VMT Threshold	**Impact**	**VMT Threshold**	**Impact**
Household > 6.0	No	Household > 6.0	No
Work > 7.6	N/A	Work > 7.6	N/A

TDM Strategy Inputs

Strategy Type		Description	Proposed Project	Mitigations
Parking	Reduce parking supply	City code parking provision (spaces)	147	147
		Actual parking provision (spaces)	69	69
	Unbundle parking	*Monthly cost for parking ($)*	*$0*	*$0*
	Parking cash-out	*Employees eligible (%)*	*0%*	*0%*
	Price workplace parking	*Daily parking charge ($)*	*$0.00*	*$0.00*
		Employees subject to priced parking (%)	*0%*	*0%*
	Residential area parking permits	*Cost of annual permit ($)*	*$0*	*$0*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Transit	*Reduce transit headways*	*Reduction in headways (increase in frequency) (%)*	*0%*	*0%*
		Existing transit mode share (as a percent of total daily trips) (%)	*0%*	*0%*
		Lines within project site improved (<50%, >=50%)	*0*	*0*
	Implement neighborhood shuttle	*Degree of implementation (low, medium, high)*	*0*	*0*
		Employees and residents eligible (%)	*0%*	*0%*
	Transit subsidies	*Employees and residents eligible (%)*	*0%*	*0%*
		Amount of transit subsidy per passenger (daily equivalent) ($)	*$0.00*	*$0.00*
Education & Encouragement	*Voluntary travel behavior change program*	*Employees and residents participating (%)*	*0%*	*0%*
	Promotions and marketing	*Employees and residents participating (%)*	*0%*	*0%*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Commute Trip Reductions	*Required commute trip reduction program*	*Employees participating (%)*	*0%*	*0%*
	Alternative Work Schedules and Telecommute	*Employees participating (%)*	*0%*	*0%*
		Type of program	*0*	*0*
	Employer sponsored vanpool or shuttle	*Degree of implementation (low, medium, high)*	*0*	*0*
		Employees eligible (%)	*0%*	*0%*
		Employer size (small, medium, large)	*0*	*0*
	Ride-share program	*Employees eligible (%)*	*0%*	*0%*
Shared Mobility	*Car share*	*Car share project setting (Urban, Suburban, All Other)*	*0*	*0*
	Bike share	*Within 600 feet of existing bike share station - OR- implementing new bike share station (Yes/No)*	*0*	*0*
	School carpool program	*Level of implementation (Low, Medium, High)*	*0*	*0*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Bicycle Infrastructure	*Implement/Improve on-street bicycle facility*	*Provide bicycle facility along site (Yes/No)*	*0*	*0*
	Include Bike parking per LAMC	Meets City Bike Parking Code (Yes/No)	Yes	Yes
	Include secure bike parking and showers	*Includes indoor bike parking/lockers, showers, & repair station (Yes/No)*	*0*	*0*
Neighborhood Enhancement	*Traffic calming improvements*	*Streets with traffic calming improvements (%)*	*0%*	*0%*
		Intersections with traffic calming improvements (%)	*0%*	*0%*
	Pedestrian network improvements	*Included (within project and connecting off-site/within project only)*	*0*	*0*

TDM Adjustments by Trip Purpose & Strategy

Place type: Urban

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Parking	Reduce parking supply	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	TDM Strategy Appendix, Parking sections 1 - 5
	Unbundle parking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Parking cash-out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Price workplace parking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Residential area parking permits	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Transit	Reduce transit headways	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Transit sections 1 - 3
	Implement neighborhood shuttle	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Transit subsidies	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Education & Encouragement	Voluntary travel behavior change program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Education & Encouragement sections 1 - 2
	Promotions and marketing	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Commute Trip Reductions	Required commute trip reduction program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Commute Trip Reductions sections 1 - 4
	Alternative Work Schedules and Telecommute Program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Employer sponsored vanpool or shuttle	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Ride-share program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Shared Mobility	Car-share	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	TDM Strategy Appendix, Shared Mobility sections 1 - 3
	Bike share	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
	School carpool program	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

TDM Adjustments by Trip Purpose & Strategy, Cont.

Place type: Urban

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Bicycle Infrastructure	Implement/ Improve on-street bicycle facility	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	TDM Strategy Appendix, Bicycle Infrastructure sections 1 - 3
	Include Bike parking per LAMC	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	
	Include secure bike parking and showers	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	
Neighborhood Enhancement	Traffic calming improvements	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	TDM Strategy Appendix, Neighborhood Enhancement
	Pedestrian network improvements	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	

Final Combined & Maximum TDM Effect

	Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*	
	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated
COMBINED TOTAL	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*
MAX. TDM EFFECT	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*	*13%*

= Minimum (X%, 1-[(1-A)*(1-B)…])

where X%=

PLACE TYPE MAX:	urban	75%
	compact infill	*40%*
	suburban center	*20%*
	suburban	*15%*

Note: (1-[(1-A)*(1-B)…]) reflects the dampened combined effectiveness of TDM Strategies (e.g., A, B,…). See the TDM Strategy Appendix (*Transportation Assessment Guidelines Attachment G)* for further discussion of dampening.

CITY OF LOS ANGELES VMT CALCULATOR

Report 4: MXD Methodology

Date: July 16, 2021
Project Name: 216 Spring
Project Scenario: MOU
Project Address: 216 S SPRING ST, 90012

Version 1.3

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	107	-31.8%	73	5.0	535	365
Home Based Other Production	296	-67.9%	95	4.7	1,391	447
Non-Home Based Other Production	185	-11.4%	164	8.5	1,573	1,394
Home-Based Work Attraction	15	-53.3%	7	8.5	128	60
Home-Based Other Attraction	248	-67.3%	81	6.0	1,488	486
Non-Home Based Other Attraction	80	-12.5%	70	8.0	640	560

MXD Methodology with TDM Measures

	Proposed Project			*Project with Mitigation Measures*		
	TDM Adjustment	Project Trips	Project VMT	TDM Adjustment	Mitigated Trips	Mitigated VMT
Home Based Work Production	-13.0%	63	317	-13.0%	63	317
Home Based Other Production	-13.0%	83	389	-13.0%	83	389
Non-Home Based Other Production	-13.0%	143	1,212	-13.0%	143	1,212
Home-Based Work Attraction	-13.0%	6	52	-13.0%	6	52
Home-Based Other Attraction	-13.0%	71	423	-13.0%	71	423
Non-Home Based Other Attraction	-13.0%	61	487	-13.0%	61	487

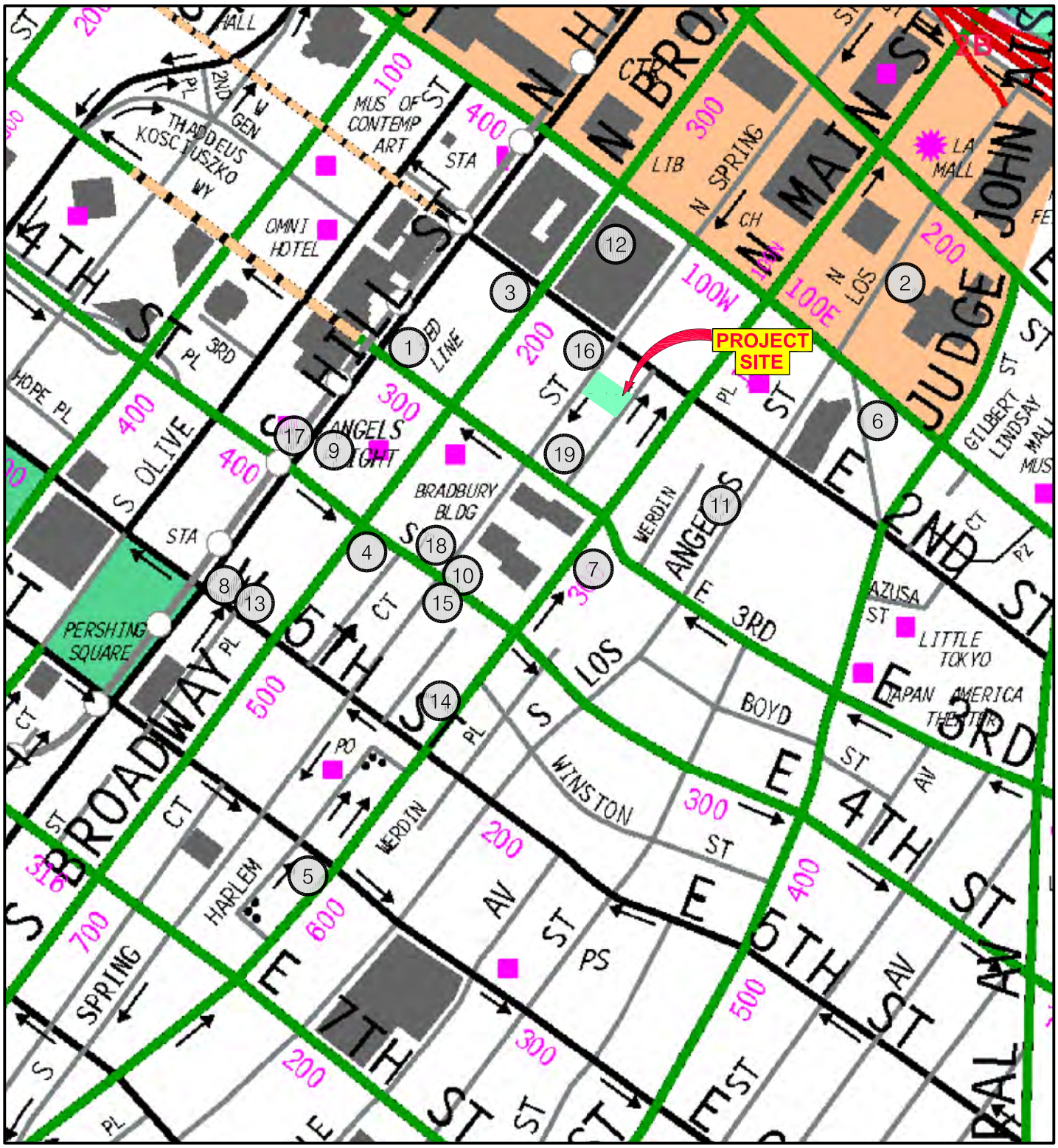
MXD VMT Methodology Per Capita & Per Employee

Total Population: 283
Total Employees: 10
APC: Central

	Proposed Project	*Project with Mitigation Measures*
Total Home Based Production VMT	**706**	**706**
Total Home Based Work Attraction VMT	**52**	**52**
Total Home Based VMT Per Capita	**2.5**	**2.5**
Total Work Based VMT Per Employee	**N/A**	**N/A**

APPENDIX G

Related Project Information



8/2021

RELATED PROJECTS LOCATIONs

Overland Traffic Consultants, Inc.
952 Manhattan Beach Bl, #100, Manhattan Beach, CA 90266
(310) 545 - 1235, OTC@overlandtraffic.com

RELATED PROJECT LIST
216 S. Spring Street

RELATED PROJECT TRAFFIC GENERATION

No.	Use	Size		Location	Daily Traffic	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
1	Condominiums	330	units	250 S. Hill Street	1,217	21	73	94	66	42	108
	Retail	12,000	s.f.								
2	Office	712,500	s.f.	150 N. Los Angeles Street	13,534	930	118	1,048	435	942	1,377
	Retail	35,000	s.f.								
	Child Care	2,500	s.f.								
3	Mixed Use	27,675	s.f.	201 S. Broadway	N/A	40	-41	-81	53	17	70
4	Apartments	450	units	400 S. Broadway	3,292	50	187	237	193	112	305
	Retail	6,904									
	Bar	5,000									
5	Condominiums	452	units	601 S. Main Street	2,686	36	144	180	152	87	239
	Retail	25,000	s.f.		28	3	1	4	1	3	4
6	Apartments	77	units	118 S. Astronaut Ellison S. Onizuka Street	97	-1	20	19	19	6	25
7	·B22:D26partmei	471	units	300 S. Main Street	4,691	143	243	386	257	153	410
	Retail	5,190	s.f.								
	Restaurant	27,780	s.f.								
8	Condominiums	100	units	333 W. 5th Street	5,712	233	214	447	259	184	443
	Hotel	200	rooms								
	Restaurant	27,500	s.f.								
9	Apartments	406	units	340 S. Hill Street	2,253	36	129	165	133	75	208
	Retail	2,630	s.f.								
	Office	2,980	s.f.								
10	Apartments	212	units	354 S. Spring Street	1,410	22	86	108	85	46	131
11	Sports Complex	43,453	s.f.	237 S. Los Angeles Street	2,131	85	44	129	85	88	173
12	Apartments	1,127	units	100 S. Broadway	6,994	9	291	300	253	26	279
	Office	307,288	s.f.								
	Supermarket	50,000	s.f.								
	Restaurant	53,389	s.f.								
	Hotel	190	rooms	323 W. 5th Street	2,809	73	49	122	126	100	226
13	Condominiums	31	units								
	Restaurant	29,232	s.f.								
14	Apartments	196	units	433 S. Main Street	1,476	33	72	105	61	38	99
	Retail	6,000	s.f.								
	Café	9,000	s.f.								
15	Hotel	140	rooms	408 S. Spring Street	464	15	17	32	11	14	25
16	Apartments	680	units	222 W. 2nd Street	3,478	53	200	253	205	116	321
	Retail	10,000	s.f.								
17	Hotel	509	rooms	361 S. Hill Street	5,410	184	214	396	347	238	585
	Retail	36,551	s.f.								
	Educational	38,977	s.f.								
18	Hotel	315	rooms	361 S. Spring Street	2,574	99	68	167	96	93	189
19	Apartments	294	units	121 W. 3rd Street	1,198	37	90	127	93	46	149
	Affordable	38	units								
	Retail	6,350	s.f.								

APPENDIX H

Traffic Volume Data and Level of Service Worksheets

Overland Traffic Consultants, Inc.

Traffic Volume Data

WILTEC

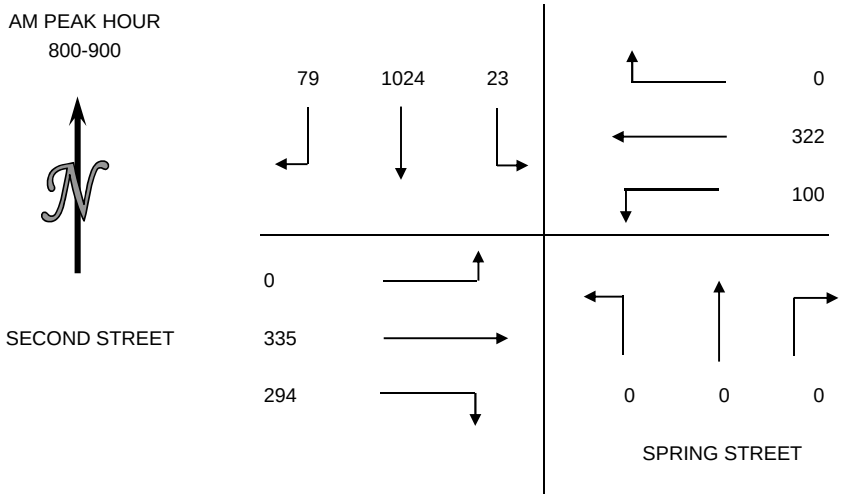
Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: INTUEOR
PROJECT: DOWNTOWN LOS ANGELES TRAFFIC COUNTS
DATE: WEDNESDAY APRIL 28, 2009
PERIOD: 7:00 AM TO 9:00 AM
INTERSECTION: N/S SPRING STREET
E/W SECOND STREET

15 MIN COUNTS PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
700-715	6	166	9	0	56	12	0	0	0	40	63	0	352
715-730	12	190	6	0	46	14	0	0	0	56	73	0	397
730-745	12	228	3	0	76	16	0	0	0	54	80	0	469
745-800	17	238	2	0	92	16	0	0	0	62	90	0	517
800-815	15	230	3	0	96	20	0	0	0	72	82	0	518
815-830	19	253	4	0	76	28	0	0	0	77	95	0	552
830-845	24	265	5	0	73	25	0	0	0	72	82	0	546
845-900	21	276	11	0	77	27	0	0	0	73	76	0	561
HOUR TOTALS													
700-800	47	822	20	0	270	58	0	0	0	212	306	0	1735
715-815	56	886	14	0	310	66	0	0	0	244	325	0	1901
730-830	63	949	12	0	340	80	0	0	0	265	347	0	2056
745-845	75	986	14	0	337	89	0	0	0	283	349	0	2133
800-900	79	1024	23	0	322	100	0	0	0	294	335	0	2177

AM PEAK HOUR
800-900



PEDESTRIAN COUNTS				
PERIOD 15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
700-715	7	25	14	39
715-730	9	10	22	29
730-745	13	15	12	37
745-800	8	16	22	43
800-815	9	16	27	52
815-830	10	15	30	67
830-845	8	18	31	87
845-900	23	26	45	73
HOUR TOTALS				
700-800	37	66	70	148
715-815	39	57	83	161
730-830	40	62	91	199
745-845	35	65	110	249
800-900	50	75	133	279

WILTEC

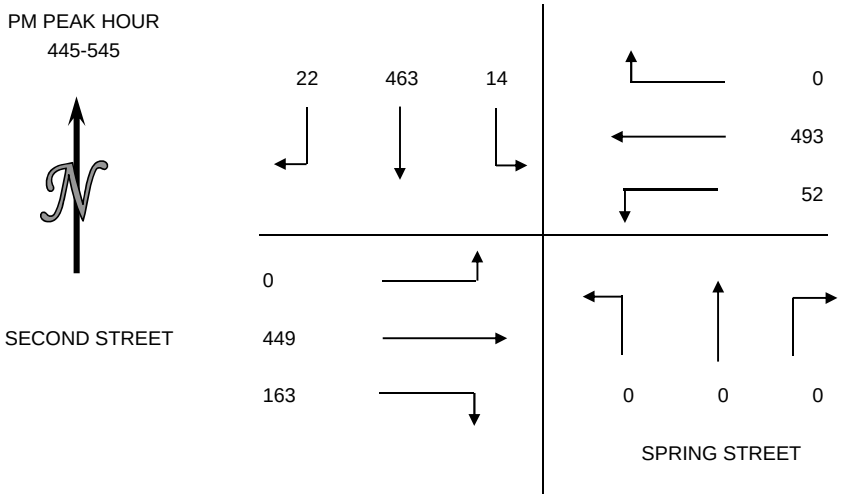
Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: INTUEOR
PROJECT: DOWNTOWN LOS ANGELES TRAFFIC COUNTS
DATE: WEDNESDAY APRIL 28, 2009
PERIOD: 4:00 PM TO 6:00 PM
INTERSECTION: N/S SPRING STREET
E/W SECOND STREET

15 MIN COUNTS PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
400-415	5	133	6	0	85	12	0	0	0	26	89	0	356
415-430	1	141	10	0	95	13	0	0	0	34	101	0	395
430-445	7	117	3	0	109	11	0	0	0	28	111	0	386
445-500	9	127	4	0	137	13	0	0	0	34	102	0	426
500-515	5	134	3	0	103	19	0	0	0	51	116	0	431
515-530	2	103	2	0	113	10	0	0	0	42	123	0	395
530-545	6	99	5	0	140	10	0	0	0	36	108	0	404
545-600	6	95	6	0	123	11	0	0	0	41	87	0	369
HOUR TOTALS													
400-500	22	518	23	0	426	49	0	0	0	122	403	0	1563
415-515	22	519	20	0	444	56	0	0	0	147	430	0	1638
430-530	23	481	12	0	462	53	0	0	0	155	452	0	1638
445-545	22	463	14	0	493	52	0	0	0	163	449	0	1656
500-600	19	431	16	0	479	50	0	0	0	170	434	0	1599

PM PEAK HOUR
445-545



PEDESTRIAN COUNTS PERIOD 15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
400-415	19	26	30	48
415-430	10	8	48	56
430-445	9	9	41	61
445-500	22	25	34	70
500-515	10	11	55	102
515-530	8	7	27	68
530-545	8	11	14	64
545-600	10	8	20	68
HOUR TOTALS				
400-500	60	68	153	235
415-515	51	53	178	289
430-530	49	52	157	301
445-545	48	54	130	304
500-600	36	37	116	302

City Of Los Angeles
Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:
North/South Main St

East/West 3rd St

Day: Thursday Date: March 23, 2017 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	189	0	0	110
BIKES	164	17	28	73
BUSES	183	0	0	40

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	186	8.45	0	0.00	0	0.00	458	7.45
PM PK 15 MIN	356	17.00	0	0.00	0	0.00	339	16.45
AM PK HOUR	675	8.00	0	0.00	0	0.00	1668	7.00
PM PK HOUR	1290	16.30	0	0.00	0	0.00	1325	16.30

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	154	439	0	593
8-9	152	523	0	675
9-10	111	449	0	560
15-16	168	823	0	991
16-17	169	1029	0	1198
17-18	183	1098	0	1281
TOTAL	937	4361	0	5298

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

TOTAL	XING S/L		XING N/L	
N-S	Ped	Sch	Ped	Sch
593	31	2	21	2
675	48	7	30	3
560	62	6	62	0
991	60	12	66	1
1198	60	7	55	6
1281	95	14	64	7
5298	356	48	298	19

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	1479	189	1668
8-9	0	1298	140	1438
9-10	0	800	185	985
15-16	0	642	262	904
16-17	0	920	316	1236
17-18	0	889	378	1267
TOTAL	0	6028	1470	7498

TOTAL	XING W/L		XING E/L	
E-W	Ped	Sch	Ped	Sch
1668	24	5	31	1
1438	54	6	30	1
985	53	4	44	2
904	70	10	62	7
1236	60	9	35	7
1267	73	11	58	8
7498	334	45	260	26

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-012

Day: Thursday

City: Los Angeles

Date: 3/23/2017

TOTALS

AM

NS/EW Streets:	Main St			Main St			3rd St			3rd St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	4	0	0	0	0	0	0	0	0	3	1	
7:00 AM	20	107	0	0	0	0	0	0	0	0	381	42	550
7:15 AM	41	113	0	0	0	0	0	0	0	0	369	44	567
7:30 AM	52	108	0	0	0	0	0	0	0	0	332	42	534
7:45 AM	41	111	0	0	0	0	0	0	0	0	397	61	610
8:00 AM	32	120	0	0	0	0	0	0	0	0	343	41	536
8:15 AM	40	138	0	0	0	0	0	0	0	0	374	30	582
8:30 AM	34	125	0	0	0	0	0	0	0	0	303	33	495
8:45 AM	46	140	0	0	0	0	0	0	0	0	278	36	500
9:00 AM	30	122	0	0	0	0	0	0	0	0	249	44	445
9:15 AM	20	107	0	0	0	0	0	0	0	0	175	35	337
9:30 AM	25	107	0	0	0	0	0	0	0	0	193	42	367
9:45 AM	36	113	0	0	0	0	0	0	0	0	183	64	396
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	417	1411	0	0	0	0	0	0	0	0	3577	514	5919
APPROACH %'s :	22.81%	77.19%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	87.44%	12.56%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	165	477	0	0	0	0	0	0	0	0	1446	174	2262
PEAK HR FACTOR :		0.902			0.000			0.000			0.884		0.927

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-012

Day: Thursday

TOTALS

City: Los Angeles

Date: 3/23/2017

PM

NS/EW Streets:	Main St			Main St			3rd St			3rd St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	4	0	0	0	0	0	0	0	0	3	1	
3:00 PM	41	177	0	0	0	0	0	0	0	0	147	77	442
3:15 PM	38	182	0	0	0	0	0	0	0	0	141	69	430
3:30 PM	47	222	0	0	0	0	0	0	0	0	152	60	481
3:45 PM	42	242	0	0	0	0	0	0	0	0	202	56	542
4:00 PM	35	248	0	0	0	0	0	0	0	0	200	53	536
4:15 PM	36	256	0	0	0	0	0	0	0	0	227	80	599
4:30 PM	55	283	0	0	0	0	0	0	0	0	245	92	675
4:45 PM	43	242	0	0	0	0	0	0	0	0	248	91	624
5:00 PM	53	303	0	0	0	0	0	0	0	0	252	75	683
5:15 PM	38	273	0	0	0	0	0	0	0	0	196	126	633
5:30 PM	52	246	0	0	0	0	0	0	0	0	198	87	583
5:45 PM	40	276	0	0	0	0	0	0	0	0	243	90	649
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	520	2950	0	0	0	0	0	0	0	0	2451	956	6877
APPROACH %'s :	14.99%	85.01%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	71.94%	28.06%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	189	1101	0	0	0	0	0	0	0	0	941	384	2615
PEAK HR FACTOR :		0.906			0.000			0.000			0.977		0.957

CONTROL : Signalized

WILTEC

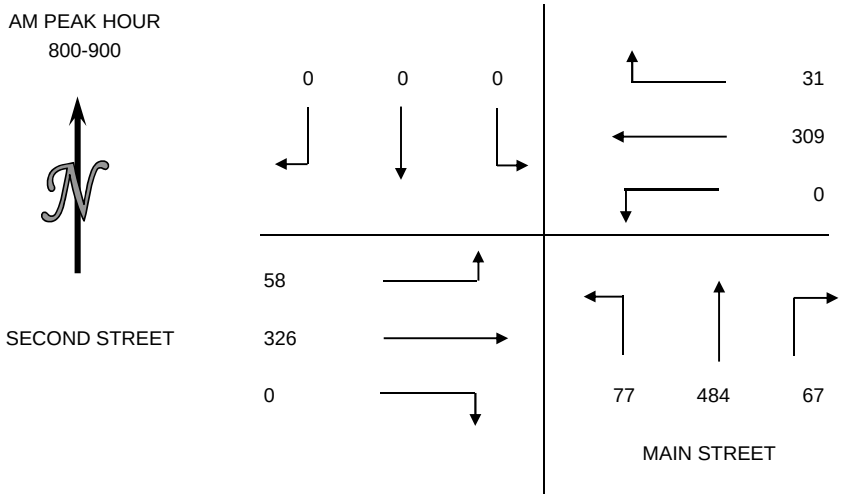
Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: INTUEOR
PROJECT: DOWNTOWN LOS ANGELES TRAFFIC COUNTS
DATE: WEDNESDAY APRIL 22, 2009
PERIOD: 7:00 AM TO 9:00 AM
INTERSECTION: N/S MAIN STREET
E/W SECOND STREET

15 MIN COUNTS PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
700-715	0	0	0	5	47	0	12	84	6	0	56	15	225
715-730	0	0	0	9	50	0	13	88	15	0	70	10	255
730-745	0	0	0	2	59	0	14	96	19	0	75	10	275
745-800	0	0	0	2	89	0	12	94	12	0	81	11	301
800-815	0	0	0	6	88	0	15	117	22	0	79	14	341
815-830	0	0	0	5	79	0	16	148	20	0	91	17	376
830-845	0	0	0	12	67	0	17	103	18	0	78	16	311
845-900	0	0	0	8	75	0	19	116	17	0	78	11	324
HOUR TOTALS													
700-800	0	0	0	18	245	0	51	362	52	0	282	46	1056
715-815	0	0	0	19	286	0	54	395	68	0	305	45	1172
730-830	0	0	0	15	315	0	57	455	73	0	326	52	1293
745-845	0	0	0	25	323	0	60	462	72	0	329	58	1329
800-900	0	0	0	31	309	0	67	484	77	0	326	58	1352

AM PEAK HOUR
800-900



PEDESTRIAN COUNTS PERIOD 15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
700-715	8	12	16	11
715-730	18	26	23	19
730-745	17	16	24	22
745-800	12	18	23	15
800-815	8	27	22	13
815-830	10	20	27	17
830-845	16	21	17	17
845-900	23	28	31	26
HOUR TOTALS				
700-800	55	72	86	67
715-815	55	87	92	69
730-830	47	81	96	67
745-845	46	86	89	62
800-900	57	96	97	73

WILTEC

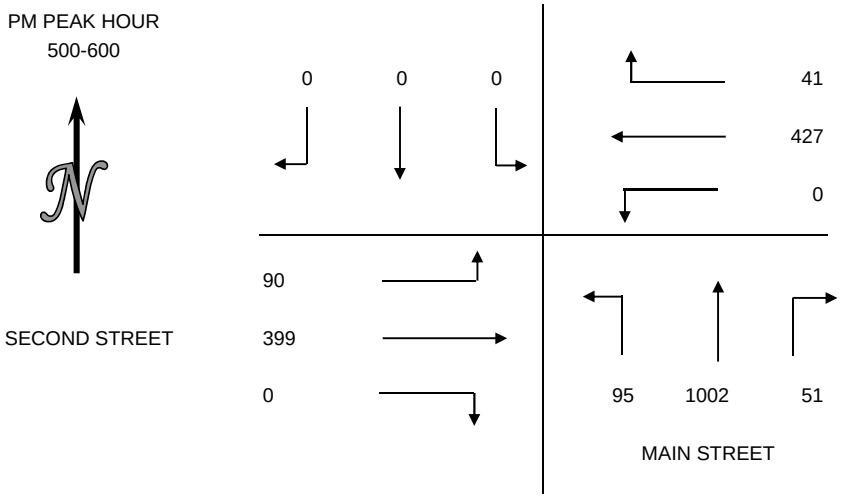
Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: INTUEOR
PROJECT: DOWNTOWN LOS ANGELES TRAFFIC COUNTS
DATE: WEDNESDAY APRIL 22, 2009
PERIOD: 7:00 AM TO 9:00 AM
INTERSECTION: N/S MAIN STREET
E/W SECOND STREET

15 MIN COUNTS PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
400-415	0	0	0	5	95	0	21	232	21	0	84	13	471
415-430	0	0	0	8	105	0	12	237	17	0	99	17	495
430-445	0	0	0	7	80	0	14	248	21	0	103	20	493
445-500	0	0	0	5	73	0	19	251	20	0	88	19	475
500-515	0	0	0	9	105	0	18	265	18	0	99	27	541
515-530	0	0	0	7	107	0	15	251	29	0	111	23	543
530-545	0	0	0	14	114	0	9	261	25	0	96	26	545
545-600	0	0	0	11	101	0	9	225	23	0	93	14	476
HOUR TOTALS													
400-500	0	0	0	25	353	0	66	968	79	0	374	69	1934
415-515	0	0	0	29	363	0	63	1001	76	0	389	83	2004
430-530	0	0	0	28	365	0	66	1015	88	0	401	89	2052
445-545	0	0	0	35	399	0	61	1028	92	0	394	95	2104
500-600	0	0	0	41	427	0	51	1002	95	0	399	90	2105

PM PEAK HOUR
500-600



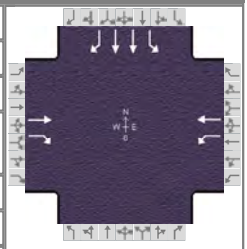
PEDESTRIAN COUNTS PERIOD 15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
400-415	15	17	36	20
415-430	15	30	41	14
430-445	15	15	41	15
445-500	15	17	34	13
500-515	19	11	31	19
515-530	17	7	15	17
530-545	19	18	32	20
545-600	6	12	27	7
HOUR TOTALS				
400-500	60	79	152	62
415-515	64	73	147	61
430-530	66	50	121	64
445-545	70	53	112	69
500-600	61	48	105	63

Overland Traffic Consultants, Inc.

Existing and Existing + Project

HCS7 Signalized Intersection Results Summary

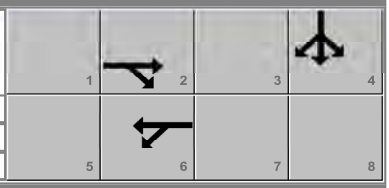
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	existing am peak hour	PHF	1.00
Urban Street	Second Street	Analysis Year	2021	Analysis Period	1> 7:00
Intersection	Spring Street	File Name	1 AM EXISTING.xus		
Project Description	existing am peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		377	331	113	363					26	1154	89

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	65.8	46.2	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6				4
Case Number		7.0		6.0				9.0
Phase Duration, s		69.8		69.8				50.2
Change Period, ($Y+R_c$), s		4.0		4.0				4.0
Max Allow Headway (*MAH*), s		0.0		0.0				3.1
Queue Clearance Time (g_s), s								42.5
Green Extension Time (g_e), s		0.0		0.0				3.8
Phase Call Probability								1.00
Max Out Probability								0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6					7	4	14
Adjusted Flow Rate (*v*), veh/h		377	331	113	363					26	1154	89
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1710	1325	884	1710					1470	1628	672
Queue Service Time (g_s), s		15.3	18.1	10.2	14.6					1.3	40.5	11.3
Cycle Queue Clearance Time (g_c), s		15.3	18.1	25.5	14.6					1.3	40.5	11.3
Green Ratio (*g/C*)		0.55	0.55	0.55	0.55					0.39	0.39	0.39
Capacity (*c*), veh/h		937	726	432	937					567	1255	259
Volume-to-Capacity Ratio (*X*)		0.402	0.456	0.262	0.387					0.046	0.920	0.344
Back of Queue (*Q*), ft/ln (50 th percentile)		152.9	142.3	56.9	145.8					11.5	393.8	45.1
Back of Queue (*Q*), veh/ln (50 th percentile)		6.1	5.7	2.3	5.8					0.5	15.8	1.8
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	0.71	0.57	0.00					0.10	0.00	0.00
Uniform Delay (d_1), s/veh		15.7	16.3	23.1	15.6					23.1	35.1	26.1
Incremental Delay (d_2), s/veh		1.3	2.1	1.5	1.2					0.0	1.3	0.3
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Control Delay (*d*), s/veh		17.0	18.4	24.6	16.8					23.1	36.4	26.4
Level of Service (LOS)		B	B	C	B					C	D	C
Approach Delay, s/veh / LOS	17.7	B		18.6	B		0.0			35.4	D	
Intersection Delay, s/veh / LOS	27.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.67	B	2.09	B	1.96	B	1.96	B
Bicycle LOS Score / LOS	1.66	B	1.27	A			1.53	B

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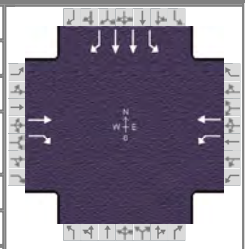
HCS7 Signalized Intersection Results Summary

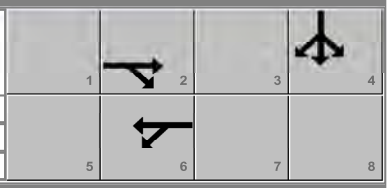
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	existing PLUS am peak hour	PHF	1.00
Urban Street	Second Street	Analysis Year	2021	Analysis Period	1> 7:00
Intersection	Spring Street	File Name	1 AM EXISTING PLUS.xus		
Project Description	existing PLUS am peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		377	331	118	376					26	1154	89

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	65.8	46.2	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6				4
Case Number		7.0		6.0				9.0
Phase Duration, s		69.8		69.8				50.2
Change Period, ($Y+R_c$), s		4.0		4.0				4.0
Max Allow Headway (*MAH*), s		0.0		0.0				3.1
Queue Clearance Time (g_s), s								42.5
Green Extension Time (g_e), s		0.0		0.0				3.8
Phase Call Probability								1.00
Max Out Probability								0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6					7	4	14
Adjusted Flow Rate (*v*), veh/h		377	331	118	376					26	1154	89
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1710	1325	884	1710					1470	1628	672
Queue Service Time (g_s), s		15.3	18.1	10.7	15.3					1.3	40.5	11.3
Cycle Queue Clearance Time (g_c), s		15.3	18.1	26.1	15.3					1.3	40.5	11.3
Green Ratio (*g/C*)		0.55	0.55	0.55	0.55					0.39	0.39	0.39
Capacity (*c*), veh/h		937	726	432	937					567	1255	259
Volume-to-Capacity Ratio (*X*)		0.402	0.456	0.273	0.401					0.046	0.920	0.344
Back of Queue (*Q*), ft/ln (50 th percentile)		152.9	142.3	59.8	152.5					11.5	393.8	45.1
Back of Queue (*Q*), veh/ln (50 th percentile)		6.1	5.7	2.4	6.1					0.5	15.8	1.8
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	0.71	0.60	0.00					0.10	0.00	0.00
Uniform Delay (d_1), s/veh		15.7	16.3	23.3	15.7					23.1	35.1	26.1
Incremental Delay (d_2), s/veh		1.3	2.1	1.6	1.3					0.0	1.3	0.3
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Control Delay (*d*), s/veh		17.0	18.4	24.9	17.0					23.1	36.4	26.4
Level of Service (LOS)		B	B	C	B					C	D	C
Approach Delay, s/veh / LOS	17.7	B		18.9	B		0.0			35.4	D	
Intersection Delay, s/veh / LOS	27.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.67	B	2.09	B	1.96	B	1.96	B
Bicycle LOS Score / LOS	1.66	B	1.30	A			1.53	B

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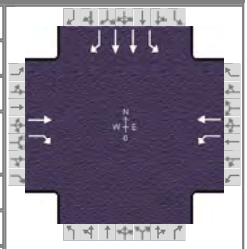
HCS7 Signalized Intersection Results Summary

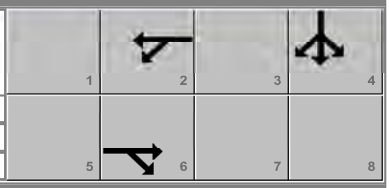
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	existing pm peak hour	PHF	1.00
Urban Street	Second Street	Analysis Year	2021	Analysis Period	1> 7:00
Intersection	Spring Street	File Name	1 pM EXISTING.xus		
Project Description	existing pm peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		506	184	59	556					16	522	25

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	89.9	22.1	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6		2				4
Case Number		7.0		6.0				9.0
Phase Duration, s		93.9		93.9				26.1
Change Period, ($Y+R_c$), s		4.0		4.0				4.0
Max Allow Headway (*MAH*), s		0.0		0.0				3.2
Queue Clearance Time (g_s), s								20.7
Green Extension Time (g_e), s		0.0		0.0				1.4
Phase Call Probability								1.00
Max Out Probability								0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		6	16	5	2					7	4	14
Adjusted Flow Rate (*v*), veh/h		506	184	59	556					16	522	25
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1710	1328	790	1710					1395	1628	597
Queue Service Time (g_s), s		12.7	4.8	3.5	14.5					1.1	18.7	4.3
Cycle Queue Clearance Time (g_c), s		12.7	4.8	16.1	14.5					1.1	18.7	4.3
Green Ratio (*g/C*)		0.75	0.75	0.75	0.75					0.18	0.18	0.18
Capacity (*c*), veh/h		1281	995	568	1281					257	601	110
Volume-to-Capacity Ratio (*X*)		0.395	0.185	0.104	0.434					0.062	0.869	0.227
Back of Queue (*Q*), ft/ln (50 th percentile)		102.7	30.9	15.5	118					9.8	190.3	16
Back of Queue (*Q*), veh/ln (50 th percentile)		4.1	1.2	0.6	4.7					0.4	7.6	0.6
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	0.15	0.15	0.00					0.08	0.00	0.00
Uniform Delay (d_1), s/veh		5.4	4.4	8.3	5.6					40.4	47.5	41.7
Incremental Delay (d_2), s/veh		0.9	0.4	0.4	1.1					0.0	1.6	0.4
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Control Delay (*d*), s/veh		6.3	4.8	8.6	6.7					40.4	49.1	42.0
Level of Service (LOS)		A	A	A	A					D	D	D
Approach Delay, s/veh / LOS	5.9	A		6.9	A		0.0			48.5	D	
Intersection Delay, s/veh / LOS	19.1						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.63	B	2.04	B	1.96	B	1.96	B
Bicycle LOS Score / LOS	1.63	B	1.50	B			0.95	A

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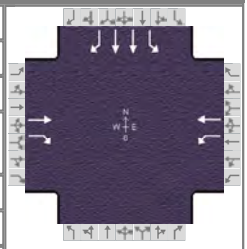
HCS7 Signalized Intersection Results Summary

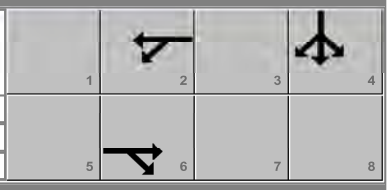
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	existing PLUS pm peak hour	PHF	1.00
Urban Street	Second Street	Analysis Year	2021	Analysis Period	1> 7:00
Intersection	Spring Street	File Name	1 PM PLUS EXISTING.xus		
Project Description	existing PLUS pm peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		506	184	61	561					16	522	25

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	89.9	22.1	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6		2				4
Case Number		7.0		6.0				9.0
Phase Duration, s		93.9		93.9				26.1
Change Period, ($Y+R_c$), s		4.0		4.0				4.0
Max Allow Headway (*MAH*), s		0.0		0.0				3.2
Queue Clearance Time (g_s), s								20.7
Green Extension Time (g_e), s		0.0		0.0				1.4
Phase Call Probability								1.00
Max Out Probability								0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		6	16	5	2					7	4	14
Adjusted Flow Rate (*v*), veh/h		506	184	61	561					16	522	25
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1710	1328	790	1710					1395	1628	597
Queue Service Time (g_s), s		12.7	4.8	3.6	14.7					1.1	18.7	4.3
Cycle Queue Clearance Time (g_c), s		12.7	4.8	16.3	14.7					1.1	18.7	4.3
Green Ratio (*g/C*)		0.75	0.75	0.75	0.75					0.18	0.18	0.18
Capacity (*c*), veh/h		1281	995	568	1281					257	601	110
Volume-to-Capacity Ratio (*X*)		0.395	0.185	0.107	0.438					0.062	0.869	0.227
Back of Queue (*Q*), ft/ln (50 th percentile)		102.7	30.9	16	119.6					9.8	190.3	16
Back of Queue (*Q*), veh/ln (50 th percentile)		4.1	1.2	0.6	4.8					0.4	7.6	0.6
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	0.15	0.16	0.00					0.08	0.00	0.00
Uniform Delay (d_1), s/veh		5.4	4.4	8.3	5.6					40.4	47.5	41.7
Incremental Delay (d_2), s/veh		0.9	0.4	0.4	1.1					0.0	1.6	0.4
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Control Delay (*d*), s/veh		6.3	4.8	8.7	6.7					40.4	49.1	42.0
Level of Service (LOS)		A	A	A	A					D	D	D
Approach Delay, s/veh / LOS	5.9	A		6.9	A		0.0			48.5	D	
Intersection Delay, s/veh / LOS	19.0						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.63	B	2.04	B	1.96	B	1.96	B
Bicycle LOS Score / LOS	1.63	B	1.51	B			0.95	A

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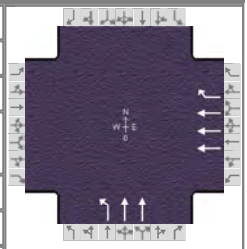
HCS7 Signalized Intersection Results Summary

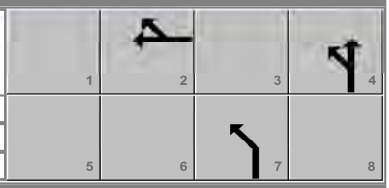
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	existing am peak hour	PHF	1.00
Urban Street	Third Street	Analysis Year	2021	Analysis Period	1> 7:00
Intersection	Main Street	File Name	2 AM EXISTING.xus		
Project Description	existing am peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h					1505	181	172	496				

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	90.7	21.3	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				2		4		
Case Number				7.0		10.0		
Phase Duration, s				94.7		25.3		
Change Period, ($Y+R_c$), s				4.0		4.0		
Max Allow Headway (*MAH*), s				0.0		3.1		
Queue Clearance Time (g_s), s						19.7		
Green Extension Time (g_e), s				0.0		1.5		
Phase Call Probability						1.00		
Max Out Probability						0.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement					2	12	7	4				
Adjusted Flow Rate (*v*), veh/h					1505	181	172	496				
Adjusted Saturation Flow Rate (*s*), veh/h/ln					1553	1403	1538	1628				
Queue Service Time (g_s), s					14.0	4.3	12.4	17.7				
Cycle Queue Clearance Time (g_c), s					14.0	4.3	12.4	17.7				
Green Ratio (*g/C*)					0.76	0.76	0.18	0.18				
Capacity (*c*), veh/h					3522	1061	272	577				
Volume-to-Capacity Ratio (*X*)					0.427	0.171	0.631	0.860				
Back of Queue (*Q*), ft/ln (50 th percentile)					96.1	28.6	119.5	180.9				
Back of Queue (*Q*), veh/ln (50 th percentile)					3.8	1.1	4.8	7.2				
Queue Storage Ratio (*RQ*) (50 th percentile)					0.00	0.24	0.70	0.00				
Uniform Delay (d_1), s/veh					5.3	4.1	45.7	47.9				
Incremental Delay (d_2), s/veh					0.4	0.3	0.9	1.5				
Initial Queue Delay (d_3), s/veh					0.0	0.0	0.0	0.0				
Control Delay (*d*), s/veh					5.7	4.4	46.6	49.4				
Level of Service (LOS)					A	A	D	D				
Approach Delay, s/veh / LOS	0.0			5.5		A	48.7		D	0.0		
Intersection Delay, s/veh / LOS	17.8						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.96	B	1.62	B	2.16	B	1.96	B
Bicycle LOS Score / LOS			1.41	A	1.04	A		

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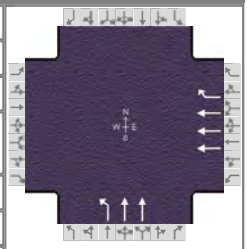
HCS7 Signalized Intersection Results Summary

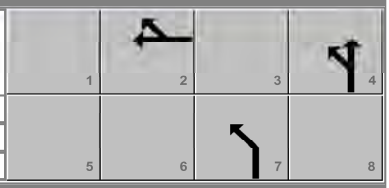
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	Other
Jurisdiction	LADOT	Time Period	existing PLUS am peak hour	PHF	1.00
Urban Street	Third Street	Analysis Year	2021	Analysis Period	1> 7:00
Intersection	Main Street	File Name	2 AM EXISTING PLUS.xus		
Project Description	existing PLUS am peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h					1509	181	176	496				

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	92.5	19.5	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				2		4		
Case Number				7.0		10.0		
Phase Duration, s				96.5		23.5		
Change Period, ($Y+R_c$), s				4.0		4.0		
Max Allow Headway (*MAH*), s				0.0		3.1		
Queue Clearance Time (g_s), s						18.0		
Green Extension Time (g_e), s				0.0		1.5		
Phase Call Probability						1.00		
Max Out Probability						0.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement					2	12	7	4				
Adjusted Flow Rate (*v*), veh/h					1509	181	176	496				
Adjusted Saturation Flow Rate (*s*), veh/h/ln					1725	1560	1699	1809				
Queue Service Time (g_s), s					11.3	3.6	11.6	16.0				
Cycle Queue Clearance Time (g_c), s					11.3	3.6	11.6	16.0				
Green Ratio (*g/C*)					0.77	0.77	0.16	0.16				
Capacity (*c*), veh/h					3990	1202	276	588				
Volume-to-Capacity Ratio (*X*)					0.378	0.151	0.637	0.844				
Back of Queue (*Q*), ft/ln (50 th percentile)					82.9	25.3	123.6	181.1				
Back of Queue (*Q*), veh/ln (50 th percentile)					3.3	1.0	4.9	7.2				
Queue Storage Ratio (*RQ*) (50 th percentile)					0.00	0.21	0.73	0.00				
Uniform Delay (d_1), s/veh					4.4	3.6	46.9	48.8				
Incremental Delay (d_2), s/veh					0.3	0.3	0.9	1.3				
Initial Queue Delay (d_3), s/veh					0.0	0.0	0.0	0.0				
Control Delay (*d*), s/veh					4.7	3.8	47.9	50.1				
Level of Service (LOS)					A	A	D	D				
Approach Delay, s/veh / LOS	0.0			4.6		A	49.5		D	0.0		
Intersection Delay, s/veh / LOS	17.4						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.96	B	1.62	B	2.16	B	1.96	B
Bicycle LOS Score / LOS			1.42	A	1.04	A		

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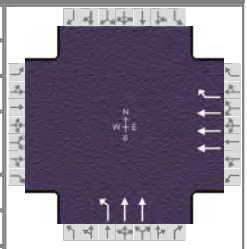
HCS7 Signalized Intersection Results Summary

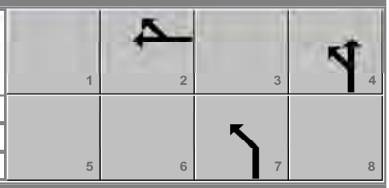
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	existing pm peak hour	PHF	1.00
Urban Street	Third Street	Analysis Year	2021	Analysis Period	1> 7:00
Intersection	Main Street	File Name	2 PM EXISTING.xus		
Project Description	existing pm peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h					951	400	197	1146				

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	66.1	45.9	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				2		4		
Case Number				7.0		10.0		
Phase Duration, s				70.1		49.9		
Change Period, ($Y+R_c$), s				4.0		4.0		
Max Allow Headway (*MAH*), s				0.0		3.1		
Queue Clearance Time (g_s), s						42.2		
Green Extension Time (g_e), s				0.0		3.7		
Phase Call Probability						1.00		
Max Out Probability						0.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement					2	12	7	4				
Adjusted Flow Rate (*v*), veh/h					951	400	197	1146				
Adjusted Saturation Flow Rate (*s*), veh/h/ln					1553	1405	1542	1628				
Queue Service Time (g_s), s					13.8	21.5	10.9	40.2				
Cycle Queue Clearance Time (g_c), s					13.8	21.5	10.9	40.2				
Green Ratio (*g/C*)					0.55	0.55	0.38	0.38				
Capacity (*c*), veh/h					2566	774	590	1246				
Volume-to-Capacity Ratio (*X*)					0.371	0.517	0.334	0.920				
Back of Queue (*Q*), ft/ln (50 th percentile)					120.7	179.3	99.1	391.6				
Back of Queue (*Q*), veh/ln (50 th percentile)					4.8	7.2	4.0	15.7				
Queue Storage Ratio (*RQ*) (50 th percentile)					0.00	1.49	0.58	0.00				
Uniform Delay (d_1), s/veh					15.2	16.9	26.2	35.3				
Incremental Delay (d_2), s/veh					0.4	2.5	0.1	1.3				
Initial Queue Delay (d_3), s/veh					0.0	0.0	0.0	0.0				
Control Delay (*d*), s/veh					15.6	19.4	26.3	36.6				
Level of Service (LOS)					B	B	C	D				
Approach Delay, s/veh / LOS	0.0			16.7		B	35.1		D	0.0		
Intersection Delay, s/veh / LOS	25.9						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.96	B	1.67	B	2.16	B	1.96	B
Bicycle LOS Score / LOS			1.23	A	1.60	B		

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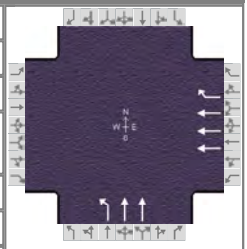
HCS7 Signalized Intersection Results Summary

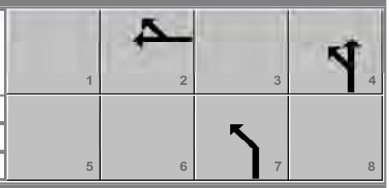
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	existing PLUS pm peak hour	PHF	1.00
Urban Street	Third Street	Analysis Year	2021	Analysis Period	1> 7:00
Intersection	Main Street	File Name	2 PM PLUS EXISTING.xus		
Project Description	existing PLUS pm peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h					967	400	214	1146				

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	66.1	45.9	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				2		4		
Case Number				7.0		10.0		
Phase Duration, s				70.1		49.9		
Change Period, ($Y+R_c$), s				4.0		4.0		
Max Allow Headway (*MAH*), s				0.0		3.1		
Queue Clearance Time (g_s), s						42.2		
Green Extension Time (g_e), s				0.0		3.7		
Phase Call Probability						1.00		
Max Out Probability						0.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement					2	12	7	4				
Adjusted Flow Rate (*v*), veh/h					967	400	214	1146				
Adjusted Saturation Flow Rate (*s*), veh/h/ln					1553	1405	1542	1628				
Queue Service Time (g_s), s					14.1	21.5	11.9	40.2				
Cycle Queue Clearance Time (g_c), s					14.1	21.5	11.9	40.2				
Green Ratio (*g/C*)					0.55	0.55	0.38	0.38				
Capacity (*c*), veh/h					2564	773	590	1246				
Volume-to-Capacity Ratio (*X*)					0.377	0.517	0.363	0.919				
Back of Queue (*Q*), ft/ln (50 th percentile)					123.4	179.4	109.1	391.5				
Back of Queue (*Q*), veh/ln (50 th percentile)					4.9	7.2	4.4	15.7				
Queue Storage Ratio (*RQ*) (50 th percentile)					0.00	1.49	0.64	0.00				
Uniform Delay (d_1), s/veh					15.3	16.9	26.5	35.3				
Incremental Delay (d_2), s/veh					0.4	2.5	0.1	1.3				
Initial Queue Delay (d_3), s/veh					0.0	0.0	0.0	0.0				
Control Delay (*d*), s/veh					15.7	19.4	26.7	36.5				
Level of Service (LOS)					B	B	C	D				
Approach Delay, s/veh / LOS	0.0			16.8		B	35.0		C	0.0		
Intersection Delay, s/veh / LOS	25.9						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.96	B	1.67	B	2.16	B	1.96	B
Bicycle LOS Score / LOS			1.24	A	1.61	B		

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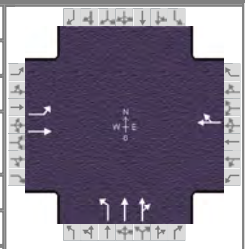
HCS7 Signalized Intersection Results Summary

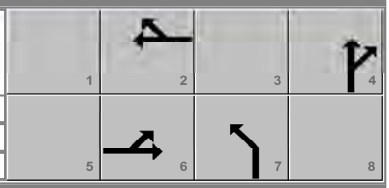
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	existing am peak hour	PHF	1.00
Urban Street	Second Street	Analysis Year	2021	Analysis Period	1> 7:00
Intersection	Main Street	File Name	3 AM EXISTING.xus		
Project Description	existing am peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	65	367			348	35	87	545	75			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	85.4	26.6	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6		2		4		
Case Number		6.0		8.0		10.0		
Phase Duration, s		89.4		89.4		30.6		
Change Period, ($Y+R_c$), s		4.0		4.0		4.0		
Max Allow Headway (*MAH*), s		0.0		0.0		3.3		
Queue Clearance Time (g_s), s						25.0		
Green Extension Time (g_e), s		0.0		0.0		1.6		
Phase Call Probability						1.00		
Max Out Probability						0.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6			2	12	7	4	14			
Adjusted Flow Rate (*v*), veh/h	65	367			383		87	332	288			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	889	1710			1670		1066	1710	1459			
Queue Service Time (g_s), s	3.5	9.5			10.3		8.3	22.5	23.0			
Cycle Queue Clearance Time (g_c), s	13.8	9.5			10.3		8.3	22.5	23.0			
Green Ratio (*g/C*)	0.71	0.71			0.71		0.22	0.22	0.22			
Capacity (*c*), veh/h	616	1217			1189		236	379	323			
Volume-to-Capacity Ratio (*X*)	0.105	0.302			0.322		0.368	0.875	0.892			
Back of Queue (*Q*), ft/ln (50 th percentile)	17.9	81.1			86.5		54.7	241.5	213.1			
Back of Queue (*Q*), veh/ln (50 th percentile)	0.7	3.2			3.5		2.2	9.7	8.5			
Queue Storage Ratio (*RQ*) (50 th percentile)	0.12	0.00			0.00		0.46	0.00	0.00			
Uniform Delay (d_1), s/veh	9.1	6.3			6.5		39.6	45.1	45.3			
Incremental Delay (d_2), s/veh	0.3	0.6			0.7		0.4	2.6	3.4			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0		0.0	0.0	0.0			
Control Delay (*d*), s/veh	9.4	7.0			7.2		39.9	47.6	48.8			
Level of Service (LOS)	A	A			A		D	D	D			
Approach Delay, s/veh / LOS	7.3	A		7.2	A		47.2	D		0.0		
Intersection Delay, s/veh / LOS	25.8						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.86	B	1.64	B	1.74	B	1.96	B
Bicycle LOS Score / LOS	1.20	A	1.12	A	1.07	A		

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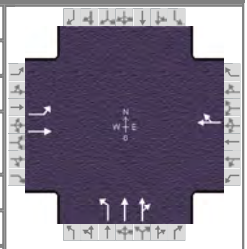
HCS7 Signalized Intersection Results Summary

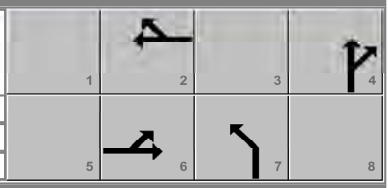
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	existing PLUS am peak hour	PHF	1.00
Urban Street	Second Street	Analysis Year	2021	Analysis Period	1> 7:00
Intersection	Main Street	File Name	3 AM PLUS EXISTING.xus		
Project Description	existing PLUS am peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	78	370			348	35	87	545	75			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	85.4	26.6	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6		2		4		
Case Number		6.0		8.0		10.0		
Phase Duration, s		89.4		89.4		30.6		
Change Period, ($Y+R_c$), s		4.0		4.0		4.0		
Max Allow Headway (*MAH*), s		0.0		0.0		3.3		
Queue Clearance Time (g_s), s						25.0		
Green Extension Time (g_e), s		0.0		0.0		1.6		
Phase Call Probability						1.00		
Max Out Probability						0.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6			2	12	7	4	14			
Adjusted Flow Rate (*v*), veh/h	78	370			383		87	332	288			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	889	1710			1670		1066	1710	1459			
Queue Service Time (g_s), s	4.3	9.6			10.3		8.3	22.5	23.0			
Cycle Queue Clearance Time (g_c), s	14.6	9.6			10.3		8.3	22.5	23.0			
Green Ratio (*g/C*)	0.71	0.71			0.71		0.22	0.22	0.22			
Capacity (*c*), veh/h	616	1217			1189		236	379	323			
Volume-to-Capacity Ratio (*X*)	0.127	0.304			0.322		0.368	0.875	0.892			
Back of Queue (*Q*), ft/ln (50 th percentile)	21.8	82			86.5		54.7	241.5	213.1			
Back of Queue (*Q*), veh/ln (50 th percentile)	0.9	3.3			3.5		2.2	9.7	8.5			
Queue Storage Ratio (*RQ*) (50 th percentile)	0.15	0.00			0.00		0.46	0.00	0.00			
Uniform Delay (d_1), s/veh	9.2	6.4			6.5		39.6	45.1	45.3			
Incremental Delay (d_2), s/veh	0.4	0.6			0.7		0.4	2.6	3.4			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0		0.0	0.0	0.0			
Control Delay (*d*), s/veh	9.6	7.0			7.2		39.9	47.6	48.8			
Level of Service (LOS)	A	A			A		D	D	D			
Approach Delay, s/veh / LOS	7.5	A		7.2	A		47.2	D		0.0		
Intersection Delay, s/veh / LOS	25.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.86	B	1.64	B	1.74	B	1.96	B
Bicycle LOS Score / LOS	1.23	A	1.12	A	1.07	A		

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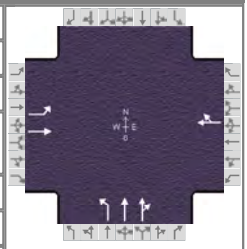
HCS7 Signalized Intersection Results Summary

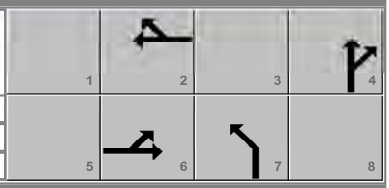
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	existing pm peak hour	PHF	1.00
Urban Street	Second Street	Analysis Year	2021	Analysis Period	1> 7:00
Intersection	Main Street	File Name	3 PM EXISTING.xus		
Project Description	existing pm peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	101	450			481	46	107	1129	57			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	66.4	45.6	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6		2		4		
Case Number		6.0		8.0		10.0		
Phase Duration, s		70.4		70.4		49.6		
Change Period, ($Y+R_c$), s		4.0		4.0		4.0		
Max Allow Headway (*MAH*), s		0.0		0.0		3.1		
Queue Clearance Time (g_s), s						42.7		
Green Extension Time (g_e), s		0.0		0.0		2.9		
Phase Call Probability						1.00		
Max Out Probability						0.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6			2	12	7	4	14			
Adjusted Flow Rate (*v*), veh/h	101	450			527		107	603	583			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	777	1710			1667		1221	1710	1649			
Queue Service Time (g_s), s	11.7	19.1			24.8		7.1	40.6	40.7			
Cycle Queue Clearance Time (g_c), s	36.5	19.1			24.8		7.1	40.6	40.7			
Green Ratio (*g/C*)	0.55	0.55			0.55		0.38	0.38	0.38			
Capacity (*c*), veh/h	330	946			923		464	650	626			
Volume-to-Capacity Ratio (*X*)	0.306	0.475			0.571		0.231	0.929	0.930			
Back of Queue (*Q*), ft/ln (50 th percentile)	59.6	190.9			243		51.8	421.8	408.4			
Back of Queue (*Q*), veh/ln (50 th percentile)	2.4	7.6			9.7		2.1	16.9	16.3			
Queue Storage Ratio (*RQ*) (50 th percentile)	0.40	0.00			0.00		0.43	0.00	0.00			
Uniform Delay (d_1), s/veh	29.4	16.2			17.5		25.3	35.7	35.7			
Incremental Delay (d_2), s/veh	2.4	1.7			2.6		0.1	2.7	2.8			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0		0.0	0.0	0.0			
Control Delay (*d*), s/veh	31.8	17.9			20.1		25.4	38.3	38.5			
Level of Service (LOS)	C	B			C		C	D	D			
Approach Delay, s/veh / LOS	20.5	C		20.1	C		37.3	D		0.0		
Intersection Delay, s/veh / LOS	29.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.90	B	1.67	B	1.74	B	1.96	B
Bicycle LOS Score / LOS	1.40	A	1.36	A	1.55	B		

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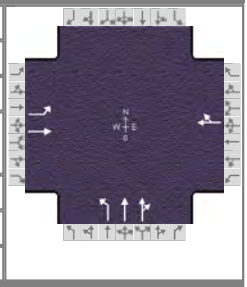
HCS7 Signalized Intersection Results Summary

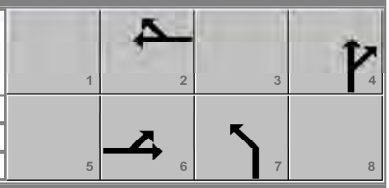
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	existing PLUS pm peak hour	PHF	1.00
Urban Street	Second Street	Analysis Year	2021	Analysis Period	1> 7:00
Intersection	Main Street	File Name	3 PM PLUS EXISTING.xus		
Project Description	existing PLUS pm peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	106	451			481	46	107	1129	57			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	66.4	45.6	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6		2		4		
Case Number		6.0		8.0		10.0		
Phase Duration, s		70.4		70.4		49.6		
Change Period, ($Y+R_c$), s		4.0		4.0		4.0		
Max Allow Headway (*MAH*), s		0.0		0.0		3.1		
Queue Clearance Time (g_s), s						42.7		
Green Extension Time (g_e), s		0.0		0.0		2.9		
Phase Call Probability						1.00		
Max Out Probability						0.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6			2	12	7	4	14			
Adjusted Flow Rate (*v*), veh/h	106	451			527		107	603	583			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	777	1710			1667		1221	1710	1649			
Queue Service Time (g_s), s	12.4	19.2			24.8		7.1	40.6	40.7			
Cycle Queue Clearance Time (g_c), s	37.1	19.2			24.8		7.1	40.6	40.7			
Green Ratio (*g/C*)	0.55	0.55			0.55		0.38	0.38	0.38			
Capacity (*c*), veh/h	330	946			923		464	650	626			
Volume-to-Capacity Ratio (*X*)	0.322	0.477			0.571		0.231	0.929	0.930			
Back of Queue (*Q*), ft/ln (50 th percentile)	63.1	191.4			243		51.8	421.8	408.4			
Back of Queue (*Q*), veh/ln (50 th percentile)	2.5	7.7			9.7		2.1	16.9	16.3			
Queue Storage Ratio (*RQ*) (50 th percentile)	0.42	0.00			0.00		0.43	0.00	0.00			
Uniform Delay (d_1), s/veh	29.6	16.2			17.5		25.3	35.7	35.7			
Incremental Delay (d_2), s/veh	2.6	1.7			2.6		0.1	2.7	2.8			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0		0.0	0.0	0.0			
Control Delay (*d*), s/veh	32.2	18.0			20.1		25.4	38.3	38.5			
Level of Service (LOS)	C	B			C		C	D	D			
Approach Delay, s/veh / LOS	20.7	C		20.1	C		37.3	D		0.0		
Intersection Delay, s/veh / LOS	29.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.90	B	1.67	B	1.74	B	1.96	B
Bicycle LOS Score / LOS	1.41	A	1.36	A	1.55	B		

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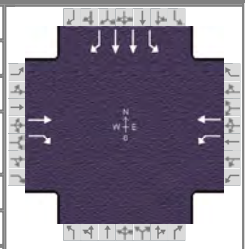
Overland Traffic Consultants, Inc.

Future and Future + Project

HCS7 Signalized Intersection Results Summary

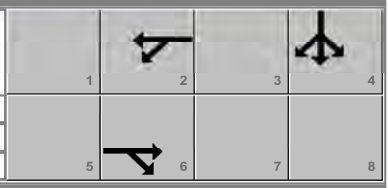
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	Future am peak hour	PHF	1.00
Urban Street	Second Street	Analysis Year	2024	Analysis Period	1> 7:00
Intersection	Spring Street	File Name	1 AM FUTURE WO.xus		
Project Description	future am peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		573	372	200	466					29	1492	95

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	54.8	57.2	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6		2				4
Case Number		7.0		6.0				9.0
Phase Duration, s		58.8		58.8				61.2
Change Period, ($Y+R_c$), s		4.0		4.0				4.0
Max Allow Headway (*MAH*), s		0.0		0.0				3.1
Queue Clearance Time (g_s), s								55.2
Green Extension Time (g_e), s		0.0		0.0				2.0
Phase Call Probability								1.00
Max Out Probability								0.86

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		6	16	5	2					7	4	14
Adjusted Flow Rate (*v*), veh/h		573	372	200	466					29	1492	95
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1710	1304	746	1710					1500	1628	984
Queue Service Time (g_s), s		32.8	26.0	22.0	24.4					1.2	53.2	6.7
Cycle Queue Clearance Time (g_c), s		32.8	26.0	54.8	24.4					1.2	53.2	6.7
Green Ratio (*g/C*)		0.46	0.46	0.46	0.46					0.48	0.48	0.48
Capacity (*c*), veh/h		781	596	197	781					715	1551	469
Volume-to-Capacity Ratio (*X*)		0.733	0.624	1.016	0.596					0.041	0.962	0.203
Back of Queue (*Q*), ft/ln (50 th percentile)		355.8	215.2	242.1	258.3					10.7	570.1	38
Back of Queue (*Q*), veh/ln (50 th percentile)		14.2	8.6	9.7	10.3					0.4	22.8	1.5
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	1.08	2.42	0.00					0.09	0.00	0.00
Uniform Delay (d_1), s/veh		26.6	24.8	52.4	24.3					16.8	30.4	18.2
Incremental Delay (d_2), s/veh		6.0	4.9	68.4	3.3					0.0	14.1	0.1
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Control Delay (*d*), s/veh		32.6	29.6	120.8	27.7					16.8	44.5	18.3
Level of Service (LOS)		C	C	F	C					B	D	B
Approach Delay, s/veh / LOS	31.5	C		55.6	E		0.0			42.4	D	
Intersection Delay, s/veh / LOS	41.9						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.69	B	2.10	B	1.96	B	1.96	B
Bicycle LOS Score / LOS	2.05	B	1.59	B			1.82	B

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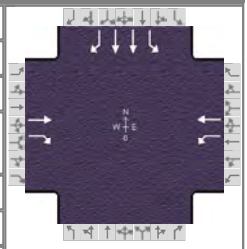
HCS7 Signalized Intersection Results Summary

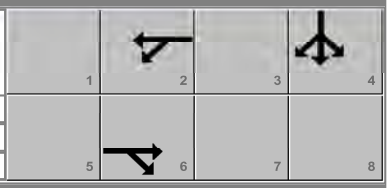
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	Future PLUS am peak hour	PHF	1.00
Urban Street	Second Street	Analysis Year	2024	Analysis Period	1> 7:00
Intersection	Spring Street	File Name	1 AM FUTURE WITH.xus		
Project Description	future PLUS am peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		573	372	205	479					29	1492	95

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	55.5	56.5	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6		2				4
Case Number		7.0		6.0				9.0
Phase Duration, s		59.5		59.5				60.5
Change Period, ($Y+R_c$), s		4.0		4.0				4.0
Max Allow Headway (*MAH*), s		0.0		0.0				3.1
Queue Clearance Time (g_s), s								55.7
Green Extension Time (g_e), s		0.0		0.0				0.8
Phase Call Probability								1.00
Max Out Probability								1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		6	16	5	2					7	4	14
Adjusted Flow Rate (*v*), veh/h		573	372	205	479					29	1492	95
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1710	1306	746	1710					1499	1628	979
Queue Service Time (g_s), s		32.5	25.7	23.0	25.1					1.3	53.7	6.8
Cycle Queue Clearance Time (g_c), s		32.5	25.7	55.5	25.1					1.3	53.7	6.8
Green Ratio (*g/C*)		0.46	0.46	0.46	0.46					0.47	0.47	0.47
Capacity (*c*), veh/h		791	604	203	791					706	1533	461
Volume-to-Capacity Ratio (*X*)		0.724	0.616	1.010	0.606					0.041	0.973	0.206
Back of Queue (*Q*), ft/ln (50 th percentile)		350.1	212	245.9	265					10.8	590	38.5
Back of Queue (*Q*), veh/ln (50 th percentile)		14.0	8.5	9.8	10.6					0.4	23.6	1.5
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	1.06	2.46	0.00					0.09	0.00	0.00
Uniform Delay (d_1), s/veh		26.1	24.2	51.9	24.1					17.1	31.0	18.6
Incremental Delay (d_2), s/veh		5.7	4.7	65.7	3.4					0.0	16.7	0.1
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Control Delay (*d*), s/veh		31.8	28.9	117.6	27.5					17.1	47.8	18.7
Level of Service (LOS)		C	C	F	C					B	D	B
Approach Delay, s/veh / LOS	30.6	C		54.5	D		0.0			45.5	D	
Intersection Delay, s/veh / LOS	43.1						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.69	B	2.10	B	1.96	B	1.96	B
Bicycle LOS Score / LOS	2.05	B	1.62	B			1.82	B

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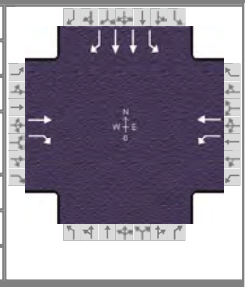
HCS7 Signalized Intersection Results Summary

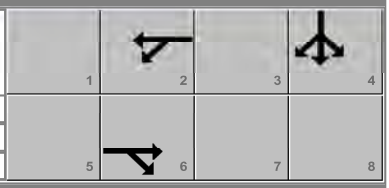
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	Future pm peak hour	PHF	1.00
Urban Street	Second Street	Analysis Year	2024	Analysis Period	1> 7:00
Intersection	Spring Street	File Name	1 PM FUTURE.xus		
Project Description	Future pm peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		678	212	164	730					19	953	73

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	73.3	38.7	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6		2				4
Case Number		7.0		6.0				9.0
Phase Duration, s		77.3		77.3				42.7
Change Period, ($Y+R_c$), s		4.0		4.0				4.0
Max Allow Headway (*MAH*), s		0.0		0.0				3.2
Queue Clearance Time (g_s), s								35.7
Green Extension Time (g_e), s		0.0		0.0				3.0
Phase Call Probability								1.00
Max Out Probability								0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		6	16	5	2					7	4	14
Adjusted Flow Rate (*v*), veh/h		678	212	164	730					19	953	73
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1710	1305	678	1710					1495	1628	760
Queue Service Time (g_s), s		30.6	9.0	24.7	34.8					1.0	33.7	8.6
Cycle Queue Clearance Time (g_c), s		30.6	9.0	55.3	34.8					1.0	33.7	8.6
Green Ratio (*g/C*)		0.61	0.61	0.61	0.61					0.32	0.32	0.32
Capacity (*c*), veh/h		1045	798	301	1045					481	1049	245
Volume-to-Capacity Ratio (*X*)		0.649	0.266	0.545	0.698					0.039	0.909	0.298
Back of Queue (*Q*), ft/ln (50 th percentile)		299.5	66.8	113.9	341.9					9.4	333.1	39.8
Back of Queue (*Q*), veh/ln (50 th percentile)		12.0	2.7	4.6	13.7					0.4	13.3	1.6
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	0.33	1.14	0.00					0.08	0.00	0.00
Uniform Delay (d_1), s/veh		15.0	10.8	32.9	15.8					27.9	39.0	30.5
Incremental Delay (d_2), s/veh		3.1	0.8	6.9	3.9					0.0	1.3	0.3
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Control Delay (*d*), s/veh		18.1	11.6	39.8	19.7					27.9	40.3	30.8
Level of Service (LOS)		B	B	D	B					C	D	C
Approach Delay, s/veh / LOS	16.6	B		23.4	C		0.0			39.4	D	
Intersection Delay, s/veh / LOS	27.2						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.66	B	2.08	B	1.96	B	1.96	B
Bicycle LOS Score / LOS	1.96	B	1.96	B			1.35	A

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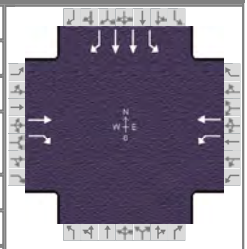
HCS7 Signalized Intersection Results Summary

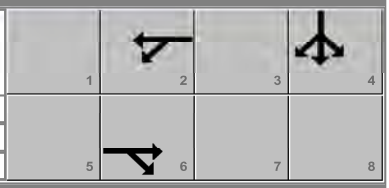
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	Future PLUS pm peak hour	PHF	1.00
Urban Street	Second Street	Analysis Year	2024	Analysis Period	1> 7:00
Intersection	Spring Street	File Name	1 PM PLUS FUTURE.xus		
Project Description	Future PLUS pm peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		678	212	166	735					19	953	73

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	73.3	38.7	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6		2				4
Case Number		7.0		6.0				9.0
Phase Duration, s		77.3		77.3				42.7
Change Period, ($Y+R_c$), s		4.0		4.0				4.0
Max Allow Headway (*MAH*), s		0.0		0.0				3.2
Queue Clearance Time (g_s), s								35.7
Green Extension Time (g_e), s		0.0		0.0				3.0
Phase Call Probability								1.00
Max Out Probability								0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		6	16	5	2					7	4	14
Adjusted Flow Rate (*v*), veh/h		678	212	166	735					19	953	73
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1710	1305	678	1710					1495	1628	760
Queue Service Time (g_s), s		30.6	9.0	25.1	35.2					1.0	33.7	8.6
Cycle Queue Clearance Time (g_c), s		30.6	9.0	55.7	35.2					1.0	33.7	8.6
Green Ratio (*g/C*)		0.61	0.61	0.61	0.61					0.32	0.32	0.32
Capacity (*c*), veh/h		1045	798	301	1045					481	1049	245
Volume-to-Capacity Ratio (*X*)		0.649	0.266	0.551	0.703					0.039	0.909	0.298
Back of Queue (*Q*), ft/ln (50 th percentile)		299.5	66.8	115.8	346.2					9.4	333.1	39.8
Back of Queue (*Q*), veh/ln (50 th percentile)		12.0	2.7	4.6	13.8					0.4	13.3	1.6
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	0.33	1.16	0.00					0.08	0.00	0.00
Uniform Delay (d_1), s/veh		15.0	10.8	33.0	15.9					27.9	39.0	30.5
Incremental Delay (d_2), s/veh		3.1	0.8	7.1	4.0					0.0	1.3	0.3
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Control Delay (*d*), s/veh		18.1	11.6	40.1	19.9					27.9	40.3	30.8
Level of Service (LOS)		B	B	D	B					C	D	C
Approach Delay, s/veh / LOS	16.6	B		23.6	C		0.0			39.4	D	
Intersection Delay, s/veh / LOS	27.2						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.66	B	2.08	B	1.96	B	1.96	B
Bicycle LOS Score / LOS	1.96	B	1.97	B			1.35	A

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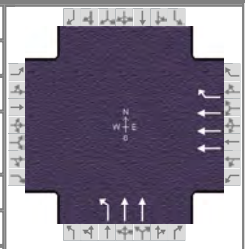
HCS7 Signalized Intersection Results Summary

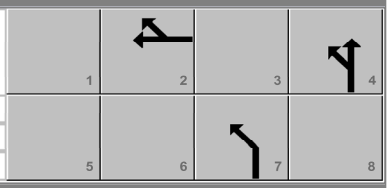
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	existing am peak hour	PHF	1.00
Urban Street	Third Street	Analysis Year	2021	Analysis Period	1> 7:00
Intersection	Main Street	File Name	2 AM FUTURE.xus		
Project Description	Future am peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h					1891	223	221	946				

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.0	0.0	0.0	0.0	0.0	0.0	
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	
Red	0.0	0.0	0.0	0.0	0.0	0.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				2		4		
Case Number				7.0		10.0		
Phase Duration, s				77.6		42.4		
Change Period, ($Y+R_c$), s				4.0		4.0		
Max Allow Headway (*MAH*), s				0.0		3.1		
Queue Clearance Time (g_s), s						35.4		
Green Extension Time (g_e), s				0.0		3.0		
Phase Call Probability						1.00		
Max Out Probability						0.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement					2	12	7	4				
Adjusted Flow Rate (*v*), veh/h					1891	223	221	946				
Adjusted Saturation Flow Rate (*s*), veh/h/ln					1553	1397	1578	1628				
Queue Service Time (g_s), s					31.7	8.8	13.3	33.4				
Cycle Queue Clearance Time (g_c), s					31.7	8.8	13.3	33.4				
Green Ratio (*g/C*)					0.61	0.61	0.32	0.32				
Capacity (*c*), veh/h					2857	857	505	1042				
Volume-to-Capacity Ratio (*X*)					0.662	0.260	0.438	0.908				
Back of Queue (*Q*), ft/ln (50 th percentile)					267.2	69.1	126.5	331				
Back of Queue (*Q*), veh/ln (50 th percentile)					10.7	2.8	5.1	13.2				
Queue Storage Ratio (*RQ*) (50 th percentile)					0.00	0.58	0.74	0.00				
Uniform Delay (d_1), s/veh					15.1	10.7	32.3	39.1				
Incremental Delay (d_2), s/veh					1.2	0.7	0.2	1.3				
Initial Queue Delay (d_3), s/veh					0.0	0.0	0.0	0.0				
Control Delay (*d*), s/veh					16.3	11.4	32.5	40.4				
Level of Service (LOS)					B	B	C	D				
Approach Delay, s/veh / LOS	0.0			15.8		B	38.9		D	0.0		
Intersection Delay, s/veh / LOS	24.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.96	B	1.66	B	2.16	B	1.96	B
Bicycle LOS Score / LOS			1.65	B	1.45	A		

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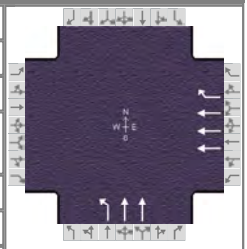
HCS7 Signalized Intersection Results Summary

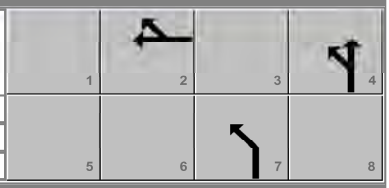
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	Future PLUS am peak hour	PHF	1.00
Urban Street	Third Street	Analysis Year	2024	Analysis Period	1> 7:00
Intersection	Main Street	File Name	2 AM FUTURE PLUS.xus		
Project Description	Future PLUS am peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h					1895	223	225	946				

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	73.6	38.4	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				2		4		
Case Number				7.0		10.0		
Phase Duration, s				77.6		42.4		
Change Period, ($Y+R_c$), s				4.0		4.0		
Max Allow Headway (*MAH*), s				0.0		3.1		
Queue Clearance Time (g_s), s						35.4		
Green Extension Time (g_e), s				0.0		3.0		
Phase Call Probability						1.00		
Max Out Probability						0.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement					2	12	7	4				
Adjusted Flow Rate (*v*), veh/h					1895	223	225	946				
Adjusted Saturation Flow Rate (*s*), veh/h/ln					1553	1397	1578	1628				
Queue Service Time (g_s), s					31.8	8.8	13.6	33.4				
Cycle Queue Clearance Time (g_c), s					31.8	8.8	13.6	33.4				
Green Ratio (*g/C*)					0.61	0.61	0.32	0.32				
Capacity (*c*), veh/h					2857	857	505	1042				
Volume-to-Capacity Ratio (*X*)					0.663	0.260	0.446	0.908				
Back of Queue (*Q*), ft/ln (50 th percentile)					268.3	69.1	129.2	331				
Back of Queue (*Q*), veh/ln (50 th percentile)					10.7	2.8	5.2	13.2				
Queue Storage Ratio (*RQ*) (50 th percentile)					0.00	0.58	0.76	0.00				
Uniform Delay (d_1), s/veh					15.1	10.7	32.4	39.1				
Incremental Delay (d_2), s/veh					1.2	0.7	0.2	1.3				
Initial Queue Delay (d_3), s/veh					0.0	0.0	0.0	0.0				
Control Delay (*d*), s/veh					16.4	11.4	32.6	40.4				
Level of Service (LOS)					B	B	C	D				
Approach Delay, s/veh / LOS	0.0			15.8		B	38.9		D	0.0		
Intersection Delay, s/veh / LOS	24.1						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.96	B	1.66	B	2.16	B	1.96	B
Bicycle LOS Score / LOS			1.65	B	1.45	A		

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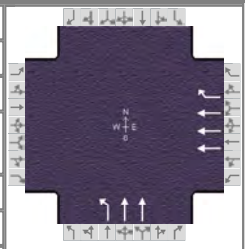
HCS7 Signalized Intersection Results Summary

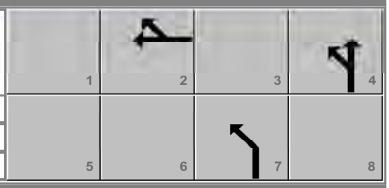
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	future pm peak hour	PHF	1.00
Urban Street	Third Street	Analysis Year	2024	Analysis Period	1> 7:00
Intersection	Main Street	File Name	2 PM FUTURE.xus		
Project Description	Future pm peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h					1498	434	263	1540				

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	51.2	60.8	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				2		4		
Case Number				7.0		10.0		
Phase Duration, s				55.2		64.8		
Change Period, ($Y+R_c$), s				4.0		4.0		
Max Allow Headway (*MAH*), s				0.0		3.1		
Queue Clearance Time (g_s), s						55.1		
Green Extension Time (g_e), s				0.0		5.7		
Phase Call Probability						1.00		
Max Out Probability						0.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement					2	12	7	4				
Adjusted Flow Rate (*v*), veh/h					1498	434	263	1540				
Adjusted Saturation Flow Rate (*s*), veh/h/ln					1553	1397	1563	1628				
Queue Service Time (g_s), s					32.6	31.0	12.0	53.1				
Cycle Queue Clearance Time (g_c), s					32.6	31.0	12.0	53.1				
Green Ratio (*g/C*)					0.43	0.43	0.51	0.51				
Capacity (*c*), veh/h					1987	596	792	1650				
Volume-to-Capacity Ratio (*X*)					0.754	0.728	0.332	0.933				
Back of Queue (*Q*), ft/ln (50 th percentile)					307.2	283.8	105.9	506.1				
Back of Queue (*Q*), veh/ln (50 th percentile)					12.3	11.4	4.2	20.2				
Queue Storage Ratio (*RQ*) (50 th percentile)					0.00	2.37	0.62	0.00				
Uniform Delay (d_1), s/veh					29.1	28.6	17.5	27.7				
Incremental Delay (d_2), s/veh					2.7	7.6	0.1	3.4				
Initial Queue Delay (d_3), s/veh					0.0	0.0	0.0	0.0				
Control Delay (*d*), s/veh					31.8	36.2	17.6	31.1				
Level of Service (LOS)					C	D	B	C				
Approach Delay, s/veh / LOS	0.0			32.8		C	29.1		C	0.0		
Intersection Delay, s/veh / LOS	31.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.96	B	1.69	B	2.16	B	1.96	B
Bicycle LOS Score / LOS			1.55	B	1.98	B		

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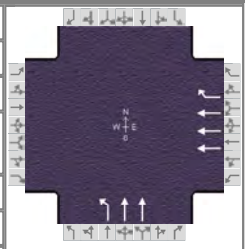
HCS7 Signalized Intersection Results Summary

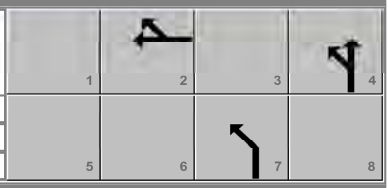
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	future PLUS pm peak hour	PHF	1.00
Urban Street	Third Street	Analysis Year	2024	Analysis Period	1> 7:00
Intersection	Main Street	File Name	2 PM PLUS FUTURE.xus		
Project Description	Future PLUS pm peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h					1514	434	280	1540				

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	51.1	60.9	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				2		4		
Case Number				7.0		10.0		
Phase Duration, s				55.1		64.9		
Change Period, ($Y+R_c$), s				4.0		4.0		
Max Allow Headway (*MAH*), s				0.0		3.1		
Queue Clearance Time (g_s), s						55.1		
Green Extension Time (g_e), s				0.0		5.8		
Phase Call Probability						1.00		
Max Out Probability						0.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement					2	12	7	4				
Adjusted Flow Rate (*v*), veh/h					1514	434	280	1540				
Adjusted Saturation Flow Rate (*s*), veh/h/ln					1553	1397	1563	1628				
Queue Service Time (g_s), s					33.2	31.0	12.9	53.1				
Cycle Queue Clearance Time (g_c), s					33.2	31.0	12.9	53.1				
Green Ratio (*g/C*)					0.43	0.43	0.51	0.51				
Capacity (*c*), veh/h					1985	595	793	1651				
Volume-to-Capacity Ratio (*X*)					0.763	0.729	0.353	0.933				
Back of Queue (*Q*), ft/ln (50 th percentile)					312.3	283.9	114.1	503.6				
Back of Queue (*Q*), veh/ln (50 th percentile)					12.5	11.4	4.6	20.1				
Queue Storage Ratio (*RQ*) (50 th percentile)					0.00	2.37	0.67	0.00				
Uniform Delay (d_1), s/veh					29.3	28.7	17.8	27.7				
Incremental Delay (d_2), s/veh					2.8	7.6	0.1	3.0				
Initial Queue Delay (d_3), s/veh					0.0	0.0	0.0	0.0				
Control Delay (*d*), s/veh					32.1	36.3	17.9	30.6				
Level of Service (LOS)					C	D	B	C				
Approach Delay, s/veh / LOS	0.0			33.0		C	28.7		C	0.0		
Intersection Delay, s/veh / LOS	30.9						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.96	B	1.69	B	2.16	B	1.96	B
Bicycle LOS Score / LOS			1.56	B	1.99	B		

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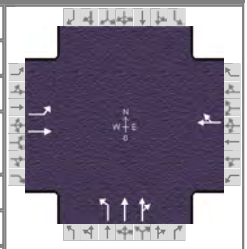
HCS7 Signalized Intersection Results Summary

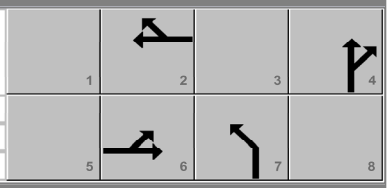
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	Future am peak hour	PHF	1.00
Urban Street	Second Street	Analysis Year	2024	Analysis Period	1> 7:00
Intersection	Main Street	File Name	3 AM FUTURE.xus		
Project Description	Future am peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	72	559			501	37	184	861	156			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.0	0.0	0.0	0.0	0.0	0.0	
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	
Red	0.0	0.0	0.0	0.0	0.0	0.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6		2		4		
Case Number		6.0		8.0		10.0		
Phase Duration, s		74.5		74.5		45.5		
Change Period, ($Y+R_c$), s		4.0		4.0		4.0		
Max Allow Headway (*MAH*), s		0.0		0.0		3.2		
Queue Clearance Time (g_s), s						38.7		
Green Extension Time (g_e), s		0.0		0.0		2.9		
Phase Call Probability						1.00		
Max Out Probability						0.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6			2	12	7	4	14			
Adjusted Flow Rate (*v*), veh/h	72	559			538		184	544	473			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	774	1710			1678		1269	1710	1484			
Queue Service Time (g_s), s	7.5	24.1			23.4		13.3	36.7	36.7			
Cycle Queue Clearance Time (g_c), s	30.9	24.1			23.4		13.3	36.7	36.7			
Green Ratio (*g/C*)	0.59	0.59			0.59		0.35	0.35	0.35			
Capacity (*c*), veh/h	364	1004			986		439	592	513			
Volume-to-Capacity Ratio (*X*)	0.198	0.557			0.546		0.419	0.920	0.920			
Back of Queue (*Q*), ft/ln (50 th percentile)	37.1	236.8			226		101.3	384	334.6			
Back of Queue (*Q*), veh/ln (50 th percentile)	1.5	9.5			9.0		4.1	15.4	13.4			
Queue Storage Ratio (*RQ*) (50 th percentile)	0.25	0.00			0.00		0.84	0.00	0.00			
Uniform Delay (d_1), s/veh	24.4	15.2			15.0		30.0	37.6	37.7			
Incremental Delay (d_2), s/veh	1.2	2.2			2.2		0.2	2.6	3.0			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0		0.0	0.0	0.0			
Control Delay (*d*), s/veh	25.6	17.4			17.2		30.3	40.3	40.7			
Level of Service (LOS)	C	B			B		C	D	D			
Approach Delay, s/veh / LOS	18.3	B		17.2	B		38.9	D		0.0		
Intersection Delay, s/veh / LOS	28.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.89	B	1.67	B	1.74	B	1.96	B
Bicycle LOS Score / LOS	1.53	B	1.38	A	1.48	A		

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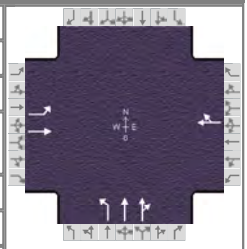
HCS7 Signalized Intersection Results Summary

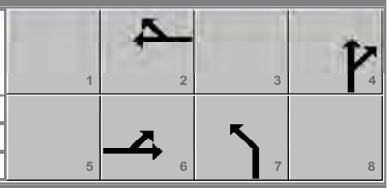
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	Future PLUS am peak hour	PHF	1.00
Urban Street	Second Street	Analysis Year	2024	Analysis Period	1> 7:00
Intersection	Main Street	File Name	3 AM PLUS FUTURE.xus		
Project Description	Future PLUS am peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	85	562			501	37	184	861	156			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	70.5	41.5	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6		2		4		
Case Number		6.0		8.0		10.0		
Phase Duration, s		74.5		74.5		45.5		
Change Period, ($Y+R_c$), s		4.0		4.0		4.0		
Max Allow Headway (*MAH*), s		0.0		0.0		3.2		
Queue Clearance Time (g_s), s						38.7		
Green Extension Time (g_e), s		0.0		0.0		2.9		
Phase Call Probability						1.00		
Max Out Probability						0.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6			2	12	7	4	14			
Adjusted Flow Rate (*v*), veh/h	85	562			538		184	544	473			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	774	1710			1678		1269	1710	1484			
Queue Service Time (g_s), s	9.0	24.2			23.4		13.3	36.7	36.7			
Cycle Queue Clearance Time (g_c), s	32.4	24.2			23.4		13.3	36.7	36.7			
Green Ratio (*g/C*)	0.59	0.59			0.59		0.35	0.35	0.35			
Capacity (*c*), veh/h	364	1004			986		439	592	513			
Volume-to-Capacity Ratio (*X*)	0.234	0.560			0.546		0.419	0.920	0.920			
Back of Queue (*Q*), ft/ln (50 th percentile)	44.7	238.6			226		101.3	384	334.6			
Back of Queue (*Q*), veh/ln (50 th percentile)	1.8	9.5			9.0		4.1	15.4	13.4			
Queue Storage Ratio (*RQ*) (50 th percentile)	0.30	0.00			0.00		0.84	0.00	0.00			
Uniform Delay (d_1), s/veh	24.9	15.2			15.0		30.0	37.6	37.7			
Incremental Delay (d_2), s/veh	1.5	2.3			2.2		0.2	2.6	3.0			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0		0.0	0.0	0.0			
Control Delay (*d*), s/veh	26.4	17.5			17.2		30.3	40.3	40.7			
Level of Service (LOS)	C	B			B		C	D	D			
Approach Delay, s/veh / LOS	18.6	B		17.2	B		38.9	D		0.0		
Intersection Delay, s/veh / LOS	28.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.89	B	1.67	B	1.74	B	1.96	B
Bicycle LOS Score / LOS	1.56	B	1.38	A	1.48	A		

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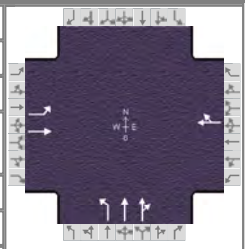
HCS7 Signalized Intersection Results Summary

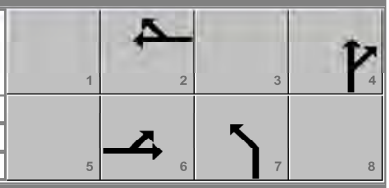
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	Future pm peak hour	PHF	1.00
Urban Street	Second Street	Analysis Year	2024	Analysis Period	1> 7:00
Intersection	Main Street	File Name	3 PM FUTURE.xus		
Project Description	Future pm peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	104	620			673	52	195	1419	111			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	56.0	56.0	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6		2		4		
Case Number		6.0		8.0		10.0		
Phase Duration, s		60.0		60.0		60.0		
Change Period, ($Y+R_c$), s		4.0		4.0		4.0		
Max Allow Headway (*MAH*), s		0.0		0.0		3.1		
Queue Clearance Time (g_s), s						57.0		
Green Extension Time (g_e), s		0.0		0.0		0.0		
Phase Call Probability						1.00		
Max Out Probability						1.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6			2	12	7	4	14			
Adjusted Flow Rate (*v*), veh/h	104	620			725		195	778	752			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	654	1710			1672		1297	1710	1627			
Queue Service Time (g_s), s	7.0	36.4			49.0		11.3	53.4	55.0			
Cycle Queue Clearance Time (g_c), s	56.0	36.4			49.0		11.3	53.4	55.0			
Green Ratio (*g/C*)	0.47	0.47			0.47		0.47	0.47	0.47			
Capacity (*c*), veh/h	98	798			780		605	798	759			
Volume-to-Capacity Ratio (*X*)	1.059	0.777			0.929		0.322	0.975	0.990			
Back of Queue (*Q*), ft/ln (50 th percentile)	147.5	397.1			571.9		84.6	664.5	671.3			
Back of Queue (*Q*), veh/ln (50 th percentile)	5.9	15.9			22.9		3.4	26.6	26.9			
Queue Storage Ratio (*RQ*) (50 th percentile)	0.98	0.00			0.00		0.70	0.00	0.00			
Uniform Delay (d_1), s/veh	58.6	26.8			30.1		20.1	31.3	31.7			
Incremental Delay (d_2), s/veh	107.6	7.3			19.0		0.1	25.6	30.1			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0		0.0	0.0	0.0			
Control Delay (*d*), s/veh	166.2	34.1			49.1		20.2	56.9	61.9			
Level of Service (LOS)	F	C			D		C	E	E			
Approach Delay, s/veh / LOS	53.1	D		49.1	D		54.9	D		0.0		
Intersection Delay, s/veh / LOS	53.2						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.91	B	1.69	B	1.74	B	1.96	B
Bicycle LOS Score / LOS	1.68	B	1.68	B	1.91	B		

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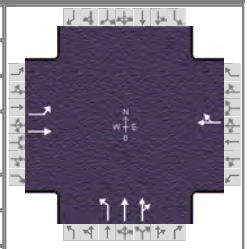
HCS7 Signalized Intersection Results Summary

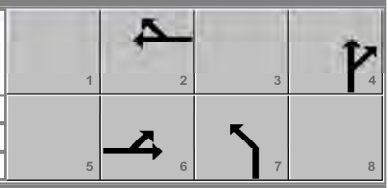
General Information				Intersection Information	
Agency	otc inc			Duration, h	0.25
Analyst	jto	Analysis Date	8/25/2021	Area Type	CBD
Jurisdiction	LADOT	Time Period	Future PLUS pm peak hour	PHF	1.00
Urban Street	Second Street	Analysis Year	2024	Analysis Period	1> 7:00
Intersection	Main Street	File Name	3 PM PLUS FUTURE.xus		
Project Description	Future PLUS pm peak hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	109	621			673	52	195	1419	111			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	56.0	56.0	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	0.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6		2		4		
Case Number		6.0		8.0		10.0		
Phase Duration, s		60.0		60.0		60.0		
Change Period, ($Y+R_c$), s		4.0		4.0		4.0		
Max Allow Headway (MAH), s		0.0		0.0		3.1		
Queue Clearance Time (g_s), s						57.0		
Green Extension Time (g_e), s		0.0		0.0		0.0		
Phase Call Probability						1.00		
Max Out Probability						1.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6			2	12	7	4	14			
Adjusted Flow Rate (v), veh/h	109	621			725		195	778	752			
Adjusted Saturation Flow Rate (s), veh/h/ln	654	1710			1672		1297	1710	1627			
Queue Service Time (g_s), s	7.0	36.5			49.0		11.3	53.4	55.0			
Cycle Queue Clearance Time (g_c), s	56.0	36.5			49.0		11.3	53.4	55.0			
Green Ratio (g/C)	0.47	0.47			0.47		0.47	0.47	0.47			
Capacity (c), veh/h	98	798			780		605	798	759			
Volume-to-Capacity Ratio (X)	1.110	0.778			0.929		0.322	0.975	0.990			
Back of Queue (Q), ft/ln (50 th percentile)	158.4	398.3			571.9		84.6	664.5	671.3			
Back of Queue (Q), veh/ln (50 th percentile)	6.3	15.9			22.9		3.4	26.6	26.9			
Queue Storage Ratio (RQ) (50 th percentile)	1.06	0.00			0.00		0.70	0.00	0.00			
Uniform Delay (d_1), s/veh	58.6	26.8			30.1		20.1	31.3	31.7			
Incremental Delay (d_2), s/veh	123.4	7.4			19.0		0.1	25.6	30.1			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0		0.0	0.0	0.0			
Control Delay (d), s/veh	182.1	34.2			49.1		20.2	56.9	61.9			
Level of Service (LOS)	F	C			D		C	E	E			
Approach Delay, s/veh / LOS	56.3	E		49.1	D		54.9	D		0.0		
Intersection Delay, s/veh / LOS	53.9						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.91	B	1.69	B	1.74	B	1.96	B
Bicycle LOS Score / LOS	1.69	B	1.68	B	1.91	B		

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ATTACHMENT 3

Noise Monitoring Data and Calculations Worksheets

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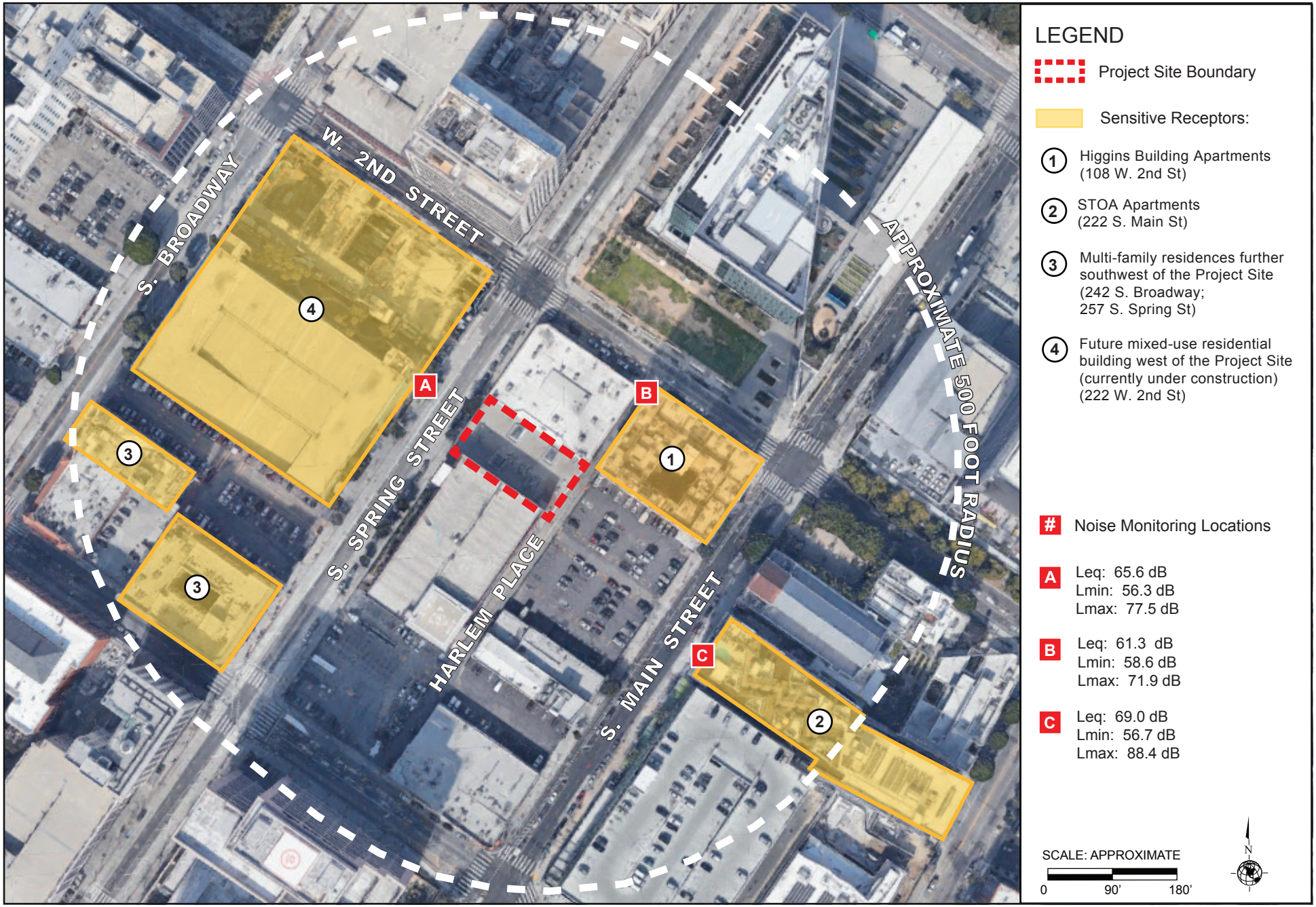


Source: Google Earth, Aerial View, 2021.

PARKER ENVIRONMENTAL CONSULTANTS

Figure 1
Noise Monitoring and Sensitive Receptor Location Map

June 11, 2021

Summary

File Name on Meter	831_Data.042.s
Serial Number	0010304
Model	SoundAdvisor™ Model 831C
Firmware Version	04.5.1R0
User	Ryan Morrison
Job Description	216 Spring Street Project

Location A: On the west side of Spring Street

Noise Sources: Vehicle traffic, pedestrian traffic, construction, buses

Measurement

Description	
Latitude	GPS Not Synchronized
Longitude	GPS Not Synchronized
Elevation	GPS Not Synchronized
Start	2021-06-11 14:07:42
Stop	2021-06-11 14:22:42
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2021-02-04 10:56:30
Post-Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting		
Peak Weight	A Weighting		
Detector	Slow		
Preamplifier	PRM831		
Microphone Correction	Off		
Integration Method	Linear		
Gain	0.0 dB		
Overload	144.7 dB		
	A	**C**	**Z**
Under Range Peak	**66.4**	67.4	69.4 dB
Under Range Limit	**25.7**	26.4	37.4 dB
Noise Floor	16.6	17.2	25.0 dB

Results

LAeq	65.6		
LAE	95.1		
EA	359.763 µPa²h		
LApeak (max)	2021-06-11 14:21:48	101.7 dB	
LASmax	2021-06-11 14:21:48	77.5 dB	
LASmin	2021-06-11 14:18:47	56.3 dB	
SEA	-99.94 dB		
LAFTM5	70.2 dB		
LAS > 65.0 dB (Exceedance Counts / Duration)	28	435.2 s	
LAS > 85.0 dB (Exceedance Counts / Duration)	0	0.0 s	
LApeak > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s	
LApeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s	
LApeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s	

Community Noise	**Ldn**	**LDay 07:00-22:00**	**Lden**	**LDay 07:00-19:00**
	65.6	65.6	65.6	65.6

LCeq	77.3 dB
LAeq	65.6 dB
LCeq - LAeq	11.7 dB
LAIeq	67.8 dB
LAeq	65.6 dB
LAIeq - LAeq	2.2 dB

June 11, 2021

	A	
	dB	Time Stamp
L_{eq}	65.6	
$L_{S(max)}$	77.5	2021/06/11 14:21:48
$L_{F(max)}$	84.3	2021/06/11 14:21:48
$L_{I(max)}$	87.5	2021/06/11 14:21:48
$L_{S(min)}$	56.3	2021/06/11 14:18:47
$L_{F(min)}$	55.8	2021/06/11 14:18:37
$L_{I(min)}$	56.1	2021/06/11 14:18:47
$L_{Peak(max)}$	101.7	2021/06/11 14:21:48

Overload Count	0	
Overload Duration	0.0	s

Statistics		
LAI5.00	70.4	dB
LAI10.00	68.4	dB
LAI33.30	65.0	dB
LAI50.00	63.5	dB
LAI66.60	62.4	dB
LAI90.00	59.3	dB

June 11, 2021

Summary

File Name on Meter	831_Data.043.s
Serial Number	0010304
Model	SoundAdvisor™ Model 831C
Firmware Version	04.5.1R0
User	Ryan Morrison
Job Description	216 Spring Street Project

Location B: On the south side of 2nd Street
Noise Sources: Vehicle traffic, pedestrian traffic

Measurement

Description	
Latitude	GPS Not Synchronized
Longitude	GPS Not Synchronized
Elevation	GPS Not Synchronized
Start	2021-06-11 14:26:33
Stop	2021-06-11 14:41:33
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2021-02-04 10:56:30
Post-Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRM831
Microphone Correction	Off
Integration Method	Linear
Gain	0.0 dB
Overload	144.7 dB

	A	C	Z
Under Range Peak	**66.4**	67.4	69.4 dB
Under Range Limit	**25.7**	26.4	37.4 dB
Noise Floor	16.6	17.2	25.0 dB

Results

LAeq	61.3	
LAE	90.9	
EA	135.247 µPa²h	
LApeak (max)	2021-06-11 14:30:53	93.2 dB
LASmax	2021-06-11 14:30:53	71.9 dB
LASmin	2021-06-11 14:33:56	58.6 dB
SEA	-99.94 dB	
LAFTM5	64.9 dB	
LAS > 65.0 dB (Exceedance Counts / Duration)	9	56.0 s
LAS > 85.0 dB (Exceedance Counts / Duration)	0	0.0 s
LApeak > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
LApeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
LApeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s

Community Noise	**Ldn**	**LDay 07:00-22:00**	**Lden**	**LDay 07:00-19:00**
	61.3	61.3	61.3	61.3

LCeq	74.8 dB
LAeq	61.3 dB
LCeq - LAeq	13.5 dB
LAIeq	63.0 dB
LAeq	61.3 dB
LAIeq - LAeq	1.7 dB

June 11, 2021

	A	
	dB	Time Stamp
Leq	61.3	
LS(max)	71.9	2021/06/11 14:30:53
LF(max)	78.0	2021/06/11 14:30:53
LI(max)	80.5	2021/06/11 14:30:53
LS(min)	58.6	2021/06/11 14:33:56
LF(min)	58.0	2021/06/11 14:33:53
LI(min)	58.4	2021/06/11 14:33:54
LPeak(max)	93.2	2021/06/11 14:30:53

Overload Count	0	
Overload Duration	0.0	s

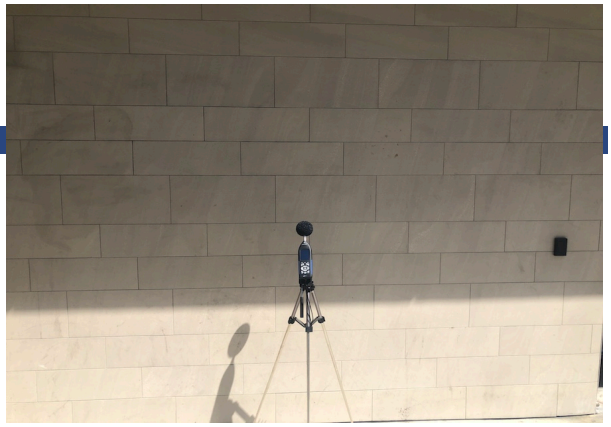
Statistics		
LAI5.00	64.3	dB
LAI10.00	63.1	dB
LAI33.30	61.0	dB
LAI50.00	60.4	dB
LAI66.60	60.1	dB
LAI90.00	59.5	dB

June 11, 2021

Summary

File Name on Meter	831_Data.044.s
Serial Number	0010304
Model	SoundAdvisor™ Model 831C
Firmware Version	04.5.1R0
User	Ryan Morrison
Job Description	216 Spring Street Project

Location C: On the east side of Main Street
Noise Sources: Vehicle traffic, pedestrian traffic



Measurement

Description	
Latitude	GPS Not Synchronized
Longitude	GPS Not Synchronized
Elevation	GPS Not Synchronized
Start	2021-06-11 14:59:59
Stop	2021-06-11 15:14:59
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2021-02-04 10:56:30
Post-Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting		
Peak Weight	A Weighting		
Detector	Slow		
Preamplifier	PRM831		
Microphone Correction	Off		
Integration Method	Linear		
Gain	0.0 dB		
Overload	144.7 dB		
	A	**C**	**Z**
Under Range Peak	**66.4**	67.4	69.4 dB
Under Range Limit	**25.7**	26.4	37.4 dB
Noise Floor	16.6	17.2	25.0 dB

Results

LAeq	69.0		
LAE	98.6		
EA	802.196 µPa²h		
LApeak (max)	2021-06-11 15:06:29	101.4 dB	
LASmax	2021-06-11 15:04:40	88.4 dB	
LASmin	2021-06-11 15:11:28	56.7 dB	
SEA	-99.94 dB		
LAFTM5	75.7 dB		
LAS > 65.0 dB (Exceedance Counts / Duration)	32	572.2 s	
LAS > 85.0 dB (Exceedance Counts / Duration)	1	3.7 s	
LApeak > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s	
LApeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s	
LApeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s	

Community Noise	**Ldn**	**LDay 07:00-22:00**	**Lden**	**LDay 07:00-19:00**
	69.0	69.0	69.0	69.0

LCeq	78.9 dB
LAeq	69.0 dB
LCeq - LAeq	9.9 dB
LAIeq	72.8 dB
LAeq	69.0 dB
LAIeq - LAeq	3.8 dB

June 11, 2021

	A	
	dB	Time Stamp
L_{eq}	69.0	
$L_{S(max)}$	88.4	2021/06/11 15:04:40
$L_{F(max)}$	91.9	2021/06/11 15:04:40
$L_{I(max)}$	92.5	2021/06/11 15:04:40
$L_{S(min)}$	56.7	2021/06/11 15:11:28
$L_{F(min)}$	55.8	2021/06/11 15:11:40
$L_{I(min)}$	56.5	2021/06/11 15:11:27
$L_{Peak(max)}$	101.4	2021/06/11 15:06:29

Overload Count	0	
Overload Duration	0.0	s

Statistics		
LAI5.00	73.0	dB
LAI10.00	71.3	dB
LAI33.30	68.0	dB
LAI50.00	65.6	dB
LAI66.60	63.2	dB
LAI90.00	59.0	dB

Report date: 6/14/21
Project: 216 Spring Street
Phase: Demolition

RECEPTOR #1

Description	Land Use	Ambient/Baseline (dBA) Daytime
Residential immediately NE of Project Site	Residential	61.3

Equipment							Without Attenuation			With Attenuation		
Description	Impact Device	Usage(%)	Spec. Max (dBA)	Actual Max (dBA)	Receptor Distance to Project Site (Feet)	Receptor Distance to Centerline of Project Site (Feet)	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq
Concrete/Industrial Saw	No	20	90	90	20	80	0	85.9	78.9	15	70.9	63.9
Dozer	No	40	85	82	20	80	0	80.9	76.9	15	65.9	61.9
							Construction Noise Level (dBA Leq)		81.1		Results	66.1
							Noise Level Above Ambient		19.8		Noise Level Above Ambient	4.8

RECEPTOR #2

Description	Land Use	Ambient/Baseline (dBA) Daytime
Residential east of P.S.; 222 S. Main Street	Residential	69

Equipment							Without Attenuation			With Attenuation		
Description	Impact Device	Usage(%)	Spec. Max (dBA)	Actual Max (dBA)	Receptor Distance to Project Site (Feet)	Receptor Distance to Centerline of Project Site (Feet)	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq
Concrete/Industrial Saw	No	20	90	90	260	340	10	63.3	56.4	15	48.3	41.4
Dozer	No	40	85	82	260	340	10	58.3	54.4	15	43.3	39.4
							Construction Noise Level (dBA Leq)		58.5		Results	43.5
							Noise Level Above Ambient		-10.5		Noise Level Above Ambient	-25.5

RECEPTOR #3

Description	Land Use	Ambient/Baseline (dBA) Daytime
Residential west of P.S.; 242 S. Broadway	Residential	65.6

Equipment							Without Attenuation			With Attenuation		
Description	Impact Device	Usage(%)	Spec. Max (dBA)	Actual Max (dBA)	Receptor Distance to Project Site (Feet)	Receptor Distance to Centerline of Project Site (Feet)	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq
Concrete/Industrial Saw	No	20	90	90	320	380	10	62.4	55.4	15	47.4	40.4
Dozer	No	40	85	82	320	380	10	57.4	53.4	15	42.4	38.4
							Construction Noise Level (dBA Leq)		57.5		Results	42.5
							Noise Level Above Ambient		-8.1		Noise Level Above Ambient	-23.1

RECEPTOR #4

Description	Land Use	Ambient/Baseline (dBA) Daytime
Future mixed-use residential; 222 W. 2nd Street.	Residential	65.6

Equipment							Without Attenuation			With Attenuation		
Description	Impact Device	Usage(%)	Spec. Max (dBA)	Actual Max (dBA)	Receptor Distance to Project Site (Feet)	Receptor Distance to Centerline of Project Site (Feet)	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq
Concrete/Industrial Saw	No	20	90	90	100	160	0	79.9	72.9	15	64.9	57.9
Dozer	No	40	85	82	100	160	0	74.9	70.9	15	59.9	55.9
							Construction Noise Level (dBA Leq)		75.0		Results	60.0
							Noise Level Above Ambient		9.4		Noise Level Above Ambient	-5.6

Notes:
1. Daytime noise levels are based on actual noise measurements taken at the Project Site vicinity.
2. An attenuation factor was applied for sensitive receptors where buildings separate the Project Site and the associated senstive receptor.
3. Calculations based on the loudest two pieces of heavy construction equipment specific to each phase.

Source: Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 6/14/21
Project: 216 Spring Street
Phase: Grading

RECEPTOR #1

Description	Land Use	Ambient/Baseline (dBA) Daytime
Residential immediately west and east of Project Site	Residential	61.3

Equipment							Without Attenuation			With Attenuation		
Description	Impact Device	Usage(%)	Spec. Max (dBA)	Actual Max (dBA)	Receptor Distance to Project Site (Feet)	Receptor Distance to Centerline of Project Site (Feet)	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq
Grader	No	40	85	85	20	80	0	80.9	76.9	15	65.9	61.9
Tractor/Backhoe	No	40	85	82	20	80	0	80.9	76.9	15	65.9	61.9
							Construction Noise Level (dBA Leq)		79.9		Results	64.9
							Noise Level Above Ambient		18.6		Noise Level Above Ambient	3.6

RECEPTOR #2

Description	Land Use	Ambient/Baseline (dBA) Daytime
Residential further east and west fronting W. 28th Street	Residential	69

Equipment							Without Attenuation			With Attenuation		
Description	Impact Device	Usage(%)	Spec. Max (dBA)	Actual Max (dBA)	Receptor Distance to Project Site (Feet)	Receptor Distance to Centerline of Project Site (Feet)	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq
Grader	No	40	85	85	260	340	10	58.3	54.4	15	43.3	39.4
Tractor/Backhoe	No	40	85	82	260	340	10	58.3	54.4	15	43.3	39.4
							Construction Noise Level (dBA Leq)		57.4		Results	42.4
							Noise Level Above Ambient		-11.6		Noise Level Above Ambient	-26.6

RECEPTOR #3

Description	Land Use	Ambient/Baseline (dBA) Daytime
Residential south of Project Site, fronting 28th Street	Residential	65.6

Equipment							Without Attenuation			With Attenuation		
Description	Impact Device	Usage(%)	Spec. Max (dBA)	Actual Max (dBA)	Receptor Distance to Project Site (Feet)	Receptor Distance to Centerline of Project Site (Feet)	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq
Grader	No	40	85	85	320	380	10	57.4	53.4	15	42.4	38.4
Tractor/Backhoe	No	40	85	82	320	380	10	57.4	53.4	15	42.4	38.4
							Construction Noise Level (dBA Leq)		56.4		Results	41.4
							Noise Level Above Ambient		-9.2		Noise Level Above Ambient	-24.2

RECEPTOR #4

Description	Land Use	Ambient/Baseline (dBA) Daytime
Residential north of Project Site, fronting 27th Street	Residential	65.6

Equipment							Without Attenuation			With Attenuation		
Description	Impact Device	Usage(%)	Spec. Max (dBA)	Actual Max (dBA)	Receptor Distance to Project Site (Feet)	Receptor Distance to Centerline of Project Site (Feet)	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq
Grader	No	40	85	85	100	160	0	74.9	70.9	15	59.9	55.9
Tractor/Backhoe	No	40	85	82	100	160	0	74.9	70.9	15	59.9	55.9
							Construction Noise Level (dBA Leq)		73.9		Results	58.9
							Noise Level Above Ambient		8.3		Noise Level Above Ambient	-6.7

Notes:
1. Daytime noise levels are based on actual noise measurements taken at the Project Site vicinity.
2. An attenuation factor was applied for sensitive receptors where buildings separate the Project Site and the associated senstive receptor.
3. Calculations based on the loudest two pieces of heavy construction equipment specific to each phase.

Source: Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 6/14/21
Project: 216 Spring Street
Phase: Building Construction

RECEPTOR #1

Description	Land Use	Ambient/Baseline (dBA) Daytime
Residential immediately west and east of Project Site	Residential	61.3

Equipment							Without Mitigation			With Mitigation		
Description	Impact Device	Usage(%)	Spec. Max (dBA)	Actual Max (dBA)	Receptor Distance to Project Site (Feet)	Receptor Distance to Centerline of Project Site (Feet)	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq
Roller	No	20	85	80	20	80	0	75.9	68.9	15	60.9	53.9
Generator	No	50	82	81	20	80	0	76.9	73.9	15	61.9	58.9
							Construction Noise Level (dBA Leq)		75.1	Results		60.1
							Noise Level Above Ambient		13.8	Noise Level Above Ambient		-1.2

RECEPTOR #2

Description	Land Use	Ambient/Baseline (dBA) Daytime
Residential further east and west fronting W. 28th Street	Residential	69

Equipment							Without Attenuation			With Attenuation		
Description	Impact Device	Usage(%)	Spec. Max (dBA)	Actual Max (dBA)	Receptor Distance to Project Site (Feet)	Receptor Distance to Centerline of Project Site (Feet)	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq
Roller	No	20	85	80	260	340	10	53.3	46.4	15	38.3	31.4
Generator	No	50	82	81	260	340	10	54.3	51.3	15	39.3	36.3
							Construction Noise Level (dBA Leq)		52.5	Results		37.5
							Noise Level Above Ambient		-16.5	Noise Level Above Ambient		-31.5

RECEPTOR #3

Description	Land Use	Ambient/Baseline (dBA) Daytime
Residential south of Project Site, fronting 28th Street	Residential	65.6

Equipment							Without Attenuation			With Attenuation		
Description	Impact Device	Usage(%)	Spec. Max (dBA)	Actual Max (dBA)	Receptor Distance to Project	Receptor Distance to Centerline of	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq
Roller	No	20	85	80	320	380	10	52.4	45.4	15	37.4	30.4
Generator	No	50	82	81	320	380	10	53.4	50.4	15	38.4	35.4
							Construction Noise Level (dBA Leq)		51.6	Results		36.6
							Noise Level Above Ambient		-14.0	Noise Level Above Ambient		-29.0

RECEPTOR #4

Description	Land Use	Ambient/Baseline (dBA) Daytime
Residential north of Project Site, fronting 27th Street	Residential	65.6

Equipment							Without Attenuation			With Attenuation		
Description	Impact Device	Usage(%)	Spec. Max (dBA)	Actual Max (dBA)	Receptor Distance to Project	Receptor Distance to Centerline of	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq
Roller	No	20	85	80	100	160	0	69.9	62.9	15	54.9	47.9
Generator	No	50	82	81	100	160	0	70.9	67.9	15	55.9	52.9
							Construction Noise Level (dBA Leq)		69.1	Results		54.1
							Noise Level Above Ambient		3.5	Noise Level Above Ambient		-11.5

Notes:
1. Daytime noise levels are based on actual noise measurements taken at the Project Site vicinity.
2. An attenuation factor was applied for sensitive receptors where buildings separate the Project Site and the associated senstive receptor.
3. Calculations based on the loudest two pieces of heavy construction equipment specific to each phase.

Source: Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 6/14/21
Project: 216 Spring Street
Phase: Architectural Coating

RECEPTOR #1

Description	Land Use	Ambient/Baseline (dBA) Daytime
Residential immediately west and east of Project Site	Residential	61.3

Equipment							Without Attenuation			With Attenuation		
Description	Impact Device	Usage(%)	Spec. Max (dBA)	Actual Max (dBA)	Receptor Distance to Project Site (Feet)	Receptor Distance to Centerline of Project Site (Feet)	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq
Air Compressor	No	50	80	78	20	80	0	73.9	70.9	15	58.9	55.9
Air Compressor	No	50	80	78	20	80	0	73.9	70.9	15	58.9	55.9
							Construction Noise Level (dBA Leq)		73.9		Results	58.9
							Noise Level Above Ambient		12.6	Noise Level Above Ambient		-2.4

RECEPTOR #2

Description	Land Use	Ambient/Baseline (dBA) Daytime
Residential further east and west fronting W. 28th Street	Residential	69

Equipment							Without Attenuation			With Attenuation		
Description	Impact Device	Usage(%)	Spec. Max (dBA)	Actual Max (dBA)	Receptor Distance to Project Site (Feet)	Receptor Distance to Centerline of Project Site (Feet)	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq
Air Compressor	No	50	80	78	260	340	10	51.3	48.3	15	36.3	33.3
Air Compressor	No	50	80	78	260	340	10	51.3	48.3	15	36.3	33.3
							Construction Noise Level (dBA Leq)		51.3		Results	36.3
							Noise Level Above Ambient		-17.7	Noise Level Above Ambient		-32.7

RECEPTOR #3

Description	Land Use	Ambient/Baseline (dBA) Daytime
Residential south of Project Site, fronting 28th Street	Residential	65.6

Equipment							Without Attenuation			With Attenuation		
Description	Impact Device	Usage(%)	Spec. Max (dBA)	Actual Max (dBA)	Receptor Distance to Project Site (Feet)	Receptor Distance to Centerline of Project Site (Feet)	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq
Air Compressor	No	50	80	78	320	380	10	50.4	47.4	15	35.4	32.4
Air Compressor	No	50	80	78	320	380	10	50.4	47.4	15	35.4	32.4
							Construction Noise Level (dBA Leq)		50.4		Results	35.4
							Noise Level Above Ambient		-15.2	Noise Level Above Ambient		-30.2

RECEPTOR #4

Description	Land Use	Ambient/Baseline (dBA) Daytime
Residential north of Project Site, fronting 27th Street	Residential	65.6

Equipment							Without Attenuation			With Attenuation		
Description	Impact Device	Usage(%)	Spec. Max (dBA)	Actual Max (dBA)	Receptor Distance to Project Site (Feet)	Receptor Distance to Centerline of Project Site (Feet)	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq	Estimated Shielding (dBA)	Calculated (dBA) *Lmax	Calculated (dBA) Leq
Air Compressor	No	50	80	78	100	160	0	67.9	64.9	15	52.9	49.9
Air Compressor	No	50	80	78	100	160	0	67.9	64.9	15	52.9	49.9
							Construction Noise Level (dBA Leq)		67.9		Results	52.9
							Noise Level Above Ambient		2.3	Noise Level Above Ambient		-12.7

Notes:
1. Daytime noise levels are based on actual noise measurements taken at the Project Site vicinity.
2. An attenuation factor was applied for sensitive receptors where buildings separate the Project Site and the associated senstive receptor.
3. Calculations based on the loudest two pieces of heavy construction equipment specific to each phase.

Source: Roadway Construction Noise Model (RCNM),Version 1.1

Construction Noise Impact Summary With Project Design Features

Address		Ambient Noise (dBA Leq)	Noise Level Impact (dBA Leq) by Phase: Demolition	Grading	Building Construction	Architectural Coating	Threshold (dBA Leq)**	Construction Noise Above Threshold
RECEPTOR #1	Residential immediately NE of Project Site	61.3	66.1	64.9	60.1	58.9	66.3	0.0
RECEPTOR #2	Residential east of P.S.; 222 S. Main Street	69.0	43.5	42.4	37.5	36.3	74.0	0.0
RECEPTOR #3	Residential west of P.S.; 242 S. Broadway	65.6	42.5	41.4	36.6	35.4	70.6	0.0
RECEPTOR #4	Future mixed-use residential; 222 W. 2nd Street.	65.6	60.0	58.9	54.1	52.9	70.6	0.0

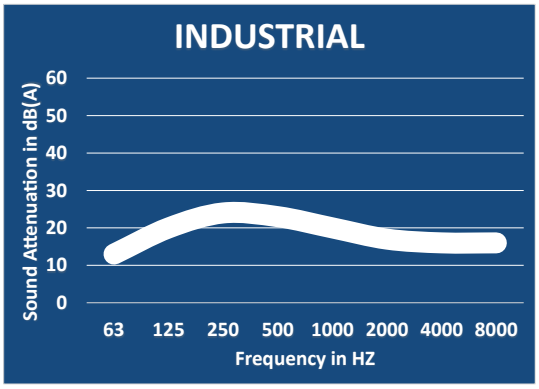
** Significance criteria is based on a 5- dBA noise increase above ambient threshold .

NETT TECHNOLOGIES INC.
www.nettinc.com sales@nettinc.com +1 (905) 672-5453

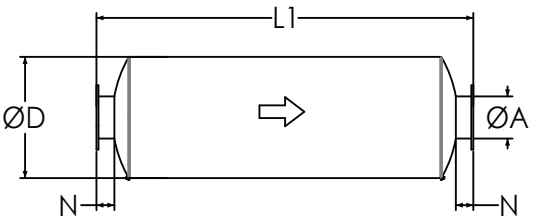
Industrial Grade Silencers

Model NTIN-C (Cylindrical), 15-20 dBA

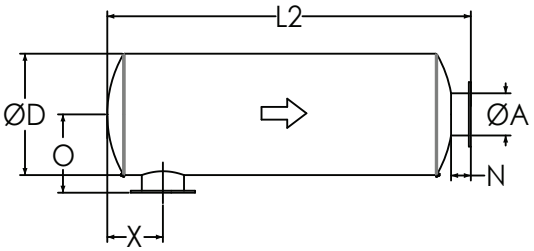
TYPICAL ATTENUATION CURVE



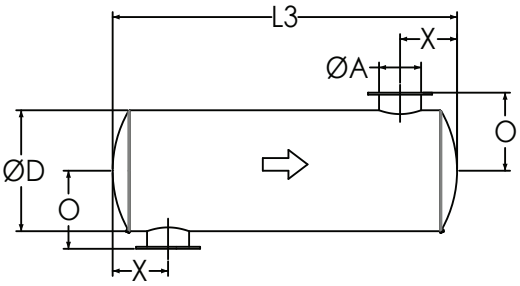
TYPICAL CONFIGURATIONS



END IN END OUT (EI-EO)



SIDE IN END OUT (SI-EO)



SIDE IN SIDE OUT (SI-SO)

Nett Technologies' Industrial Grade Silencers are designed to achieve maximum performance with the least amount of backpressure.
The silencers are Reactive Silencers and are typically used for reciprocating or positive displacement engines where noise level regulations are low.

FEATURES & BENEFITS

- Over 25 years of excellence in manufacturing noise and emission control solutions
- Compact modular designs providing ease of installations, less weight and less foot-print
- Responsive lead time for both standard and custom designs to meet your needs
- Customized engineered systems solutions to meet challenging integration and engine requirements

Contact Nett Technologies with your projects design requirements and specifications for optimized noise control solutions.

OPTIONS

- Versatile connections including ANSI pattern flanges, NPT, slip-on, engine flange, schedule 40 and others
- Aluminized Steel, Stainless Steel 304 or 316 construction
- Horizontal or vertical mounting brackets and lifting lugs

ACCESSORIES

- Hardware Kits
- Flexible connectors and expansion joints
- Elbows
- Thimbles
- Raincaps
- Thermal insulation: integrated or with thermal insulation blankets
- Please see our accessories catalog for a complete listing

PRODUCT DIMENSIONS (in)

Model*	A	D	L1	L2	L3	X**	X	N	O
	Outlet	Dia	EI-EO	SI-EO	SI-SO	Min	Max	Nipple	O
NTIN-C1	1	4	20	18	16	3	7	2	4
NTIN-C1.5	1.5	6	22	20	18	3	8	2	5
NTIN-C2	2	6	22	19	16	3	8	3	6
NTIN-C2.5	2.5	6	24	21	18	4	9	3	6
NTIN-C3	3	8	26	23	20	5	10	3	7
NTIN-C3.5	3.5	9	28	25	22	5	11	3	8
NTIN-C4	4	10	32	29	26	5	12	3	8
NTIN-C5	5	12	36	33	30	6	14	3	9
NTIN-C6	6	14	40	36	32	7	16	4	11
NTIN-C8	8	16	50	46	42	8	21	4	12
NTIN-C10	10	20	52	48	44	11	21	4	14
NTIN-C12	12	24	62	58	54	12	26	4	16
NTIN-C14	14	30	74	69	64	15	31	5	20
NTIN-C16	16	36	82	77	72	18	35	5	23
NTIN-C18	18	40	94	89	84	18	42	5	25
NTIN-C20	20	40	110	105	100	19	52	5	25
NTIN-C22	22	48	118	113	108	22	56	5	29
NTIN-C24	24	48	130	125	120	24	62	5	29

* Other models and custom designs are available upon request. Dimensions subject to change without notice. All silencers are equipped with drain ports on inlet side. The silencer is all welded construction and coated with high heat black paint for maximum durability.

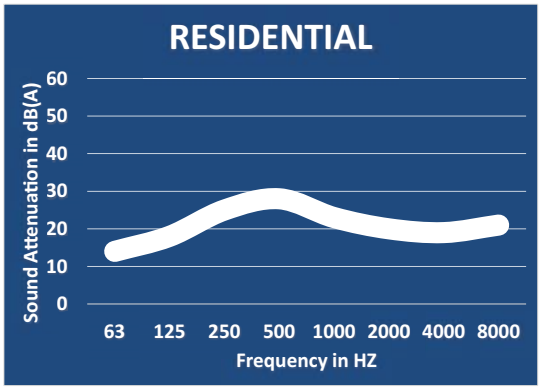
** Standard inlet/outlet position.

NETT TECHNOLOGIES INC.
www.nettinc.com sales@nettinc.com +1 (905) 672-5453

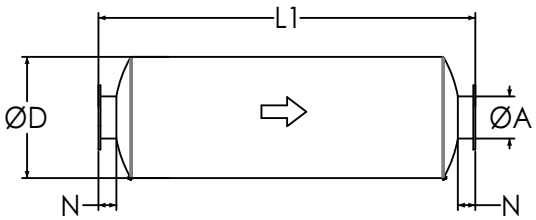
Residential Grade Silencers

Model NTRS-C (Cylindrical), 20-25 dBA

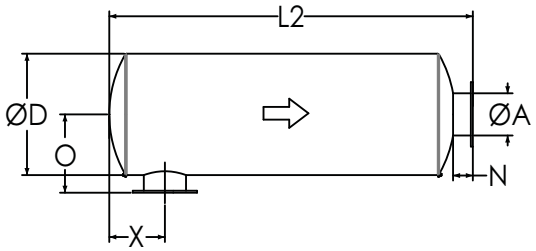
TYPICAL ATTENUATION CURVE



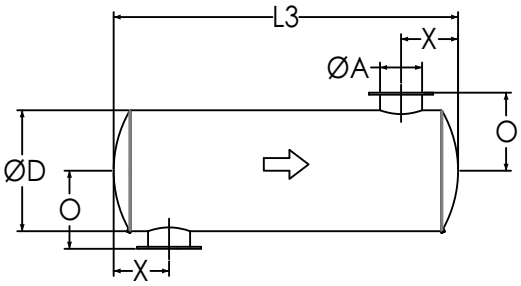
TYPICAL CONFIGURATIONS



END IN END OUT (EI-EO)



SIDE IN END OUT (SI-EO)



SIDE IN SIDE OUT (SI-SO)

Nett Technologies' Residential Grade Silencers are designed to achieve maximum performance with the least amount of backpressure. The silencers are Reactive Silencers and are typically used for reciprocating or positive displacement engines where noise level regulations are medium-low.

FEATURES & BENEFITS

- Over 25 years of excellence in manufacturing noise and emission control solutions
- Compact modular designs providing ease of installations, less weight and less foot-print
- Responsive lead time for both standard and custom designs to meet your needs
- Customized engineered systems solutions to meet challenging integration and engine requirements

Contact Nett Technologies with your projects design requirements and specifications for optimized noise control solutions.

OPTIONS

- Versatile connections including ANSI pattern flanges, NPT, slip-on, engine flange, schedule 40 and others
- Aluminized Steel, Stainless Steel 304 or 316 construction
- Horizontal or vertical mounting brackets and lifting lugs

ACCESSORIES

- Hardware Kits
- Flexible connectors and expansion joints
- Elbows
- Thimbles
- Raincaps
- Thermal insulation: integrated or with thermal insulation blankets
- Please see our accessories catalog for a complete listing

PRODUCT DIMENSIONS (in)

Model*	A	D	L1	L2	L3	X**	X	N	O
	Outlet	Dia	EI-EO	SI-EO	SI-SO	Min	Max	Nipple	O
NTRS-C1	1	4	20	18	16	3	10	2	4
NTRS-C1.5	1.5	6	28	26	24	3	12	2	5
NTRS-C2	2	6	28	25	22	4	12	3	6
NTRS-C2.5	2.5	6	32	29	26	4	14	3	6
NTRS-C3	3	6	34	31	28	5	15	3	6
NTRS-C3.5	3.5	9	36	33	30	5	16	3	8
NTRS-C4	4	10	40	37	34	5	17	3	8
NTRS-C5	5	12	42	39	36	6	18	3	9
NTRS-C6	6	14	44	40	36	7	19	4	11
NTRS-C8	8	16	56	52	48	9	24	4	12
NTRS-C10	10	20	58	54	50	11	24	4	14
NTRS-C12	12	24	70	66	62	13	31	4	16
NTRS-C14	14	30	80	75	70	17	35	5	20
NTRS-C16	16	36	90	85	80	17	40	5	23
NTRS-C18	18	40	102	97	92	18	47	5	25
NTRS-C20	20	42	108	103	98	21	50	5	26
NTRS-C22	22	48	116	111	106	23	54	5	29
NTRS-C24	24	48	130	125	120	26	61	5	29

* Other models and custom designs are available upon request. Dimensions subject to change without notice. All silencers are equipped with drain ports on inlet side. The silencer is all welded construction and coated with high heat black paint for maximum durability.

** Standard inlet/outlet position.

Acoustical Surfaces, Inc.

SOUNDPROOFING, ACOUSTICS, NOISE & VIBRATION CONTROL SPECIALISTS

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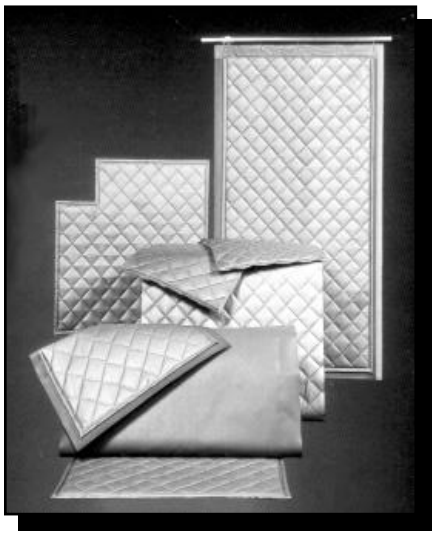
We Identify and S.T.O.P. Your Noise Problems



QUILTED CURTAIN S.T.O.P.

Absorptive/Noise Barrier Quilted Curtains

- ***For Unusual Conditions***
- ***Cost Effective***
- ***Water & Chemical Resistant***
- ***Exterior Applications***

MATERIAL: Foam or fiberglass core, faced with quilted aluminized fabric.

PATTERN: Quilted pattern.

FEATURES: Effective and durable absorber with mass loaded vinyl barrier option.

APPLICATIONS: Effective solution to a wide range of noise control problems. Machinery and work area enclosures.

THICKNESS: 1" & 2".

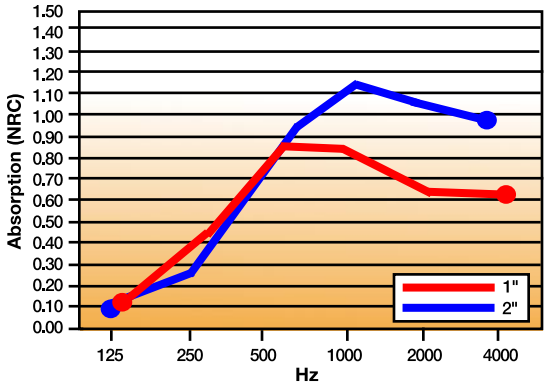
NOM SIZES: BSC-25 Curtain (Quilting on both sides) standard: 48" wide and Lengths up to 25'.
BBC-13 Curtain (Quilting on one side) standard: 54" wide and Lengths up to 25'. Custom sizes also available.

COLOR: Silver (Other colors available upon request).

FLAMMABILITY: ASTM E-84, Class A. Flame Spread: 23, Smoke Developed: 30.

INSTALLATION: Hook and loop fasteners, grommet hangers, curtain support hardware.

–



CURTAIN S.T.O.P. Sound Transmission Loss - ASTM E90 /a/ /b/

Frequency	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	STC
BSC-25 w/ 1 lb. Barrier	12	10	27	40	44	43	29
BSC-25 w/ 2 lb. Barrier	19	22	28	40	56	61	33
BBC-13 w/ 1 lb. Barrier	11	10	24	30	35	35	27
BBC-13 w/ 2 lb. Barrier	19	22	28	40	56	61	33

CURTAIN S.T.O.P. Sound Absorption Coefficients

Frequency	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	NRC
1" Fiberglass	.12	.47	.85	.84	.64	.62	.70
2" Fiberglass	.19	.99	.96	.80	.57	.33	.85

/a/ Sound transmission loss is the decibel reduction achieved at different frequencies. Construction noise occurs throughout the frequency spectrum. An example of high frequency noise is the whining sound from a concrete saw or jackhammering, low frequency noise can be usually attributed to equipment such as the humming of a generator.
/b/ Sound Transmission Class (STC) is the integer rating of how well a material attenuates airborne sound. It is however a rough idea of sound reduction versus the transmission loss calculated at different frequencies.

• Soundproofing Products • Sonex™ Ceiling & Wall Panels • Sound Control Curtains • Equipment Enclosures • Acoustical Baffles & Banners • Solid Wood & Veneer Acoustical Ceiling & Wall Systems • Professional Audio Acoustics • Vibration & Damping Control • Fire Retardant Acoustics • Hearing Protection • Moisture & Impact Resistant Products • Floor Impact Noise Reduction • Sound Absorbers • Noise Barriers • Fabric Wrapped Wall Panels • Acoustical Foam (Egg Crate) • Acoustical Sealants & Adhesives • Outdoor Noise Control • Assistive Listening Devices • OSHA, FDA, ADA Compliance • On-Site Acoustical Analysis • Acoustical Design & Consulting • Large Inventory • Fast Shipment • No Project too Large or Small • Major Credit Cards Accepted

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We Identify and S.T.O.P. Your Noise Problems

Echo Barrier™

The Industry's First Reusable, Indoor/ Outdoor Noise Barrier/Absorber

- Superior acoustic performance
- Industrial durability
- Simple and quick installation system
- Lightweight for easy handling
- Unique roll-up design for compact storage and transportation
- Double or triple up for noise 'hot spots'
- Ability to add branding or messages
- Range of accessories available
- Weatherproof – absorbs sound but not water
- Fire retardant
- 1 person can do the job of 2 or 3 people

Why is it all too often we see construction sites with fencing but no regard for sound issues created from the construction that is taking place? This is due to the fact that there has not been an efficient means of treating this type of noise that was cost effective ***until now.***

Echo Barrier temporary fencing is a reusable, outdoor noise barrier. Designed to fit on all types of temporary fencing. Echo Barrier absorbs sound while remaining quick to install, light to carry and tough to last.

BENEFITS: Echo Barrier can help reduce noise complaints, enhance your company reputation, extend site operating hours, reduce project timescales & costs, and improve working conditions.

APPLICATIONS: Echo Barrier works great for construction & demolition sites; rail maintenance & replacement; music, sports and other public events; road construction; utility/maintenance sites; loading and unloading areas; outdoor gun ranges.

DIMENSIONS: 6.56' × 4.49'.

WEIGHT: 13 lbs.

ACOUSTIC PERFORMANCE: 10-20dB noise reduction (greater if barrier is doubled up).

INSTALLATION: The Echo Barrier is easily installed using our quick hook system and specially designed elastic ties.

Echo Barrier Transmission Loss Field Data

	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz
Single Layer	6	12	16	23	28	30	30
Double Layer	7	19	24	28	32	31	32

• Soundproofing Products • Sonex™ Ceiling & Wall Panels • Sound Control Curtains • Equipment Enclosures • Acoustical Baffles & Banners • Solid Wood & Veneer Acoustical Ceiling & Wall Systems • Professional Audio Acoustics • Vibration & Damping Control • Fire Retardant Acoustics • Hearing Protection • Moisture & Impact Resistant Products • Floor Impact Noise Reduction • Sound Absorbers • Noise Barriers • Fabric Wrapped Wall Panels • Acoustical Foam (Egg Crate) • Acoustical Sealants & Adhesives • Outdoor Noise Control • Assistive Listening Devices • OSHA, FDA, ADA Compliance • On-Site Acoustical Analysis • Acoustical Design & Consulting • Large Inventory • Fast Shipment • No Project too Large or Small • Major Credit Cards Accepted

ATTACHMENT 4

Air Quality Modeling Worksheets

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

216 Spring Street - Existing Conditions

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	14.00	1000sqft	0.29	14,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2021
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	691.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Existing 14,000 sf commercial office building on 0.29-acre site.

Construction Phase - IGNORE CONSTRUCTION EMISSIONS FOR EXISTING CONDITIONS SCENARIO.

Vehicle Trips - Trip rates adjusted based on Transportation Assessment (September 2021).

Energy Use - Assumes historical Title 24 for existing conditions scenario.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	100.00	10.00
tblLandUse	LotAcreage	0.32	0.29
tblVehicleTrips	CC_TL	8.40	8.08
tblVehicleTrips	CC_TTP	48.00	100.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PR_TP	77.00	100.00
tblVehicleTrips	ST_TR	2.21	6.43
tblVehicleTrips	SU_TR	0.70	6.43
tblVehicleTrips	WD_TR	9.74	6.43

2.0 Emissions Summary

216 Spring Street - Existing Conditions - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	13.2006	8.1064	7.4668	0.0122	0.0575	0.4496	0.5071	0.0156	0.4137	0.4292	0.0000	1,187.6970	1,187.6970	0.3594	7.1800e-003	1,198.8253
Maximum	**13.2006**	**8.1064**	**7.4668**	**0.0122**	**0.0575**	**0.4496**	**0.5071**	**0.0156**	**0.4137**	**0.4292**	**0.0000**	**1,187.6970**	**1,187.6970**	**0.3594**	**7.1800e-003**	**1,198.8253**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	13.2006	8.1064	7.4668	0.0122	0.0575	0.4496	0.5071	0.0156	0.4137	0.4292	0.0000	1,187.6970	1,187.6970	0.3594	7.1800e-003	1,198.8253
Maximum	**13.2006**	**8.1064**	**7.4668**	**0.0122**	**0.0575**	**0.4496**	**0.5071**	**0.0156**	**0.4137**	**0.4292**	**0.0000**	**1,187.6970**	**1,187.6970**	**0.3594**	**7.1800e-003**	**1,198.8253**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

216 Spring Street - Existing Conditions - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.3129	1.0000e-005	1.4300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.0600e-003	3.0600e-003	1.0000e-005		3.2700e-003
Energy	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003		56.1354	56.1354	1.0800e-003	1.0300e-003	56.4690
Mobile	0.2826	0.3495	2.7960	5.8600e-003	0.5579	5.9200e-003	0.5639	0.1487	5.5500e-003	0.1542		596.8094	596.8094	0.0388	0.0261	605.5612
Total	**0.6006**	**0.3963**	**2.8367**	**6.1400e-003**	**0.5579**	**9.4900e-003**	**0.5674**	**0.1487**	**9.1200e-003**	**0.1578**		**652.9478**	**652.9478**	**0.0398**	**0.0272**	**662.0334**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.3129	1.0000e-005	1.4300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.0600e-003	3.0600e-003	1.0000e-005		3.2700e-003
Energy	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003		56.1354	56.1354	1.0800e-003	1.0300e-003	56.4690
Mobile	0.2826	0.3495	2.7960	5.8600e-003	0.5579	5.9200e-003	0.5639	0.1487	5.5500e-003	0.1542		596.8094	596.8094	0.0388	0.0261	605.5612
Total	**0.6006**	**0.3963**	**2.8367**	**6.1400e-003**	**0.5579**	**9.4900e-003**	**0.5674**	**0.1487**	**9.1200e-003**	**0.1578**		**652.9478**	**652.9478**	**0.0398**	**0.0272**	**662.0334**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	IGNORE Building Construction	Building Construction	10/22/2021	11/4/2021	5	10	
2	IGNORE Architectural Coating	Architectural Coating	11/5/2021	11/18/2021	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 21,000; Non-Residential Outdoor: 7,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
IGNORE Building Construction	Cranes	1	4.00	231	0.29
IGNORE Building Construction	Forklifts	2	6.00	89	0.20
IGNORE Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
IGNORE Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
IGNORE Building Construction	5	4.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

IGNORE Architectural Coating	1	1.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 IGNORE Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7750	7.9850	7.2637	0.0114		0.4475	0.4475		0.4117	0.4117		1,103.2158	1,103.2158	0.3568		1,112.1358
Total	**0.7750**	**7.9850**	**7.2637**	**0.0114**		**0.4475**	**0.4475**		**0.4117**	**0.4117**		**1,103.2158**	**1,103.2158**	**0.3568**		**1,112.1358**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 IGNORE Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.1200e-003	0.1104	0.0365	3.9000e-004	0.0128	1.7700e-003	0.0146	3.6900e-003	1.7000e-003	5.3800e-003		42.2633	42.2633	1.4400e-003	6.1200e-003	44.1245
Worker	0.0149	0.0110	0.1666	4.2000e-004	0.0447	2.9000e-004	0.0450	0.0119	2.6000e-004	0.0121		42.2179	42.2179	1.1900e-003	1.0600e-003	42.5650
Total	**0.0200**	**0.1214**	**0.2031**	**8.1000e-004**	**0.0575**	**2.0600e-003**	**0.0596**	**0.0156**	**1.9600e-003**	**0.0175**		**84.4812**	**84.4812**	**2.6300e-003**	**7.1800e-003**	**86.6894**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7750	7.9850	7.2637	0.0114		0.4475	0.4475		0.4117	0.4117	0.0000	1,103.2158	1,103.2158	0.3568		1,112.1358
Total	**0.7750**	**7.9850**	**7.2637**	**0.0114**		**0.4475**	**0.4475**		**0.4117**	**0.4117**	**0.0000**	**1,103.2158**	**1,103.2158**	**0.3568**		**1,112.1358**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 IGNORE Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.1200e-003	0.1104	0.0365	3.9000e-004	0.0128	1.7700e-003	0.0146	3.6900e-003	1.7000e-003	5.3800e-003		42.2633	42.2633	1.4400e-003	6.1200e-003	44.1245
Worker	0.0149	0.0110	0.1666	4.2000e-004	0.0447	2.9000e-004	0.0450	0.0119	2.6000e-004	0.0121		42.2179	42.2179	1.1900e-003	1.0600e-003	42.5650
Total	**0.0200**	**0.1214**	**0.2031**	**8.1000e-004**	**0.0575**	**2.0600e-003**	**0.0596**	**0.0156**	**1.9600e-003**	**0.0175**		**84.4812**	**84.4812**	**2.6300e-003**	**7.1800e-003**	**86.6894**

3.3 IGNORE Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	12.9780					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**13.1969**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 IGNORE Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7300e-003	2.7500e-003	0.0417	1.0000e-004	0.0112	7.0000e-005	0.0113	2.9600e-003	7.0000e-005	3.0300e-003		10.5545	10.5545	3.0000e-004	2.7000e-004	10.6412
Total	**3.7300e-003**	**2.7500e-003**	**0.0417**	**1.0000e-004**	**0.0112**	**7.0000e-005**	**0.0113**	**2.9600e-003**	**7.0000e-005**	**3.0300e-003**		**10.5545**	**10.5545**	**3.0000e-004**	**2.7000e-004**	**10.6412**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	12.9780					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**13.1969**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

216 Spring Street - Existing Conditions - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 IGNORE Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7300e-003	2.7500e-003	0.0417	1.0000e-004	0.0112	7.0000e-005	0.0113	2.9600e-003	7.0000e-005	3.0300e-003		10.5545	10.5545	3.0000e-004	2.7000e-004	10.6412
Total	**3.7300e-003**	**2.7500e-003**	**0.0417**	**1.0000e-004**	**0.0112**	**7.0000e-005**	**0.0113**	**2.9600e-003**	**7.0000e-005**	**3.0300e-003**		**10.5545**	**10.5545**	**3.0000e-004**	**2.7000e-004**	**10.6412**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2826	0.3495	2.7960	5.8600e-003	0.5579	5.9200e-003	0.5639	0.1487	5.5500e-003	0.1542		596.8094	596.8094	0.0388	0.0261	605.5612
Unmitigated	0.2826	0.3495	2.7960	5.8600e-003	0.5579	5.9200e-003	0.5639	0.1487	5.5500e-003	0.1542		596.8094	596.8094	0.0388	0.0261	605.5612

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	90.02	90.02	90.02	264,760	264,760
Total	90.02	90.02	90.02	264,760	264,760

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	0.00	8.08	0.00	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.543593	0.059173	0.184074	0.132247	0.023864	0.006129	0.012170	0.009151	0.000841	0.000521	0.023543	0.000746	0.003947

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003		56.1354	56.1354	1.0800e-003	1.0300e-003	56.4690
NaturalGas Unmitigated	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003		56.1354	56.1354	1.0800e-003	1.0300e-003	56.4690

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	477.151	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003		56.1354	56.1354	1.0800e-003	1.0300e-003	56.4690
Total		**5.1500e-003**	**0.0468**	**0.0393**	**2.8000e-004**		**3.5600e-003**	**3.5600e-003**		**3.5600e-003**	**3.5600e-003**		**56.1354**	**56.1354**	**1.0800e-003**	**1.0300e-003**	**56.4690**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	0.477151	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003		56.1354	56.1354	1.0800e-003	1.0300e-003	56.4690
Total		**5.1500e-003**	**0.0468**	**0.0393**	**2.8000e-004**		**3.5600e-003**	**3.5600e-003**		**3.5600e-003**	**3.5600e-003**		**56.1354**	**56.1354**	**1.0800e-003**	**1.0300e-003**	**56.4690**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3129	1.0000e-005	1.4300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.0600e-003	3.0600e-003	1.0000e-005		3.2700e-003
Unmitigated	0.3129	1.0000e-005	1.4300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.0600e-003	3.0600e-003	1.0000e-005		3.2700e-003

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0356					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2772					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.3000e-004	1.0000e-005	1.4300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.0600e-003	3.0600e-003	1.0000e-005		3.2700e-003
Total	**0.3129**	**1.0000e-005**	**1.4300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**3.0600e-003**	**3.0600e-003**	**1.0000e-005**		**3.2700e-003**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0356					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2772					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.3000e-004	1.0000e-005	1.4300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.0600e-003	3.0600e-003	1.0000e-005		3.2700e-003
Total	**0.3129**	**1.0000e-005**	**1.4300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**3.0600e-003**	**3.0600e-003**	**1.0000e-005**		**3.2700e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

216 Spring Street - Existing Conditions

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	14.00	1000sqft	0.29	14,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2021
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	691.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Existing 14,000 sf commercial office building on 0.29-acre site.

Construction Phase - IGNORE CONSTRUCTION EMISSIONS FOR EXISTING CONDITIONS SCENARIO.

Vehicle Trips - Trip rates adjusted based on Transportation Assessment (September 2021).

Energy Use - Assumes historical Title 24 for existing conditions scenario.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	100.00	10.00
tblLandUse	LotAcreage	0.32	0.29
tblVehicleTrips	CC_TL	8.40	8.08
tblVehicleTrips	CC_TTP	48.00	100.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PR_TP	77.00	100.00
tblVehicleTrips	ST_TR	2.21	6.43
tblVehicleTrips	SU_TR	0.70	6.43
tblVehicleTrips	WD_TR	9.74	6.43

2.0 Emissions Summary

216 Spring Street - Existing Conditions - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	13.2008	8.1121	7.4518	0.0122	0.0575	0.4496	0.5071	0.0156	0.4137	0.4292	0.0000	1,185.2427	1,185.2427	0.3595	7.2600e-003	1,196.3925
Maximum	**13.2008**	**8.1121**	**7.4518**	**0.0122**	**0.0575**	**0.4496**	**0.5071**	**0.0156**	**0.4137**	**0.4292**	**0.0000**	**1,185.2427**	**1,185.2427**	**0.3595**	**7.2600e-003**	**1,196.3925**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	13.2008	8.1121	7.4518	0.0122	0.0575	0.4496	0.5071	0.0156	0.4137	0.4292	0.0000	1,185.2427	1,185.2427	0.3595	7.2600e-003	1,196.3925
Maximum	**13.2008**	**8.1121**	**7.4518**	**0.0122**	**0.0575**	**0.4496**	**0.5071**	**0.0156**	**0.4137**	**0.4292**	**0.0000**	**1,185.2427**	**1,185.2427**	**0.3595**	**7.2600e-003**	**1,196.3925**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

216 Spring Street - Existing Conditions - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.3129	1.0000e-005	1.4300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.0600e-003	3.0600e-003	1.0000e-005		3.2700e-003
Energy	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003		56.1354	56.1354	1.0800e-003	1.0300e-003	56.4690
Mobile	0.2722	0.3741	2.6922	5.5800e-003	0.5579	5.9200e-003	0.5639	0.1487	5.5500e-003	0.1542		568.9208	568.9208	0.0400	0.0272	578.0253
Total	**0.5903**	**0.4209**	**2.7329**	**5.8600e-003**	**0.5579**	**9.4900e-003**	**0.5674**	**0.1487**	**9.1200e-003**	**0.1578**		**625.0593**	**625.0593**	**0.0411**	**0.0282**	**634.4975**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.3129	1.0000e-005	1.4300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.0600e-003	3.0600e-003	1.0000e-005		3.2700e-003
Energy	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003		56.1354	56.1354	1.0800e-003	1.0300e-003	56.4690
Mobile	0.2722	0.3741	2.6922	5.5800e-003	0.5579	5.9200e-003	0.5639	0.1487	5.5500e-003	0.1542		568.9208	568.9208	0.0400	0.0272	578.0253
Total	**0.5903**	**0.4209**	**2.7329**	**5.8600e-003**	**0.5579**	**9.4900e-003**	**0.5674**	**0.1487**	**9.1200e-003**	**0.1578**		**625.0593**	**625.0593**	**0.0411**	**0.0282**	**634.4975**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	IGNORE Building Construction	Building Construction	10/22/2021	11/4/2021	5	10	
2	IGNORE Architectural Coating	Architectural Coating	11/5/2021	11/18/2021	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 21,000; Non-Residential Outdoor: 7,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
IGNORE Building Construction	Cranes	1	4.00	231	0.29
IGNORE Building Construction	Forklifts	2	6.00	89	0.20
IGNORE Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
IGNORE Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
IGNORE Building Construction	5	4.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

IGNORE Architectural Coating	1	1.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 IGNORE Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7750	7.9850	7.2637	0.0114		0.4475	0.4475		0.4117	0.4117		1,103.2158	1,103.2158	0.3568		1,112.1358
Total	**0.7750**	**7.9850**	**7.2637**	**0.0114**		**0.4475**	**0.4475**		**0.4117**	**0.4117**		**1,103.2158**	**1,103.2158**	**0.3568**		**1,112.1358**

216 Spring Street - Existing Conditions - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 IGNORE Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0700e-003	0.1151	0.0377	3.9000e-004	0.0128	1.7800e-003	0.0146	3.6900e-003	1.7000e-003	5.3900e-003		42.2692	42.2692	1.4400e-003	6.1300e-003	44.1321
Worker	0.0156	0.0121	0.1505	3.9000e-004	0.0447	2.9000e-004	0.0450	0.0119	2.6000e-004	0.0121		39.7577	39.7577	1.2100e-003	1.1300e-003	40.1246
Total	**0.0207**	**0.1271**	**0.1881**	**7.8000e-004**	**0.0575**	**2.0700e-003**	**0.0596**	**0.0156**	**1.9600e-003**	**0.0175**		**82.0269**	**82.0269**	**2.6500e-003**	**7.2600e-003**	**84.2567**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7750	7.9850	7.2637	0.0114		0.4475	0.4475		0.4117	0.4117	0.0000	1,103.2158	1,103.2158	0.3568		1,112.1358
Total	**0.7750**	**7.9850**	**7.2637**	**0.0114**		**0.4475**	**0.4475**		**0.4117**	**0.4117**	**0.0000**	**1,103.2158**	**1,103.2158**	**0.3568**		**1,112.1358**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 IGNORE Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0700e-003	0.1151	0.0377	3.9000e-004	0.0128	1.7800e-003	0.0146	3.6900e-003	1.7000e-003	5.3900e-003		42.2692	42.2692	1.4400e-003	6.1300e-003	44.1321
Worker	0.0156	0.0121	0.1505	3.9000e-004	0.0447	2.9000e-004	0.0450	0.0119	2.6000e-004	0.0121		39.7577	39.7577	1.2100e-003	1.1300e-003	40.1246
Total	**0.0207**	**0.1271**	**0.1881**	**7.8000e-004**	**0.0575**	**2.0700e-003**	**0.0596**	**0.0156**	**1.9600e-003**	**0.0175**		**82.0269**	**82.0269**	**2.6500e-003**	**7.2600e-003**	**84.2567**

3.3 IGNORE Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	12.9780					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**13.1969**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 IGNORE Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9100e-003	3.0100e-003	0.0376	1.0000e-004	0.0112	7.0000e-005	0.0113	2.9600e-003	7.0000e-005	3.0300e-003		9.9394	9.9394	3.0000e-004	2.8000e-004	10.0312
Total	**3.9100e-003**	**3.0100e-003**	**0.0376**	**1.0000e-004**	**0.0112**	**7.0000e-005**	**0.0113**	**2.9600e-003**	**7.0000e-005**	**3.0300e-003**		**9.9394**	**9.9394**	**3.0000e-004**	**2.8000e-004**	**10.0312**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	12.9780					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**13.1969**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

216 Spring Street - Existing Conditions - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 IGNORE Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9100e-003	3.0100e-003	0.0376	1.0000e-004	0.0112	7.0000e-005	0.0113	2.9600e-003	7.0000e-005	3.0300e-003		9.9394	9.9394	3.0000e-004	2.8000e-004	10.0312
Total	**3.9100e-003**	**3.0100e-003**	**0.0376**	**1.0000e-004**	**0.0112**	**7.0000e-005**	**0.0113**	**2.9600e-003**	**7.0000e-005**	**3.0300e-003**		**9.9394**	**9.9394**	**3.0000e-004**	**2.8000e-004**	**10.0312**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2722	0.3741	2.6922	5.5800e-003	0.5579	5.9200e-003	0.5639	0.1487	5.5500e-003	0.1542		568.9208	568.9208	0.0400	0.0272	578.0253
Unmitigated	0.2722	0.3741	2.6922	5.5800e-003	0.5579	5.9200e-003	0.5639	0.1487	5.5500e-003	0.1542		568.9208	568.9208	0.0400	0.0272	578.0253

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	90.02	90.02	90.02	264,760	264,760
Total	90.02	90.02	90.02	264,760	264,760

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	0.00	8.08	0.00	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.543593	0.059173	0.184074	0.132247	0.023864	0.006129	0.012170	0.009151	0.000841	0.000521	0.023543	0.000746	0.003947

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003		56.1354	56.1354	1.0800e-003	1.0300e-003	56.4690
NaturalGas Unmitigated	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003		56.1354	56.1354	1.0800e-003	1.0300e-003	56.4690

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	477.151	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003		56.1354	56.1354	1.0800e-003	1.0300e-003	56.4690
Total		**5.1500e-003**	**0.0468**	**0.0393**	**2.8000e-004**		**3.5600e-003**	**3.5600e-003**		**3.5600e-003**	**3.5600e-003**		**56.1354**	**56.1354**	**1.0800e-003**	**1.0300e-003**	**56.4690**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	0.477151	5.1500e-003	0.0468	0.0393	2.8000e-004		3.5600e-003	3.5600e-003		3.5600e-003	3.5600e-003		56.1354	56.1354	1.0800e-003	1.0300e-003	56.4690
Total		**5.1500e-003**	**0.0468**	**0.0393**	**2.8000e-004**		**3.5600e-003**	**3.5600e-003**		**3.5600e-003**	**3.5600e-003**		**56.1354**	**56.1354**	**1.0800e-003**	**1.0300e-003**	**56.4690**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3129	1.0000e-005	1.4300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.0600e-003	3.0600e-003	1.0000e-005		3.2700e-003
Unmitigated	0.3129	1.0000e-005	1.4300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.0600e-003	3.0600e-003	1.0000e-005		3.2700e-003

216 Spring Street - Existing Conditions - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0356					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2772					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.3000e-004	1.0000e-005	1.4300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.0600e-003	3.0600e-003	1.0000e-005		3.2700e-003
Total	**0.3129**	**1.0000e-005**	**1.4300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**3.0600e-003**	**3.0600e-003**	**1.0000e-005**		**3.2700e-003**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0356					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2772					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.3000e-004	1.0000e-005	1.4300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.0600e-003	3.0600e-003	1.0000e-005		3.2700e-003
Total	**0.3129**	**1.0000e-005**	**1.4300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**3.0600e-003**	**3.0600e-003**	**1.0000e-005**		**3.2700e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

216 Spring Street - Proposed Project

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments High Rise	120.00	Dwelling Unit	0.50	100,525.00	343
Regional Shopping Center	1.03	1000sqft	0.00	1,033.00	0
Quality Restaurant	1.99	1000sqft	0.00	1,992.00	0
Enclosed Parking with Elevator	69.00	Space	0.00	27,600.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2024
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	691.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project Data per June 2021 Site Plans.

Construction Phase - Assumes approximate 24-month construction schedule.

Off-road Equipment - Construction equipment use on worst-case day.

Off-road Equipment - Equipment use on worst-case day.

Off-road Equipment - Equipment use on worst-case day.

Grading - Estimates approx. 15,000 cy soil export for 3-level subterranean parking structure.

Demolition - Demolish existing 14,000 sf office building.

Trips and VMT - Assume 14-cy haul truck capacity and average 30-mile trip to disposal site.

216 Spring Street - Proposed Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Vehicle Trips - Trip rates adjusted based on Transportation Assessment (September 2021).

Woodstoves - No woodstoves or fireplaces proposed.

Stationary Sources - Emergency Generators and Fire Pumps -

Sequestration - Minimum 30 trees required per LAMC.

Construction Off-road Equipment Mitigation -

Area Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	88.00
tblConstructionPhase	NumDays	100.00	346.00
tblConstructionPhase	NumDays	10.00	22.00
tblConstructionPhase	NumDays	2.00	66.00
tblConstructionPhase	PhaseEndDate	12/20/2022	7/2/2024
tblConstructionPhase	PhaseEndDate	12/6/2022	2/28/2024
tblConstructionPhase	PhaseEndDate	7/14/2022	8/1/2022
tblConstructionPhase	PhaseEndDate	7/19/2022	11/1/2022
tblConstructionPhase	PhaseStartDate	12/14/2022	3/1/2024
tblConstructionPhase	PhaseStartDate	7/20/2022	11/2/2022
tblConstructionPhase	PhaseStartDate	7/16/2022	8/2/2022
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	102.00	0.00
tblFireplaces	NumberNoFireplace	12.00	0.00
tblFireplaces	NumberWood	6.00	0.00
tblGrading	MaterialExported	0.00	15,000.00
tblLandUse	LandUseSquareFeet	120,000.00	100,525.00

216 Spring Street - Proposed Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblLandUse	LotAcreage	1.94	0.50
tblLandUse	LotAcreage	0.02	0.00
tblLandUse	LotAcreage	0.05	0.00
tblLandUse	LotAcreage	0.62	0.00
tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Pavers
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblSequestration	NumberOfNewTrees	0.00	30.00
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,000.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	12.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripNumber	1,875.00	2,143.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	69.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	CC_TTP	64.70	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	12.00	0.00
tblVehicleTrips	CW_TTP	16.30	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	18.00	0.00
tblVehicleTrips	DV_TP	35.00	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HW_TL	14.70	6.75
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	44.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	38.00	0.00
tblVehicleTrips	PR_TP	54.00	0.00
tblVehicleTrips	ST_TR	4.53	3.56
tblVehicleTrips	ST_TR	90.04	0.00
tblVehicleTrips	ST_TR	46.12	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	SU_TR	3.59	3.56
tblVehicleTrips	SU_TR	71.97	0.00
tblVehicleTrips	SU_TR	21.10	0.00
tblVehicleTrips	WD_TR	4.45	3.56
tblVehicleTrips	WD_TR	83.84	0.00
tblVehicleTrips	WD_TR	37.75	0.00
tblWoodstoves	NumberCatalytic	6.00	0.00
tblWoodstoves	NumberNoncatalytic	6.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

216 Spring Street - Proposed Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.8177	23.5920	19.8870	0.0534	6.3345	0.8105	7.1450	2.8444	0.7600	3.6044	0.0000	5,538.8798	5,538.8798	0.7348	0.5088	5,708.8753
2023	1.6744	13.8198	19.4852	0.0389	1.2219	0.6479	1.8698	0.3267	0.6076	0.9343	0.0000	3,811.8416	3,811.8416	0.6523	0.0735	3,850.0392
2024	8.5860	12.9603	19.2150	0.0386	1.2219	0.5773	1.7991	0.3267	0.5412	0.8679	0.0000	3,778.4829	3,778.4829	0.6480	0.0713	3,815.9158
Maximum	**8.5860**	**23.5920**	**19.8870**	**0.0534**	**6.3345**	**0.8105**	**7.1450**	**2.8444**	**0.7600**	**3.6044**	**0.0000**	**5,538.8798**	**5,538.8798**	**0.7348**	**0.5088**	**5,708.8753**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.8177	23.5920	19.8870	0.0534	3.3988	0.8105	4.2093	1.4295	0.7600	2.1895	0.0000	5,538.8798	5,538.8798	0.7348	0.5088	5,708.8753
2023	1.6744	13.8198	19.4852	0.0389	1.2219	0.6479	1.8698	0.3267	0.6076	0.9343	0.0000	3,811.8416	3,811.8416	0.6523	0.0735	3,850.0392
2024	8.5860	12.9603	19.2150	0.0386	1.2219	0.5773	1.7991	0.3267	0.5412	0.8679	0.0000	3,778.4829	3,778.4829	0.6480	0.0713	3,815.9158
Maximum	**8.5860**	**23.5920**	**19.8870**	**0.0534**	**3.3988**	**0.8105**	**4.2093**	**1.4295**	**0.7600**	**2.1895**	**0.0000**	**5,538.8798**	**5,538.8798**	**0.7348**	**0.5088**	**5,708.8753**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**33.44**	**0.00**	**27.15**	**40.45**	**0.00**	**26.17**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.5404	0.1141	9.9033	5.2000e-004		0.0549	0.0549		0.0549	0.0549	0.0000	17.8420	17.8420	0.0172	0.0000	18.2707
Energy	0.0518	0.4496	0.2426	2.8200e-003		0.0358	0.0358		0.0358	0.0358		564.5094	564.5094	0.0108	0.0104	567.8640
Mobile	1.0818	1.0461	9.7566	0.0213	2.2116	0.0153	2.2269	0.5894	0.0142	0.6036		2,165.8263	2,165.8263	0.1424	0.0943	2,197.4898
Stationary	0.8204	3.6694	2.0922	3.9400e-003		0.1207	0.1207		0.1207	0.1207		419.7571	419.7571	0.0589		421.2283
Total	**4.4944**	**5.2792**	**21.9947**	**0.0285**	**2.2116**	**0.2266**	**2.4382**	**0.5894**	**0.2256**	**0.8149**	**0.0000**	**3,167.9348**	**3,167.9348**	**0.2292**	**0.1047**	**3,204.8528**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.5404	0.1141	9.9033	5.2000e-004		0.0549	0.0549		0.0549	0.0549	0.0000	17.8420	17.8420	0.0172	0.0000	18.2707
Energy	0.0518	0.4496	0.2426	2.8200e-003		0.0358	0.0358		0.0358	0.0358		564.5094	564.5094	0.0108	0.0104	567.8640
Mobile	1.0818	1.0461	9.7566	0.0213	2.2116	0.0153	2.2269	0.5894	0.0142	0.6036		2,165.8263	2,165.8263	0.1424	0.0943	2,197.4898
Stationary	0.8204	3.6694	2.0922	3.9400e-003		0.1207	0.1207		0.1207	0.1207		419.7571	419.7571	0.0589		421.2283
Total	**4.4944**	**5.2792**	**21.9947**	**0.0285**	**2.2116**	**0.2266**	**2.4382**	**0.5894**	**0.2256**	**0.8149**	**0.0000**	**3,167.9348**	**3,167.9348**	**0.2292**	**0.1047**	**3,204.8528**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/1/2022	8/1/2022	5	22	
2	Grading	Grading	8/2/2022	11/1/2022	5	66	
3	Building Construction	Building Construction	11/2/2022	2/28/2024	5	346	
4	Architectural Coating	Architectural Coating	3/1/2024	7/2/2024	5	88	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 49.5

Acres of Paving: 0

Residential Indoor: 203,563; Residential Outdoor: 67,854; Non-Residential Indoor: 4,538; Non-Residential Outdoor: 1,513; Striped Parking Area: 1,656 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	5	6.00	78	0.48
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Grading	Graders	1	6.00	187	0.41
Building Construction	Cement and Mortar Mixers	1	8.00	9	0.56
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Pavers	1	8.00	130	0.42
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Rollers	1	8.00	80	0.38
Architectural Coating	Aerial Lifts	2	8.00	63	0.31

Trips and VMT

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	64.00	14.70	6.90	30.00	LD_Mix	HDT_Mix	HHDT
Grading	5	13.00	0.00	2,143.00	14.70	6.90	30.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	99.00	18.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	7	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6264	0.0000	0.6264	0.0948	0.0000	0.0948			0.0000			0.0000
Off-Road	0.7094	6.4138	7.4693	0.0120		0.3375	0.3375		0.3225	0.3225		1,147.9025	1,147.9025	0.2119		1,153.2001
Total	**0.7094**	**6.4138**	**7.4693**	**0.0120**	**0.6264**	**0.3375**	**0.9639**	**0.0948**	**0.3225**	**0.4174**		**1,147.9025**	**1,147.9025**	**0.2119**		**1,153.2001**

216 Spring Street - Proposed Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0168	0.6530	0.1421	2.6000e-003	0.0763	5.6700e-003	0.0820	0.0209	5.4300e-003	0.0263		285.3464	285.3464	0.0154	0.0453	299.2323
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0344	0.0242	0.3812	1.0100e-003	0.1118	6.7000e-004	0.1124	0.0296	6.1000e-004	0.0303		102.2532	102.2532	2.6700e-003	2.4500e-003	103.0491
Total	**0.0513**	**0.6772**	**0.5233**	**3.6100e-003**	**0.1881**	**6.3400e-003**	**0.1944**	**0.0506**	**6.0400e-003**	**0.0566**		**387.5996**	**387.5996**	**0.0181**	**0.0478**	**402.2813**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2819	0.0000	0.2819	0.0427	0.0000	0.0427			0.0000			0.0000
Off-Road	0.7094	6.4138	7.4693	0.0120		0.3375	0.3375		0.3225	0.3225	0.0000	1,147.9025	1,147.9025	0.2119		1,153.2001
Total	**0.7094**	**6.4138**	**7.4693**	**0.0120**	**0.2819**	**0.3375**	**0.6194**	**0.0427**	**0.3225**	**0.3652**	**0.0000**	**1,147.9025**	**1,147.9025**	**0.2119**		**1,153.2001**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0168	0.6530	0.1421	2.6000e-003	0.0763	5.6700e-003	0.0820	0.0209	5.4300e-003	0.0263		285.3464	285.3464	0.0154	0.0453	299.2323
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0344	0.0242	0.3812	1.0100e-003	0.1118	6.7000e-004	0.1124	0.0296	6.1000e-004	0.0303		102.2532	102.2532	2.6700e-003	2.4500e-003	103.0491
Total	**0.0513**	**0.6772**	**0.5233**	**3.6100e-003**	**0.1881**	**6.3400e-003**	**0.1944**	**0.0506**	**6.0400e-003**	**0.0566**		**387.5996**	**387.5996**	**0.0181**	**0.0478**	**402.2813**

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.3376	0.0000	5.3376	2.5724	0.0000	2.5724			0.0000			0.0000
Off-Road	1.5850	16.2720	11.5589	0.0231		0.7463	0.7463		0.6986	0.6986		2,221.0685	2,221.0685	0.5590		2,235.0432
Total	**1.5850**	**16.2720**	**11.5589**	**0.0231**	**5.3376**	**0.7463**	**6.0840**	**2.5724**	**0.6986**	**3.2711**		**2,221.0685**	**2,221.0685**	**0.5590**		**2,235.0432**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1879	7.2885	1.5858	0.0290	0.8516	0.0633	0.9149	0.2334	0.0606	0.2940		3,184.8820	3,184.8820	0.1724	0.5056	3,339.8683
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0448	0.0315	0.4955	1.3200e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		132.9292	132.9292	3.4800e-003	3.1800e-003	133.9638
Total	**0.2326**	**7.3200**	**2.0814**	**0.0304**	**0.9969**	**0.0642**	**1.0611**	**0.2719**	**0.0614**	**0.3333**		**3,317.8112**	**3,317.8112**	**0.1758**	**0.5088**	**3,473.8321**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.4019	0.0000	2.4019	1.1576	0.0000	1.1576			0.0000			0.0000
Off-Road	1.5850	16.2720	11.5589	0.0231		0.7463	0.7463		0.6986	0.6986	0.0000	2,221.0685	2,221.0685	0.5590		2,235.0432
Total	**1.5850**	**16.2720**	**11.5589**	**0.0231**	**2.4019**	**0.7463**	**3.1483**	**1.1576**	**0.6986**	**1.8562**	**0.0000**	**2,221.0685**	**2,221.0685**	**0.5590**		**2,235.0432**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1879	7.2885	1.5858	0.0290	0.8516	0.0633	0.9149	0.2334	0.0606	0.2940		3,184.8820	3,184.8820	0.1724	0.5056	3,339.8683
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0448	0.0315	0.4955	1.3200e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		132.9292	132.9292	3.4800e-003	3.1800e-003	133.9638
Total	**0.2326**	**7.3200**	**2.0814**	**0.0304**	**0.9969**	**0.0642**	**1.0611**	**0.2719**	**0.0614**	**0.3333**		**3,317.8112**	**3,317.8112**	**0.1758**	**0.5088**	**3,473.8321**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4439	14.1022	15.8262	0.0259		0.7300	0.7300		0.6845	0.6845		2,478.6561	2,478.6561	0.6187		2,494.1224
Total	**1.4439**	**14.1022**	**15.8262**	**0.0259**		**0.7300**	**0.7300**		**0.6845**	**0.6845**		**2,478.6561**	**2,478.6561**	**0.6187**		**2,494.1224**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0328	0.8376	0.2872	3.4400e-003	0.1153	8.7600e-003	0.1240	0.0332	8.3800e-003	0.0416		370.2048	370.2048	0.0124	0.0537	386.5092
Worker	0.3409	0.2398	3.7736	0.0100	1.1066	6.6000e-003	1.1132	0.2935	6.0800e-003	0.2996		1,012.3070	1,012.3070	0.0265	0.0242	1,020.1859
Total	**0.3737**	**1.0773**	**4.0607**	**0.0135**	**1.2219**	**0.0154**	**1.2372**	**0.3267**	**0.0145**	**0.3411**		**1,382.5118**	**1,382.5118**	**0.0389**	**0.0779**	**1,406.6951**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4439	14.1022	15.8262	0.0259		0.7300	0.7300		0.6845	0.6845	0.0000	2,478.6561	2,478.6561	0.6187		2,494.1224
Total	**1.4439**	**14.1022**	**15.8262**	**0.0259**		**0.7300**	**0.7300**		**0.6845**	**0.6845**	**0.0000**	**2,478.6561**	**2,478.6561**	**0.6187**		**2,494.1224**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0328	0.8376	0.2872	3.4400e-003	0.1153	8.7600e-003	0.1240	0.0332	8.3800e-003	0.0416		370.2048	370.2048	0.0124	0.0537	386.5092
Worker	0.3409	0.2398	3.7736	0.0100	1.1066	6.6000e-003	1.1132	0.2935	6.0800e-003	0.2996		1,012.3070	1,012.3070	0.0265	0.0242	1,020.1859
Total	**0.3737**	**1.0773**	**4.0607**	**0.0135**	**1.2219**	**0.0154**	**1.2372**	**0.3267**	**0.0145**	**0.3411**		**1,382.5118**	**1,382.5118**	**0.0389**	**0.0779**	**1,406.6951**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3385	12.9543	15.7552	0.0259		0.6379	0.6379		0.5983	0.5983		2,479.2893	2,479.2893	0.6167		2,494.7059
Total	**1.3385**	**12.9543**	**15.7552**	**0.0259**		**0.6379**	**0.6379**		**0.5983**	**0.5983**		**2,479.2893**	**2,479.2893**	**0.6167**		**2,494.7059**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0199	0.6534	0.2572	3.2800e-003	0.1153	3.8000e-003	0.1191	0.0332	3.6400e-003	0.0368		352.8557	352.8557	0.0119	0.0511	368.3748
Worker	0.3161	0.2121	3.4728	9.6900e-003	1.1066	6.2100e-003	1.1128	0.2935	5.7200e-003	0.2992		979.6966	979.6966	0.0238	0.0224	986.9585
Total	**0.3360**	**0.8655**	**3.7300**	**0.0130**	**1.2219**	**0.0100**	**1.2319**	**0.3267**	**9.3600e-003**	**0.3360**		**1,332.5523**	**1,332.5523**	**0.0356**	**0.0735**	**1,355.3333**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3385	12.9543	15.7552	0.0259		0.6379	0.6379		0.5983	0.5983	0.0000	2,479.2893	2,479.2893	0.6167		2,494.7059
Total	**1.3385**	**12.9543**	**15.7552**	**0.0259**		**0.6379**	**0.6379**		**0.5983**	**0.5983**	**0.0000**	**2,479.2893**	**2,479.2893**	**0.6167**		**2,494.7059**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0199	0.6534	0.2572	3.2800e-003	0.1153	3.8000e-003	0.1191	0.0332	3.6400e-003	0.0368		352.8557	352.8557	0.0119	0.0511	368.3748
Worker	0.3161	0.2121	3.4728	9.6900e-003	1.1066	6.2100e-003	1.1128	0.2935	5.7200e-003	0.2992		979.6966	979.6966	0.0238	0.0224	986.9585
Total	**0.3360**	**0.8655**	**3.7300**	**0.0130**	**1.2219**	**0.0100**	**1.2319**	**0.3267**	**9.3600e-003**	**0.3360**		**1,332.5523**	**1,332.5523**	**0.0356**	**0.0735**	**1,355.3333**

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2643	12.1145	15.7278	0.0259		0.5675	0.5675		0.5321	0.5321		2,479.6468	2,479.6468	0.6146		2,495.0115
Total	**1.2643**	**12.1145**	**15.7278**	**0.0259**		**0.5675**	**0.5675**		**0.5321**	**0.5321**		**2,479.6468**	**2,479.6468**	**0.6146**		**2,495.0115**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0194	0.6564	0.2530	3.2300e-003	0.1153	3.8100e-003	0.1191	0.0332	3.6500e-003	0.0368		347.7795	347.7795	0.0119	0.0504	363.1018
Worker	0.2950	0.1895	3.2342	9.4100e-003	1.1066	5.9400e-003	1.1125	0.2935	5.4700e-003	0.2989		951.0566	951.0566	0.0215	0.0208	957.8025
Total	**0.3144**	**0.8459**	**3.4872**	**0.0126**	**1.2219**	**9.7500e-003**	**1.2316**	**0.3267**	**9.1200e-003**	**0.3358**		**1,298.8361**	**1,298.8361**	**0.0334**	**0.0713**	**1,320.9043**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2643	12.1145	15.7278	0.0259		0.5675	0.5675		0.5321	0.5321	0.0000	2,479.6468	2,479.6468	0.6146		2,495.0115
Total	**1.2643**	**12.1145**	**15.7278**	**0.0259**		**0.5675**	**0.5675**		**0.5321**	**0.5321**	**0.0000**	**2,479.6468**	**2,479.6468**	**0.6146**		**2,495.0115**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0194	0.6564	0.2530	3.2300e-003	0.1153	3.8100e-003	0.1191	0.0332	3.6500e-003	0.0368		347.7795	347.7795	0.0119	0.0504	363.1018
Worker	0.2950	0.1895	3.2342	9.4100e-003	1.1066	5.9400e-003	1.1125	0.2935	5.4700e-003	0.2989		951.0566	951.0566	0.0215	0.0208	957.8025
Total	**0.3144**	**0.8459**	**3.4872**	**0.0126**	**1.2219**	**9.7500e-003**	**1.2316**	**0.3267**	**9.1200e-003**	**0.3358**		**1,298.8361**	**1,298.8361**	**0.0334**	**0.0713**	**1,320.9043**

3.5 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	7.5538					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.9726	7.1405	11.2235	0.0182		0.3227	0.3227		0.3213	0.3213		1,730.5915	1,730.5915	0.1838		1,735.1869
Total	**8.5264**	**7.1405**	**11.2235**	**0.0182**		**0.3227**	**0.3227**		**0.3213**	**0.3213**		**1,730.5915**	**1,730.5915**	**0.1838**		**1,735.1869**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0596	0.0383	0.6534	1.9000e-003	0.2236	1.2000e-003	0.2248	0.0593	1.1100e-003	0.0604		192.1326	192.1326	4.3500e-003	4.2100e-003	193.4955
Total	**0.0596**	**0.0383**	**0.6534**	**1.9000e-003**	**0.2236**	**1.2000e-003**	**0.2248**	**0.0593**	**1.1100e-003**	**0.0604**		**192.1326**	**192.1326**	**4.3500e-003**	**4.2100e-003**	**193.4955**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	7.5538					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.9726	7.1405	11.2235	0.0182		0.3227	0.3227		0.3213	0.3213	0.0000	1,730.5915	1,730.5915	0.1838		1,735.1869
Total	**8.5264**	**7.1405**	**11.2235**	**0.0182**		**0.3227**	**0.3227**		**0.3213**	**0.3213**	**0.0000**	**1,730.5915**	**1,730.5915**	**0.1838**		**1,735.1869**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0596	0.0383	0.6534	1.9000e-003	0.2236	1.2000e-003	0.2248	0.0593	1.1100e-003	0.0604		192.1326	192.1326	4.3500e-003	4.2100e-003	193.4955
Total	**0.0596**	**0.0383**	**0.6534**	**1.9000e-003**	**0.2236**	**1.2000e-003**	**0.2248**	**0.0593**	**1.1100e-003**	**0.0604**		**192.1326**	**192.1326**	**4.3500e-003**	**4.2100e-003**	**193.4955**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

216 Spring Street - Proposed Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0818	1.0461	9.7566	0.0213	2.2116	0.0153	2.2269	0.5894	0.0142	0.6036		2,165.8263	2,165.8263	0.1424	0.0943	2,197.4898
Unmitigated	1.0818	1.0461	9.7566	0.0213	2.2116	0.0153	2.2269	0.5894	0.0142	0.6036		2,165.8263	2,165.8263	0.1424	0.0943	2,197.4898

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	427.20	427.20	427.20	1,049,630	1,049,630
Enclosed Parking with Elevator	0.00	0.00	0.00		
Quality Restaurant	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Total	427.20	427.20	427.20	1,049,630	1,049,630

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	6.75	0.00	0.00	100.00	0.00	0.00	100	0	0
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Quality Restaurant	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Regional Shopping Center	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Enclosed Parking with Elevator	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Quality Restaurant	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Regional Shopping Center	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0518	0.4496	0.2426	2.8200e-003		0.0358	0.0358		0.0358	0.0358		564.5094	564.5094	0.0108	0.0104	567.8640
NaturalGas Unmitigated	0.0518	0.4496	0.2426	2.8200e-003		0.0358	0.0358		0.0358	0.0358		564.5094	564.5094	0.0108	0.0104	567.8640

216 Spring Street - Proposed Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	3536.68	0.0381	0.3259	0.1387	2.0800e-003		0.0264	0.0264		0.0264	0.0264		416.0803	416.0803	7.9700e-003	7.6300e-003	418.5529
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	1257.03	0.0136	0.1232	0.1035	7.4000e-004		9.3700e-003	9.3700e-003		9.3700e-003	9.3700e-003		147.8863	147.8863	2.8300e-003	2.7100e-003	148.7652
Regional Shopping Center	4.61312	5.0000e-005	4.5000e-004	3.8000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.5427	0.5427	1.0000e-005	1.0000e-005	0.5460
Total		**0.0518**	**0.4496**	**0.2426**	**2.8200e-003**		**0.0358**	**0.0358**		**0.0358**	**0.0358**		**564.5094**	**564.5094**	**0.0108**	**0.0104**	**567.8640**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	3.53668	0.0381	0.3259	0.1387	2.0800e-003		0.0264	0.0264		0.0264	0.0264		416.0803	416.0803	7.9700e-003	7.6300e-003	418.5529
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	1.25703	0.0136	0.1232	0.1035	7.4000e-004		9.3700e-003	9.3700e-003		9.3700e-003	9.3700e-003		147.8863	147.8863	2.8300e-003	2.7100e-003	148.7652
Regional Shopping Center	0.00461312	5.0000e-005	4.5000e-004	3.8000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.5427	0.5427	1.0000e-005	1.0000e-005	0.5460
Total		**0.0518**	**0.4496**	**0.2426**	**2.8200e-003**		**0.0358**	**0.0358**		**0.0358**	**0.0358**		**564.5094**	**564.5094**	**0.0108**	**0.0104**	**567.8640**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

Use Low VOC Cleaning Supplies

216 Spring Street - Proposed Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.5404	0.1141	9.9033	5.2000e-004		0.0549	0.0549		0.0549	0.0549	0.0000	17.8420	17.8420	0.0172	0.0000	18.2707
Unmitigated	2.5404	0.1141	9.9033	5.2000e-004		0.0549	0.0549		0.0549	0.0549	0.0000	17.8420	17.8420	0.0172	0.0000	18.2707

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1821					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0601					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.2982	0.1141	9.9033	5.2000e-004		0.0549	0.0549		0.0549	0.0549		17.8420	17.8420	0.0172		18.2707
Total	**2.5404**	**0.1141**	**9.9033**	**5.2000e-004**		**0.0549**	**0.0549**		**0.0549**	**0.0549**	**0.0000**	**17.8420**	**17.8420**	**0.0172**	**0.0000**	**18.2707**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1821					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0601					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.2982	0.1141	9.9033	5.2000e-004		0.0549	0.0549		0.0549	0.0549		17.8420	17.8420	0.0172		18.2707
Total	**2.5404**	**0.1141**	**9.9033**	**5.2000e-004**		**0.0549**	**0.0549**		**0.0549**	**0.0549**	**0.0000**	**17.8420**	**17.8420**	**0.0172**	**0.0000**	**18.2707**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	12	1000	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (750 - 9999 HP)	0.8204	3.6694	2.0922	3.9400e-003		0.1207	0.1207		0.1207	0.1207		419.7571	419.7571	0.0589		421.2283
Total	**0.8204**	**3.6694**	**2.0922**	**3.9400e-003**		**0.1207**	**0.1207**		**0.1207**	**0.1207**		**419.7571**	**419.7571**	**0.0589**		**421.2283**

11.0 Vegetation

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

216 Spring Street - Proposed Project

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments High Rise	120.00	Dwelling Unit	0.50	100,525.00	343
Regional Shopping Center	1.03	1000sqft	0.00	1,033.00	0
Quality Restaurant	1.99	1000sqft	0.00	1,992.00	0
Enclosed Parking with Elevator	69.00	Space	0.00	27,600.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2024
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	691.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project Data per June 2021 Site Plans.

Construction Phase - Assumes approximate 24-month construction schedule.

Off-road Equipment - Construction equipment use on worst-case day.

Off-road Equipment - Equipment use on worst-case day.

Off-road Equipment - Equipment use on worst-case day.

Grading - Estimates approx. 15,000 cy soil export for 3-level subterranean parking structure.

Demolition - Demolish existing 14,000 sf office building.

Trips and VMT - Assume 14-cy haul truck capacity and average 30-mile trip to disposal site.

216 Spring Street - Proposed Project - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Vehicle Trips - Trip rates adjusted based on Transportation Assessment (September 2021).

Woodstoves - No woodstoves or fireplaces proposed.

Stationary Sources - Emergency Generators and Fire Pumps -

Sequestration - Minimum 30 trees required per LAMC.

Construction Off-road Equipment Mitigation -

Area Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	88.00
tblConstructionPhase	NumDays	100.00	346.00
tblConstructionPhase	NumDays	10.00	22.00
tblConstructionPhase	NumDays	2.00	66.00
tblConstructionPhase	PhaseEndDate	12/20/2022	7/2/2024
tblConstructionPhase	PhaseEndDate	12/6/2022	2/28/2024
tblConstructionPhase	PhaseEndDate	7/14/2022	8/1/2022
tblConstructionPhase	PhaseEndDate	7/19/2022	11/1/2022
tblConstructionPhase	PhaseStartDate	12/14/2022	3/1/2024
tblConstructionPhase	PhaseStartDate	7/20/2022	11/2/2022
tblConstructionPhase	PhaseStartDate	7/16/2022	8/2/2022
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	102.00	0.00
tblFireplaces	NumberNoFireplace	12.00	0.00
tblFireplaces	NumberWood	6.00	0.00
tblGrading	MaterialExported	0.00	15,000.00
tblLandUse	LandUseSquareFeet	120,000.00	100,525.00

216 Spring Street - Proposed Project - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblLandUse	LotAcreage	1.94	0.50
tblLandUse	LotAcreage	0.02	0.00
tblLandUse	LotAcreage	0.05	0.00
tblLandUse	LotAcreage	0.62	0.00
tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Pavers
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblSequestration	NumberOfNewTrees	0.00	30.00
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,000.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	12.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripNumber	1,875.00	2,143.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	69.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	CC_TTP	64.70	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	12.00	0.00
tblVehicleTrips	CW_TTP	16.30	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	18.00	0.00
tblVehicleTrips	DV_TP	35.00	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HW_TL	14.70	6.75
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	44.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	38.00	0.00
tblVehicleTrips	PR_TP	54.00	0.00
tblVehicleTrips	ST_TR	4.53	3.56
tblVehicleTrips	ST_TR	90.04	0.00
tblVehicleTrips	ST_TR	46.12	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	SU_TR	3.59	3.56
tblVehicleTrips	SU_TR	71.97	0.00
tblVehicleTrips	SU_TR	21.10	0.00
tblVehicleTrips	WD_TR	4.45	3.56
tblVehicleTrips	WD_TR	83.84	0.00
tblVehicleTrips	WD_TR	37.75	0.00
tblWoodstoves	NumberCatalytic	6.00	0.00
tblWoodstoves	NumberNoncatalytic	6.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

216 Spring Street - Proposed Project - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.8347	23.9113	19.5350	0.0534	6.3345	0.8106	7.1451	2.8444	0.7601	3.6044	0.0000	5,531.9439	5,531.9439	0.7347	0.5091	5,702.0344
2023	1.6911	13.8721	19.1635	0.0384	1.2219	0.6479	1.8698	0.3267	0.6076	0.9343	0.0000	3,755.6272	3,755.6272	0.6525	0.0750	3,794.2771
2024	8.5895	13.0106	18.9171	0.0380	1.2219	0.5773	1.7991	0.3267	0.5412	0.8679	0.0000	3,723.9676	3,723.9676	0.6482	0.0727	3,761.8211
Maximum	**8.5895**	**23.9113**	**19.5350**	**0.0534**	**6.3345**	**0.8106**	**7.1451**	**2.8444**	**0.7601**	**3.6044**	**0.0000**	**5,531.9439**	**5,531.9439**	**0.7347**	**0.5091**	**5,702.0344**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.8347	23.9113	19.5350	0.0534	3.3988	0.8106	4.2094	1.4295	0.7601	2.1896	0.0000	5,531.9439	5,531.9439	0.7347	0.5091	5,702.0344
2023	1.6911	13.8721	19.1635	0.0384	1.2219	0.6479	1.8698	0.3267	0.6076	0.9343	0.0000	3,755.6272	3,755.6272	0.6525	0.0750	3,794.2771
2024	8.5895	13.0106	18.9171	0.0380	1.2219	0.5773	1.7991	0.3267	0.5412	0.8679	0.0000	3,723.9676	3,723.9676	0.6482	0.0727	3,761.8211
Maximum	**8.5895**	**23.9113**	**19.5350**	**0.0534**	**3.3988**	**0.8106**	**4.2094**	**1.4295**	**0.7601**	**2.1896**	**0.0000**	**5,531.9439**	**5,531.9439**	**0.7347**	**0.5091**	**5,702.0344**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**33.44**	**0.00**	**27.15**	**40.45**	**0.00**	**26.17**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.5404	0.1141	9.9033	5.2000e-004		0.0549	0.0549		0.0549	0.0549	0.0000	17.8420	17.8420	0.0172	0.0000	18.2707
Energy	0.0518	0.4496	0.2426	2.8200e-003		0.0358	0.0358		0.0358	0.0358		564.5094	564.5094	0.0108	0.0104	567.8640
Mobile	1.0357	1.1241	9.5261	0.0203	2.2116	0.0153	2.2269	0.5894	0.0142	0.6036		2,066.6234	2,066.6234	0.1476	0.0981	2,099.5490
Stationary	0.8204	3.6694	2.0922	3.9400e-003		0.1207	0.1207		0.1207	0.1207		419.7571	419.7571	0.0589		421.2283
Total	**4.4483**	**5.3572**	**21.7642**	**0.0276**	**2.2116**	**0.2266**	**2.4382**	**0.5894**	**0.2256**	**0.8149**	**0.0000**	**3,068.7319**	**3,068.7319**	**0.2344**	**0.1085**	**3,106.9120**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.5404	0.1141	9.9033	5.2000e-004		0.0549	0.0549		0.0549	0.0549	0.0000	17.8420	17.8420	0.0172	0.0000	18.2707
Energy	0.0518	0.4496	0.2426	2.8200e-003		0.0358	0.0358		0.0358	0.0358		564.5094	564.5094	0.0108	0.0104	567.8640
Mobile	1.0357	1.1241	9.5261	0.0203	2.2116	0.0153	2.2269	0.5894	0.0142	0.6036		2,066.6234	2,066.6234	0.1476	0.0981	2,099.5490
Stationary	0.8204	3.6694	2.0922	3.9400e-003		0.1207	0.1207		0.1207	0.1207		419.7571	419.7571	0.0589		421.2283
Total	**4.4483**	**5.3572**	**21.7642**	**0.0276**	**2.2116**	**0.2266**	**2.4382**	**0.5894**	**0.2256**	**0.8149**	**0.0000**	**3,068.7319**	**3,068.7319**	**0.2344**	**0.1085**	**3,106.9120**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/1/2022	8/1/2022	5	22	
2	Grading	Grading	8/2/2022	11/1/2022	5	66	
3	Building Construction	Building Construction	11/2/2022	2/28/2024	5	346	
4	Architectural Coating	Architectural Coating	3/1/2024	7/2/2024	5	88	

216 Spring Street - Proposed Project - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 49.5

Acres of Paving: 0

Residential Indoor: 203,563; Residential Outdoor: 67,854; Non-Residential Indoor: 4,538; Non-Residential Outdoor: 1,513; Striped Parking Area: 1,656 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	5	6.00	78	0.48
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Grading	Graders	1	6.00	187	0.41
Building Construction	Cement and Mortar Mixers	1	8.00	9	0.56
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Pavers	1	8.00	130	0.42
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Rollers	1	8.00	80	0.38
Architectural Coating	Aerial Lifts	2	8.00	63	0.31

Trips and VMT

216 Spring Street - Proposed Project - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	64.00	14.70	6.90	30.00	LD_Mix	HDT_Mix	HHDT
Grading	5	13.00	0.00	2,143.00	14.70	6.90	30.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	99.00	18.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	7	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6264	0.0000	0.6264	0.0948	0.0000	0.0948			0.0000			0.0000
Off-Road	0.7094	6.4138	7.4693	0.0120		0.3375	0.3375		0.3225	0.3225		1,147.9025	1,147.9025	0.2119		1,153.2001
Total	**0.7094**	**6.4138**	**7.4693**	**0.0120**	**0.6264**	**0.3375**	**0.9639**	**0.0948**	**0.3225**	**0.4174**		**1,147.9025**	**1,147.9025**	**0.2119**		**1,153.2001**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0165	0.6814	0.1441	2.6000e-003	0.0763	5.6800e-003	0.0820	0.0209	5.4300e-003	0.0263		285.4175	285.4175	0.0154	0.0453	299.3066
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0362	0.0265	0.3446	9.5000e-004	0.1118	6.7000e-004	0.1124	0.0296	6.1000e-004	0.0303		96.3077	96.3077	2.7000e-003	2.6000e-003	97.1489
Total	**0.0527**	**0.7079**	**0.4887**	**3.5500e-003**	**0.1881**	**6.3500e-003**	**0.1944**	**0.0506**	**6.0400e-003**	**0.0566**		**381.7252**	**381.7252**	**0.0181**	**0.0479**	**396.4555**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2819	0.0000	0.2819	0.0427	0.0000	0.0427			0.0000			0.0000
Off-Road	0.7094	6.4138	7.4693	0.0120		0.3375	0.3375		0.3225	0.3225	0.0000	1,147.9025	1,147.9025	0.2119		1,153.2001
Total	**0.7094**	**6.4138**	**7.4693**	**0.0120**	**0.2819**	**0.3375**	**0.6194**	**0.0427**	**0.3225**	**0.3652**	**0.0000**	**1,147.9025**	**1,147.9025**	**0.2119**		**1,153.2001**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0165	0.6814	0.1441	2.6000e-003	0.0763	5.6800e-003	0.0820	0.0209	5.4300e-003	0.0263		285.4175	285.4175	0.0154	0.0453	299.3066
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0362	0.0265	0.3446	9.5000e-004	0.1118	6.7000e-004	0.1124	0.0296	6.1000e-004	0.0303		96.3077	96.3077	2.7000e-003	2.6000e-003	97.1489
Total	**0.0527**	**0.7079**	**0.4887**	**3.5500e-003**	**0.1881**	**6.3500e-003**	**0.1944**	**0.0506**	**6.0400e-003**	**0.0566**		**381.7252**	**381.7252**	**0.0181**	**0.0479**	**396.4555**

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.3376	0.0000	5.3376	2.5724	0.0000	2.5724			0.0000			0.0000
Off-Road	1.5850	16.2720	11.5589	0.0231		0.7463	0.7463		0.6986	0.6986		2,221.0685	2,221.0685	0.5590		2,235.0432
Total	**1.5850**	**16.2720**	**11.5589**	**0.0231**	**5.3376**	**0.7463**	**6.0840**	**2.5724**	**0.6986**	**3.2711**		**2,221.0685**	**2,221.0685**	**0.5590**		**2,235.0432**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1841	7.6049	1.6082	0.0290	0.8516	0.0634	0.9150	0.2334	0.0607	0.2940		3,185.6753	3,185.6753	0.1722	0.5058	3,340.6977
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0471	0.0344	0.4480	1.2400e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		125.2000	125.2000	3.5200e-003	3.3700e-003	126.2936
Total	**0.2312**	**7.6393**	**2.0561**	**0.0303**	**0.9969**	**0.0643**	**1.0612**	**0.2719**	**0.0615**	**0.3334**		**3,310.8753**	**3,310.8753**	**0.1757**	**0.5091**	**3,466.9912**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.4019	0.0000	2.4019	1.1576	0.0000	1.1576			0.0000			0.0000
Off-Road	1.5850	16.2720	11.5589	0.0231		0.7463	0.7463		0.6986	0.6986	0.0000	2,221.0685	2,221.0685	0.5590		2,235.0432
Total	**1.5850**	**16.2720**	**11.5589**	**0.0231**	**2.4019**	**0.7463**	**3.1483**	**1.1576**	**0.6986**	**1.8562**	**0.0000**	**2,221.0685**	**2,221.0685**	**0.5590**		**2,235.0432**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1841	7.6049	1.6082	0.0290	0.8516	0.0634	0.9150	0.2334	0.0607	0.2940		3,185.6753	3,185.6753	0.1722	0.5058	3,340.6977
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0471	0.0344	0.4480	1.2400e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		125.2000	125.2000	3.5200e-003	3.3700e-003	126.2936
Total	**0.2312**	**7.6393**	**2.0561**	**0.0303**	**0.9969**	**0.0643**	**1.0612**	**0.2719**	**0.0615**	**0.3334**		**3,310.8753**	**3,310.8753**	**0.1757**	**0.5091**	**3,466.9912**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4439	14.1022	15.8262	0.0259		0.7300	0.7300		0.6845	0.6845		2,478.6561	2,478.6561	0.6187		2,494.1224
Total	**1.4439**	**14.1022**	**15.8262**	**0.0259**		**0.7300**	**0.7300**		**0.6845**	**0.6845**		**2,478.6561**	**2,478.6561**	**0.6187**		**2,494.1224**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0322	0.8741	0.2975	3.4400e-003	0.1153	8.7900e-003	0.1241	0.0332	8.4100e-003	0.0416		370.3902	370.3902	0.0124	0.0537	386.7143
Worker	0.3586	0.2623	3.4113	9.4300e-003	1.1066	6.6000e-003	1.1132	0.2935	6.0800e-003	0.2996		953.4462	953.4462	0.0268	0.0257	961.7740
Total	**0.3908**	**1.1364**	**3.7088**	**0.0129**	**1.2219**	**0.0154**	**1.2372**	**0.3267**	**0.0145**	**0.3411**		**1,323.8364**	**1,323.8364**	**0.0391**	**0.0794**	**1,348.4883**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4439	14.1022	15.8262	0.0259		0.7300	0.7300		0.6845	0.6845	0.0000	2,478.6561	2,478.6561	0.6187		2,494.1224
Total	**1.4439**	**14.1022**	**15.8262**	**0.0259**		**0.7300**	**0.7300**		**0.6845**	**0.6845**	**0.0000**	**2,478.6561**	**2,478.6561**	**0.6187**		**2,494.1224**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0322	0.8741	0.2975	3.4400e-003	0.1153	8.7900e-003	0.1241	0.0332	8.4100e-003	0.0416		370.3902	370.3902	0.0124	0.0537	386.7143
Worker	0.3586	0.2623	3.4113	9.4300e-003	1.1066	6.6000e-003	1.1132	0.2935	6.0800e-003	0.2996		953.4462	953.4462	0.0268	0.0257	961.7740
Total	**0.3908**	**1.1364**	**3.7088**	**0.0129**	**1.2219**	**0.0154**	**1.2372**	**0.3267**	**0.0145**	**0.3411**		**1,323.8364**	**1,323.8364**	**0.0391**	**0.0794**	**1,348.4883**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3385	12.9543	15.7552	0.0259		0.6379	0.6379		0.5983	0.5983		2,479.2893	2,479.2893	0.6167		2,494.7059
Total	**1.3385**	**12.9543**	**15.7552**	**0.0259**		**0.6379**	**0.6379**		**0.5983**	**0.5983**		**2,479.2893**	**2,479.2893**	**0.6167**		**2,494.7059**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0191	0.6858	0.2655	3.2800e-003	0.1153	3.8200e-003	0.1191	0.0332	3.6600e-003	0.0368		353.4936	353.4936	0.0118	0.0512	369.0521
Worker	0.3336	0.2320	3.1428	9.1300e-003	1.1066	6.2100e-003	1.1128	0.2935	5.7200e-003	0.2992		922.8443	922.8443	0.0241	0.0237	930.5191
Total	**0.3527**	**0.9178**	**3.4083**	**0.0124**	**1.2219**	**0.0100**	**1.2319**	**0.3267**	**9.3800e-003**	**0.3360**		**1,276.3379**	**1,276.3379**	**0.0359**	**0.0750**	**1,299.5713**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3385	12.9543	15.7552	0.0259		0.6379	0.6379		0.5983	0.5983	0.0000	2,479.2893	2,479.2893	0.6167		2,494.7059
Total	**1.3385**	**12.9543**	**15.7552**	**0.0259**		**0.6379**	**0.6379**		**0.5983**	**0.5983**	**0.0000**	**2,479.2893**	**2,479.2893**	**0.6167**		**2,494.7059**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0191	0.6858	0.2655	3.2800e-003	0.1153	3.8200e-003	0.1191	0.0332	3.6600e-003	0.0368		353.4936	353.4936	0.0118	0.0512	369.0521
Worker	0.3336	0.2320	3.1428	9.1300e-003	1.1066	6.2100e-003	1.1128	0.2935	5.7200e-003	0.2992		922.8443	922.8443	0.0241	0.0237	930.5191
Total	**0.3527**	**0.9178**	**3.4083**	**0.0124**	**1.2219**	**0.0100**	**1.2319**	**0.3267**	**9.3800e-003**	**0.3360**		**1,276.3379**	**1,276.3379**	**0.0359**	**0.0750**	**1,299.5713**

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2643	12.1145	15.7278	0.0259		0.5675	0.5675		0.5321	0.5321		2,479.6468	2,479.6468	0.6146		2,495.0115
Total	**1.2643**	**12.1145**	**15.7278**	**0.0259**		**0.5675**	**0.5675**		**0.5321**	**0.5321**		**2,479.6468**	**2,479.6468**	**0.6146**		**2,495.0115**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0186	0.6889	0.2612	3.2300e-003	0.1153	3.8300e-003	0.1191	0.0332	3.6700e-003	0.0369		348.4186	348.4186	0.0118	0.0506	363.7793
Worker	0.3123	0.2071	2.9282	8.8600e-003	1.1066	5.9400e-003	1.1125	0.2935	5.4700e-003	0.2989		895.9022	895.9022	0.0218	0.0221	903.0304
Total	**0.3309**	**0.8961**	**3.1894**	**0.0121**	**1.2219**	**9.7700e-003**	**1.2316**	**0.3267**	**9.1400e-003**	**0.3358**		**1,244.3208**	**1,244.3208**	**0.0336**	**0.0727**	**1,266.8096**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2643	12.1145	15.7278	0.0259		0.5675	0.5675		0.5321	0.5321	0.0000	2,479.6468	2,479.6468	0.6146		2,495.0115
Total	**1.2643**	**12.1145**	**15.7278**	**0.0259**		**0.5675**	**0.5675**		**0.5321**	**0.5321**	**0.0000**	**2,479.6468**	**2,479.6468**	**0.6146**		**2,495.0115**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0186	0.6889	0.2612	3.2300e-003	0.1153	3.8300e-003	0.1191	0.0332	3.6700e-003	0.0369		348.4186	348.4186	0.0118	0.0506	363.7793
Worker	0.3123	0.2071	2.9282	8.8600e-003	1.1066	5.9400e-003	1.1125	0.2935	5.4700e-003	0.2989		895.9022	895.9022	0.0218	0.0221	903.0304
Total	**0.3309**	**0.8961**	**3.1894**	**0.0121**	**1.2219**	**9.7700e-003**	**1.2316**	**0.3267**	**9.1400e-003**	**0.3358**		**1,244.3208**	**1,244.3208**	**0.0336**	**0.0727**	**1,266.8096**

3.5 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	7.5538					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.9726	7.1405	11.2235	0.0182		0.3227	0.3227		0.3213	0.3213		1,730.5915	1,730.5915	0.1838		1,735.1869
Total	**8.5264**	**7.1405**	**11.2235**	**0.0182**		**0.3227**	**0.3227**		**0.3213**	**0.3213**		**1,730.5915**	**1,730.5915**	**0.1838**		**1,735.1869**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0631	0.0419	0.5916	1.7900e-003	0.2236	1.2000e-003	0.2248	0.0593	1.1100e-003	0.0604		180.9903	180.9903	4.4100e-003	4.4600e-003	182.4304
Total	**0.0631**	**0.0419**	**0.5916**	**1.7900e-003**	**0.2236**	**1.2000e-003**	**0.2248**	**0.0593**	**1.1100e-003**	**0.0604**		**180.9903**	**180.9903**	**4.4100e-003**	**4.4600e-003**	**182.4304**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	7.5538					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.9726	7.1405	11.2235	0.0182		0.3227	0.3227		0.3213	0.3213	0.0000	1,730.5915	1,730.5915	0.1838		1,735.1869
Total	**8.5264**	**7.1405**	**11.2235**	**0.0182**		**0.3227**	**0.3227**		**0.3213**	**0.3213**	**0.0000**	**1,730.5915**	**1,730.5915**	**0.1838**		**1,735.1869**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0631	0.0419	0.5916	1.7900e-003	0.2236	1.2000e-003	0.2248	0.0593	1.1100e-003	0.0604		180.9903	180.9903	4.4100e-003	4.4600e-003	182.4304
Total	**0.0631**	**0.0419**	**0.5916**	**1.7900e-003**	**0.2236**	**1.2000e-003**	**0.2248**	**0.0593**	**1.1100e-003**	**0.0604**		**180.9903**	**180.9903**	**4.4100e-003**	**4.4600e-003**	**182.4304**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

216 Spring Street - Proposed Project - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0357	1.1241	9.5261	0.0203	2.2116	0.0153	2.2269	0.5894	0.0142	0.6036		2,066.6234	2,066.6234	0.1476	0.0981	2,099.5490
Unmitigated	1.0357	1.1241	9.5261	0.0203	2.2116	0.0153	2.2269	0.5894	0.0142	0.6036		2,066.6234	2,066.6234	0.1476	0.0981	2,099.5490

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	427.20	427.20	427.20	1,049,630	1,049,630
Enclosed Parking with Elevator	0.00	0.00	0.00		
Quality Restaurant	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Total	427.20	427.20	427.20	1,049,630	1,049,630

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	6.75	0.00	0.00	100.00	0.00	0.00	100	0	0
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Quality Restaurant	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Regional Shopping Center	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Enclosed Parking with Elevator	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Quality Restaurant	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Regional Shopping Center	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0518	0.4496	0.2426	2.8200e-003		0.0358	0.0358		0.0358	0.0358		564.5094	564.5094	0.0108	0.0104	567.8640
NaturalGas Unmitigated	0.0518	0.4496	0.2426	2.8200e-003		0.0358	0.0358		0.0358	0.0358		564.5094	564.5094	0.0108	0.0104	567.8640

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	3536.68	0.0381	0.3259	0.1387	2.0800e-003		0.0264	0.0264		0.0264	0.0264		416.0803	416.0803	7.9700e-003	7.6300e-003	418.5529
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	1257.03	0.0136	0.1232	0.1035	7.4000e-004		9.3700e-003	9.3700e-003		9.3700e-003	9.3700e-003		147.8863	147.8863	2.8300e-003	2.7100e-003	148.7652
Regional Shopping Center	4.61312	5.0000e-005	4.5000e-004	3.8000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.5427	0.5427	1.0000e-005	1.0000e-005	0.5460
Total		**0.0518**	**0.4496**	**0.2426**	**2.8200e-003**		**0.0358**	**0.0358**		**0.0358**	**0.0358**		**564.5094**	**564.5094**	**0.0108**	**0.0104**	**567.8640**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	3.53668	0.0381	0.3259	0.1387	2.0800e-003		0.0264	0.0264		0.0264	0.0264		416.0803	416.0803	7.9700e-003	7.6300e-003	418.5529
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	1.25703	0.0136	0.1232	0.1035	7.4000e-004		9.3700e-003	9.3700e-003		9.3700e-003	9.3700e-003		147.8863	147.8863	2.8300e-003	2.7100e-003	148.7652
Regional Shopping Center	0.00461312	5.0000e-005	4.5000e-004	3.8000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.5427	0.5427	1.0000e-005	1.0000e-005	0.5460
Total		**0.0518**	**0.4496**	**0.2426**	**2.8200e-003**		**0.0358**	**0.0358**		**0.0358**	**0.0358**		**564.5094**	**564.5094**	**0.0108**	**0.0104**	**567.8640**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

Use Low VOC Cleaning Supplies

216 Spring Street - Proposed Project - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.5404	0.1141	9.9033	5.2000e-004		0.0549	0.0549		0.0549	0.0549	0.0000	17.8420	17.8420	0.0172	0.0000	18.2707
Unmitigated	2.5404	0.1141	9.9033	5.2000e-004		0.0549	0.0549		0.0549	0.0549	0.0000	17.8420	17.8420	0.0172	0.0000	18.2707

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1821					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0601					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.2982	0.1141	9.9033	5.2000e-004		0.0549	0.0549		0.0549	0.0549		17.8420	17.8420	0.0172		18.2707
Total	**2.5404**	**0.1141**	**9.9033**	**5.2000e-004**		**0.0549**	**0.0549**		**0.0549**	**0.0549**	**0.0000**	**17.8420**	**17.8420**	**0.0172**	**0.0000**	**18.2707**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1821					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0601					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.2982	0.1141	9.9033	5.2000e-004		0.0549	0.0549		0.0549	0.0549		17.8420	17.8420	0.0172		18.2707
Total	**2.5404**	**0.1141**	**9.9033**	**5.2000e-004**		**0.0549**	**0.0549**		**0.0549**	**0.0549**	**0.0000**	**17.8420**	**17.8420**	**0.0172**	**0.0000**	**18.2707**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	12	1000	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (750 - 9999 HP)	0.8204	3.6694	2.0922	3.9400e-003		0.1207	0.1207		0.1207	0.1207		419.7571	419.7571	0.0589		421.2283
Total	**0.8204**	**3.6694**	**2.0922**	**3.9400e-003**		**0.1207**	**0.1207**		**0.1207**	**0.1207**		**419.7571**	**419.7571**	**0.0589**		**421.2283**

11.0 Vegetation

ATTACHMENT 5

Greenhouse Gas Emissions Worksheets

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

216 Spring Street - Existing Conditions

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	14.00	1000sqft	0.29	14,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2021
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	691.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Existing 14,000 sf commercial office building on 0.29-acre site.

Construction Phase - IGNORE CONSTRUCTION EMISSIONS FOR EXISTING CONDITIONS SCENARIO.

Vehicle Trips - Trip rates adjusted based on Transportation Assessment (September 2021).

Energy Use - Assumes historical Title 24 for existing conditions scenario.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	100.00	10.00
tblLandUse	LotAcreage	0.32	0.29
tblVehicleTrips	CC_TL	8.40	8.08
tblVehicleTrips	CC_TTP	48.00	100.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PR_TP	77.00	100.00
tblVehicleTrips	ST_TR	2.21	6.43
tblVehicleTrips	SU_TR	0.70	6.43
tblVehicleTrips	WD_TR	9.74	6.43

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0700	0.0482	0.0466	8.0000e-005	3.4000e-004	2.7200e-003	3.0600e-003	9.0000e-005	2.5400e-003	2.6300e-003	0.0000	6.7013	6.7013	1.7200e-003	3.0000e-005	6.7546
Maximum	**0.0700**	**0.0482**	**0.0466**	**8.0000e-005**	**3.4000e-004**	**2.7200e-003**	**3.0600e-003**	**9.0000e-005**	**2.5400e-003**	**2.6300e-003**	**0.0000**	**6.7013**	**6.7013**	**1.7200e-003**	**3.0000e-005**	**6.7546**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0700	0.0482	0.0466	8.0000e-005	3.4000e-004	2.7200e-003	3.0600e-003	9.0000e-005	2.5400e-003	2.6300e-003	0.0000	6.7013	6.7013	1.7200e-003	3.0000e-005	6.7545
Maximum	**0.0700**	**0.0482**	**0.0466**	**8.0000e-005**	**3.4000e-004**	**2.7200e-003**	**3.0600e-003**	**9.0000e-005**	**2.5400e-003**	**2.6300e-003**	**0.0000**	**6.7013**	**6.7013**	**1.7200e-003**	**3.0000e-005**	**6.7545**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0571	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.5000e-004	3.5000e-004	0.0000	0.0000	3.7000e-004
Energy	9.4000e-004	8.5400e-003	7.1700e-003	5.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004	0.0000	76.2626	76.2626	3.3700e-003	5.6000e-004	76.5130
Mobile	0.0487	0.0691	0.4960	1.0300e-003	0.0997	1.0800e-003	0.1008	0.0266	1.0100e-003	0.0276	0.0000	94.9628	94.9628	6.5700e-003	4.5200e-003	96.4735
Waste						0.0000	0.0000		0.0000	0.0000	2.6429	0.0000	2.6429	0.1562	0.0000	6.5478
Water						0.0000	0.0000		0.0000	0.0000	0.7894	15.4877	16.2771	0.0818	2.0000e-003	18.9198
Total	**0.1068**	**0.0776**	**0.5033**	**1.0800e-003**	**0.0997**	**1.7300e-003**	**0.1014**	**0.0266**	**1.6600e-003**	**0.0283**	**3.4324**	**186.7135**	**190.1458**	**0.2480**	**7.0800e-003**	**198.4545**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0571	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.5000e-004	3.5000e-004	0.0000	0.0000	3.7000e-004
Energy	9.4000e-004	8.5400e-003	7.1700e-003	5.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004	0.0000	76.2626	76.2626	3.3700e-003	5.6000e-004	76.5130
Mobile	0.0487	0.0691	0.4960	1.0300e-003	0.0997	1.0800e-003	0.1008	0.0266	1.0100e-003	0.0276	0.0000	94.9628	94.9628	6.5700e-003	4.5200e-003	96.4735
Waste						0.0000	0.0000		0.0000	0.0000	2.6429	0.0000	2.6429	0.1562	0.0000	6.5478
Water						0.0000	0.0000		0.0000	0.0000	0.7894	15.4877	16.2771	0.0818	2.0000e-003	18.9198
Total	**0.1068**	**0.0776**	**0.5033**	**1.0800e-003**	**0.0997**	**1.7300e-003**	**0.1014**	**0.0266**	**1.6600e-003**	**0.0283**	**3.4324**	**186.7135**	**190.1458**	**0.2480**	**7.0800e-003**	**198.4545**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	IGNORE Building Construction	Building Construction	10/22/2021	11/4/2021	5	10	
2	IGNORE Architectural Coating	Architectural Coating	11/5/2021	11/18/2021	5	10	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 21,000; Non-Residential Outdoor: 7,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
IGNORE Building Construction	Cranes	1	4.00	231	0.29
IGNORE Building Construction	Forklifts	2	6.00	89	0.20
IGNORE Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
IGNORE Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
IGNORE Building Construction	5	4.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
IGNORE Architectural Coating	1	1.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 IGNORE Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.8700e-003	0.0399	0.0363	6.0000e-005		2.2400e-003	2.2400e-003		2.0600e-003	2.0600e-003	0.0000	5.0041	5.0041	1.6200e-003	0.0000	5.0446
Total	**3.8700e-003**	**0.0399**	**0.0363**	**6.0000e-005**		**2.2400e-003**	**2.2400e-003**		**2.0600e-003**	**2.0600e-003**	**0.0000**	**5.0041**	**5.0041**	**1.6200e-003**	**0.0000**	**5.0446**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-005	5.8000e-004	1.9000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.1917	0.1917	1.0000e-005	3.0000e-005	0.2002
Worker	7.0000e-005	6.0000e-005	7.7000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1831	0.1831	1.0000e-005	1.0000e-005	0.1848
Total	**1.0000e-004**	**6.4000e-004**	**9.6000e-004**	**0.0000**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**8.0000e-005**	**1.0000e-005**	**9.0000e-005**	**0.0000**	**0.3748**	**0.3748**	**2.0000e-005**	**4.0000e-005**	**0.3850**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 IGNORE Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.8700e-003	0.0399	0.0363	6.0000e-005		2.2400e-003	2.2400e-003		2.0600e-003	2.0600e-003	0.0000	5.0041	5.0041	1.6200e-003	0.0000	5.0446
Total	**3.8700e-003**	**0.0399**	**0.0363**	**6.0000e-005**		**2.2400e-003**	**2.2400e-003**		**2.0600e-003**	**2.0600e-003**	**0.0000**	**5.0041**	**5.0041**	**1.6200e-003**	**0.0000**	**5.0446**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-005	5.8000e-004	1.9000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.1917	0.1917	1.0000e-005	3.0000e-005	0.2002
Worker	7.0000e-005	6.0000e-005	7.7000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1831	0.1831	1.0000e-005	1.0000e-005	0.1848
Total	**1.0000e-004**	**6.4000e-004**	**9.6000e-004**	**0.0000**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**8.0000e-005**	**1.0000e-005**	**9.0000e-005**	**0.0000**	**0.3748**	**0.3748**	**2.0000e-005**	**4.0000e-005**	**0.3850**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 IGNORE Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0649					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0900e-003	7.6300e-003	9.0900e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	1.2766	1.2766	9.0000e-005	0.0000	1.2788
Total	**0.0660**	**7.6300e-003**	**9.0900e-003**	**1.0000e-005**		**4.7000e-004**	**4.7000e-004**		**4.7000e-004**	**4.7000e-004**	**0.0000**	**1.2766**	**1.2766**	**9.0000e-005**	**0.0000**	**1.2788**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	2.0000e-005	1.9000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0458	0.0458	0.0000	0.0000	0.0462
Total	**2.0000e-005**	**2.0000e-005**	**1.9000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**6.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0458**	**0.0458**	**0.0000**	**0.0000**	**0.0462**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 IGNORE Architectural Coating - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0649					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0900e-003	7.6300e-003	9.0900e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	1.2766	1.2766	9.0000e-005	0.0000	1.2788
Total	**0.0660**	**7.6300e-003**	**9.0900e-003**	**1.0000e-005**		**4.7000e-004**	**4.7000e-004**		**4.7000e-004**	**4.7000e-004**	**0.0000**	**1.2766**	**1.2766**	**9.0000e-005**	**0.0000**	**1.2788**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	2.0000e-005	1.9000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0458	0.0458	0.0000	0.0000	0.0462
Total	**2.0000e-005**	**2.0000e-005**	**1.9000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**6.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0458**	**0.0458**	**0.0000**	**0.0000**	**0.0462**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0487	0.0691	0.4960	1.0300e-003	0.0997	1.0800e-003	0.1008	0.0266	1.0100e-003	0.0276	0.0000	94.9628	94.9628	6.5700e-003	4.5200e-003	96.4735
Unmitigated	0.0487	0.0691	0.4960	1.0300e-003	0.0997	1.0800e-003	0.1008	0.0266	1.0100e-003	0.0276	0.0000	94.9628	94.9628	6.5700e-003	4.5200e-003	96.4735

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	90.02	90.02	90.02	264,760	264,760
Total	90.02	90.02	90.02	264,760	264,760

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	0.00	8.08	0.00	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.543593	0.059173	0.184074	0.132247	0.023864	0.006129	0.012170	0.009151	0.000841	0.000521	0.023543	0.000746	0.003947

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	66.9688	66.9688	3.1900e-003	3.9000e-004	67.1640
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	66.9688	66.9688	3.1900e-003	3.9000e-004	67.1640
NaturalGas Mitigated	9.4000e-004	8.5400e-003	7.1700e-003	5.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004	0.0000	9.2938	9.2938	1.8000e-004	1.7000e-004	9.3491
NaturalGas Unmitigated	9.4000e-004	8.5400e-003	7.1700e-003	5.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004	0.0000	9.2938	9.2938	1.8000e-004	1.7000e-004	9.3491

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	174160	9.4000e-004	8.5400e-003	7.1700e-003	5.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004	0.0000	9.2938	9.2938	1.8000e-004	1.7000e-004	9.3491
Total		**9.4000e-004**	**8.5400e-003**	**7.1700e-003**	**5.0000e-005**		**6.5000e-004**	**6.5000e-004**		**6.5000e-004**	**6.5000e-004**	**0.0000**	**9.2938**	**9.2938**	**1.8000e-004**	**1.7000e-004**	**9.3491**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	174160	9.4000e-004	8.5400e-003	7.1700e-003	5.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004	0.0000	9.2938	9.2938	1.8000e-004	1.7000e-004	9.3491
Total		**9.4000e-004**	**8.5400e-003**	**7.1700e-003**	**5.0000e-005**		**6.5000e-004**	**6.5000e-004**		**6.5000e-004**	**6.5000e-004**	**0.0000**	**9.2938**	**9.2938**	**1.8000e-004**	**1.7000e-004**	**9.3491**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	213360	66.9688	3.1900e-003	3.9000e-004	67.1640
Total		**66.9688**	**3.1900e-003**	**3.9000e-004**	**67.1640**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	213360	66.9688	3.1900e-003	3.9000e-004	67.1640
Total		**66.9688**	**3.1900e-003**	**3.9000e-004**	**67.1640**

6.0 Area Detail

6.1 Mitigation Measures Area

216 Spring Street - Existing Conditions - South Coast AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0571	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.5000e-004	3.5000e-004	0.0000	0.0000	3.7000e-004
Unmitigated	0.0571	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.5000e-004	3.5000e-004	0.0000	0.0000	3.7000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	6.4900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0506					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.5000e-004	3.5000e-004	0.0000	0.0000	3.7000e-004
Total	**0.0571**	**0.0000**	**1.8000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**3.5000e-004**	**3.5000e-004**	**0.0000**	**0.0000**	**3.7000e-004**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	6.4900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0506					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.5000e-004	3.5000e-004	0.0000	0.0000	3.7000e-004
Total	**0.0571**	**0.0000**	**1.8000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**3.5000e-004**	**3.5000e-004**	**0.0000**	**0.0000**	**3.7000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	16.2771	0.0818	2.0000e-003	18.9198
Unmitigated	16.2771	0.0818	2.0000e-003	18.9198

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	2.48827 / 1.52507	16.2771	0.0818	2.0000e-003	18.9198
Total		**16.2771**	**0.0818**	**2.0000e-003**	**18.9198**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	2.48827 / 1.52507	16.2771	0.0818	2.0000e-003	18.9198
Total		**16.2771**	**0.0818**	**2.0000e-003**	**18.9198**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2.6429	0.1562	0.0000	6.5478
Unmitigated	2.6429	0.1562	0.0000	6.5478

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	13.02	2.6429	0.1562	0.0000	6.5478
Total		**2.6429**	**0.1562**	**0.0000**	**6.5478**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	13.02	2.6429	0.1562	0.0000	6.5478
Total		**2.6429**	**0.1562**	**0.0000**	**6.5478**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

216 Spring Street - Proposed Project

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments High Rise	120.00	Dwelling Unit	0.50	100,525.00	343
Regional Shopping Center	1.03	1000sqft	0.00	1,033.00	0
Quality Restaurant	1.99	1000sqft	0.00	1,992.00	0
Enclosed Parking with Elevator	69.00	Space	0.00	27,600.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2024
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	691.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project Data per June 2021 Site Plans.

Construction Phase - Assumes approximate 24-month construction schedule.

Off-road Equipment - Construction equipment use on worst-case day.

Off-road Equipment - Equipment use on worst-case day.

Off-road Equipment - Equipment use on worst-case day.

Grading - Estimates approx. 15,000 cy soil export for 3-level subterranean parking structure.

Demolition - Demolish existing 14,000 sf office building.

Trips and VMT - Assume 14-cy haul truck capacity and average 30-mile trip to disposal site.

216 Spring Street - Proposed Project - South Coast AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Vehicle Trips - Trip rates adjusted based on Transportation Assessment (September 2021).

Woodstoves - No woodstoves or fireplaces proposed.

Stationary Sources - Emergency Generators and Fire Pumps -

Sequestration - Minimum 30 trees required per LAMC.

Construction Off-road Equipment Mitigation -

Area Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	88.00
tblConstructionPhase	NumDays	100.00	346.00
tblConstructionPhase	NumDays	10.00	22.00
tblConstructionPhase	NumDays	2.00	66.00
tblConstructionPhase	PhaseEndDate	12/20/2022	7/2/2024
tblConstructionPhase	PhaseEndDate	12/6/2022	2/28/2024
tblConstructionPhase	PhaseEndDate	7/14/2022	8/1/2022
tblConstructionPhase	PhaseEndDate	7/19/2022	11/1/2022
tblConstructionPhase	PhaseStartDate	12/14/2022	3/1/2024
tblConstructionPhase	PhaseStartDate	7/20/2022	11/2/2022
tblConstructionPhase	PhaseStartDate	7/16/2022	8/2/2022
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	102.00	0.00
tblFireplaces	NumberNoFireplace	12.00	0.00
tblFireplaces	NumberWood	6.00	0.00
tblGrading	MaterialExported	0.00	15,000.00
tblLandUse	LandUseSquareFeet	120,000.00	100,525.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblLandUse	LotAcreage	1.94	0.50
tblLandUse	LotAcreage	0.02	0.00
tblLandUse	LotAcreage	0.05	0.00
tblLandUse	LotAcreage	0.62	0.00
tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Pavers
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblSequestration	NumberOfNewTrees	0.00	30.00
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,000.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.50
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	12.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripNumber	1,875.00	2,143.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	69.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	CC_TTP	64.70	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	12.00	0.00
tblVehicleTrips	CW_TTP	16.30	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	18.00	0.00
tblVehicleTrips	DV_TP	35.00	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HW_TL	14.70	6.75
tblVehicleTrips	HW_TTP	40.20	100.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	44.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	38.00	0.00
tblVehicleTrips	PR_TP	54.00	0.00
tblVehicleTrips	ST_TR	4.53	3.56
tblVehicleTrips	ST_TR	90.04	0.00
tblVehicleTrips	ST_TR	46.12	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	SU_TR	3.59	3.56
tblVehicleTrips	SU_TR	71.97	0.00
tblVehicleTrips	SU_TR	21.10	0.00
tblVehicleTrips	WD_TR	4.45	3.56
tblVehicleTrips	WD_TR	83.84	0.00
tblVehicleTrips	WD_TR	37.75	0.00
tblWoodstoves	NumberCatalytic	6.00	0.00
tblWoodstoves	NumberNoncatalytic	6.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.1071	1.1981	0.9589	2.7700e-003	0.2432	0.0466	0.2898	0.1022	0.0437	0.1460	0.0000	255.3815	255.3815	0.0371	0.0173	261.4582
2023	0.2166	1.8040	2.5021	5.0000e-003	0.1560	0.0842	0.2402	0.0418	0.0790	0.1208	0.0000	444.5381	444.5381	0.0770	8.8800e-003	449.1076
2024	0.4115	0.5959	0.9290	1.7000e-003	0.0355	0.0267	0.0621	9.4700e-003	0.0258	0.0353	0.0000	149.3074	149.3074	0.0202	1.6000e-003	150.2891
Maximum	**0.4115**	**1.8040**	**2.5021**	**5.0000e-003**	**0.2432**	**0.0842**	**0.2898**	**0.1022**	**0.0790**	**0.1460**	**0.0000**	**444.5381**	**444.5381**	**0.0770**	**0.0173**	**449.1076**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.1071	1.1981	0.9589	2.7700e-003	0.1426	0.0466	0.1891	0.0550	0.0437	0.0987	0.0000	255.3813	255.3813	0.0371	0.0173	261.4581
2023	0.2166	1.8040	2.5021	5.0000e-003	0.1560	0.0842	0.2402	0.0418	0.0790	0.1208	0.0000	444.5378	444.5378	0.0770	8.8800e-003	449.1072
2024	0.4115	0.5959	0.9290	1.7000e-003	0.0355	0.0267	0.0621	9.4700e-003	0.0258	0.0353	0.0000	149.3072	149.3072	0.0202	1.6000e-003	150.2890
Maximum	**0.4115**	**1.8040**	**2.5021**	**5.0000e-003**	**0.1560**	**0.0842**	**0.2402**	**0.0550**	**0.0790**	**0.1208**	**0.0000**	**444.5378**	**444.5378**	**0.0770**	**0.0173**	**449.1072**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**23.16**	**0.00**	**17.00**	**30.80**	**0.00**	**15.65**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**7-1-2022**	**9-30-2022**	0.6342	0.6342
2	**10-1-2022**	**12-31-2022**	0.6599	0.6599
3	**1-1-2023**	**3-31-2023**	0.5002	0.5002
4	**4-1-2023**	**6-30-2023**	0.5036	0.5036
5	**7-1-2023**	**9-30-2023**	0.5091	0.5091
6	**10-1-2023**	**12-31-2023**	0.5114	0.5114
7	**1-1-2024**	**3-31-2024**	0.4824	0.4824
8	**4-1-2024**	**6-30-2024**	0.5124	0.5124
9	**7-1-2024**	**9-30-2024**	0.0113	0.0113
		Highest	0.6599	0.6599

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4465	0.0143	1.2379	7.0000e-005		6.8600e-003	6.8600e-003		6.8600e-003	6.8600e-003	0.0000	2.0233	2.0233	1.9400e-003	0.0000	2.0719
Energy	9.4400e-003	0.0821	0.0443	5.2000e-004		6.5200e-003	6.5200e-003		6.5200e-003	6.5200e-003	0.0000	316.9099	316.9099	0.0125	3.0100e-003	318.1166
Mobile	0.1853	0.2068	1.7495	3.7300e-003	0.3952	2.7800e-003	0.3979	0.1055	2.5900e-003	0.1080	0.0000	344.8496	344.8496	0.0242	0.0163	350.3034
Stationary	9.8500e-003	0.0440	0.0251	5.0000e-005		1.4500e-003	1.4500e-003		1.4500e-003	1.4500e-003	0.0000	4.5696	4.5696	6.4000e-004	0.0000	4.5856
Waste						0.0000	0.0000		0.0000	0.0000	11.7938	0.0000	11.7938	0.6970	0.0000	29.2186
Water						0.0000	0.0000		0.0000	0.0000	2.6963	52.2205	54.9168	0.2794	6.8400e-003	63.9410
Total	**0.6511**	**0.3471**	**3.0568**	**4.3700e-003**	**0.3952**	**0.0176**	**0.4128**	**0.1055**	**0.0174**	**0.1229**	**14.4901**	**720.5728**	**735.0629**	**1.0157**	**0.0261**	**768.2369**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4465	0.0143	1.2379	7.0000e-005		6.8600e-003	6.8600e-003		6.8600e-003	6.8600e-003	0.0000	2.0233	2.0233	1.9400e-003	0.0000	2.0719
Energy	9.4400e-003	0.0821	0.0443	5.2000e-004		6.5200e-003	6.5200e-003		6.5200e-003	6.5200e-003	0.0000	316.9099	316.9099	0.0125	3.0100e-003	318.1166
Mobile	0.1853	0.2068	1.7495	3.7300e-003	0.3952	2.7800e-003	0.3979	0.1055	2.5900e-003	0.1080	0.0000	344.8496	344.8496	0.0242	0.0163	350.3034
Stationary	9.8500e-003	0.0440	0.0251	5.0000e-005		1.4500e-003	1.4500e-003		1.4500e-003	1.4500e-003	0.0000	4.5696	4.5696	6.4000e-004	0.0000	4.5856
Waste						0.0000	0.0000		0.0000	0.0000	3.5381	0.0000	3.5381	0.2091	0.0000	8.7656
Water						0.0000	0.0000		0.0000	0.0000	2.1570	41.7764	43.9334	0.2235	5.4700e-003	51.1528
Total	**0.6511**	**0.3471**	**3.0568**	**4.3700e-003**	**0.3952**	**0.0176**	**0.4128**	**0.1055**	**0.0174**	**0.1229**	**5.6952**	**710.1287**	**715.8239**	**0.4719**	**0.0248**	**734.9957**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**60.70**	**1.45**	**2.62**	**53.54**	**5.25**	**4.33**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	21.2400
Total	**21.2400**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/1/2022	8/1/2022	5	22	
2	Grading	Grading	8/2/2022	11/1/2022	5	66	
3	Building Construction	Building Construction	11/2/2022	2/28/2024	5	346	
4	Architectural Coating	Architectural Coating	3/1/2024	7/2/2024	5	88	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 49.5

Acres of Paving: 0

Residential Indoor: 203,563; Residential Outdoor: 67,854; Non-Residential Indoor: 4,538; Non-Residential Outdoor: 1,513; Striped Parking Area: 1,656 (Architectural Coating – sqft)

OffRoad Equipment

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	5	6.00	78	0.48
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Grading	Graders	1	6.00	187	0.41
Building Construction	Cement and Mortar Mixers	1	8.00	9	0.56
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Pavers	1	8.00	130	0.42
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Rollers	1	8.00	80	0.38
Architectural Coating	Aerial Lifts	2	8.00	63	0.31

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	64.00	14.70	6.90	30.00	LD_Mix	HDT_Mix	HHDT
Grading	5	13.00	0.00	2,143.00	14.70	6.90	30.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	99.00	18.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	7	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.8900e-003	0.0000	6.8900e-003	1.0400e-003	0.0000	1.0400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.8000e-003	0.0706	0.0822	1.3000e-004		3.7100e-003	3.7100e-003		3.5500e-003	3.5500e-003	0.0000	11.4550	11.4550	2.1100e-003	0.0000	11.5078
Total	**7.8000e-003**	**0.0706**	**0.0822**	**1.3000e-004**	**6.8900e-003**	**3.7100e-003**	**0.0106**	**1.0400e-003**	**3.5500e-003**	**4.5900e-003**	**0.0000**	**11.4550**	**11.4550**	**2.1100e-003**	**0.0000**	**11.5078**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.8000e-004	7.5800e-003	1.5700e-003	3.0000e-005	8.3000e-004	6.0000e-005	8.9000e-004	2.3000e-004	6.0000e-005	2.9000e-004	0.0000	2.8478	2.8478	1.5000e-004	4.5000e-004	2.9864
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	3.0000e-004	3.9000e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9758	0.9758	3.0000e-005	3.0000e-005	0.9843
Total	**5.5000e-004**	**7.8800e-003**	**5.4700e-003**	**4.0000e-005**	**2.0400e-003**	**7.0000e-005**	**2.1000e-003**	**5.5000e-004**	**7.0000e-005**	**6.2000e-004**	**0.0000**	**3.8236**	**3.8236**	**1.8000e-004**	**4.8000e-004**	**3.9707**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.1000e-003	0.0000	3.1000e-003	4.7000e-004	0.0000	4.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.8000e-003	0.0706	0.0822	1.3000e-004		3.7100e-003	3.7100e-003		3.5500e-003	3.5500e-003	0.0000	11.4549	11.4549	2.1100e-003	0.0000	11.5078
Total	**7.8000e-003**	**0.0706**	**0.0822**	**1.3000e-004**	**3.1000e-003**	**3.7100e-003**	**6.8100e-003**	**4.7000e-004**	**3.5500e-003**	**4.0200e-003**	**0.0000**	**11.4549**	**11.4549**	**2.1100e-003**	**0.0000**	**11.5078**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.8000e-004	7.5800e-003	1.5700e-003	3.0000e-005	8.3000e-004	6.0000e-005	8.9000e-004	2.3000e-004	6.0000e-005	2.9000e-004	0.0000	2.8478	2.8478	1.5000e-004	4.5000e-004	2.9864
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	3.0000e-004	3.9000e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9758	0.9758	3.0000e-005	3.0000e-005	0.9843
Total	**5.5000e-004**	**7.8800e-003**	**5.4700e-003**	**4.0000e-005**	**2.0400e-003**	**7.0000e-005**	**2.1000e-003**	**5.5000e-004**	**7.0000e-005**	**6.2000e-004**	**0.0000**	**3.8236**	**3.8236**	**1.8000e-004**	**4.8000e-004**	**3.9707**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1761	0.0000	0.1761	0.0849	0.0000	0.0849	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0523	0.5370	0.3814	7.6000e-004		0.0246	0.0246		0.0231	0.0231	0.0000	66.4923	66.4923	0.0167	0.0000	66.9107
Total	**0.0523**	**0.5370**	**0.3814**	**7.6000e-004**	**0.1761**	**0.0246**	**0.2008**	**0.0849**	**0.0231**	**0.1079**	**0.0000**	**66.4923**	**66.4923**	**0.0167**	**0.0000**	**66.9107**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.1500e-003	0.2537	0.0526	9.6000e-004	0.0277	2.0900e-003	0.0297	7.5900e-003	2.0000e-003	9.5900e-003	0.0000	95.3561	95.3561	5.1600e-003	0.0151	99.9965
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4400e-003	1.1600e-003	0.0152	4.0000e-005	4.7100e-003	3.0000e-005	4.7400e-003	1.2500e-003	3.0000e-005	1.2800e-003	0.0000	3.8056	3.8056	1.1000e-004	1.0000e-004	3.8389
Total	**7.5900e-003**	**0.2548**	**0.0678**	**1.0000e-003**	**0.0324**	**2.1200e-003**	**0.0345**	**8.8400e-003**	**2.0300e-003**	**0.0109**	**0.0000**	**99.1617**	**99.1617**	**5.2700e-003**	**0.0152**	**103.8353**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0793	0.0000	0.0793	0.0382	0.0000	0.0382	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0523	0.5370	0.3814	7.6000e-004		0.0246	0.0246		0.0231	0.0231	0.0000	66.4923	66.4923	0.0167	0.0000	66.9106
Total	**0.0523**	**0.5370**	**0.3814**	**7.6000e-004**	**0.0793**	**0.0246**	**0.1039**	**0.0382**	**0.0231**	**0.0613**	**0.0000**	**66.4923**	**66.4923**	**0.0167**	**0.0000**	**66.9106**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.1500e-003	0.2537	0.0526	9.6000e-004	0.0277	2.0900e-003	0.0297	7.5900e-003	2.0000e-003	9.5900e-003	0.0000	95.3561	95.3561	5.1600e-003	0.0151	99.9965
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4400e-003	1.1600e-003	0.0152	4.0000e-005	4.7100e-003	3.0000e-005	4.7400e-003	1.2500e-003	3.0000e-005	1.2800e-003	0.0000	3.8056	3.8056	1.1000e-004	1.0000e-004	3.8389
Total	**7.5900e-003**	**0.2548**	**0.0678**	**1.0000e-003**	**0.0324**	**2.1200e-003**	**0.0345**	**8.8400e-003**	**2.0300e-003**	**0.0109**	**0.0000**	**99.1617**	**99.1617**	**5.2700e-003**	**0.0152**	**103.8353**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0310	0.3032	0.3403	5.6000e-004		0.0157	0.0157		0.0147	0.0147	0.0000	48.3449	48.3449	0.0121	0.0000	48.6465
Total	**0.0310**	**0.3032**	**0.3403**	**5.6000e-004**		**0.0157**	**0.0157**		**0.0147**	**0.0147**	**0.0000**	**48.3449**	**48.3449**	**0.0121**	**0.0000**	**48.6465**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.0000e-004	0.0189	6.2700e-003	7.0000e-005	2.4400e-003	1.9000e-004	2.6300e-003	7.0000e-004	1.8000e-004	8.8000e-004	0.0000	7.2222	7.2222	2.4000e-004	1.0500e-003	7.5405
Worker	7.1500e-003	5.7700e-003	0.0754	2.1000e-004	0.0234	1.4000e-004	0.0235	6.2000e-003	1.3000e-004	6.3300e-003	0.0000	18.8818	18.8818	5.2000e-004	5.1000e-004	19.0466
Total	**7.8500e-003**	**0.0247**	**0.0817**	**2.8000e-004**	**0.0258**	**3.3000e-004**	**0.0261**	**6.9000e-003**	**3.1000e-004**	**7.2100e-003**	**0.0000**	**26.1040**	**26.1040**	**7.6000e-004**	**1.5600e-003**	**26.5872**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0310	0.3032	0.3403	5.6000e-004		0.0157	0.0157		0.0147	0.0147	0.0000	48.3448	48.3448	0.0121	0.0000	48.6465
Total	**0.0310**	**0.3032**	**0.3403**	**5.6000e-004**		**0.0157**	**0.0157**		**0.0147**	**0.0147**	**0.0000**	**48.3448**	**48.3448**	**0.0121**	**0.0000**	**48.6465**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.0000e-004	0.0189	6.2700e-003	7.0000e-005	2.4400e-003	1.9000e-004	2.6300e-003	7.0000e-004	1.8000e-004	8.8000e-004	0.0000	7.2222	7.2222	2.4000e-004	1.0500e-003	7.5405
Worker	7.1500e-003	5.7700e-003	0.0754	2.1000e-004	0.0234	1.4000e-004	0.0235	6.2000e-003	1.3000e-004	6.3300e-003	0.0000	18.8818	18.8818	5.2000e-004	5.1000e-004	19.0466
Total	**7.8500e-003**	**0.0247**	**0.0817**	**2.8000e-004**	**0.0258**	**3.3000e-004**	**0.0261**	**6.9000e-003**	**3.1000e-004**	**7.2100e-003**	**0.0000**	**26.1040**	**26.1040**	**7.6000e-004**	**1.5600e-003**	**26.5872**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1740	1.6841	2.0482	3.3700e-003		0.0829	0.0829		0.0778	0.0778	0.0000	292.3925	292.3925	0.0727	0.0000	294.2107
Total	**0.1740**	**1.6841**	**2.0482**	**3.3700e-003**		**0.0829**	**0.0829**		**0.0778**	**0.0778**	**0.0000**	**292.3925**	**292.3925**	**0.0727**	**0.0000**	**294.2107**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5300e-003	0.0891	0.0339	4.3000e-004	0.0148	5.0000e-004	0.0153	4.2600e-003	4.7000e-004	4.7300e-003	0.0000	41.6454	41.6454	1.4000e-003	6.0300e-003	43.4784
Worker	0.0401	0.0308	0.4200	1.2100e-003	0.1412	8.1000e-004	0.1420	0.0375	7.4000e-004	0.0382	0.0000	110.5002	110.5002	2.8400e-003	2.8400e-003	111.4185
Total	**0.0426**	**0.1200**	**0.4539**	**1.6400e-003**	**0.1560**	**1.3100e-003**	**0.1573**	**0.0418**	**1.2100e-003**	**0.0430**	**0.0000**	**152.1456**	**152.1456**	**4.2400e-003**	**8.8700e-003**	**154.8969**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1740	1.6841	2.0482	3.3700e-003		0.0829	0.0829		0.0778	0.0778	0.0000	292.3922	292.3922	0.0727	0.0000	294.2103
Total	**0.1740**	**1.6841**	**2.0482**	**3.3700e-003**		**0.0829**	**0.0829**		**0.0778**	**0.0778**	**0.0000**	**292.3922**	**292.3922**	**0.0727**	**0.0000**	**294.2103**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5300e-003	0.0891	0.0339	4.3000e-004	0.0148	5.0000e-004	0.0153	4.2600e-003	4.7000e-004	4.7300e-003	0.0000	41.6454	41.6454	1.4000e-003	6.0300e-003	43.4784
Worker	0.0401	0.0308	0.4200	1.2100e-003	0.1412	8.1000e-004	0.1420	0.0375	7.4000e-004	0.0382	0.0000	110.5002	110.5002	2.8400e-003	2.8400e-003	111.4185
Total	**0.0426**	**0.1200**	**0.4539**	**1.6400e-003**	**0.1560**	**1.3100e-003**	**0.1573**	**0.0418**	**1.2100e-003**	**0.0430**	**0.0000**	**152.1456**	**152.1456**	**4.2400e-003**	**8.8700e-003**	**154.8969**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0272	0.2605	0.3382	5.6000e-004		0.0122	0.0122		0.0114	0.0114	0.0000	48.3642	48.3642	0.0120	0.0000	48.6639
Total	**0.0272**	**0.2605**	**0.3382**	**5.6000e-004**		**0.0122**	**0.0122**		**0.0114**	**0.0114**	**0.0000**	**48.3642**	**48.3642**	**0.0120**	**0.0000**	**48.6639**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.1000e-004	0.0148	5.5200e-003	7.0000e-005	2.4400e-003	8.0000e-005	2.5200e-003	7.0000e-004	8.0000e-005	7.8000e-004	0.0000	6.7885	6.7885	2.3000e-004	9.8000e-004	7.0878
Worker	6.2000e-003	4.5500e-003	0.0647	1.9000e-004	0.0234	1.3000e-004	0.0235	6.2000e-003	1.2000e-004	6.3200e-003	0.0000	17.7413	17.7413	4.3000e-004	4.4000e-004	17.8823
Total	**6.6100e-003**	**0.0194**	**0.0702**	**2.6000e-004**	**0.0258**	**2.1000e-004**	**0.0260**	**6.9000e-003**	**2.0000e-004**	**7.1000e-003**	**0.0000**	**24.5298**	**24.5298**	**6.6000e-004**	**1.4200e-003**	**24.9701**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0272	0.2605	0.3382	5.6000e-004		0.0122	0.0122		0.0114	0.0114	0.0000	48.3641	48.3641	0.0120	0.0000	48.6638
Total	**0.0272**	**0.2605**	**0.3382**	**5.6000e-004**		**0.0122**	**0.0122**		**0.0114**	**0.0114**	**0.0000**	**48.3641**	**48.3641**	**0.0120**	**0.0000**	**48.6638**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.1000e-004	0.0148	5.5200e-003	7.0000e-005	2.4400e-003	8.0000e-005	2.5200e-003	7.0000e-004	8.0000e-005	7.8000e-004	0.0000	6.7885	6.7885	2.3000e-004	9.8000e-004	7.0878
Worker	6.2000e-003	4.5500e-003	0.0647	1.9000e-004	0.0234	1.3000e-004	0.0235	6.2000e-003	1.2000e-004	6.3200e-003	0.0000	17.7413	17.7413	4.3000e-004	4.4000e-004	17.8823
Total	**6.6100e-003**	**0.0194**	**0.0702**	**2.6000e-004**	**0.0258**	**2.1000e-004**	**0.0260**	**6.9000e-003**	**2.0000e-004**	**7.1000e-003**	**0.0000**	**24.5298**	**24.5298**	**6.6000e-004**	**1.4200e-003**	**24.9701**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3324					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0428	0.3142	0.4938	8.0000e-004		0.0142	0.0142		0.0141	0.0141	0.0000	69.0785	69.0785	7.3400e-003	0.0000	69.2619
Total	**0.3752**	**0.3142**	**0.4938**	**8.0000e-004**		**0.0142**	**0.0142**		**0.0141**	**0.0141**	**0.0000**	**69.0785**	**69.0785**	**7.3400e-003**	**0.0000**	**69.2619**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5600e-003	1.8800e-003	0.0268	8.0000e-005	9.6500e-003	5.0000e-005	9.7100e-003	2.5600e-003	5.0000e-005	2.6100e-003	0.0000	7.3349	7.3349	1.8000e-004	1.8000e-004	7.3932
Total	**2.5600e-003**	**1.8800e-003**	**0.0268**	**8.0000e-005**	**9.6500e-003**	**5.0000e-005**	**9.7100e-003**	**2.5600e-003**	**5.0000e-005**	**2.6100e-003**	**0.0000**	**7.3349**	**7.3349**	**1.8000e-004**	**1.8000e-004**	**7.3932**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3324					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0428	0.3142	0.4938	8.0000e-004		0.0142	0.0142		0.0141	0.0141	0.0000	69.0784	69.0784	7.3400e-003	0.0000	69.2619
Total	**0.3752**	**0.3142**	**0.4938**	**8.0000e-004**		**0.0142**	**0.0142**		**0.0141**	**0.0141**	**0.0000**	**69.0784**	**69.0784**	**7.3400e-003**	**0.0000**	**69.2619**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5600e-003	1.8800e-003	0.0268	8.0000e-005	9.6500e-003	5.0000e-005	9.7100e-003	2.5600e-003	5.0000e-005	2.6100e-003	0.0000	7.3349	7.3349	1.8000e-004	1.8000e-004	7.3932
Total	**2.5600e-003**	**1.8800e-003**	**0.0268**	**8.0000e-005**	**9.6500e-003**	**5.0000e-005**	**9.7100e-003**	**2.5600e-003**	**5.0000e-005**	**2.6100e-003**	**0.0000**	**7.3349**	**7.3349**	**1.8000e-004**	**1.8000e-004**	**7.3932**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1853	0.2068	1.7495	3.7300e-003	0.3952	2.7800e-003	0.3979	0.1055	2.5900e-003	0.1080	0.0000	344.8496	344.8496	0.0242	0.0163	350.3034
Unmitigated	0.1853	0.2068	1.7495	3.7300e-003	0.3952	2.7800e-003	0.3979	0.1055	2.5900e-003	0.1080	0.0000	344.8496	344.8496	0.0242	0.0163	350.3034

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	427.20	427.20	427.20	1,049,630	1,049,630
Enclosed Parking with Elevator	0.00	0.00	0.00		
Quality Restaurant	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Total	427.20	427.20	427.20	1,049,630	1,049,630

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	6.75	0.00	0.00	100.00	0.00	0.00	100	0	0
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Quality Restaurant	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Regional Shopping Center	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Enclosed Parking with Elevator	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Quality Restaurant	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721
Regional Shopping Center	0.542450	0.061470	0.185138	0.129299	0.023799	0.006448	0.011958	0.009209	0.000810	0.000503	0.024446	0.000751	0.003721

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

216 Spring Street - Proposed Project - South Coast AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	223.4490	223.4490	0.0107	1.2900e-003	224.1004
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	223.4490	223.4490	0.0107	1.2900e-003	224.1004
NaturalGas Mitigated	9.4400e-003	0.0821	0.0443	5.2000e-004		6.5200e-003	6.5200e-003		6.5200e-003	6.5200e-003	0.0000	93.4609	93.4609	1.7900e-003	1.7100e-003	94.0163
NaturalGas Unmitigated	9.4400e-003	0.0821	0.0443	5.2000e-004		6.5200e-003	6.5200e-003		6.5200e-003	6.5200e-003	0.0000	93.4609	93.4609	1.7900e-003	1.7100e-003	94.0163

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	1.29089e+006	6.9600e-003	0.0595	0.0253	3.8000e-004		4.8100e-003	4.8100e-003		4.8100e-003	4.8100e-003	0.0000	68.8868	68.8868	1.3200e-003	1.2600e-003	69.2961
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	458817	2.4700e-003	0.0225	0.0189	1.3000e-004		1.7100e-003	1.7100e-003		1.7100e-003	1.7100e-003	0.0000	24.4842	24.4842	4.7000e-004	4.5000e-004	24.6297
Regional Shopping Center	1683.79	1.0000e-005	8.0000e-005	7.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.0899	0.0899	0.0000	0.0000	0.0904
Total		**9.4400e-003**	**0.0821**	**0.0443**	**5.1000e-004**		**6.5300e-003**	**6.5300e-003**		**6.5300e-003**	**6.5300e-003**	**0.0000**	**93.4609**	**93.4609**	**1.7900e-003**	**1.7100e-003**	**94.0163**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	1.29089e+006	6.9600e-003	0.0595	0.0253	3.8000e-004		4.8100e-003	4.8100e-003		4.8100e-003	4.8100e-003	0.0000	68.8868	68.8868	1.3200e-003	1.2600e-003	69.2961
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	458817	2.4700e-003	0.0225	0.0189	1.3000e-004		1.7100e-003	1.7100e-003		1.7100e-003	1.7100e-003	0.0000	24.4842	24.4842	4.7000e-004	4.5000e-004	24.6297
Regional Shopping Center	1683.79	1.0000e-005	8.0000e-005	7.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.0899	0.0899	0.0000	0.0000	0.0904
Total		**9.4400e-003**	**0.0821**	**0.0443**	**5.1000e-004**		**6.5300e-003**	**6.5300e-003**		**6.5300e-003**	**6.5300e-003**	**0.0000**	**93.4609**	**93.4609**	**1.7900e-003**	**1.7100e-003**	**94.0163**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	462061	145.0303	6.9200e-003	8.4000e-004	145.4531
Enclosed Parking with Elevator	150144	47.1267	2.2500e-003	2.7000e-004	47.2641
Quality Restaurant	86193.8	27.0543	1.2900e-003	1.6000e-004	27.1331
Regional Shopping Center	13501.3	4.2378	2.0000e-004	2.0000e-005	4.2501
Total		**223.4490**	**0.0107**	**1.2900e-003**	**224.1004**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	462061	145.0303	6.9200e-003	8.4000e-004	145.4531
Enclosed Parking with Elevator	150144	47.1267	2.2500e-003	2.7000e-004	47.2641
Quality Restaurant	86193.8	27.0543	1.2900e-003	1.6000e-004	27.1331
Regional Shopping Center	13501.3	4.2378	2.0000e-004	2.0000e-005	4.2501
Total		**223.4490**	**0.0107**	**1.2900e-003**	**224.1004**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

Use Low VOC Cleaning Supplies

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4465	0.0143	1.2379	7.0000e-005		6.8600e-003	6.8600e-003		6.8600e-003	6.8600e-003	0.0000	2.0233	2.0233	1.9400e-003	0.0000	2.0719
Unmitigated	0.4465	0.0143	1.2379	7.0000e-005		6.8600e-003	6.8600e-003		6.8600e-003	6.8600e-003	0.0000	2.0233	2.0233	1.9400e-003	0.0000	2.0719

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0332					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3760					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0373	0.0143	1.2379	7.0000e-005		6.8600e-003	6.8600e-003		6.8600e-003	6.8600e-003	0.0000	2.0233	2.0233	1.9400e-003	0.0000	2.0719
Total	**0.4465**	**0.0143**	**1.2379**	**7.0000e-005**		**6.8600e-003**	**6.8600e-003**		**6.8600e-003**	**6.8600e-003**	**0.0000**	**2.0233**	**2.0233**	**1.9400e-003**	**0.0000**	**2.0719**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0332					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3760					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0373	0.0143	1.2379	7.0000e-005		6.8600e-003	6.8600e-003		6.8600e-003	6.8600e-003	0.0000	2.0233	2.0233	1.9400e-003	0.0000	2.0719
Total	**0.4465**	**0.0143**	**1.2379**	**7.0000e-005**		**6.8600e-003**	**6.8600e-003**		**6.8600e-003**	**6.8600e-003**	**0.0000**	**2.0233**	**2.0233**	**1.9400e-003**	**0.0000**	**2.0719**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	43.9334	0.2235	5.4700e-003	51.1528
Unmitigated	54.9168	0.2794	6.8400e-003	63.9410

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	7.81848 / 4.92904	51.6229	0.2571	6.3000e-003	59.9280
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0.604032 / 0.0385552	2.7948	0.0198	4.8000e-004	3.4329
Regional Shopping Center	0.0762947 / 0.0467613	0.4991	2.5100e-003	6.0000e-005	0.5801
Total		**54.9168**	**0.2794**	**6.8400e-003**	**63.9410**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	6.25479 / 3.94323	41.2984	0.2057	5.0400e-003	47.9424
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0.483226 / 0.0308442	2.2358	0.0159	3.8000e-004	2.7463
Regional Shopping Center	0.0610358 / 0.037409	0.3993	2.0100e-003	5.0000e-005	0.4641
Total		**43.9334**	**0.2236**	**5.4700e-003**	**51.1528**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	3.5381	0.2091	0.0000	8.7656
Unmitigated	11.7938	0.6970	0.0000	29.2186

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	55.2	11.2051	0.6622	0.0000	27.7602
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	1.82	0.3694	0.0218	0.0000	0.9153
Regional Shopping Center	1.08	0.2192	0.0130	0.0000	0.5431
Total		**11.7938**	**0.6970**	**0.0000**	**29.2186**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	16.56	3.3615	0.1987	0.0000	8.3281
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0.546	0.1108	6.5500e-003	0.0000	0.2746
Regional Shopping Center	0.324	0.0658	3.8900e-003	0.0000	0.1629
Total		**3.5381**	**0.2091**	**0.0000**	**8.7656**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	12	1000	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (750 - 9999 HP)	9.8500e-003	0.0440	0.0251	5.0000e-005		1.4500e-003	1.4500e-003		1.4500e-003	1.4500e-003	0.0000	4.5696	4.5696	6.4000e-004	0.0000	4.5856
Total	**9.8500e-003**	**0.0440**	**0.0251**	**5.0000e-005**		**1.4500e-003**	**1.4500e-003**		**1.4500e-003**	**1.4500e-003**	**0.0000**	**4.5696**	**4.5696**	**6.4000e-004**	**0.0000**	**4.5856**

11.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	21.2400	0.0000	0.0000	21.2400

11.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Miscellaneous	30	21.2400	0.0000	0.0000	21.2400
Total		**21.2400**	**0.0000**	**0.0000**	**21.2400**

ATTACHMENT 6

Class One Arboriculture, Inc.,
216 Spring St. Arborist Report,
July 6, 2021.

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216 Spring St. Arborist Report

Prepared for Blaise Fremont
353 S. Broadway, Suite 200
Los Angeles, CA 90013

Prepared by James Komen
BCMA WE-9909B
RCA #555

Class One Arboriculture
3763 Ramsdell Ave
Glendale, CA 91214
818-495-5344
classonearboriculture@gmail.com

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Site Map attached separately

Background

In August of 2020, I was contacted by Blaise Fremont. Blaise asked me to prepare a Protected Tree Report per the requirements of the City of Los Angeles planning department. I visited the subject property alone on Wednesday, August 5, 2020 at 12:00pm to collect data for this report.

On July 6, 2021, Blaise contacted me again and asked me to update the report to reflect the newest version of the project plans and the updated tree protection ordinance. He also asked me to remove the word "mitigation" from the report; I have replaced this word with "replacement," referring to the trees that will be planted after the existing ones are removed. No other changes were made to this report.

Project Description

An existing commercial building will be demolished, and a new mixed-use structure will be built in its place.

I recorded data on 2 trees on and around the subject property that could potentially be impacted by the proposed construction activity. Neither of them are protected species per Ordinance 186,873 covering native trees and native shrubs: Native Oaks (*Quercus sp.)*, California Sycamore (*Platanus racemosa*), California Black Walnut (*Juglans californica*), Bay Laurel (*Umbellularia californica*), Toyon (*Heteromeles arbutifolia*), and Elderberry (*Sambucus mexicana*). Both trees are Holly Oak (*Quercus ilex*), which is native to the Mediterranean region.

No protected trees will be removed as a result of this project. No protected trees will be encroached or impacted as a result of this project. No protected trees on neighboring properties will be affected by the proposed project.

The 2 trees in this report are street trees. They are proposed for removal to comply with the Downtown Design Guide §5(A)(9) and §9(F)(2). §5(A)(9) requires bicycle parking, and §9(F)(2) requires tree spacing of "not more than an average of 25 feet on center." 4 street trees will be planted as replacements.

Subject Trees

	Tree 1 *Quercus ilex* – Holly Oak This tree is a street tree. Although it is an oak, it is a not a native oak, so it is not a protected native tree per Ordinance 186,873. This tree will be removed so the street trees fronting this property may be repositioned to comply with Downtown Design Guide §5(A)(9) and §9(F)(2), which require bicycle parking and minimum tree spacing, respectively. This tree is in good health, but it has a few minor problems. I observed symptoms of seasonal Drippy Nut, which is a bacterial infection of the acorns. Though the condition is not detrimental to the health of the tree, it tends to create a sticky mess on the paved surface below. The tree is also drought-stressed, likely due to its limited growing volume. I observed tip dieback near the top of the tree and vigorous watersprout growth along the trunk, indicating the tree was stressed. However, the overall foliage color and density appeared good.

Tree 2
Quercus ilex – Holly Oak

This tree is a street tree. Although it is an oak, it is a not a native oak, so it is not a protected native tree per Ordinance 186,873. This tree will be removed so the street trees fronting this property may be repositioned to comply with Downtown Design Guide §5(A)(9) and §9(F)(2), which require bicycle parking and minimum tree spacing, respectively.

I observed a mechanical injury wound on the southeastern side of the trunk. At some point several years ago, the tree was impacted by a blunt force, perhaps by a cart, shovel, or other tool. The bark underneath the area of impact then died and soughed off, leaving the exposed heartwood. Over time, the tree has begun to roll a response growth callous over the perimeter of this wound site. I did not observe significant degradation of the tree's structural integrity resulting from the wound.

Like Tree 1, this tree is in good health, but it has a few minor problems. I observed symptoms of seasonal Drippy Nut, which is a bacterial infection of the acorns. Though the condition is not detrimental to the health of the tree, it tends to create a sticky mess on the paved surface below.

The tree is also drought-stressed, likely due to its limited growing volume. I observed tip dieback near the top of the tree and vigorous watersprout growth along the trunk, indicating the tree was stressed. However, the overall foliage color and density appeared good.

Matrix of All Trees on Site

Tree #	Tag #	Species	Common Name	DBH	Height	Spread	Condition	Treatment	Rating	Natural?	Protected?	Remove?
1	5821	*Quercus ilex*	Holly Oak	13''	30'	30'	drought stress, drippy nut, minor tip dieback	remove	B-	No	Street	Yes
2	5822	*Quercus ilex*	Holly Oak	9''	24'	24'	mech inj at base, drought stress, drippy nut, minor tip dieback	remove	C+	No	Street	Yes

Protected Tree Matrix

There are no protected trees on site.

Protected Trees to be Removed

There are no protected trees on site. None will be removed.

Protected Trees to Remain

There are no protected trees on site.

Recommendations and Construction Impact Guidelines

No construction impact guidelines are required because all trees on site will be removed.

Replacement Trees

Two street trees will be removed. The City of Los Angeles requires replacement trees to be planted on a 2:1 basis for the removal of street trees. According to this replacement ratio, four replacement trees are required. The replacement plan is to install four replacement trees along Spring Street. The replacement trees will be 36" box size per the Downtown Design Guide §9(F)(7).

Limitations

My observations are based on a strictly visual inspection of the property, and some hidden or buried symptoms and signs may not have been observed. I did not conduct excavation, coring, or climbing inspection to make observations. I relied upon the information provided to me by the client regarding the history of the site and the proposed construction. I relied upon the surveyed site features denoted in the surveys and site plans I was provided. If any part of this information is found to be incorrect, the conclusions in this report may be invalidated.

My analysis is only based on the observations I gathered at the time of inspection. I do not guarantee the safety of the subject trees. There is no warranty or guarantee, expressed or implied, that problems or deficiencies may not arise in the future.

Arborists are tree specialists who use their knowledge, education, training, and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living trees. Clients may choose to accept or disregard the recommendations of the arborist, or to seek additional advice.

Arborists cannot detect every condition that could possibly lead to structural failure of a tree. Trees are living organisms that fail in ways not fully understood. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like any medicine, cannot be guaranteed.

Treatment, pruning, and removal of trees may involve considerations beyond the scope of the arborist's services such as property boundaries, property ownership, locations of surveyed landmarks, disputes between neighbors, and other issues. Arborists cannot take such considerations into account unless complete and accurate information is disclosed to the arborist. An arborist should then be expected to reasonably rely upon the completeness and accuracy of the information provided.

Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.

Site Photos

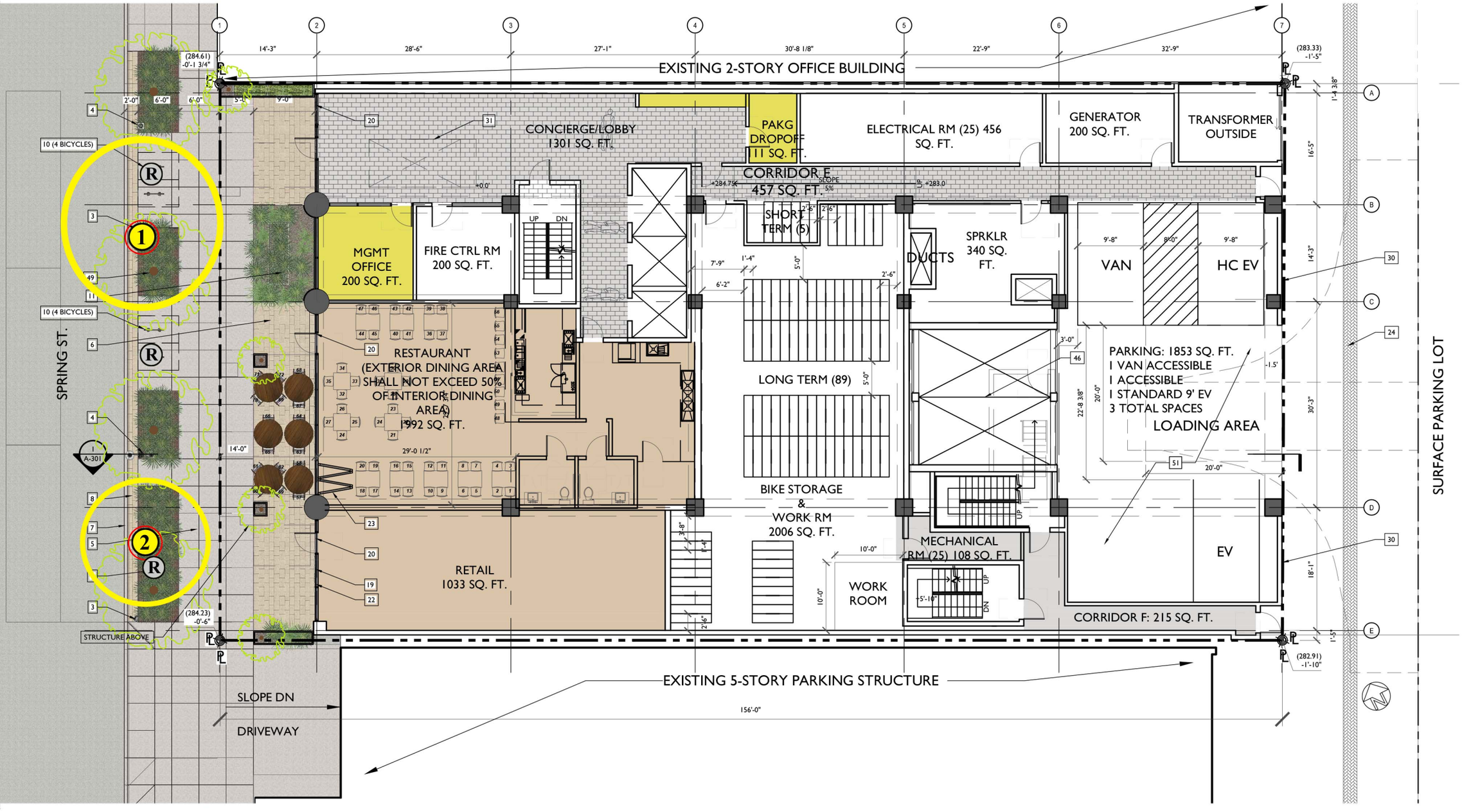
Figure 1: Tree 1 is a street tree. It is proposed for removal.

Figure 2: Tree 2 is a street tree. It is proposed for removal.

Figure 3: The trunk of Tree 2 has a mechanical injury wound.

Figure 4: There are no trees on the eastern side of the property.

Figure 5: Aside from the two street trees, there are no other trees on the property.



- Existing Street Tree (Nonnative Oak)
- Proposed Replacement Tree
- Drip Line
- Proposed for Removal

ATTACHMENT 7

Additional Maps of the Project Site

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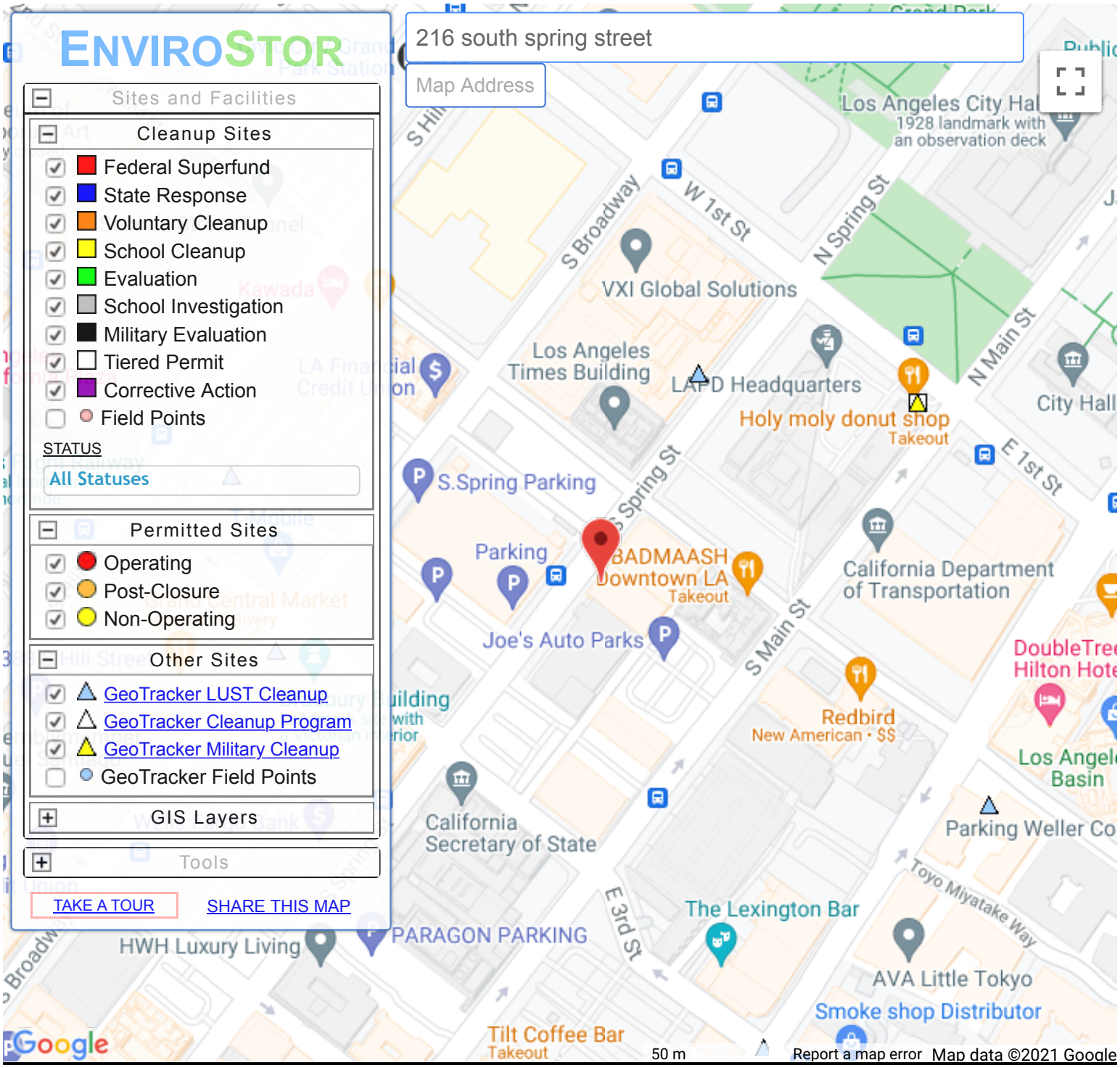
Figure 1: DTSC EnviroStor Map



SITES CURRENTLY VISIBLE ON MAP — 2 SITES LISTED — EXPORT THIS LIST TO EXCEL

PROJECT NAME	STATUS	PROJECT TYPE	ADDRESS	CITY
BARRY AVENUE PLATING CO., INC.	REFER: OTHER AGENCY	TIERED PERMIT	2210 BARRY AVENUE	LOS ANGELES
NEWELL COLOUR	REFER: OTHER AGENCY	TIERED PERMIT	221 N. WESTMORLAND AVENUE	LOS ANGELES

Figure 2 - Stormwater Information Map

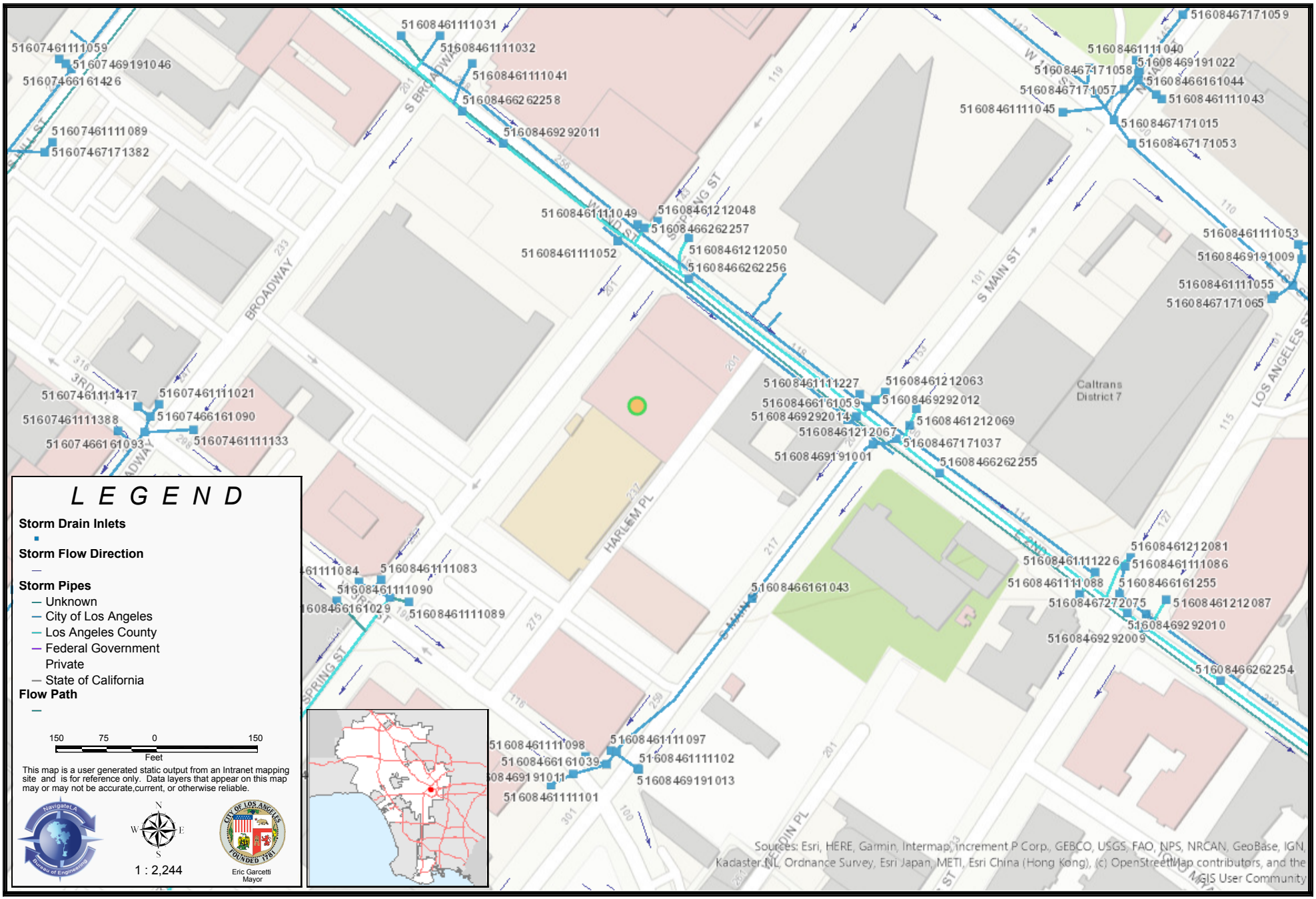
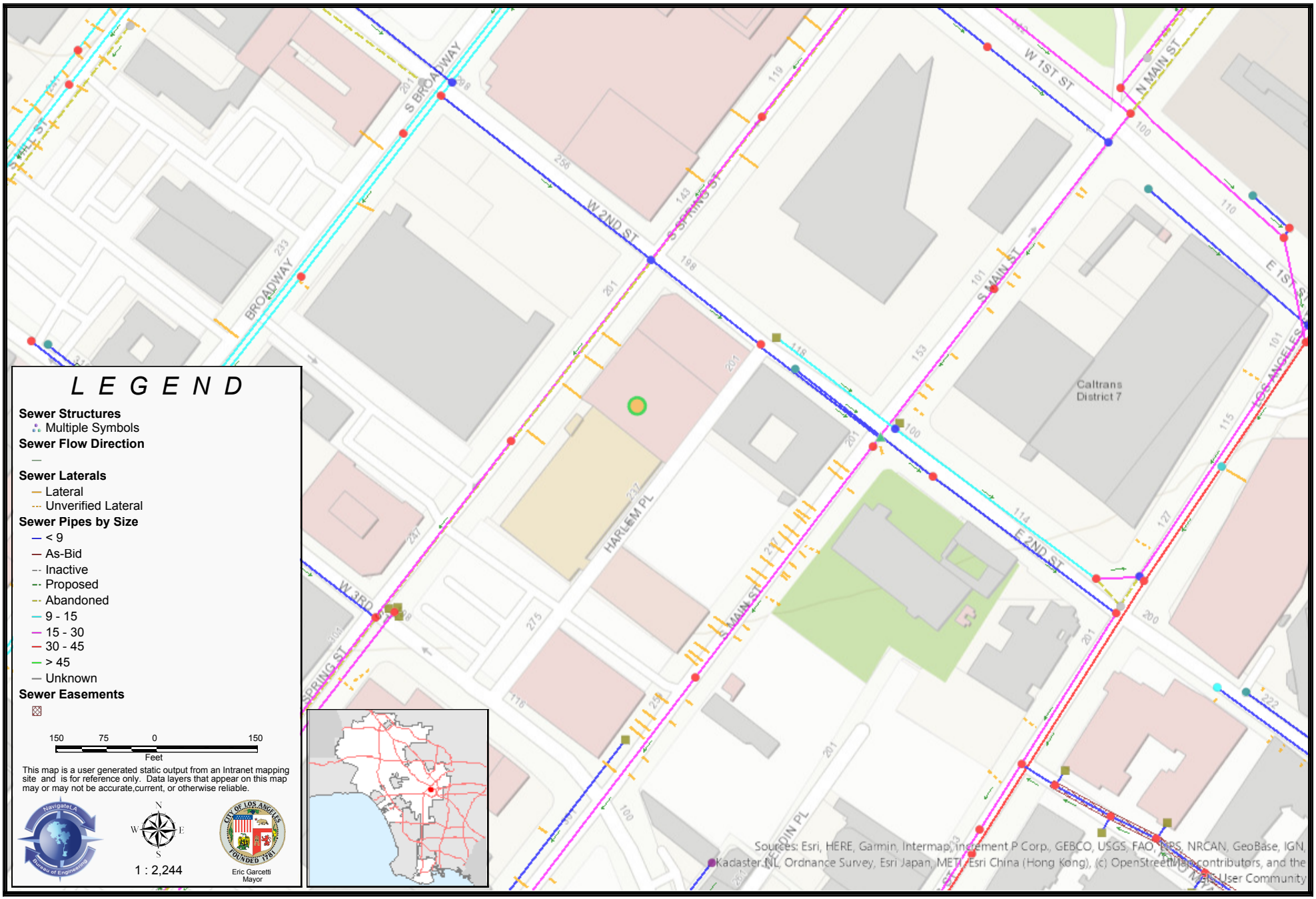


Figure 3 - Sewer Information Map



ATTACHMENT 8

Los Angeles Department of Building and Safety,
Geology and Soils Approval Letter
Log #119255-01, 212, 214, 216, 218, 220 S.
Spring Street,
December 29, 2021.

Irvine Geotechnical, Inc.,
Addendum Geologic and Soils Engineering
Exploration, Proposed Mixed-Use Retail/
Residential Building, Portion Lot 9, Arb. 1, Block 3,
Ord's Survey, 212, 214, 216, 218, 220 S. Spring
Street, Los Angeles, California,
November 22, 2021.

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LOS ANGELES, CA 90012

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EXECUTIVE OFFICER

GEOLOGY AND SOILS REPORT APPROVAL LETTER

December 29, 2021

LOG # 119255-01
SOILS/GEOLOGY FILE - 2
LIQ

216 Spring Street, LLC
c/o David Gray
353 S. Broadway, Suite 200
Los Angeles, CA 90013

TRACT:	ORD's SURVEY (M P 53-66/73)
BLOCK:	3
LOT:	FR 9 (Arb-1)
LOCATION:	212, 214, 216, 218, 220 S. Spring Street

CURRENT REFERENCE REPORT/LETTER(S)	REPORT No.	DATE OF DOCUMENT	PREPARED BY
Geology/Soils Report	IC 21149-I	11/22/2021	Irvine Geotechnical

PREVIOUS REFERENCE REPORT/LETTER(S)	REPORT No.	DATE OF DOCUMENT	PREPARED BY
Dept. Review Letter	119255	11/10/2021	LADBS – Grading
Geology/Soils Report	IC 21149-I	10/08/2021	Irvine Geotechnical
Laboratory Test Report	SL21. 3766	09/30/2021	Soil Labworks, LLC

The Grading Division of the Department of Building and Safety has reviewed the referenced reports dated November 22, 2021, and October 8, 2021, that provides recommendations for the proposed mixed use retail/ residential building, consisting of 17 stories over a ground level podium and 3 levels of subterranean parking. Retaining walls up to 33 feet high are planned to support excavations for the basement levels. The consultants note that the natural terrain slopes gently from northeast to southwest, with physical relief across the property of about 12 inches. The subject site development is depicted on the Site Plan and Section A-A of the October 8, 2021, referenced report.

The earth materials at the subsurface exploration locations consist of fill was observed to be approximately 2 feet thick underlain by alluvium from 2 to 15 feet below the ground surface underlain by Fernando Formation massive siltstone and mudstone bedrock to a maximum depth explored of 60 feet below the ground surface. Groundwater was not encountered to the maximum depth explored of 60 feet below the ground surface. Based on offsite borings, water is reported to

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be perched on top of the bedrock at depths of 15 to 18 feet. Historic high ground water, from State records, is estimated to be 35 feet below the ground surface.

The consultants recommend to support the proposed structure on conventional or mat-type foundations bearing on competent bedrock.

The site is located in a designated liquefaction hazard zone as shown on the Seismic Hazard Zones map issued by the State of California. The proposed building will have 3 basements extending to a depth of 30 to 33 feet below the ground surface and bedrock is present within 15 to 20 feet of the ground surface. Therefore, the entire the entire building will be supported in the bedrock, which is not subject to liquefaction. It is the finding of Irvine Geotechnical that the liquefaction hazard to the proposed building is nil and the foundations will not be subject to hazards associated with dynamic settlement, ground failure, or lateral spreading, as noted on page 10 of the October 8, 2021, referenced report.

The referenced reports dated November 22, 2021, and October 8, 2021, are acceptable, provided the following conditions are complied with during site development:

(Note: Numbers in parenthesis ( ) refer to applicable sections of the 2020 City of LA Building Code. P/BC numbers refer the applicable Information Bulletin. Information Bulletins can be accessed on the internet at LADBS.ORG.)

1. Approval shall be obtained from the Department of Public Works, Bureau of Engineering, Development Services and Permits Program for the proposed removal of support adjoining to public way (3307.3.2).

   201 N. Figueroa Street 3rd Floor, LA (213) 482-7045

2. Prior to finalizing shoring recommendations, the project consultants' shall provide a supplemental addendum report providing additional geologic structure in the vicinity of the proposed building and area to be shored, particularly in the vicinity of the proposed basements. This geologic data shall be utilized in the final shoring recommendations.

3. Prior to finalizing hydrostatic design considerations, the consultants recommend that one or more groundwater monitoring wells be installed after building demolition to determine the need for dewatering and determining the steady state groundwater level. A supplemental report shall be prepared for hydrostatic design of slabs and retaining walls based upon one or more groundwater monitoring wells placed within the footprint of the proposed building.

4. The geologist and soils engineer shall review and approve the detailed plans prior to issuance of any permits. This approval shall be by signature on the plans that clearly indicates the geologist and soils engineer have reviewed the plans prepared by the design engineer; and, that the plans include the recommendations contained in their reports (7006.1).

5. All recommendations of the report(s) that are in addition to or more restrictive than the conditions contained herein shall be incorporated into the plans.

6. A copy of the subject and appropriate referenced reports and this approval letter shall be attached to the District Office and field set of plans (7006.1). Submit one copy of the above reports to the Building Department Plan Checker prior to issuance of the permit.

7. A grading permit shall be obtained for all structural fill and retaining wall backfill (106.1.2).

8. All man-made fill shall be compacted to a minimum 90 percent of the maximum dry density of the fill material per the latest version of ASTM D 1557. Where cohesionless soil having less than 15 percent finer than 0.005 millimeters is used for fill, it shall be compacted to a minimum of 95 percent relative compaction based on maximum dry density. Placement of gravel in lieu of compacted fill is only allowed if complying with LAMC Section 91.7011.3.

9. Existing uncertified fill shall not be used for support of footings, concrete slabs or new fill (1809.2, 7011.3).

10. Estimated bulking and shrinkage factors to be used in determining earthwork volumes are provided on page12 of the October 8, 2021, referenced report, as recommended.

11. Drainage in conformance with the provisions of the Code shall be maintained during and subsequent to construction (7013.12).

12. Grading shall be scheduled for completion prior to the start of the rainy season, or detailed temporary erosion control plans shall be filed in a manner satisfactory to the Grading Division of the Department and the Department of Public Works, Bureau of Engineering, B-Permit Section, for any grading work in excess of 200 cubic yards (7007.1).

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13. All loose foundation excavation material shall be removed prior to commencement of framing. Slopes disturbed by construction activities shall be restored (7005.3).

14. The applicant is advised that the approval of this report does not waive the requirements for excavations contained in the General Safety Orders of the California Department of Industrial Relations (3301.1).

15. Excavations shall not remove lateral support from a public way, adjacent property or an existing structure. Note: Lateral support shall be considered to be removed when the excavation extends below a plane projected downward at an angle of 45 degrees from the bottom of a footing of an existing structure, from the edge of the public way or an adjacent property. (3307.3.1)

16. Where any excavation, not addressed in the approved reports, would remove lateral support (as defined in 3307.3.1) from a public way, adjacent property or structures, a supplemental report shall be submitted to the Grading Division of the Department containing recommendations for shoring, underpinning, and sequence of construction. Shoring recommendations shall include the maximum allowable lateral deflection of shoring system to prevent damage to adjacent structures, properties and/or public ways. Report shall include a plot plan and cross-section(s) showing the construction type, number of stories, and location of adjacent structures, and analysis incorporating all surcharge loads that demonstrate an acceptable factor of safety against failure. (7006.2 & 3307.3.2)

17. Prior to the issuance of any permit that authorizes an excavation where the excavation is to be of a greater depth than are the walls or foundation of any adjoining building or structure and located closer to the property line than the depth of the excavation, the owner of the

subject site shall provide the Department with evidence that the adjacent property owner has been given a 30-day written notice of such intent to make an excavation (3307.1).

18. The soils engineer shall review and approve the shoring plans prior to issuance of the permit (3307.3.2).

19. Prior to the issuance of the permits, the soils engineer and/or the structural designer shall evaluate the surcharge loads used in the report calculations for the design of the retaining walls and shoring. If the surcharge loads used in the calculations do not conform to the actual surcharge loads, the soil engineer shall submit a supplementary report with revised recommendations to the Department for approval.

20. Unsurcharged temporary excavations over 5 feet shall be trimmed back at a gradient not exceeding 1(H):1(V), as recommended.

21. All foundations shall derive entire support from competent bedrock, as recommended and approved by the geologist and soils engineer by inspection.

22. Existing uncertified fill shall not be used for lateral support of deep foundations (1810.2.1).

23. Mat Foundations shall be designed as recommended on page 14 of the October 8, 2021, referenced report.

24. Slabs on uncertified fill shall be designed as a structural slab (7011.3).

25. Slabs placed on approved compacted fill or natural soils shall be at least 4 inches thick and shall be reinforced with ½-inch diameter (#4) reinforcing bars spaced a maximum of 16 inches on center each way. Vapor barriers shall be utilized as recommended.

26. The seismic design shall be based on a Site Class D, as recommended. All other seismic design parameters shall be reviewed by LADBS building plan check. According to ASCE 7-16 Section 11.4.8, the long period coefficient (Fv) may be selected per Table 11.4-2 in ASCE 7-16, provided that the value of the Seismic Response Coefficient (Cs) is determined by Equation 12.8-2 for values of the fundamental period of the building (T) less than or equal to 1.5Ts, and taken as 1.5 times the value computed in accordance with either Equation 12.8-3 for T greater than 1.5Ts and less than or equal to TL or Equation 12.8-4 for T greater than TL. Alternatively, a supplemental report containing a site-specific ground motion hazard analysis in accordance with ASCE 7-16 Section 21.2 shall be submitted for review and approval.

27. Cantilevered retaining walls are anticipated up to 15 feet or less. Restrained basement walls could be up to 33 feet high. Retaining walls / basement walls shall be designed for the minimum equivalent fluid pressures (EFP) as recommended on pages 15 and 16 of the October 8, 2021, referenced report. All surcharge loads shall be incorporated into the design.

28. Retaining walls higher than 6 feet shall be designed for lateral earth pressure due to earthquake motions as specified on pages 15 and 16 of the October 8, 2021, referenced report (1803.5.12).

29. All retaining walls shall be provided with a standard surface backdrain system and all drainage shall be conducted in a non-erosive device to the street in an acceptable manner (7013.11).

30. With the exception of retaining walls designed for hydrostatic pressure, all retaining walls shall be provided with a subdrain system to prevent possible hydrostatic pressure behind the wall. Prior to issuance of any permit, the retaining wall subdrain system recommended in the soils report shall be incorporated into the foundation plan which shall be reviewed and approved by the soils engineer of record (1805.4).

31. Installation of the subdrain system shall be inspected and approved by the soils engineer of record and the City grading/building inspector (108.9).

32. Basement walls and floors shall be waterproofed/damp-proofed with an LA City approved "Below-grade" waterproofing/damp-proofing material with a research report number (104.2.6).

33. Prefabricated drainage composites (Miradrain, Geotextiles) may be only used in addition to traditionally accepted methods of draining retained earth.

34. The structure shall be connected to the public sewer system per P/BC 2020-027.

35. An on-site storm water infiltration system at the subject site shall not be implemented, as recommended on page 24 of the October 8, 2021, referenced report.

36. All concentrated drainage shall be conducted in an approved device and disposed of in a manner approved by the LADBS (7013.10).

37. Any recommendations prepared by the geologist and/or the soils engineer for correction of geological hazards found during grading shall be submitted to the Grading Division of the Department for approval prior to use in the field (7008.2, 7008.3).

38. The geologist and soils engineer shall inspect all excavations to determine that conditions anticipated in the report have been encountered and to provide recommendations for the correction of hazards found during grading (7008, 1705.6 & 1705.8).

39. All friction pile or caisson drilling and excavations shall be performed under the inspection and approval of the geologist and soils engineer. The geologist shall indicate the distance that friction piles or caissons penetrate into competent bedrock in a written field memorandum. (1803.5.5, 1705.1.2)

40. Prior to pouring concrete, a representative of the consulting soils engineer shall inspect and approve the footing excavations. The representative shall post a notice on the job site for the LADBS Inspector and the Contractor stating that the work inspected meets the conditions of the report. No concrete shall be poured until the LADBS Inspector has also inspected and approved the footing excavations. A written certification to this effect shall be filed with the Grading Division of the Department upon completion of the work. (108.9 & 7008.2)

41. Prior to excavation an initial inspection shall be called with the LADBS Inspector. During the initial inspection, the sequence of construction; shoring; pile installation; protection fences; and, dust and traffic control will be scheduled (108.9.1).

42. Installation of shoring, and/or pile excavations shall be performed under the inspection and approval of the soils engineer and deputy grading inspector (1705.6, 1705.8).

43. Prior to the placing of compacted fill, a representative of the soils engineer shall inspect and approve the bottom excavations. The representative shall post a notice on the job site for the LADBS Inspector and the Contractor stating that the soil inspected meets the conditions of the report. No fill shall be placed until the LADBS Inspector has also inspected and approved the bottom excavations. A written certification to this effect shall be included in the final compaction report filed with the Grading Division of the Department. All fill shall be placed under the inspection and approval of the soils engineer. A compaction report together with the approved soil report and Department approval letter shall be submitted to the Grading Division of the Department upon completion of the compaction. In addition, an Engineer's Certificate of Compliance with the legal description as indicated in the grading permit and the permit number shall be included (7011.3).

44. No slab shall be poured until the compaction report is submitted and approved by the Grading Division of the Department.

Jeffrey J. Wilson

JEFFREY J. WILSON
Engineering Geologist I

YING LIU
Geotechnical Engineer II

JTW/YL:jtw/yl
Log No. 119255-01
213-482-0480

cc: Irvine Geotechnical, Project Consultant
Soil Labworks, LLC, Project Consultant
LA District Office

CITY OF LOS ANGELES
DEPARTMENT OF BUILDING AND SAFETY
Grading Division

District	VN	Log No.	119255-1

APPLICATION FOR REVIEW OF TECHNICAL REPORTS

INSTRUCTIONS

A. Address all communications to the Grading Division, LADBS, 221 N. Figueroa St., 12th Fl., Los Angeles, CA 90012 Telephone No. (213)482-0480.
B. Submit two copies (three for subdivisions) of reports, one "pdf" copy of the report on a CD-Rom or flash drive, and one copy of application with items "1" through "10" completed.
C. Check should be made to the City of Los Angeles.

1. LEGAL DESCRIPTION
Tract: Ord Tract (MP 53-66/73)
Block: 3 Lots: 9

2. PROJECT ADDRESS:
212, 214, 216, 218, 220 S. Spring Street

3. OWNER: 216 Spring Street, LLC - c/o David Gray
Address: 353 S. Broadway, Suite 200
City: Los Angeles Zip: 90013
Phone (Daytime):

4. APPLICANT Irvine Geotechnical, Inc.
Address: 145 N. Sierra Madre Blvd. #1
City: Pasadena Zip: 91107
Phone (Daytime): 626-844-6641
E-mail address: mkiechler@irvinegeotech.com

5. Report(s) Prepared by: Irvine Geotechnical, Inc

6. Report Date(s): 11/22/2021

7. Status of project: ☐ Proposed ☑ Under Construction ☐ Storm Damage

8. Previous site reports? ☑ YES if yes, give date(s) of report(s) and name of company who prepared report(s)
10/08/2021

9. Previous Department actions? ☑ YES if yes, provide dates and attach a copy to expedite processing.
Dates: 11/10/2021

10. Applicant Signature: Position: Assistant

(DEPARTMENT USE ONLY)

REVIEW REQUESTED	FEES	REVIEW REQUESTED	FEES
☐ Soils Engineering		No. of Lots	
☐ Geology		No. of Acres	
☒ Combined Soils Engr. & Geol.		☐ Division of Land	
☐ Supplemental		Other	
☐ Combined Supplemental		☑ Expedite	181.50
☐ Import-Export Route		☒ Response to Correction	363.00
Cubic Yards:		☐ Expedite ONLY	
		Sub-total	544.50
		Surcharge	129.80
		TOTAL FEE	674.30

Fee Due: 674.30
Fee Verified By: Am Date: 12/6/21
(Cashier Use Only)

Los Angeles Department of Building and Safety
Metro 4th Floor 12/07/2021 10:03:04 AM
User ID: jbitanscol
Receipt Ref Nbr: 2021341002-40
Transaction ID: 2021341002-40-1
PLAN APPROVAL FEE $181.50
SYSTEMS DEV SURCH $32.67
GEN PLAN MAINT SURCH $38.12
DEV SERV CENTER SURCH $16.34
CITY PLAN SURCH $32.67
GRADING REPORT $363.00
MISC OTHER $10.00
Amount Paid: $674.30
PCIS Number: NA
Job Address: 212, 214, 216, 218, 220 S. SPRING STREET
Owners Name: 216 SPRING STREET, LLC - c/o DAVID GRAY
Grading Section Log Number: 119155

ACTION BY:

THE REPORT IS: ☐ NOT APPROVED

☐ APPROVED WITH CONDITIONS ☐ BELOW ☐ ATTACHED

For Geology Date

For Soils Date

November 22, 2021
IC 21149-I

216 Spring Street LLC
353 S. Broadway, Suite 200
Los Angeles, CA 90013

Subject

Addendum Geologic and Soils Engineering Exploration
Proposed Mixed-Use Retail/Residential Building
Portion Lot 9, Arb. 1, Block 3, Ord's Survey
212, 214, 216, 218, & 220 S. Spring Street
Los Angeles, California

References: Report by Irvine Geotechnical, Inc.:

Geotechnical Engineering Exploration, Proposed Mixed-Use Retail/Residential Building, Lot 9, Block 3, Arb. 1, Ord Tract, 216 S. Spring Street, Los Angeles, California, dated October 8, 2021

City of Los Angeles Department of Building and Safety, Grading Division:

Geology and Soils Report Review Letter, Log #119255, dated November 10, 2021

Dear Gentle Persons,

Irvine Geotechnical has prepared this addendum report to provide additional geotechnical recommendations to the Grading Division for the design and construction of the proposed project. This addendum report follows consultations with the architect and personnel of the Grading Division. Responses to the three items of the Grading Division review letter are provided below. A copy of the November 10, 2021 Department review letter is appended to this report for reference.

Item 1 - It is acknowledged that excavations for the basement level will encounter siltstone bedrock that may contain bedding planes. The Regional Geologic Map within our preliminary report indicates the nearby bedrock strikes east-west and dips steeply toward the south. However because the existing building has a basement that extends beyond the property lines into the front sidewalk and rear alley, and due to numerous active utilities beneath the sidewalk and alley, a large diameter boring is not considered feasible outside the building footprint. Also, the freight elevator and wood flooring of the building are insufficient to support a limited access bucket-auger drill rig.

It is recommended that the large-diameter boring and approval of the shoring design be deferred to after the building has been torn down. A supplemental report will then be prepared based upon downhole logging of large diameter boring(s) drilled within the footprint of the former building.

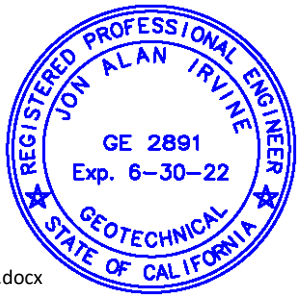
Item 2 - Retaining walls and slabs should be designed for hydrostatic conditions when located below the groundwater table. As discussed in the preliminary report, groundwater was not encountered during our recent exploration and historically high groundwater is estimated to be 35 feet below the ground surface. Water was described perched on top of the bedrock at depths of 15 to 18 feet in nearby geotechnical borings. This perched water and associated seepage was reported to be minor and could be handled through conventional subdrains and sump pumps. It is recommended that one or more groundwater monitoring wells be placed onsite once the building is torn down to determine the steady-state groundwater level.

Similar to Item 1 above, a supplemental report will be prepared for hydrostatic design of slabs and retaining walls based upon one or more groundwater monitoring wells placed within the footprint of the former building.

Item 3 - Groundwater was not encountered in the boring drilled at the site to below the depth of the basement. Based on nearby projects, the water perched on top of bedrock was minor and could be controlled during construction without the need for dewatering. Based on one or more future groundwater monitoring wells that will be placed once the building is torn down, a supplemental report will be prepared describing the need for temporary dewatering. If dewatering is appropriate, the supplemental report will analyze the potential adverse impacts on adjoining buildings and properties.

Irvine Geotechnical appreciates the opportunity to provide our service on this project. Any questions concerning the data or interpretation of this, or the referenced report should be directed to the undersigned.

Respectfully submitted,
Irvine Geotechnical, Inc.



Jon A. Irvine
E.G. 1691/G.E. 2891
y:\icprojects\2021 projects\ic21149 216 spring\ic21149 216 Spring llc addendum.docx

Enc: *Geology and Soils Report Review Letter*, Log #119255, dated November 10, 2021

xc: (3) Addressee

BOARD OF
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LOS ANGELES, CA 90012

OSAMA YOUNAN, P.E.
GENERAL MANAGER
SUPERINTENDENT OF BUILDING

JOHN WEIGHT
EXECUTIVE OFFICER

GEOLOGY AND SOILS REPORT REVIEW LETTER

November 10, 2021

LOG # 119255
SOILS/GEOLOGY FILE - 2
LIQ

216 Spring Street, LLC
c/o David Gray
353 S. Broadway, Suite 200
Los Angeles, CA 90013

TRACT:	ORD's SURVEY (M P 53-66/73)
BLOCK:	3
LOT:	FR 9 (Arb-1)
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CURRENT REFERENCE REPORT/LETTER(S)	REPORT No.	DATE OF DOCUMENT	PREPARED BY
Geology/Soils Report	IC 21149-I	10/08/2021	Irvine Geotechnical
Laboratory Test Report	SL21. 3766	09/30/2021	Soil Labworks, LLC

The Grading Division of the Department of Building and Safety has reviewed the referenced report dated October 8, 2021, that provides recommendations for the proposed mixed-use retail/ residential building, consisting of 17 stories over a ground level podium and 3 levels of subterranean parking. Retaining walls up to 33 feet high are planned to support excavations for the basement levels. The consultants note that the natural terrain slopes gently from northeast to southwest, with physical relief across the property of about 12 inches. The subject site development is depicted on the Site Plan and Section A-A of the October 8, 2021, referenced report.

The earth materials at the subsurface exploration locations consist of fill was observed to be approximately 2 feet thick underlain by alluvium from 2 to 15 feet below the ground surface underlain by Fernando Formation massive siltstone and mudstone bedrock to a maximum depth explored of 60 feet below the ground surface. Groundwater was not encountered to the maximum depth explored of 60 feet below the ground surface. Based on offsite borings, water is reported to be perched on top of the bedrock at depths of 15 to 18 feet. Historic high ground water, from State records, is estimated to be 35 feet below the ground surface.

The consultants recommend to support the proposed structure(s) on conventional or mat-type foundations bearing on competent bedrock.

The site is located in a designated liquefaction hazard zone as shown on the Seismic Hazard Zones map issued by the State of California. The proposed building will have 3 basements extending to a depth of 30 to 33 feet below the ground surface and bedrock is present within 15 to 20 feet of the ground surface. Therefore, the entire the entire building will be supported in the bedrock, which is not subject to liquefaction. It is the finding of Irvine Geotechnical that the liquefaction hazard to the proposed building is

nil and the foundations will not be subject to hazards associated with dynamic settlement, ground failure, or lateral spreading, as noted on page 10 of the October 8, 2021, referenced report.

The review of the subject report dated October 8, 2021, cannot be completed at this time and will be continued upon submittal of an addendum to the report which shall include, but not be limited to, the following:

(Note: Numbers in parenthesis ( ) refer to applicable sections of the 2020 City of LA Building Code. P/BC numbers refer the applicable Information Bulletin. Information Bulletins can be accessed on the internet at LADBS.ORG.)

1. Justify the determination that the siltstone bedrock encountered at the subject site, based on review of offsite reports and narrow hollow stem auger borings, is massive in nature. Also justify the comment that the massive bedrock is typical for this area of downtown. It would appear that borings should be provided that are bucket auger, minimum 24 inches in diameter, to assist in the determination of the geologic structure for the subject site, particularly in the area of the proposed shoring and retaining walls. Geologic structure is critical for the design of the shoring elements and retaining walls. Reports provided by the consultants with bucket auger boring logs appear to have geologic structure while borings with narrow borings have bedrock without geologic structure. In addition, regional geologic maps such as Dibblee appear to depict bedrock in the area as having steeply dipping bedrock beds.

2. The proposed structure and subterranean walls shall be designed to resist uplift and hydrostatic pressures that would develop due to the historic high groundwater level conditions <u>or the current groundwater level, whichever is higher</u>. Revise recommendations accordingly.

3. It appears that temporary groundwater control will be needed for the basement excavation. Note that temporary dewatering shall not adversely impact the adjacent structures / properties. Provide recommendations for temporary groundwater control.

The project engineering geologist and soils engineer shall prepare a report containing an itemized response to the review items indicated in this letter. If clarification concerning the review letter is necessary, the report review engineer and/or geologist may be contacted. Two copies of the response report, including one unbound wet-signed original for archiving purposes, a pdf-copy of the complete report in a flash drive, and the appropriate fees will be required for submittal.

Jeffrey J. Wilson

JEFFREY J. WILSON
Engineering Geologist I

YING LIU
Geotechnical Engineer II

JTW/YL:jtw/yl
Log No. 119255
213-482-0480

cc: Irvine Geotechnical, Project Consultant
Soil Labworks, LLC, Project Consultant
LA District Office

Notice of Adoption of Air Toxics Hot Spots Program Guidance Manual for the Preparation of Health Risk Assessments 2015

Mar 6, 2015

In accordance with Health and Safety Code, Section 44300 et seq. (The Air Toxics Hot Spots Information and Assessment Act, AB 2588, Connelly as amended by SB 1731, Calderon), the Director of the Office of Environmental Health Hazard Assessment (OEHHA) hereby adopts The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments.

OEHHA is releasing the final version of the document, Air Toxics Hot Spots Program Guidance Manual for the Preparation of Risk Assessments (Guidance Manual), February 2015, by posting on our Web site. This Guidance Manual has been developed by OEHHA, in conjunction with the Air Resources Board (ARB), for use in implementing the Air Toxics Hot Spots Program (Health and Safety Code Section 44360). OEHHA is required to develop guidelines for conducting health risk assessments under the Air Toxics Hot Spots Program (Health and Safety Code Section 44360 (b) (2)). OEHHA earlier developed three Technical Support Documents (TSDs) in response to this statutory requirement, which provided the scientific basis for values used in assessing risk from exposure to facility emissions. The three TSDs describe non-cancer risk assessment (derivation of acute, 8-hour and chronic reference exposure levels), derivation of cancer potency factors, and exposure assessment methodology including stochastic risk assessment. These TSDs underwent public and peer review, were approved by the State's Scientific Review Panel on Toxic Air Contaminants, and adopted by OEHHA for use in the Air Toxics Hot Spots program. The Guidance Manual combines the critical information from the three TSDs into a manual for the preparation of health risk assessments.

A computer program, the Hot Spots Analysis and Reporting Program (HARP) has been developed by ARB as a tool to implement the risk assessments as outlined in this guidance manual. The HARP program is available from ARB http://www.arb.ca.gov/toxics/harp/harp.htm.

April 22, 2022: Transcription errors in Table 5.15 were corrected in accordance with corrections made to the source table, Table 7.1 of the 2012 Exposure Assessment and Stochastic Analysis Technical Support Document (EASA TSD). In the original Table 7.1 of the EASA TSD, data from Table 7.12 were incorrectly copied onto the “Ages 2<16” column. The corrected Table 7.1 replaces the data for this age group with data from Table 7.11 and replaces the column header “Ages 2>16” with “Ages 2<16”. Additionally, the corrected Table 7.1 also switches the order of meat types in the Food Category column to reflect the order shown in the source data tables (Tables 7.8 – 7.13 of EASA TSD). The corrections made to Table 7.1 of the EASA TSD on April 22, 2022 were also made to Table 5.15 of this document.

Downloads

- Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments without Appendices
  Apr 22, 2022
- Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments Appendices Only
  Mar 6, 2015
- Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments Appendices A-F
  Mar 6, 2015
- Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments Appendices G-J
  Mar 6, 2015

Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments Appendix K
Mar 6, 2015

Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments Appendices L-M
Mar 6, 2015

Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments Appendix N
Mar 6, 2015

Related Notices

- Draft Air Toxics Hot Spots Program Guidance Manual for the Preparation of Risk Assessments for the Scientific Review Panel Oct 2014
  Oct 14, 2014
- Extension of Public Comment Period on Draft Air Toxics Hot Spots Program Guidance Manual for the Preparation of Risk Assessments
  Jul 28, 2014
- Notice of Public Comment for Draft Air Toxics Hot Spots Program Guidance Manual for the Preparation of Risk Assessments 2014
  Jun 20, 2014

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Notice of Adoption of Air Toxics Hot Spots Program Guidance Manual for the Preparation of Health Risk Assessments 2015

Mar 6, 2015

In accordance with Health and Safety Code, Section 44300 et seq. (The Air Toxics Hot Spots Information and Assessment Act, AB 2588, Connelly as amended by SB 1731, Calderon), the Director of the Office of Environmental Health Hazard Assessment (OEHHA) hereby adopts The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments.

OEHHA is releasing the final version of the document, Air Toxics Hot Spots Program Guidance Manual for the Preparation of Risk Assessments (Guidance Manual), February 2015, by posting on our Web site. This Guidance Manual has been developed by OEHHA, in conjunction with the Air Resources Board (ARB), for use in implementing the Air Toxics Hot Spots Program (Health and Safety Code Section 44360). OEHHA is required to develop guidelines for conducting health risk assessments under the Air Toxics Hot Spots Program (Health and Safety Code Section 44360 (b) (2)). OEHHA earlier developed three Technical Support Documents (TSDs) in response to this statutory requirement, which provided the scientific basis for values used in assessing risk from exposure to facility emissions. The three TSDs describe non-cancer risk assessment (derivation of acute, 8-hour and chronic reference exposure levels), derivation of cancer potency factors, and exposure assessment methodology including stochastic risk assessment. These TSDs underwent public and peer review, were approved by the State's Scientific Review Panel on Toxic Air Contaminants, and adopted by OEHHA for use in the Air Toxics Hot Spots program. The Guidance Manual combines the critical information from the three TSDs into a manual for the preparation of health risk assessments.

A computer program, the Hot Spots Analysis and Reporting Program (HARP) has been developed by ARB as a tool to implement the risk assessments as outlined in this guidance manual. The HARP program is available from ARB http://www.arb.ca.gov/toxics/harp/harp.htm.

April 22, 2022: Transcription errors in Table 5.15 were corrected in accordance with corrections made to the source table, Table 7.1 of the 2012 Exposure Assessment and Stochastic Analysis Technical Support Document (EASA TSD). In the original Table 7.1 of the EASA TSD, data from Table 7.12 were incorrectly copied onto the “Ages 2<16” column. The corrected Table 7.1 replaces the data for this age group with data from Table 7.11 and replaces the column header “Ages 2>16” with “Ages 2<16”. Additionally, the corrected Table 7.1 also switches the order of meat types in the Food Category column to reflect the order shown in the source data tables (Tables 7.8 – 7.13 of EASA TSD). The corrections made to Table 7.1 of the EASA TSD on April 22, 2022 were also made to Table 5.15 of this document.

Downloads

- Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments without Appendices
  Apr 22, 2022
- Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments Appendices Only
  Mar 6, 2015
- Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments Appendices A-F
  Mar 6, 2015
- Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments Appendices G-J
  Mar 6, 2015

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  Jun 20, 2014

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CEQA Guidelines

Information on the regulations implementing the California Environmental Quality Act (CEQA).

ON THIS PAGE: What are the Guidelines? | Updates | For More Info

What are the CEQA Guidelines?

The CEQA Guidelines (Title 14, Division 6, Chapter 3 of the California Code of Regulations) are administrative regulations governing implementation of the California Environmental Quality Act. The CEQA Guidelines reflect the requirements set forth in the Public Resources Code, as well as court decisions interpreting the statute and practical planning considerations. Among other things, the CEQA Guidelines explain how to determine whether an activity is subject to environmental review, what steps are involved in the environmental review process, and the required content of environmental documents. The CEQA Guidelines apply to public agencies throughout the state, including local governments, special districts, and State agencies.

Public Resources Code section 21083 requires the Office of Planning and Research and the Natural Resources Agency to periodically update the CEQA Guidelines.

Full Statute & Guidelines

To review the CEQA statute and the CEQA Guidelines in their entirety, please see the Association of Environmental Professionals' electronic CEQA Guidelines book.

go to califaep.org

Updates

2018 CEQA Guidelines Update

The California Natural Resources Agency, with assistance from OPR, completed a comprehensive update to the CEQA Guidelines in late 2018.

go to page

Transportation Impacts (SB 743)

For more information on the specific proposal to update the CEQA Guideline addressing transportation analyses, visit

For More Information

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SPECIAL REQUIREMENTS

INFILL DEVELOPMENT PROJECTS - CLASS 32 CATEGORICAL EXEMPTION

SPECIAL REQUIREMENT CRITERIA

RELATED CODE SECTION: The State of California Public Resource Code, Division 13 Environmental Quality and the State of California Environmental Quality Act and CEQA Guidelines, Section 15300.

WHAT IS CEQA?
CEQA, or the California Environmental Quality Act, is a statute that requires state and local agencies to identify the significant environmental impacts of their actions by conducting environmental review before making a determination on a project. Environmental review procedures are used to identify a project's potential impacts, develop ways to reduce those impacts, and report the results of the analysis to the public.

WHAT IS A CATEGORICAL EXEMPTION?
Every discretionary action requires environmental review pursuant to CEQA. However, the CEQA Guidelines include a list of classes of projects which have been determined to not have a significant effect on the environment, also known as Categorical Exemptions. If your project falls within one of these classes, it is exempt from the provisions of CEQA and no environmental review is required unless one of the exceptions in CEQA Guideline Section 15300.2 applies (discussed below).

WHAT IS THE CLASS 32 CATEGORICAL EXEMPTION?
The Class 32 "Infill" Categorical Exemption (CEQA Guideline Section 15332), hereafter referred to as the Class 32 Exemption, exempts infill development within urbanized areas if it meets certain criteria. The class consists of environmentally benign infill projects that are consistent with the General Plan and Zoning requirements. This class is not intended for projects that would result in any significant traffic, noise, air quality, or water quality impacts. This exemption is not limited to any use type and may apply to residential, commercial, industrial, public facility, and/or mixed-use projects.

HOW DO I QUALIFY?
The Class 32 Exemption *is not* available for any project that requires mitigation measures to reduce potential environmental impacts to less than significant. Additionally, there are exceptions to the exemptions depending on the nature or location of the project, pursuant to CEQA Section 15300.2. For a proposed project to qualify, none of the following Exceptions can apply to the project:

a. *The project and successive projects of the same type in the same place will result in cumulative impacts;*

b. *There are unusual circumstances creating the reasonable possibility of significant effects;*

c. *The project may result in damage to scenic resources, including, but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within an officially designated scenic highway;*

d. *The project is located on a site that the Department of Toxic Substances Control and the Secretary of the Environmental Protection have identified, pursuant to Government Code section 65962.5, as being affected by hazardous wastes or clean-up problems; or*

e. *The project may cause a substantial adverse change in the significance of an historical resource.*

HOW DO I REQUEST A CLASS 32 EXEMPTION?
If your project does not fall under any of the Exceptions listed above, you may request a Class 32 Exemption by indicating on your Environmental Assessment Form (EAF) that you would like your project to be considered by checking the box under Section 5. As part of the preliminary review of the project, the Project Planner will determine whether it is eligible for a Class 32 Exemption. In order for the Project Planner to make such a determination, you will still need to file an EAF, and provide the CEQA justifications listed below, including that none of the applicable Exceptions to the Exemption apply.

WHAT DO I NEED TO SUBMIT?
When filing a request for the Class 32 Exemption, the following items are required:

1. An Environmental Assessment Form (EAF) (CP-1204), including required exhibits, materials and fees pursuant to Los Angeles Municipal Code (LAMC) Section 19.05. This includes the "Environmental Assessment Form (EAF)/Initial Study leading to Negative Declaration or Mitigation Negative Declaration". A "Publication Fee for Negative Declaration or Mitigated Negative Declaration" fee will not be charged unless it is determined that the project is not eligible for the Class 32 Exemption.

2. Any supporting documents and/or technical studies to corroborate your position that the proposed project is eligible for the Class 32 Exemption, and/or to further substantiate the justifications listed under Paragraph 3 below. Examples of supporting documents, and when they may be required, are listed below.

   a. **Traffic Study.** A Traffic Study may be required for projects which exceed the Traffic Study Exemption Thresholds set by the Department of Transportation (DOT). In order to determine whether or not a Traffic Study is required, the Applicant shall submit a DOT Referral Form after case filing. If it is determined that a Traffic Study is required, the Applicant shall have one prepared and reviewed by DOT. A DOT Interdepartmental Correspondence Letter will be transmitted to Planning staff and must reflect that no significant traffic impacts will result from the proposed project in order for the project to qualify for the Class 32 Exemption.

   b. **Air Quality (AQ) Study.** Working with the South Coast Air Quality Management District (SCAQMD), Department staff has established interim air quality screening criteria to determine if a project requires an Air Quality Assessment. The purpose of this assessment is to evaluate the regional significance of criteria pollutant emissions from both the construction and operation of a proposed project. The analysis is provided utilizing the California Emissions Estimator Model (CalEEMod). The selected screening criteria is based on a survey of published air quality studies for which the criteria pollutants did not exceed the established SCAQMD construction or operational thresholds.

      If the proposed project has less than 80 residential units OR less than 75,000 square feet of non-residential use, AND involves less than 20,000 cubic yards of soil export, it will not likely exceed the SCAQMD construction or operational thresholds, and therefore will not require an Assessment. If your proposed project exceeds this screening criteria, an air quality assessment will be required. An Air Quality Study may also be required if prompted by the South Coast Air Quality Management District (SCAQMD), if the CE is challenged or if the project is particularly controversial. The applicant may voluntarily provide one if it is anticipated that this information will be requested by another party.

      Please note this does not mean the project will have any significant impacts under CEQA, just that further analysis is required. The criteria can be used for all CEQA clearances, including Class 32 (Infill Development) exemptions pursuant to Section 15332 of the CEQA Guidelines.

   c. **Noise Study.** Depending on the size, scope and features of the project and the project site, the City may require additional documentation or analysis to provide substantial evidence supporting a determination that the project will not have significant impacts related to noise, which may include but is not limited to, the preparation of a Noise Study by a qualified consultant.

d. **Phase I and/or II Environmental Site Assessment (ESA).** A Phase I ESA may be required if the project site was previously developed with a dry cleaning, auto repair, gasoline station, industrial/manufacturing use, or other similar type of use that may have resulted in site contamination. If the Phase I ESA states that the site is contaminated, a Phase II ESA will be required. If a Phase II is required, only if the Phase II ESA demonstrates that the site has been fully remediated without mitigation is the project still eligible for the Class 32 Exemption.

e. **Historic Resource Assessment.** A Historic Resource Assessment and/or historic impact report may be required if the Project site is listed on the National Register of Historic Places, California Register of Historical Resources, or the Los Angeles Historic-Cultural Monuments Register; or is found to be a potential historic resource in HistoricPlacesLA, SurveyLA or based on discussion with the Office of Historic Resources. If it can be demonstrated that the project complies with the Secretary of Interior's Standards, the project may still be eligible for the CE.

f. **Biological Survey and Impact Assessment.** A biological survey and/or biological impact report may be required by the City if the Project site is on or adjacent to open space or previously undisturbed land to demonstrate that the site does not provide habitat for special status flora or fauna.

3. Written justification that the proposed Project meets the following criteria:

   a. The project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations.

   b. The proposed development occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses.

   c. The project site has no value as habitat for endangered, rare or threatened species.

   d. Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality.

   e. The site can be adequately served by all required utilities and public services.

   As mentioned above, technical studies may be required in order to substantiate the above justification. If they are not submitted with your application, they may be requested by the Project Planner prior to acceptance of the Class 32 Exemption. Note also that the assigned Project Planner will determine what CEQA clearance is required to process the application after the request has been submitted and the required submittals reviewed. Note, consistent with the requirements of CEQA, the City may require additional documentation, studies, or evidence to support the Class 32 Exemption, or the preparation of an initial study at any time prior to project approval, if evidence in the record supports that the exemption does not apply or that an exception to the exemption does apply.

CITY OF LOS ANGELES
DEPARTMENT OF CITY PLANNING
CITY HALL 200 NORTH SPRING STREET LOS ANGELES CA 90012

MITIGATED NEGATIVE DECLARATION

Melrose and Seward Project

Case Number: ENV-2021-2909-MND
CPC-2021-2908-ZC-HD-ZAD-WDI-SPR

Project Location: 6101-6117 West Melrose Avenue, 713-735 North Seward Street, Los Angeles, California, 90038.

Community Plan Area: Hollywood

Council District: 5 – Koretz, 13 – O'Farrell

Project Description: The Project would demolish an approximately 8,473 square-foot commercial building and proposes the construction of a new five-story, approximately 77'-9"-foot tall (73'-6"-foot tall to the top of the parapet), 67,889 square-foot, creative office building. The northernmost portion of the Project Site includes two, two-story existing creative office buildings fronting North Seward Street, totaling approximately 17,134 square feet, that would be maintained as part of the Project. The Project would provide 168 vehicular parking spaces and 26 bicycle spaces within a two level subterranean parking garage and an at-grade enclosed parking area. The Project would be built on a 45,136 square-foot lot, resulting in a site-wide Floor Area Ratio (FAR) of approximately 1.88 to 1, inclusive of the existing buildings being retained as part of the Project. The anticipated outbound haul route from the Project Site would be along Melrose Avenue to Normandie Avenue, to the 101 freeway. Approximately 29,400 cubic yards of soil will be excavated and exported from the Project Site.

PREPARED FOR:
The City of Los Angeles
Department of City Planning

PREPARED BY:
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APPLICANT:
Melrose Avenue Owner, LLC
1015 N. Fairfax Avenue
West Hollywood, California 90046

March 2022

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INITIAL STUDY

1 INTRODUCTION

An application for the proposed Melrose and Seward Project ("Project") has been submitted to the City of Los Angeles Department of City Planning for discretionary review. The Department of City Planning, as Lead Agency, has determined that the Project is subject to the California Environmental Quality Act (CEQA), and the preparation of an Initial Study is required.

This Initial Study (IS) evaluates potential environmental effects resulting from construction, and operation of the proposed Project. This Initial Study has been prepared in accordance with CEQA (Public *Resources* Code §21000 et seq.), the State CEQA Guidelines (Title 14, California Code of Regulations, §15000 et seq.), and the City of Los Angeles CEQA Guidelines (1981, amended 2006). Based on the analysis provided within this Initial Study, the City has concluded that the Project, with mitigation would not result in significant impacts on the environment. This Initial Study and Mitigated Negative Declaration is intended as an informational document and is ultimately required to be adopted by the decision-making body prior to project approval by the City.

1.1 PURPOSE OF AN INITIAL STUDY

The California Environmental Quality Act was enacted in 1970 with several basic purposes: (1) to inform governmental decision makers and the public about the potential significant environmental effects of proposed projects; (2) to identify ways that environmental damage can be avoided or significantly reduced; (3) to prevent significant, avoidable damage to the environment by requiring changes in projects through the use of feasible alternatives or mitigation measures; and (4) to disclose to the public the reasons behind a project's approval even if significant environmental effects are anticipated.

An Initial Study is a preliminary analysis conducted by the Lead Agency, in consultation with other agencies (responsible or trustee agencies, as applicable), to determine whether there is substantial evidence that a project may have a significant effect on the environment. If the Initial Study shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, the Lead Agency shall prepare a Negative Declaration. If the Initial Study identifies potentially significant effects but revisions have been made by or agreed to by the applicant that would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, a Mitigated Negative Declaration is appropriate. If the Initial Study concludes that neither a Negative Declaration or Mitigated

Negative Declaration is appropriate, an EIR is normally required.[1]

1.2 ORGANIZATION OF THE INITIAL STUDY

This Initial Study is organized into sections as follows:

1 INTRODUCTION

Describes the purpose and content of the Initial Study and provides an overview of the CEQA process.

2 EXECUTIVE SUMMARY

Provides Project information, identifies key areas of environmental concern, and includes a determination whether the project may have a significant effect on the environment.

3 PROJECT DESCRIPTION

Provides a description of the environmental setting and the Project, including project characteristics and a list of discretionary actions.

4 EVALUATION OF ENVIRONMENTAL IMPACTS

Contains the completed Initial Study Checklist and discussion of the environmental factors that would be potentially affected by the Project.

5 MITIGATION MONITORING PROGRAM

The Mitigation Monitoring Program (MMP) is the document that will be used by the enforcement and monitoring agencies responsible for the implementation of the Project's mitigation measures and Project Design Features. Mitigation measures and Project Design Features are listed by environmental topic.

1.3 CEQA PROCESS

In compliance with the State CEQA Guidelines, the City, as the Lead Agency for the Project, will provide opportunities for the public to participate in the environmental review process. As described below, throughout the CEQA process, efforts will be made to inform, contact, and solicit input on the Project from various government agencies and the general public, including stakeholders and other interested parties.

---

[1] *State CEQA Guidelines Section 15063(b)(1) identifies the following three options for the Lead Agency when there is substantial evidence that the project may cause a significant effect on the environment: "(A) Prepare an EIR, or (B) Use a previously prepared EIR which the Lead Agency determines would adequately analyze the project at hand, or (C) Determine, pursuant to a program EIR, tiering, or another appropriate process, which of a project's effects were adequately examined by an earlier EIR or negative declaration.*

1.1.1 Initial Study

At the onset of the environmental review process, the City has prepared this Initial Study to determine if the proposed Project may have a significant effect on the environment. This Initial Study determined that the proposed Project could have potentially significant environmental impacts but mitigation measures agreed to by the applicant would avoid or reduce such impacts to a point where clearly no significant impacts would occur.

A Notice of Intent to Adopt a Mitigated Negative Declaration (MND) or Negative Declaration (ND) is provided to inform the general public, responsible agencies, trustee agencies, and the county clerk of the availability of the document and the locations where the document can be reviewed. A 20-day review period (or 30-day review period when the document is submitted to the State Clearinghouse for state agency review) is identified to allow the public and agencies to review the document. The notice is mailed to any interested parties and is noticed to the public through publication in a newspaper of general circulation.

The decision-making body then considers the Mitigated Negative Declaration or Negative Declaration, together with any comments received during the public review process, and may adopt the MND or ND and approve the project. In addition, when approving a project for which an MND or ND has been prepared, the decision-making body must find that there is no substantial evidence that the project will have a significant effect on the environment, and that the ND or MND reflects the lead agency's independent judgement and analysis. When adopting an MND, the lead agency must also adopt a mitigation monitoring and reporting program to ensure that all proposed mitigation measures are implemented to mitigate or avoid significant environmental effects.

INITIAL STUDY

2 EXECUTIVE SUMMARY

PROJECT TITLE	**MELROSE AND SEWARD PROJECT**
ENVIRONMENTAL CASE NO.	**ENV-2021-2909-MND**
RELATED CASES	**CPC-2021-2908-ZC-HD-ZAD-WDI-SPR**

PROJECT LOCATION	6101-6117 W. Melrose Avenue, 713-735 N. Seward Street
COMMUNITY PLAN AREA	Hollywood
GENERAL PLAN DESIGNATION	Commercial Manufacturing
ZONING	C4-1XL, and CM-1VL
COUNCIL DISTRICT	5 – Koretz, 13 – O'Farrell

LEAD CITY AGENCY	**City of Los Angeles Department of City Planning**
STAFF CONTACT	David Woon, Planning Assistant
ADDRESS	City of Los Angeles Department of City Planning 200 N. Spring Street, Room 763, Los Angeles, CA 90012
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APPLICANT	Melrose Avenue Owner, LLC
ADDRESS	1015 N. Fairfax Avenue, West Hollywood, California 90046
PHONE NUMBER	(323) 461-8815

PROJECT DESCRIPTION

The Melrose and Seward Project proposes the construction of a new five-story, approximately 77'-9"-foot tall (73'-6"-foot tall to the top of the parapet), 67,889 square foot, creative office building at the property located in the Hollywood Community Plan area at 6101-6117 West Melrose Avenue and 713-735 North Seward Street (the "Site") in the City of Los Angeles (the "City"). The northernmost portion of the Project Site includes two, two-story existing creative office buildings fronting North Seward Street, totaling approximately 17,134 square feet, that would be maintained as part of the project. The existing surface parking lots and existing one-story, approximately 8,473 square-foot commercial building fronting West Melrose Avenue would be demolished to allow for the location and construction of the new 67,889 square foot, creative office building proposed as part of the Project. The Project would provide 168 vehicular parking spaces and 26 bicycle spaces within a two level subterranean parking garage and an at-grade enclosed parking area. The Project would be built on a 45,136 square-foot lot, resulting in a site-wide FAR of approximately 1.88 to 1, inclusive of the existing buildings being retained as part of the Project. The Project's media-focused uses and forward-thinking post-pandemic design would continue and enhance the existing creative corridor along North Seward Street.

The Applicant is requesting the following discretionary approvals: A Zone Change and Height District Change from C4-1XL and CM-1VL to CM-2; a Zoning Administrator's Determination to allow the Project to exceed the maximum transitional height requirements set forth in the Los Angeles Municipal Code (LAMC) Section 12.21.1 A.10, a Site Plan Review to allow a development which results in an increase of approximately 67,889 gross square feet of nonresidential floor area; and a Waiver of Dedication and/or Improvement pursuant to LAMC Section 12.37 I.3, to waive all dedication and street widening requirements along North Seward Street and West Melrose Avenue. Other discretionary and ministerial permits and approvals that may be deemed necessary, include, but are limited to, haul route approval, temporary street closure permits, grading permits, excavation permits, foundation permits, building permits, and sign permits.

(For additional detail, see "Section 3. PROJECT DESCRIPTION").

ENVIRONMENTAL SETTING

The Project Site is comprised of three parcels with Assessor Parcel Numbers (APN Nos. 5533-037-005, 5533-037-024, 5533-037-023) that are rectangular in shape and total 45,136 square feet in area. The Project Site is currently zoned C4-1XL and CM-1VL and has a General Plan land use designation of Commercial Manufacturing. The Project Site is currently improved with three buildings and two surface parking lots. The building located on the southern portion of the Project Site is a one-story, approximately 8,473 square-foot commercial building, the two buildings located on the northern portion of the Project Site total approximately 17,134 square feet are one and two story creative office buildings. In between the buildings are two surface parking lots. One surface parking lot, which is accessed via one driveway off of North Seward

Street, is utilized by the commercial building on the southern portion of the Project Site. The other surface parking lot is a gated surface parking lot with one driveway located off of North Seward Street, which is utilized by the two existing creative office buildings located on the northern portion of the Project Site. The Project Site also contains vegetation landscaping and six non-protected trees (two street trees and four trees located on-site). The Project Site is located at 6101-6117 West Melrose Avenue and 713-735 North Seward Street, and is bounded by West Melrose Avenue to the south, by North Seward Street to the east, by the John C. Fremont Branch Library and residential uses to the west, and by commercial uses to the north. The anticipated outbound haul route from the Project Site would be along Melrose Avenue to Normandie Avenue, to the 101 freeway. Approximately 29,400 cubic yards of soil will be excavated and exported from the Project Site.

(For additional detail, see “Section 3. PROJECT DESCRIPTION”).

OTHER PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED

(e.g. permits, financing approval, or participation agreement): None.

CALIFORNIA NATIVE AMERICAN CONSULTATION

Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

Yes, a notification was sent on June 24, 2021 to ten tribes. The City did not receive any correspondence or request for consultation from the tribes.

Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21080.3.2.) Information may also be available from the California Native American Heritage Commission’s Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- ☐ Aesthetics
- ☐ Agriculture & Forestry Resources
- ☐ Air Quality
- ☐ Biological Resources
- ☐ Cultural Resources
- ☐ Energy
- ☐ Geology / Soils
- ☐ Greenhouse Gas Emissions
- ☐ Hazards & Hazardous Materials
- ☐ Hydrology / Water Quality
- ☐ Land Use / Planning
- ☐ Mineral Resources
- ☒ Noise
- ☐ Population / Housing
- ☐ Public Services
- ☐ Recreation
- ☒ Transportation
- ☐ Tribal Cultural Resources
- ☐ Utilities / Service Systems
- ☐ Wildfire
- ☐ Mandatory Findings of Significance

DETERMINATION

(To be completed by the Lead Agency)
On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions on the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

David Woon	Planning Assistant
PRINTED NAME	**TITLE**
	3/9/22
SIGNATURE	**DATE**

EVALUATION OF ENVIRONMENTAL IMPACTS

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less that significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of a mitigation measure has reduced an effect from "Potentially Significant Impact" to "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analysis," as described in (5) below, may be cross referenced).

5) Earlier analysis must be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR, or negative declaration. Section 15063 (c)(3)(D). In this case, a brief discussion should identify the following:

    a) Earlier Analysis Used. Identify and state where they are available for review.

    b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

    c) Mitigation Measures. For effects that are "Less Than Significant With Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated

7) Supporting Information Sources: A sources list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whichever format is selected.

9) The explanation of each issue should identify:

    a) The significance criteria or threshold, if any, used to evaluate each question; and

    b) The mitigation measure identified, if any, to reduce the impact to less than significance.

INITIAL STUDY

3 PROJECT DESCRIPTION

3.1 PROJECT SUMMARY

The Melrose and Seward Project proposes the construction of a new five-story, approximately 77'-9"-foot tall (73'-6"-foot tall to the top of the parapet), 67,889 square foot, creative office building at the property located in the Hollywood Community Plan area at 6101-6117 West Melrose Avenue and 713-735 North Seward Street in the City of Los Angeles. The northernmost portion of the Project site includes two, two-story existing creative office buildings fronting North Seward Street, totaling approximately 17,134 square feet, that would be maintained as part of the project. The existing surface parking lot and existing one-story, approximately 8,473 square-foot commercial building fronting West Melrose Avenue would be demolished to allow for the location and construction of the new 67,889 square foot, creative office building proposed as part of the Project. The Project would provide 168 vehicular parking spaces and 26 bicycle spaces within a two level subterranean parking garage and an at-grade enclosed parking area. The Project would be built on a 45,136 square-foot lot, resulting in a site-wide FAR of approximately 1.88 to 1, inclusive of the existing buildings being retained as part of the Project. The Project's media-focused uses and forward-thinking post-pandemic design would continue and enhance the existing creative corridor along North Seward Street.

3.2 ENVIRONMENTAL SETTING

3.2.1 Project Location

The Project Site is located within the boundaries of the Hollywood Community Plan, one of the 35 Community Plans which form the Land Use Element of the General Plan for the City of Los Angeles, all Project Site lots have been designated Commercial Manufacturing under the Hollywood Community Plan. The Project Site's location within the City of Los Angeles and greater Los Angeles region is depicted in Figure 3.1, *Regional and Vicinity Map*. The Project Site is located at 6101-6117 West Melrose Avenue and 713-735 North Seward Street, and is bounded by West Melrose Avenue to the south, by North Seward Street to the east, by the library and residential uses to the west and commercial buildings to the north.

Regional access to the Project Site is provided by the 101 Freeway, located approximately 2.0 miles east of the Project Site. Local access to the Project Site is provided via West Melrose Avenue and North Seward Street.

Project Site Existing Buildings to Remain

Source: GoogleEarth, November 2020.

Figure 3.1
Regional and Vicinity Map

3.2.2 Existing Conditions

Existing Site Conditions

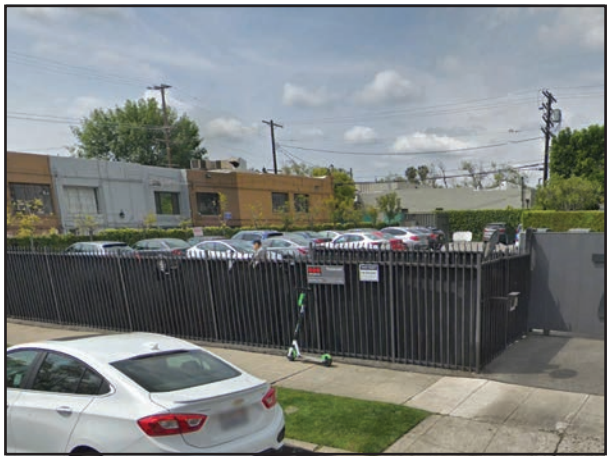
The Project Site is comprised of three parcels with Assessor Parcel Numbers (APN Nos. 5533-037-005, 5533-037-024, 5533-037-023) that are rectangular in shape and total 45,136 square feet in area. The relatively flat Project Site is currently developed with three buildings and two surface parking lots. As shown in Figure 3.2, *Existing Site Photos*, a one-story, approximately 8,473 square-foot commercial building is located on the southern portion of the Project Site. Adjacent and north of this building is a surface parking lot, which is accessed via one driveway off of North Seward Street. North of this surface parking lot is another gated surface parking lot, which is accessed via one driveway off of North Seward Street. North of the parking lot is a one- and two story creative office building, with a total of approximately 17,134 square feet of creative office space. The Project Site contains vegetation landscaping and six non-protected trees (two street trees and four trees located on-site). The Project would require the removal of the six existing non-protected trees: two existing street trees (Pittosporum undulatum/Victoria Box) and four courtyard trees (Cupaniopsis anacardioides/Carrotwood). Any existing street trees that will be removed through the development of the proposed Project will be replaced per the requirements of the Bureau of Street Services, Urban Forestry Division.

The Project Site is zoned C4-1XL and CM-1VL and is located within the Hollywood Community Plan Area, which designates the land use of the entire Project Site as Commercial Manufacturing. The portion of the Project Site that is located in Height District No. 1VL, restricts the height of development to 45 feet, three stories, and the portion of the Project Site that is located in Height District No. 1 XL, restricts the height development to 30 feet, two stories. The Site lots presently zoned CM-1VL are consistent with this designation, while the lot at the northwest corner of West Melrose Avenue and North Seward Street presently zoned C4-1XL is inconsistent with its Commercial Manufacturing land use designation under the Hollywood Community Plan as shown in Figure 3.3, *Zoning and General Land Use Designation*.

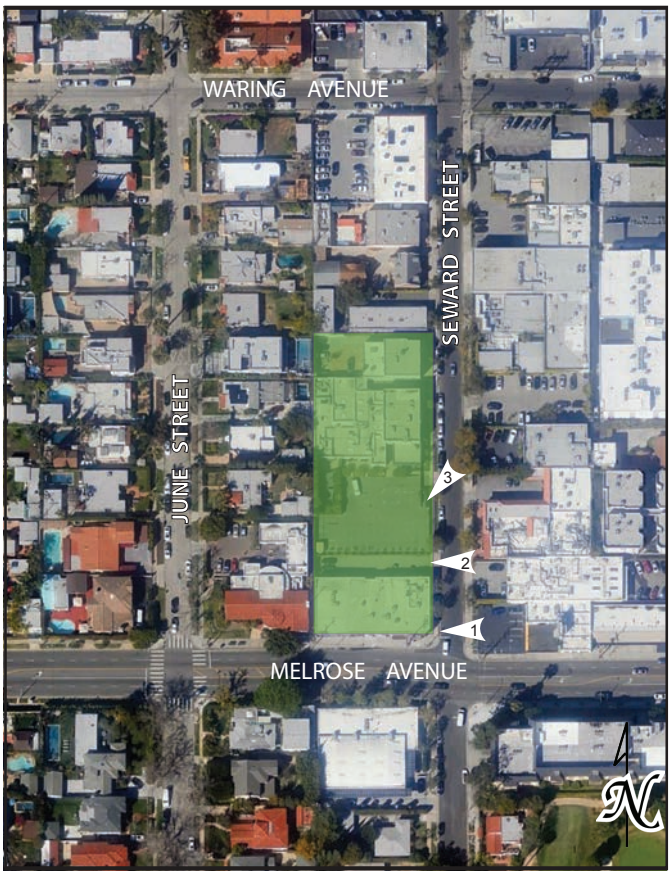
The Project Site is not located within the boundaries of or subject to any Specific Plan, Community Design Overlay, or Interim Control Ordinance. The Project Site is located in the Los Angeles State Enterprise Zone (ZI-2374), Hollywood Media District Business Improvement District, a Revised Hollywood Injunction (ZI-2433), and a Transit Priority Area in the City of Los Angeles (ZI-2452). The Project Site is not located within a Hillside Area or subject to Hillside Construction Regulation, Bureau of Engineering (BOE) designated Special Grading Area, Historic Preservation Review or Overlay Zone, a Clean Up-Green Up (CUGU) area. The Project Site is not located within a Very Hight Fire Severity Zone, Flood Zone, Watercourse, Hazardous Waste zone, a High Wind Velocity zone, a BOE Special Grading Area, Landslide area, Preliminary Fault Rupture Study Area, a Tsunami Inundation Zone, Liquefaction zone, or Alquist-Priolo zone. The Project Site is located within approximately 2.5 kilometers of the nearest fault, the Hollywood Fault. The Project Site is located within an Urban Agriculture Incentive Zone, however, the Project does not involve a contract to use vacant property for agricultural purposes in exchange for reduced property taxes. The Project Site is also located in a Methane zone.

View 1: View west toward the Project Site.

View 2: View west toward the Project Site.



View 3: View northwest toward the Project Site.

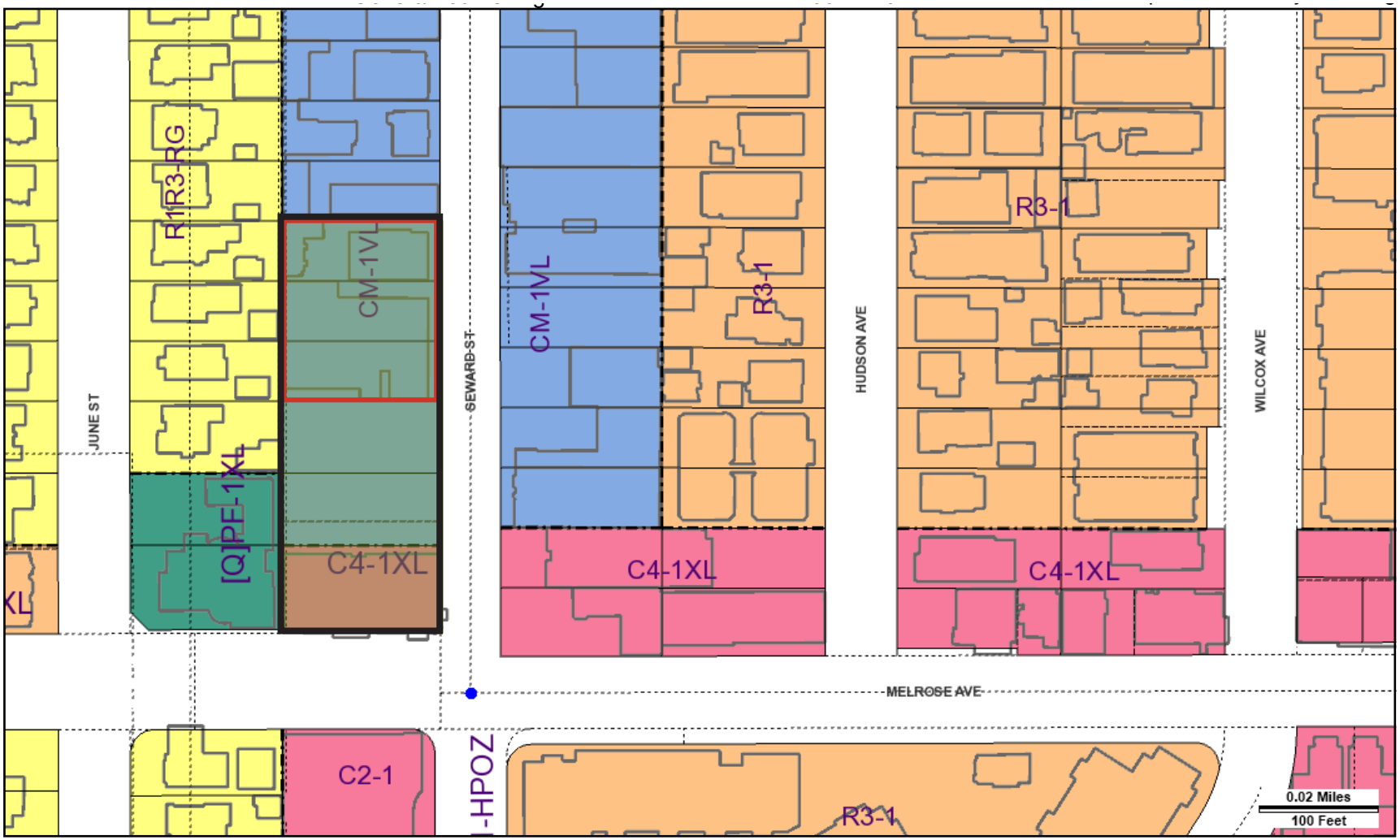


PROJECT SITE

PHOTO LOCATION MAP

Source: EcoTierra 2021.

Figure 3.2
Existing Site Photos
View 1, 2 and 3



Project Site Existing Buildings to Remain

Source: City of Los Angeles Planning Zimas Maps, June 2021.

Figure 3.3
Zoning and General Plan Land Use Designation

3.2.3 Surrounding Land Uses

The Project Site is located in an urban area characterized by low to mid rise buildings. The Project Site is bounded by West Melrose Avenue to the south, by North Seward Street to the east, by the library and residential uses to the west and commercial buildings to the north.

Figures 3.4 and 3.5, *View of Surrounding Land Uses*, depict the existing conditions of the surrounding land uses. Surrounding land uses are comprised of office uses, residential uses, retail uses, and a library. Nearby structures vary in building style and construction.

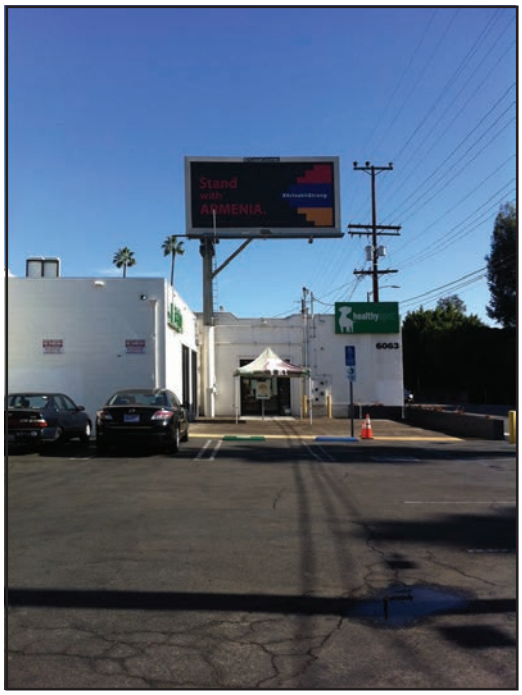
North: North of the Project Site are one and two-story office uses. The office uses are zoned CM-1VL with a General Plan land use designation of Commercial Manufacturing. Adjacent to the Project Site is Plus Development Group, and DV Warehouse Computer Store.

East: East of the Project Site across North Seward Street, is a surface parking lot, and one and two-story office uses. The office uses are zoned C4-1XL and CM-1VL with a General Plan land use designation of Commercial Manufacturing. Further east of surface parking lot is the Healthy Spot restaurant. Northeast of the parking lot and Healthy Spot restaurant is Irwin Entertainment, and Go Film, and Silva Artist Management offices.

South: South of the Project Site is West Melrose Avenue. Further south of the Project Site, directly across West Melrose Avenue is the one-story Aether Apparel retail use. The Aether Apparel site is zoned C2-1, with a General Plan land use designation of General Commercial. Southwest of the Project Site is a two-story apartment building. The apartment building is zoned R1-1-HPOZ with a General Plan land use designation of Low II Residential. Southeast of the Project Site is a three-story apartment building. The apartment building is zoned R3-1 with a General Plan land use designation of Medium Residential. Further southeast is the Wilshire Country Club Golf Course.

West: The John C. Freemont Library, and one-story residential uses are located adjacent and to the west of the Project Site. The John C. Freemont Library site is zoned [Q]PF-1XL, with a General Plan land use designation of Low II Residential. The area further northwest of the Project Site are one and two-story residential uses. These residential uses are zoned R1R3-RG with a General Plan land use designation of Low II Residential. West of the Project Site across June Street are one-and two story residential uses. These residential uses are zoned R2-1XL and R1R3-RG with a General Plan land use designation of Low Medium I Residential, and Low II Residential.

View 1: View northwest toward the office uses.



View 2: View east across Seward Street toward the Healthy Spot restaurant.

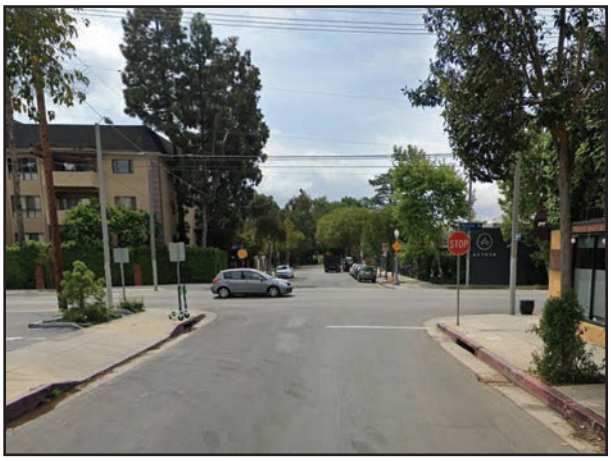
View 3: View northeast across Seward Street toward Irwin Entertainment.

PROJECT SITE

PHOTO LOCATION MAP

Source: EcoTierra 2021.

Figure 3.4
Surrounding Land Uses
View 1, 2 and 3



View 4: View south across Melrose Avenue toward the apartment and Aether Apparel.

View 5: View east toward the John C. Freemont Library.

View 6: View northeast toward residential uses.

PROJECT SITE

PHOTO LOCATION MAP

Source: EcoTierra 2021.

Figure 3.5
Surrounding Land Uses
Views 4, 5, and 6

3.3 DESCRIPTION OF PROJECT

3.3.1 Project Overview

The Project includes the construction of a new five-story, approximately 77'-9"-foot tall (73'-6"-foot tall to the top of the parapet), 67,889 square foot, creative office building, as shown in Table 3.1, *Project Development Summary*. The northernmost portion of the Project site includes two, two-story existing creative office buildings fronting North Seward Street, totaling approximately 17,134 square feet, that would be maintained as part of the project. The existing surface parking lot and existing one-story, approximately 8,473 square-foot commercial building fronting West Melrose Avenue would be demolished to allow for the location and construction of the new 67,889 square foot, creative office building proposed as part of the Project. The proposed layout of the Project is illustrated in the floor plans in Figures 3.6 through 3.10. The elevation plans are shown in Figures 3.11 through 3.14.

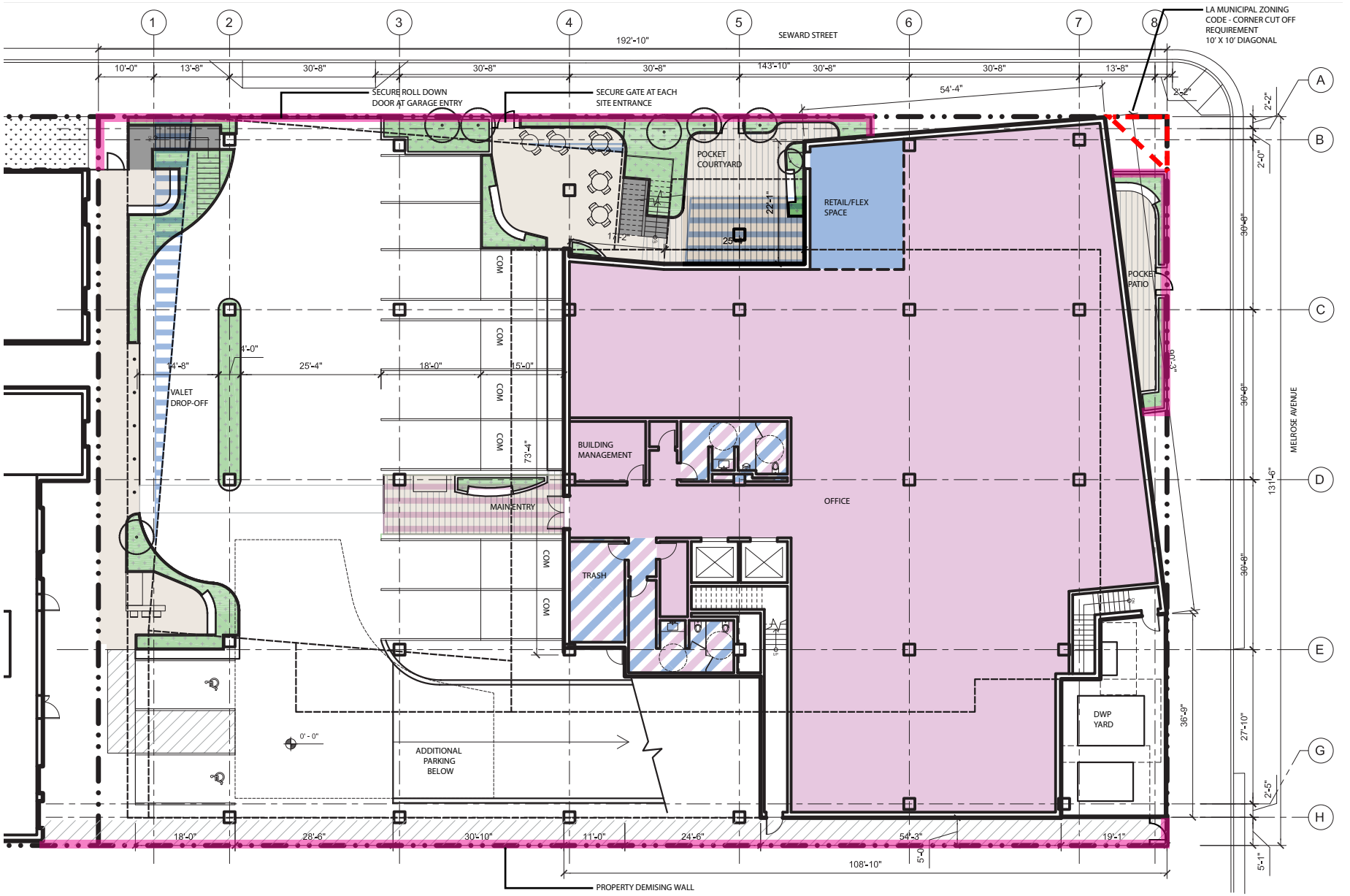
Table 3.1
Project Development Summary[a]

Size	Total
Creative Office Project	
Creative Office Use	*67,242 sf*
Retail Use	*647 sf*
Total Office Project Square Footage	**67,889 sf**
Parking Spaces	
Ground Floor	*16*
Subterranean Level 1	*42*
Subterranean Level 2	*110*
Total Parking Spaces	**168**
Bicycle Parking – Long Term	*9*
Bicycle Parking – Short Term	*17*
Total Bicycle Storage	**26**
Open Space	
Open Space	*11,325 sf*
Total Common Open Space	***11,325 sf***
Landscaping	
Landscaping	*2,870 sf*
Total Landscaping	***2,870 sf***

Notes:
sf = square feet
[a] *17,134 sf of existing uses to remain.*
Source: House & Robertson Architects October 2020.

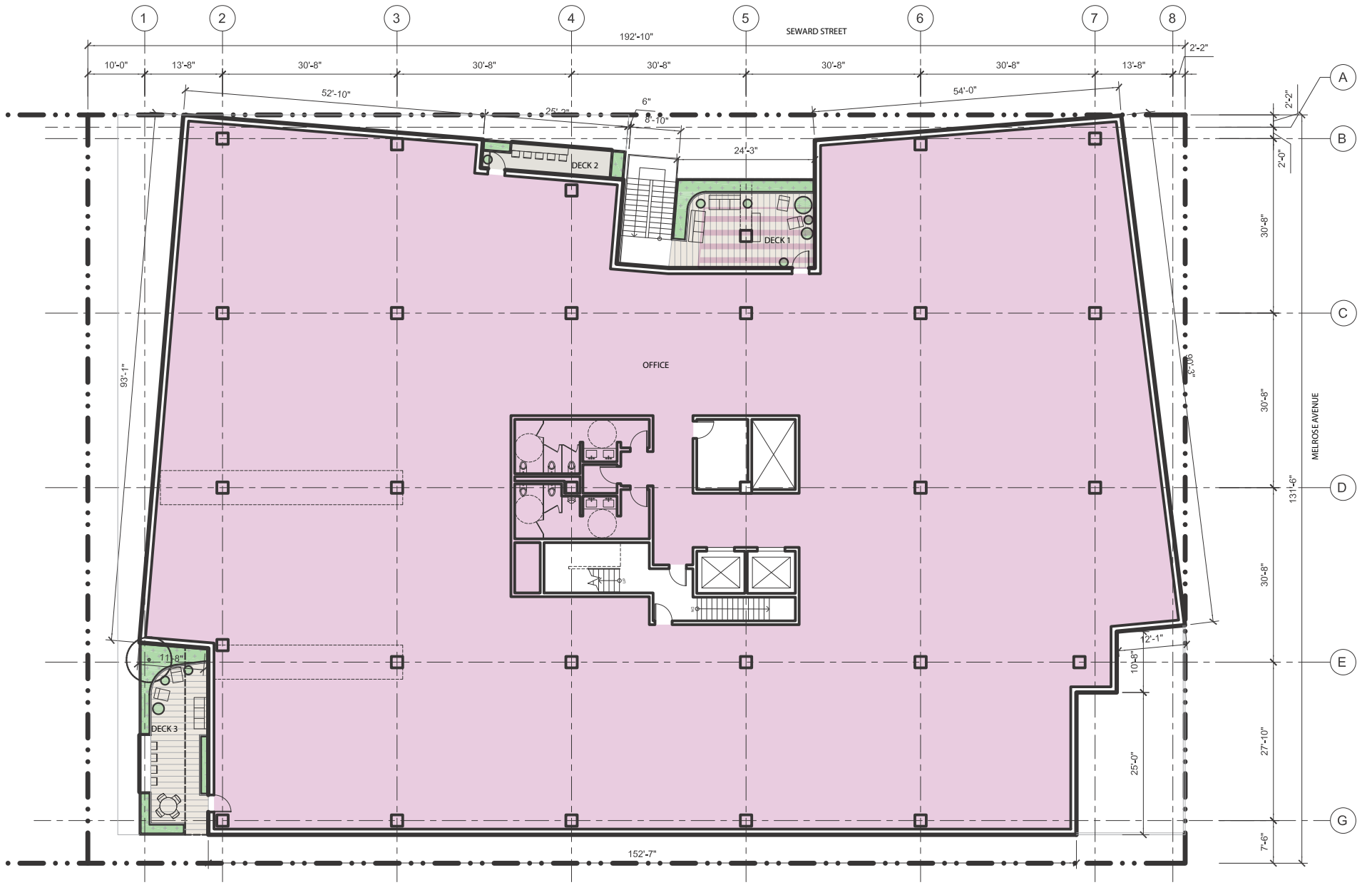
The building massing is comprised of two volumes atop a podium and stitched together with several planted decks and an east exterior exiting stairway. The west elevation terraces down to reduce the buildings massing along the neighboring residential lots.

The proposed subterranean parking garage is a two level below grade structure. The parking level one includes mechanical, electrical and plumbing rooms, bicycle parking spaces and vehicular parking spaces. The fire sprinkler tank, cistern, and heat pump room will be housed along the perimeter of parking levels one and two. Parking level two is dedicated to vehicular



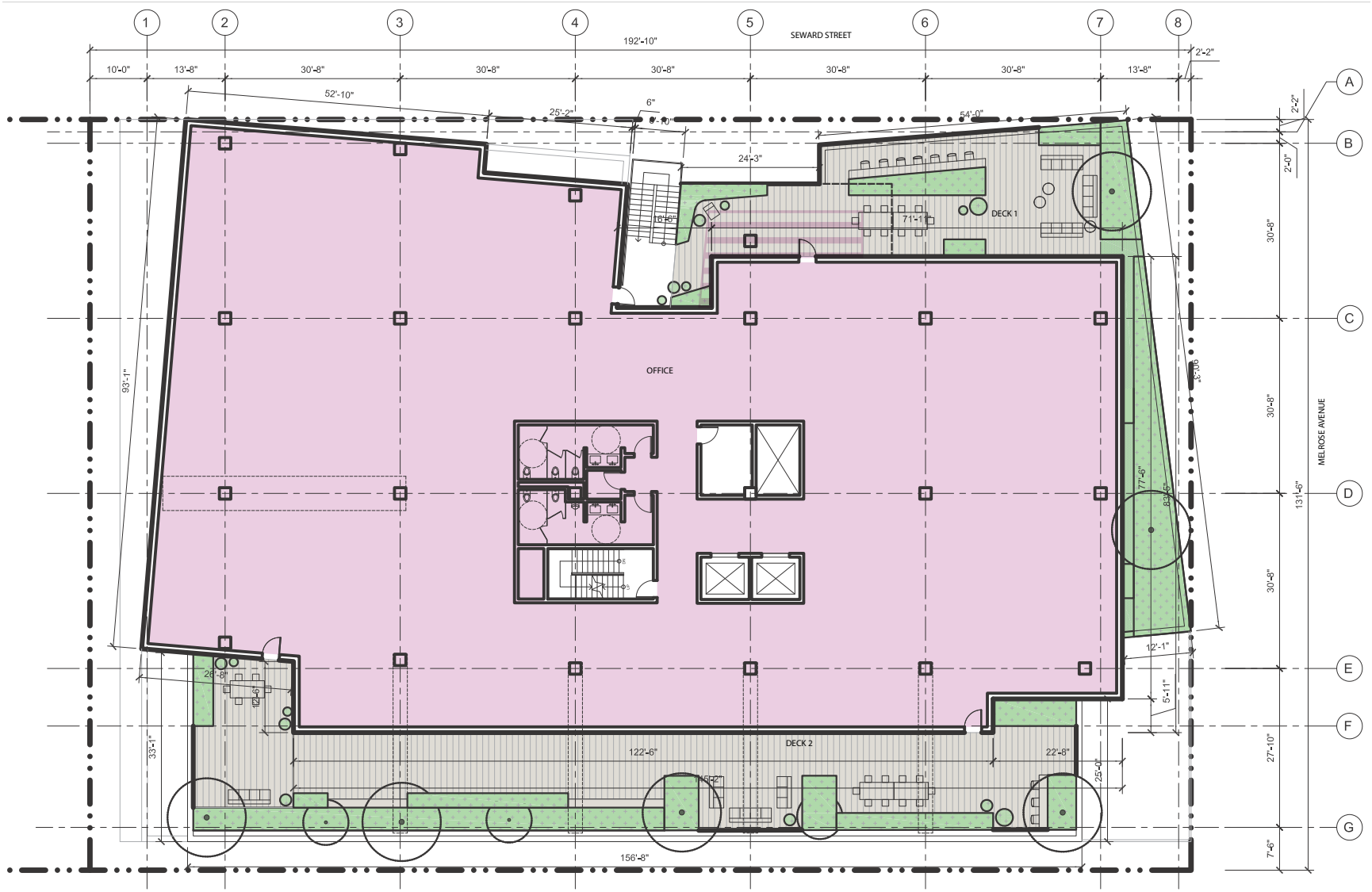
Source: HRA House & Robertson Architects, March 2021.

Figure 3.6
First Floor Plan



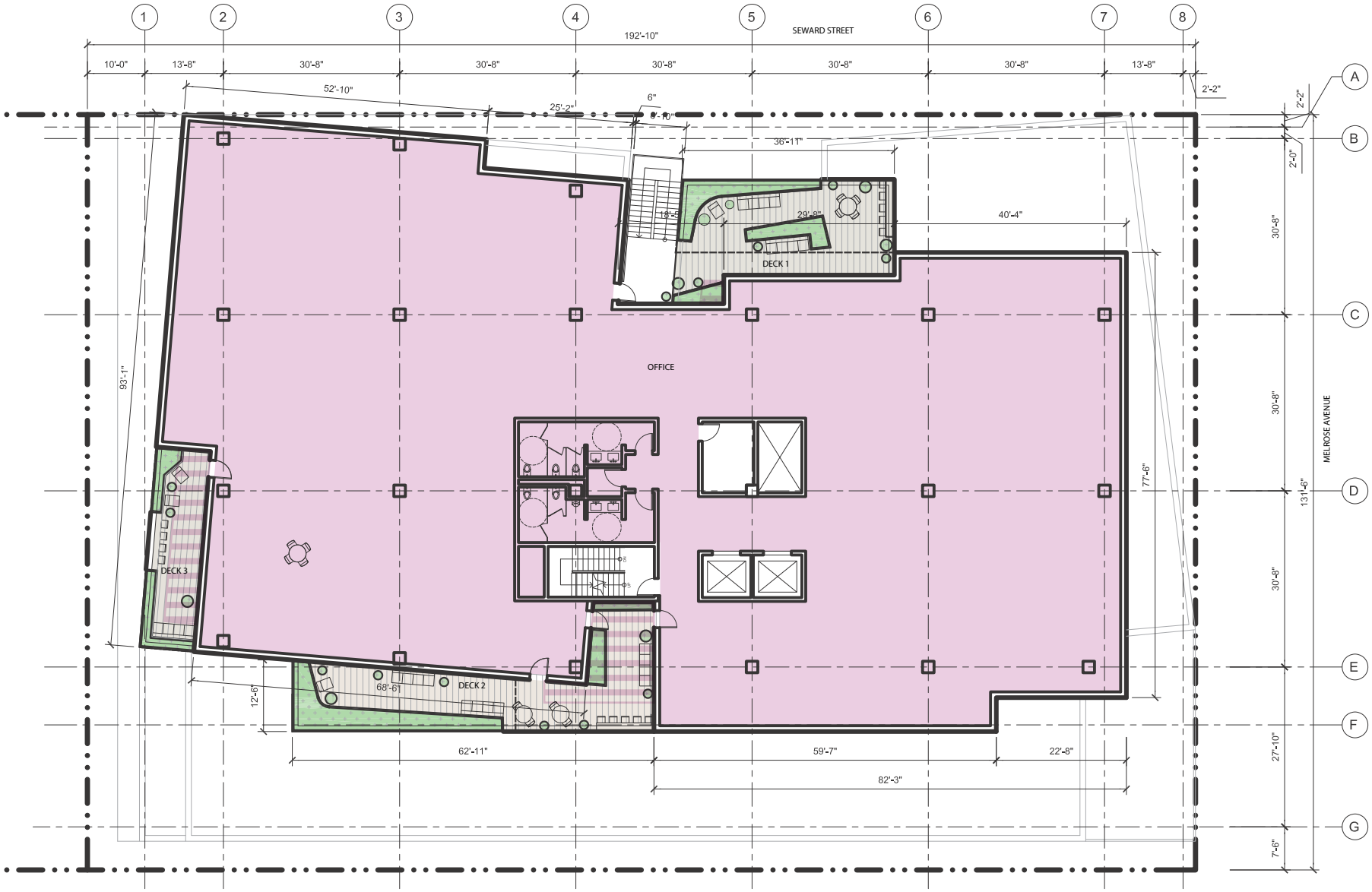
Source: HRA House & Robertson Architects, March 2021.

Figure 3.7
Second Floor Plan



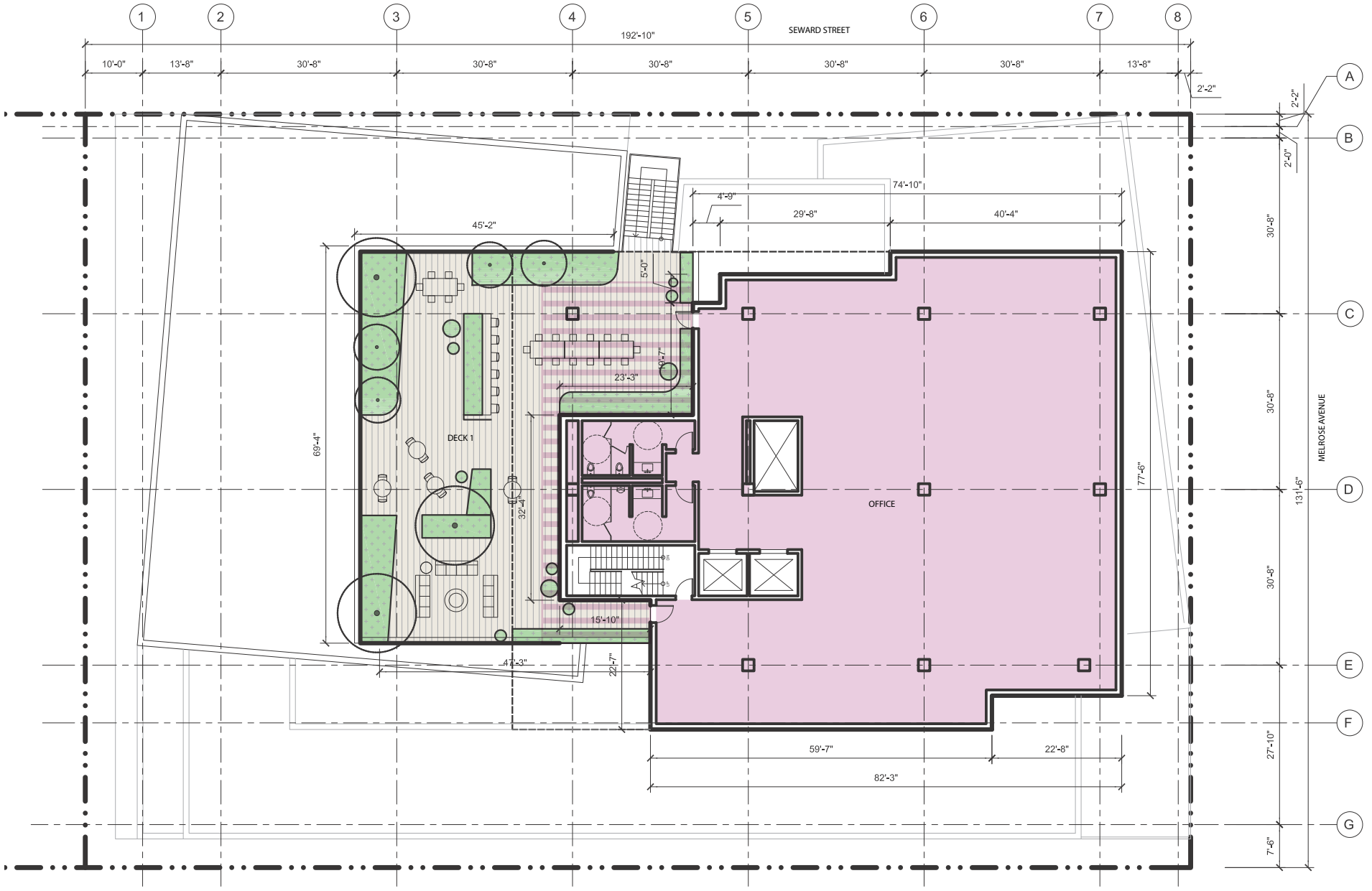
Source: HRA House & Robertson Architects, March 2021.

Figure 3.8
Third Floor Plan



Source: HRA House & Robertson Architects, March 2021.

Figure 3.9
Fourth Floor Plan

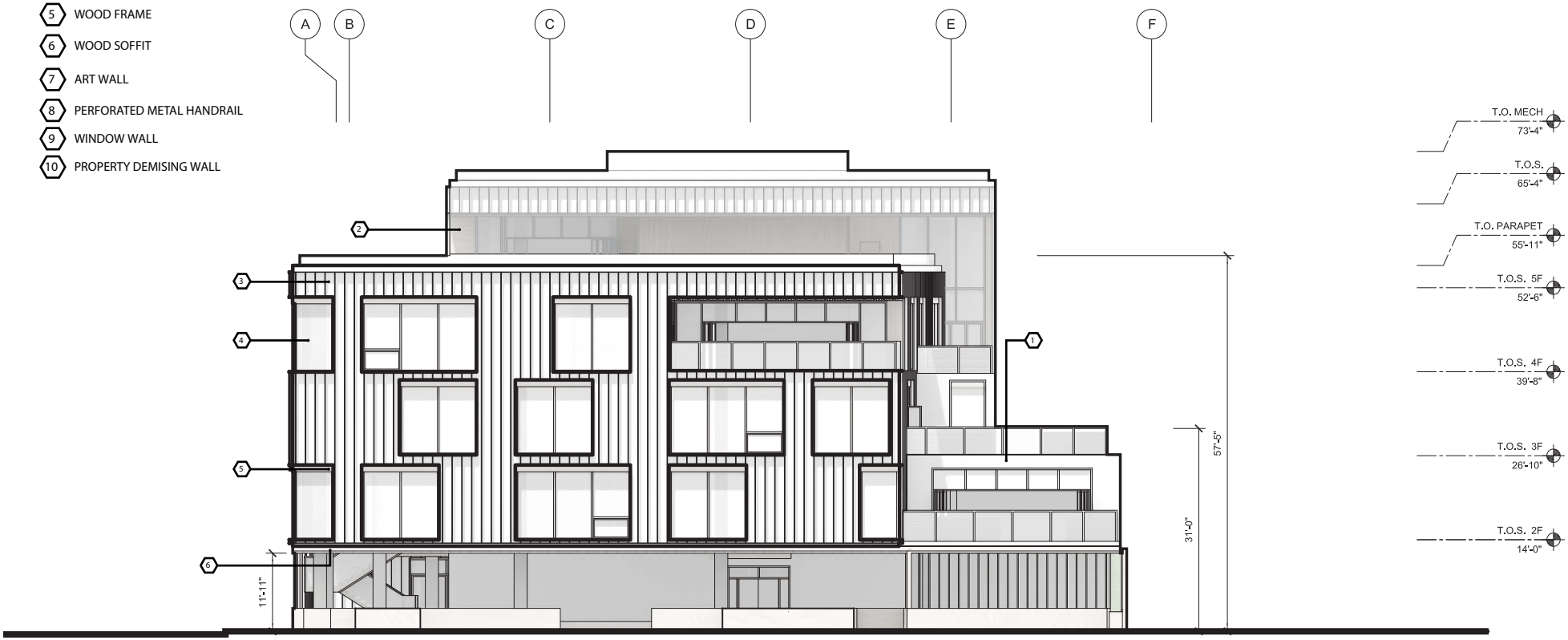


Source: HRA House & Robertson Architects, March 2021.

Figure 3.10
Fifth Floor Plan

KEYNOTES:

1. PAINTED STUCCO
2. WOOD PANELING
3. WHITE METAL PANEL
4. PUNCHED ALUMINUM WINDOW
5. WOOD FRAME
6. WOOD SOFFIT
7. ART WALL
8. PERFORATED METAL HANDRAIL
9. WINDOW WALL
10. PROPERTY DEMISING WALL

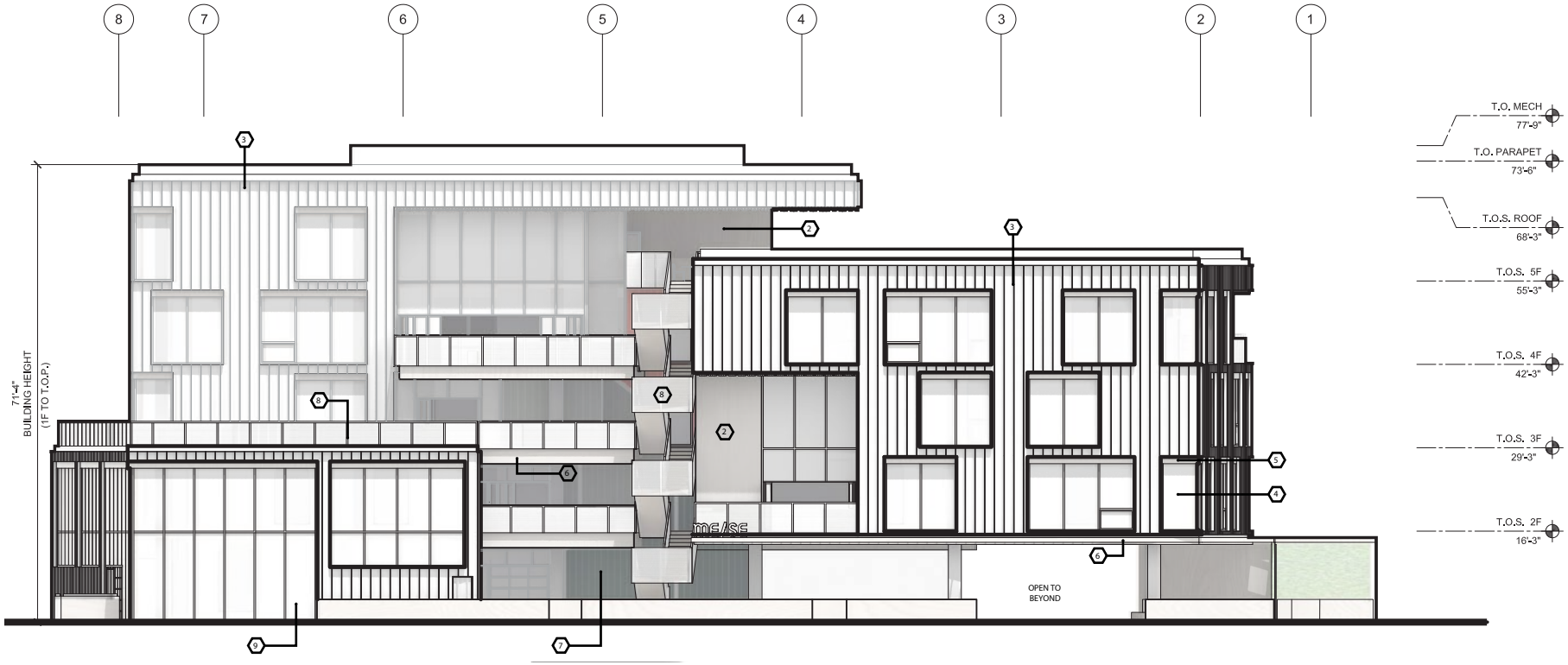


Source: HRA House & Robertson Architects, November 2020.

Figure 3.11
North Elevation

KEYNOTES:

1. PAINTED STUCCO
2. WOOD PANELING
3. WHITE METAL PANEL
4. PUNCHED ALUMINUM WINDOW
5. WOOD FRAME
6. WOOD SOFFIT
7. ART WALL
8. PERFORATED METAL HANDRAIL
9. WINDOW WALL
10. PROPERTY DEMISING WALL

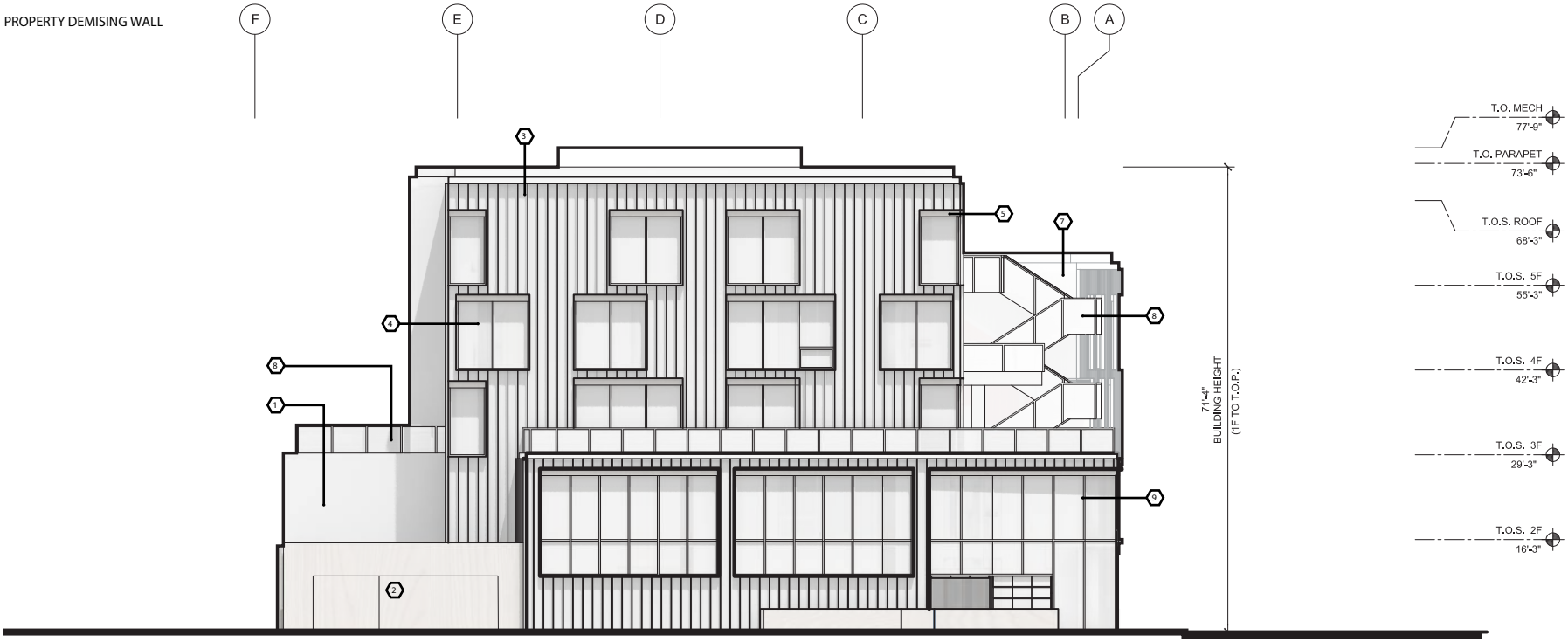


Source: HRA House & Robertson Architects, March 2021.

Figure 3.12
East Elevation

KEYNOTES:

1. PAINTED STUCCO
2. WOOD PANELING
3. WHITE METAL PANEL
4. PUNCHED ALUMINUM WINDOW
5. WOOD FRAME
6. WOOD SOFFIT
7. ART WALL
8. PERFORATED METAL HANDRAIL
9. WINDOW WALL
10. PROPERTY DEMISING WALL

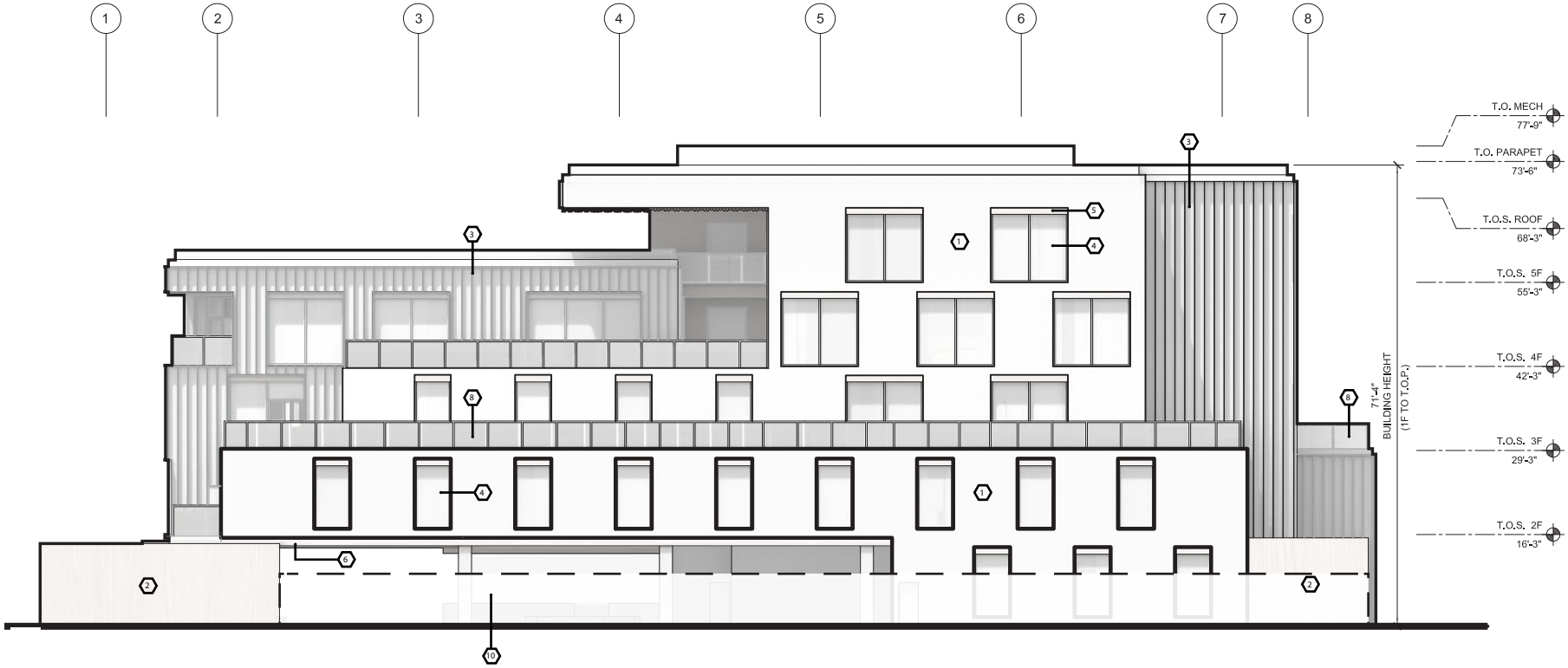


Source: HRA House & Robertson Architects, March 2021.

Figure 3.13
South Elevation

KEYNOTES:

1. PAINTED STUCCO
2. WOOD PANELING
3. WHITE METAL PANEL
4. PUNCHED ALUMINUM WINDOW
5. WOOD FRAME
6. WOOD SOFFIT
7. ART WALL
8. PERFORATED METAL HANDRAIL
9. WINDOW WALL
10. PROPERTY DEMISING WALL



Source: HRA House & Robertson Architects, March 2021.

Figure 3.14
West Elevation

parking spaces and includes mechanical parking stackers.

The proposed office building is located above the parking garage. The ground floor of the office building is composed of four primary elements: building lobby, 647 square-foot retail space, office space and service spaces. The retail space would be accessible only to tenants and their guests, and would not be open to the public. The lobby entrance is next to the surface parking and reception zone, near the center of the building. The secured lobby entrance is directly adjacent to the elevator lobby. Additional Project Site improvements include planting at grade along the facades on West Melrose Avenue and North Seward Street as well as on the upper level terraces and planting on the north side of the building in and near the shared plaza. This shared plaza between the Project and the existing creative office space to the north will be delineated from the surface parking and valet through plantings as well as ground pavers. Plantings along North Seward Street and West Melrose Avenue will connect the future tenant interior and exterior space. Core services, and mechanical, electrical, and plumbing systems complete the ground floor.

An exterior Los Angeles Department of Water and Power (LADWP) yard sits at the southwest corner of the building along West Melrose Avenue. The existing four-foot utility easement on the west side of the Project Site will be used for the buildings general exiting out to West Melrose Avenue and the building will be held back an additional foot providing a five-foot setback from the adjacent property.

Floors two through five of the office building are composed of a central core with perimeter lease spaces. Core program and spaces will be finished out as required for the initial leasing and code requirements. The building will have a structural concrete core with concrete floor assemblies. Exterior occupiable decks are located at various positions along the perimeter and at all levels. These decks connect to an exterior stair which will be utilized primarily for building exiting and inter-floor connections. The roof level includes the following equipment: required mechanical, electrical, plumbing, and building servicing equipment.

Zoning, Floor Area and Building Height

The Project Site is currently zoned C4-1XL and CM-1VL and is located within the Hollywood Community Plan Area, which designates the land use of the property as Commercial Manufacturing. The portion of the Project Site that is located in Height District No. 1VL, restricts the height of development to 45 feet, three stories, and the portion of the Project Site that is located in Height District No. 1 XL, restricts the height development to 30 feet, two stories. The Applicant has requested a Zone and Height District Change from C4-1XL and CM-1VL to CM-2 which would allow the Project to be developed with a FAR of 1.88:1 and to a maximum height of 77 feet 9 inches (73 feet 6 inches to the top of the parapet), five stories. As noted previously, the lot zoned C4-1XL located directly northwest of the intersection of West Melrose Avenue and North Seward Street is presently inconsistent with its Commercial Manufacturing land use designation under the Hollywood Community Plan. Therefore, the Zone Change would ensure that the Site's zoning is made consistent with the Site's land use designation.

3.3.2 Design and Architecture

The five-story creative office building, sits above the subterranean parking garage. The building massing is comprised of two volumes atop a podium and stitched together with several planted decks and an east exterior exiting stair. The west elevation terraces down to reduce bulk along the neighboring residential lots.

The building design includes use of modern materials. The Project's facade is comprised of three systems: a vertical metal panel system, a stucco system, and Simulated Wood Cladding System with punched windows and window walls throughout. The Project's façade incorporates a variety of materials to break a solid wall to provide interest with vertical elements including painted stucco, wood frames, wood paneling, wood soffit, white metal panels, aluminum window frames, Perforate Metal hand rails, high performance glazing, and an art wall.

Project Site Improvements surrounding the building would include curb adjustments, and new sidewalks as required. The streetscape design shall be supportive of the street life characteristics of West Melrose Avenue. New street trees shall be provided in accordance with City recommendations and per the requirements of the Bureau of Street Services, Urban Forestry Division.

At its maximum height, the proposed building would be taller than the other building heights in the vicinity, however, the proposed design is compatible with the design elements of surrounding buildings, especially those with similar use. As stated above, the west elevation terraces down to reduce the buildings massing along the neighboring residential lots as shown in the Figures 3.11 through 3.14.

3.3.3 Open Space and Landscaping

Additional Project Site improvements to the Project Site include planting at grade along the facades on West Melrose Avenue and North Seward Street as well as on the upper level terraces, and planting on the north side of the building in and near the shared plaza. This shared plaza between the Project and the existing creative office space to the north will be delineated from the surface parking and valet through plantings as well as ground pavers. Planting along North Seward Street and West Melrose Avenue will connect the future tenant interior and exterior space.

Currently, the Project Site contains vegetation landscaping and six non-protected trees (two street trees and four trees located on-site). The Project would require the removal of the six trees: two existing street trees (Pittosporum undulatum/Victoria Box) and four courtyard trees (Cupaniopsis anacardioides/Carrotwood). Any street trees that will be removed through the development of the proposed Project will be replaced per the requirements of the Bureau of Street Services, Urban Forestry Division. There are no protected species or heritage trees. Pursuant to the LAMC, the existing trees will be replaced at a ratio of 2:1 with a minimum 24" box replacement tree (four trees). In addition, one tree per 500 square feet of planting area will be provided (8 trees per 3,797 square foot planting area). Thus a total of 12 trees will be provided as part of the Project. The Project will also provide 2,870 square feet of landscaping. Landscaping would be added to

the pocket courtyard, pocket patio, decks, and on West Melrose Avenue and at the North Seward Street entrance.

The Project will not be open to the public, thus no LAMC code required open space, recreational space is required. The Project will provide 11,325 square feet of non-required open space for the proposed tenants as part of a forward-thinking post-pandemic design intended to ensure worker safety and attract/retain media-focused tenants in Hollywood. This open space includes the pocket courtyard, pocket patio, and the decks.

3.3.4 Access, Circulation, and Parking

Vehicular access to the Project Site will be via a two-way entry/ exit driveway on North Seward Street. The Project will also include an at-grade onsite drop-off area to serve both rideshare arrivals/departures and onsite valet parking operations. The existing four-foot utility easement on the west side of the Project Site will be used to provide general egress to West Melrose Avenue.

Parking for the proposed office development would be provided on-site in a parking structure with one at-grade level, that would be enclosed, and two below-grade subterranean levels. As shown in Table 3.2, *Summary of Required and Proposed Vehicular Parking Spaces*, the Project is required to provide a total of 166 vehicular parking spaces. The Project will provide 168 vehicular parking spaces, located and configured in compliance with applicable requirements of the LAMC. The Project will provide approximately 16 spaces at in the at-grade level, with the balance of the parking being located in two below-grade levels accessed by internal vehicle ramps. As part of the 168 parking spaces, a total of 16 spaces would be designated for clean air vehicles, and 10 spaces would be designated for EV charging stations. Mechanical parking stackers will be provided on the second subterranean parking level. The Project parking is designed for managed parking at all levels (surface to the second underground level). The Project would be consistent with applicable parking requirements of the LAMC.

Table 3.2
Summary of Required and Proposed Vehicular Parking Spaces

Description	Quantity	Rate	Spaces
Required[a]			
Creative Office Use (including existing uses to remain)	*84,376 sf*	*2 per 1,000 sf*	*169*
Retail Use	*647 sf*	*1 per 200 sf*	*3*
		Required Total	**172**
		Parking Spaces Offset by Bicycle Spaces	**6**
		Minimum Required On-site Parking Spaces	**166**
Proposed			
Ground Floor			*16*
Subterranean Level 1			*42*
Subterranean Level 2			*110*
		Proposed Total	**168**

Notes:
sf = square feet
[a] *Pursuant to LAMC Section 12.21.*
Source: House & Robertson Architects October 2020.

As shown in Table 3.3, *Summary of Required and Proposed Bicycle Parking Spaces*, the Project is required to provide 26 bicycle parking spaces. The Project provide 9 short term bicycle parking spaces and 17 long-term bicycle parking spaces, located and configured in compliance with applicable requirements of the LAMC. One shower for each gender, and a total of 26 lockers, will be provided in the first level of the parking facility.

Table 3.3
Summary of Required and Proposed Bicycle Parking Spaces

Description	Quantity	Rate	Spaces
Required[a]			
Bicycle Parking – Long Term	*84,376 sf*	*1 per 10,000 sf*	*9*
Bicycle Parking – Short Term	*84,376 sf*	*1 per 5,000 sf*	*17*
		Required Total	**26**
Proposed			
Bicycle Parking – Long Term	*84,376 sf*	*1 per 10,000 sf*	*9*
Bicycle Parking – Short Term	*84,376 sf*	*1 per 5,000 sf*	*17*
		Proposed Total	**26**

Notes:
sf = square feet
[a] *Pursuant to LAMC Section 12.21.*
Source: House & Robertson Architects October 2020.

3.3.5 Lighting and Signage

The exterior lighting will include soffit downlights in the ground floor covered area, as well as low-level landscape lighting and limited façade up-lighting (including lighting of the feature exterior stair on the east-facing elevation) to highlight key architectural features.

All outdoor lighting shall be shielded and down-cast within the site in a manner that prevents the direct illumination of adjacent properties and the night sky, unless otherwise required for other safety purposes as determined by the City of Los Angeles. The exterior lighting will include soffit downlights in the ground floor covered area, as well as low-level landscape lighting and lighting of the feature exterior stair on the east-facing elevation.

The Project would include the following type of signage: monument signs, projecting signs, wall signs, illuminated architectural canopy signs, pole signs, roof signs and window signs. Project signage would be illuminated by means of low-level external lighting, internal halo lighting, or ambient light. The Project would not include electronic signage or signs with flashing, mechanical, or strobe lights. In accordance with LAMC Section 14.4.4 E, illumination used for project signage would be limited to a light intensity of 3-foot candles above ambient lighting, as measured at the property line of the nearest residentially zoned property.

3.3.6 Site Security

During construction, the Project Site would be secured with perimeter fencing. During Project operations, security would be provided via site planning and secured access points of entry. The plans for the Project would incorporate guidelines as identified in the “Design Out Crime Guidelines: Crime Prevention Through Environmental Design,” published by the Los Angeles

Police Department. Such design guidelines provide security design measures for semi-public and private spaces, which may include but not be limited to the use of security cameras, access control to the building, secured parking facility with key system, and well-illuminated public and semi-public space designed with a minimum of dead space to eliminate areas of concealment, location of building entrances in high-foot traffic areas.

3.3.7 Sustainability Features

The Project would comply with the 2020 Los Angeles Green Building Code (LAGBC). The LAGBC requires the use of numerous conservation measures, beyond those required by Title 24 of the California Administrative Code. LAGBC contains both mandatory and voluntary green building measures to conserve energy.

The Project will include enhanced energy-efficiency via high-performance glazing as well as enhanced façade, roof and deck insulation values. The air conditioning system will be comprised of highly efficient Variable Refrigerant Flow systems allowing for minimal electrical consumption, particularly when the building is lightly occupied. The building systems will include enhanced filtration of outside air being delivered to the occupied areas, and operable windows and oversize folding glass walls will enhance the natural ventilation whenever weather conditions permit. Vertical circulation via the feature outdoor stair will further enhance the health and wellness of the occupants.

Water usage will be minimized via the use of ultra-low flow plumbing fixtures throughout the project. All roof, balcony and plaza deck drains will feed into a rainwater harvesting cistern, approximately 10,000-gallon capacity, to be used entirely for irrigation of the on-site landscaping.

The irrigation system shall be designed to meet or exceed the state Model Water Efficient Landscape Ordinance (MWELO). The system should utilize a dedicated landscape water meter and automatic weather-based controllers with electronically operated control valves and seasonal irrigation schedules. All areas will include high efficiency irrigation emitters, including micro spray and drip irrigation. Bubblers may be used for trees or shrubs where drip irrigation is not feasible. Irrigation valves shall be located in inconspicuous areas, and shall be parallel to adjacent structures and paving, with quick coupling valves spaces a minimum 100 feet on center.

The on-site drop-off area in the ground floor will encourage ridesharing and carpooling, while the on-site parking will include preferential parking for electric and low-emitting vehicles, and the Project will provide over-code electric vehicle charging stations. The proposed Project's infill location would promote the concentration of development in an urban location with extensive infrastructure and access to public transit facilities, which would reduce vehicle miles traveled for the office space. As further described in the Energy Use Analysis section in the IS/MND, below, compliance with Title 24 of the California Administrative Code and the L.A. Green Building Code would reduce the proposed Project's energy consumption.

3.3.8 Anticipated Construction Schedule

For purposes of analyzing impacts associated with air quality, this analysis assumes a Project construction schedule of approximately 20-22 months, with construction beginning April 2022 and final buildout occurring in February 2024. Construction activities would be undertaken in four main steps: (1) demolition; (2) grading, excavation, and foundations; (3) building construction; and (4) finishing and architectural coatings. Construction activities would be performed in accordance with all applicable state and federal laws and City Codes and policies with respect to building construction and activities. As provided in Section 41.40 of LAMC, the permissible hours of construction within the City are 7:00 A.M. to 9:00 P.M. Monday through Friday, and between 8:00 A.M. and 6:00 P.M on any Saturday or national holiday. No construction activities are permitted on Sundays.

Temporary shoring with tie backs or rakers will be used for excavation of the garage. Approximately 29,400 cy of soil will be excavated and removed from the Project Site. In addition, approximately 2,000 truck trips (assuming 14 cy/load) will be required for export.

3.4 REQUESTED PERMITS AND APPROVALS

The list below includes the anticipated requests for approval of the Project. This Initial Study and Negative Declaration/Mitigated Negative Declaration analyzes impacts associated with the Project and will provide environmental review sufficient for all necessary entitlements and public agency actions associated with the Project. The discretionary entitlements, reviews, permits and approvals required to implement the Project include, but are not necessarily limited to, the following:

- **Zone Change and Height District Change.** Pursuant to Los Angeles Municipal Code ("LAMC") Section 12.32, the Applicant seeks a Zone Change and Height District Change as follows:
    - Lot located at the northwest corner of West Melrose Avenue and North Seward Street (6101-6117 West Melrose Avenue): From C4-1XL to CM-2.
    - All other Project Site lots (713-733 North Seward Street): From CM-1VL to CM-2.
- **Site Plan Review.** Pursuant to LAMC Section 16.05, the Applicant seeks Site Plan Review to allow the redevelopment of the Project Site with more than 50,000 square feet of nonresidential floor area.
- **Zoning Administrator's Adjustmen**t. Pursuant to LAMC Section 12.24-X.22, the Applicant seeks a Zoning Administrator's Adjustment to allow the Project to exceed the maximum transitional height requirements otherwise required by LAMC Section 12.21.1-A.10.
- **Waiver of Dedication and/or Improvement.** Pursuant to LAMC Section 12.37 I.3, to waive all dedication and street widening requirements along North Seward Street and West Melrose Avenue.

- Other discretionary and ministerial permits and approvals that may be deemed necessary, including, but not limited to, haul route approval, temporary street closure permits, grading permits, excavation permits, foundation permits, building permits, and sign permits.

RESPONSIBLE PUBLIC AGENCIES

A Responsible Agency under CEQA is a public agency with some discretionary authority over a project or a portion of it, but which has not been designated the Lead Agency (State CEQA Guidelines Section 15381). The list below identifies whether any responsible agencies have been identified for the Project.

- Los Angeles Regional Water Quality Control Board, and
- South Coast Air Quality Management District.

INITIAL STUDY

4 ENVIRONMENTAL IMPACT ANALYSIS

I. AESTHETICS

Senate Bill (SB) 743 [Public Resources Code (PRC) §21099(d)] sets forth new guidelines for evaluating project transportation impacts under CEQA, as follows: "Aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area (TPA) shall not be considered significant impacts on the environment." PRC Section 21099 defines a "transit priority area" as an area within 0.5 mile of a major transit stop that is "existing or planned, if the planned stop is scheduled to be completed within the planning horizon included in a Transportation Improvement Program adopted pursuant to Section 450.216 or 450.322 of Title 23 of the Code of Federal Regulations." PRC Section 21064.3 defines "major transit stop" as "a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods." PRC Section 21099 defines an "employment center project" as "a project located on property zoned for commercial uses with a floor area ratio of no less than 0.75 and that is located within a transit priority area. PRC Section 21099 defines an "infill site" as a lot located within an urban area that has been previously developed, or on a vacant site where at least 75 percent of the perimeter of the site adjoins, or is separated only by an improved public right-of-way from, parcels that are developed with qualified urban uses. This state law supersedes the aesthetic impact thresholds in the 2006 L.A. CEQA Thresholds Guide, including those established for aesthetics, obstruction of views, shading, and nighttime illumination.

The related City of Los Angeles Department of City Planning Zoning Information (ZI) File ZI No. 2452 provides further instruction concerning the definition of transit priority projects and that "visual resources, aesthetic character, shade and shadow, light and glare, and scenic vistas or any other aesthetic impact as defined in the City's CEQA Threshold Guide shall not be considered an impact for infill projects within TPAs pursuant to CEQA."[2]

PRC Section 21099 applies to the Project. Therefore, the Project is exempt from aesthetic impacts. The analysis in this initial study (or in the EIR, if any aesthetic impact discussion is included), is for informational purposes only and not for determining whether the Project will result in significant impacts to the environment. Any aesthetic impact analysis in this initial study (or the EIR) is included to discuss what aesthetic impacts would occur from the Project if PRC Section 21099(d) was not in effect. As such, nothing in the aesthetic impact discussion in this initial study

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[2] *City of Los Angeles Department of City Planning, Zoning Information File ZA No. 2452, Transit Priority Areas (TPAs)/Exemptions to Aesthetics and Parking Within TPAs Pursuant to CEQA. Available at: http://zimas.lacity.org/documents/zoneinfo/ZI2452.pdf.*

(or the EIR) shall trigger the need for any CEQA findings, CEQA analysis, or CEQA mitigation measures.

Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b. Substantially damage scenic resources, including, but not limited to, limitation trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

a) Would the project have a substantial adverse effect on a scenic vista?

No Impact. A significant impact may occur if a proposed project introduces incompatible visual elements within a field of view containing a scenic vista or substantially blocks a scenic vista. Scenic vistas are generally described in two ways: (1) panoramic views (visual access to a large geographic area, for which the field of view can be wide and extend into the distance); and (2) focal views (visual access to a particular object, scene, or feature of interest).

The 45,136 square-foot Project Site is currently developed with the existing one-story, approximately 8,473 square-foot commercial building and surface parking lot. The Project Site is surrounded by other development, is predominately flat, and is not located within a Hillside Area. The existing viewshed at the Project Site is defined by existing urban development with commercial, residential structures, and a library. Only distant views of hills are available looking north from Melrose Avenue and Seward Street. There are no prominent topographical features on the Project Site from which scenic vistas could be viewed, nor does the Project Site contain a scenic vista. **The Project would not directly obstruct an existing public view of a scenic**

vista as no scenic vistas are near the Project Site vicinity. Therefore, no impacts would occur and no mitigation measures are required.

b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?

No Impact. A significant impact may occur only where scenic resources would be damaged or removed by the project. There are no State-designated scenic highways in the Project Site vicinity. The nearest eligible (not designated) State scenic highway to the Project Site is Mulholland Drive, which is also a City designated Scenic Highway.[3] Mulholland Drive is over 4.9 miles to the northwest of the Project Site. **Therefore, the Project would not have an impact on scenic resources or historic buildings within a State scenic highway. Therefore, no impacts would occur and no mitigation measures are required.**

c) Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less Than Significant Impact. A significant impact may occur if, in a non-urbanized area, the project would substantially degrade the existing visual character or quality of the site and its surroundings, or if, in an urbanized area, the project would conflict with applicable zoning or regulations governing scenic quality. The Project is located in a highly urbanized area in the Hollywood community of the City of Los Angeles; therefore, the applicable threshold with respect to the Project is consistency with applicable zoning and other regulations governing scenic quality.

The Project would involve the demolition of the existing one-story building and surface parking lot, and the construction of a new five-story, approximately 77'-9"-foot tall (73'-6"-foot tall to the top of the parapet), 67,889 square foot, creative office building. Thus, the Project would result in a change in the visual character of the Project Site.

Zoning Consistency

The LAMC establishes the zoning for the Project Site as C4-1XL and CM-1VL and is located within the Hollywood Community Plan Area, which designates the land use of the property as Commercial Manufacturing. The portion of the Project Site that is located in Height District No. 1VL, restricts the height of development to 45 feet, three stories, and the portion of the Project Site that is located in Height District No. 1 XL, restricts the height development to 30 feet, two stories. The Project Site lots that are presently zoned CM-1VL are consistent with this designation, while the lot at the northwest corner of West Melrose Avenue and North Seward Street presently zoned C4-1XL is inconsistent with its Commercial Manufacturing land use designation under the Hollywood Community Plan. The Project Site is located in the Los Angeles

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[3] *California Department of Transportation (Caltrans) Scenic Highway System List. City of Los Angeles Department of City Planning, Mobility Plan 2035, Map A2 and Appendix B: Inventory of Designated Scenic Highways and Guidelines, December 2015.*

State Enterprise Zone (ZI-2374), a Revised Hollywood Injunction (ZI-2433), and a Transit Priority Area in the City of Los Angeles (ZI-2452).

The Project Site is located in a neighborhood developed with a mixture of office uses, residential uses, retail uses, and a library, all of which are constructed with a variety of styles and materials including stucco, and a variety of sizes of glass windows.

The Project is composed of a five-story creative office building built above a subterranean garage. The building massing is comprised of two volumes atop a podium and stitched together with several planted decks and an east exterior exiting stairway. The west elevation terraces down to reduce the buildings massing along the neighboring residential lots.

The building design includes use of modern materials. The Project's facade is comprised of three systems: a vertical metal panel system, a stucco system, and Simulated Wood Cladding System with punched windows and window walls throughout. The Project's façade incorporates a variety of materials to break a solid wall to provide interest with vertical elements these include painted stucco, wood frames, wood paneling, wood soffit, white metal panels, aluminum window frames, Perforate Metal hand rails, high performance glazing, and an art wall.

Project Site improvements surrounding the building would include curb adjustments, and new sidewalks as required. The streetscape design shall be supportive of the street life characteristics of West Melrose Avenue. New street trees shall also be provided in accordance with City recommendations and per the requirements of the Bureau of Street Services, Urban Forestry Division.

At its maximum height of five stories, the proposed building would be taller than the other building heights in the immediate vicinity, including the one-and two-story office uses located to the north of the Project Site, the two-story apartment building located to the southwest of the Project Site, and the three-story apartment building located to the southeast of the Project Site. However, the proposed design is compatible with the design elements of surrounding buildings, especially those with similar use. As stated above, the west elevation terraces down to reduce the buildings massing along the neighboring residential lots as shown in the Figures 3.11 through 3.14.

Although the Project would exceed the existing height, and would be inconsistent with existing zoning on the Site, the Applicant seeks a zone change and height district change. Pursuant to LAMC Section 12.32, the lot located at the northwest corner of West Melrose Avenue and North Seward Street (6101-6117 West Melrose Avenue) is proposed to change from C4-1XL to CM-2. All other Project Site lots (713-733 North Seward Street) are proposed to change from CM-1VL to CM-2. Furthermore as the west elevation terraces down to reduce the buildings massing along the neighboring residential lots, the Project would be consistent with the buildings in the area in terms of having a lower height near the residential uses and the taller portions of the building near the commercial uses.

Overall, while the Project would change the visual character of the Project Site, the height of the proposed buildings, design, massing, and scale would be compatible with the existing urban uses that set the aesthetic character of the vicinity. Based on the analysis above, the Project would

not substantially degrade the existing visual character or quality of the Project Site or surrounding vicinity.

Other Regulations Governing Scenic Quality

The Project Site is located in the Hollywood-Community Plan area. The Community Plan includes Policy 6.7: "Provide height transitions between established single-family neighborhoods and adjacent multi-family, and commercial areas" and policy 6.8: "Encourage smooth transitions in scale, form, and character by regulating the setback, stepbacks, rear elevations, and landscaping of new development adjacent to residential districts."

The Project is composed of a five-story creative office building built above a subterranean garage. The building massing is comprised of two volumes atop a podium and stitched together with several planted decks and an east exterior exiting stairway. The west elevation terraces down to reduce the buildings massing along the neighboring residential lots.

As stated above, the building design includes use of modern materials. The Project's facade is comprised of three systems: a vertical metal panel system, a stucco system, and Simulated Wood Cladding System with punched windows and window walls throughout. The Project's façade incorporates a variety of materials to break a solid wall to provide interest with vertical elements these include painted stucco, wood frames, wood paneling, wood soffit, white metal panels, aluminum window frames, Perforate Metal hand rails, high performance glazing, and an art wall.

Project Site improvements surrounding the building would include curb adjustments, and new sidewalks as required. The streetscape design shall be supportive of the street life characteristics of West Melrose Avenue. In addition, new street trees shall be provided in accordance with City recommendations and per the requirements of the Bureau of Street Services, Urban Forestry Division.

At its maximum height, the proposed building would be taller than the other building heights in the immediate vicinity, however, the proposed design is compatible with the design elements of surrounding buildings, especially those with similar use. As stated above, the west elevation terraces down to reduce the buildings massing along the neighboring residential lots as shown in the Figures 3.11 through 3.14.

Based on the above, the Project would not conflict with applicable zoning and other regulations governing scenic quality. Furthermore, per ZI No. 2452 and SB 743, aesthetic impacts "shall not be considered significant impacts on the environment." Therefore impacts would be less than significant and no mitigation measures are required.

d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less Than Significant Impact. A significant impact may occur if the development introduces new sources of light or glare on or from a project site which adversely affect day or nighttime views in the area.

Construction

Construction could include nighttime activities involving the use of on-site lighting during demolition, excavation, framing, and building construction. Lighting would include floodlights focused on the work area that would be shielded to focus the light on-site and preclude light trespass onto nearby properties. The principal effect of nighttime construction lighting would be to increase the overall ambient glow emanating from the Project Site. Per the requirements of the LAMC, construction hours would be limited to 7:00 AM to 9:00 PM Monday through Friday, and 8:00 AM to 6:00 PM on Saturday. As such, Project construction lighting would not result in substantial changes to existing artificial light conditions or interfere with off-site activities. **Therefore, less than significant impacts would occur related to construction lighting.**

Operation

Light

The Project is located in a well-lit area of the City where there are moderate to high levels of ambient nighttime lighting, including street lighting, vehicle headlights, architectural and security lighting, and indoor building illumination (light emanating from structures which passes through windows), all of which are common to densely populated areas. West Melrose Avenue is a major thoroughfare with four lanes of traffic and includes lighted commercial signage along its length in this area.

The streets in these areas are lit using city standard streetlights. The Project Site is located within an urban environment, thus, light emanating from any one source contributes to the overall lighting impacts rather than being solely responsible for lighting impacts on a particular use. As land uses surrounding the Project Site are already lit from existing development in the area, any additional amount of new light sources must be noticeably visible to light-sensitive uses to have any notable effect.

The Project would increase lighting effects compared to the existing uses on the Project Site. There are several sensitive use receptors near the Project Site that could be susceptible to light impacts created by the Project. Sensitive uses are defined by LAMC Chapter IX, Article 3, Section 93.0117 as any exterior glazed window or sliding glass door on any other property containing a residential unit or units, elevated habitable porch, deck, or balcony on any other property containing a residential unit or units, or any ground surface intended for uses such as recreation, barbecue, or lawn areas on any other property containing a residential unit or units. Office, warehouse, manufacturing, commercial, and institutional uses are not considered light sensitive uses because they are generally not in use during the evening hours, although many of these uses maintain interior, exterior, and/or landscape lighting during the late hours for maintenance and security purposes.

The light-sensitive uses in the vicinity include the three-story multi-family residential building located directly across West Melrose Avenue from the Project Site and the single-family residential uses to the west of the Project Site, on North June Street.

The Project is designed with windows and office lighting. The exterior lighting will include soffit downlights in the ground floor covered area, as well as low-level landscape lighting and limited façade up-lighting (including lighting of the feature exterior stair on the east-facing elevation) to highlight key architectural features.

All exterior lighting would meet all applicable LAMC standards and would be shielded or directed toward the areas to be illuminated. The exterior lighting will include soffit downlights in the ground floor covered area, as well as low-level landscape lighting and limited façade up-lighting (including lighting of the feature on the exterior stair on the east-facing elevation) to highlight key architectural features. With compliance with all applicable LAMC standards, exterior lighting on the Project Site would not illuminate adjacent properties.

The Project would include the following type of signage: monument signs, projecting signs, wall signs, illuminated architectural canopy signs, pole signs, roof signs and window signs. Low-level lighting would be provided throughout the Project Site for security and would include identity signage for the office. Project signage would be illuminated by means of low-level external lighting, internal halo lighting, or ambient light. The Project would not include electronic signage or signs with flashing, mechanical, or strobe lights. In accordance with LAMC Section 14.4.4 E, illumination used for project signage would be limited to a light intensity of 3-foot candles above ambient lighting, as measured at the property line of the nearest residentially zoned property. Therefore, the perception of Project lighting sources would be similar to that already provided by the surrounding buildings. Although additional lighting sources associated with the Project could add to the ambient glow of the Project Site and immediately surrounding uses, the area along West Melrose Avenue is already characterized by moderate to high ambient light levels consistent with an urban area.

It is anticipated that the amount of light emanating from the Project would represent an increase over current light levels. However, with compliance with all applicable LAMC standards, exterior lighting on the Project Site would not illuminate adjacent properties, nor would they represent a substantial change in the lighting environment of the Project Site and surrounding area. As such, Project lighting would not result in substantial changes to existing artificial light conditions and would not interfere with off-site activities. **Therefore, impacts related to Project interior and exterior light sources would be less than significant.**

Glare

The Project would incorporate both solid and glass surfaces. The proposed Project building would be prohibited from the using highly reflective building materials such as mirrored glass on exterior façades. Examples of commonly used non-reflective building materials include cement, plaster, concrete, metal, and non-mirrored glass, and would likely include additional materials as technology advances in the future. As such, the Project would not include elements that incorporate substantial amounts of reflective building materials in areas that are highly visible to off-site glare-sensitive uses. Exterior building materials would use various non-reflective material designed to minimize the transmission of glare from building. **Therefore, impacts related to daytime glare would be less than significant.**

Based on the above, the Project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. Therefore impacts would be less than significant and no mitigation measures are required.

II. AGRICULTURE AND FOREST RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use, or a Williamson Act Contract?	☐	☐	☐	☒
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12222(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact. A significant impact may occur if a project were to result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use. The Project Site is developed with a commercial building and two surface parking lots and is located in a developed area of the City. According to the State Farmland Mapping and Monitoring Program's most recent Farmland mapping data for Los Angeles County, neither the Project Site nor the surrounding area are designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.[4] **Thus, the Project would not result in the loss of State-**

[4] *State of California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, Los Angeles County Important Farmland 2016, published 2018.*

designated Farmland. Therefore, no impacts would occur, and no mitigation measures are required.

b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act Contract?

No Impact. A significant impact may occur if a project were to result in the conversion of land zoned for agricultural use or under a Williamson Act contract from agricultural use to another non-agricultural use. The Project Site is zoned C4-1XL and CM-1VL and has a General Plan land use designation of Commercial Manufacturing. Thus, the Project Site is not zoned for agricultural use, nor are there any agricultural uses currently occurring at the Project Site or within the surrounding area. The Site is located within an Urban Agriculture Incentive Zone; however, the proposed Project does not involve a contract to use vacant property for agricultural purposes in exchange for reduced property taxes. Additionally, according to the State's most recent Williamson Act land data, neither the Project Site nor surrounding area are under a Williamson Act contract. **Therefore, no impacts would occur, and no mitigation measures are required.**

c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12222(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

No Impact. A significant impact may occur if a project results in the conversion of farmland to another, non-agricultural use, and/or if a project results in the conversion of forest land to another, non-forest use. There are no forest or timberland resources on this fully developed site that is in an urbanized part of the City.

In the City, forest land is a permitted use in areas zoned OS (Open Space); however, the City does not have specific zoning for timberland or timberland production. The Project Site is zoned C4-1XL and CM-1VL and has a General Plan land use designation of Commercial Manufacturing. The Project Site is not zoned for forest land, timberland, or timberland production land uses. **Therefore, no impacts would occur, and no mitigation measures are required.**

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. A significant impact may occur if a project results in the conversion of forest land to another, non-forest use. The Project Site is developed with a commercial building and two surface parking lots and is located in a developed area of the City. No forest land exists on or in the vicinity of the Project Site, and Project implementation would not result in the loss or conversion of forest land. **Therefore, no impacts would occur, and no mitigation measures are required.**

e) Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

No Impact. A significant impact may occur if a project results in the conversion of farmland to another, non-agricultural use, and/or if a project results in the conversion of forest land to another, non-forest use. The Project Site is previously developed and located in an urbanized area of the City. No agricultural uses, designated Farmland, or forest land uses occur at the Project Site or

within the surrounding area. As such, implementation of the Project would not result in the conversion of existing Farmland, agricultural uses, or forest land on- or off-site. **Therefore, no impacts would occur, and no mitigation measures are required.**

III. AIR QUALITY

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Air quality data was generated for the Project to assist in the preparation of the following air quality analysis and is included as Appendix A to this document.

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less Than Significant Impact. A significant air quality impact may occur if a project is not consistent with the applicable Air Quality Management Plan (AQMP) or would in some way represent a substantial hindrance to employing the policies or obtaining the goals of that plan.

The South Coast Air Quality Management District (SCAQMD) is required, pursuant to the Clean Air Act (CAA), to reduce emissions of criteria pollutants for which the Air Basin is in non-attainment of the National Ambient Air Quality Standard (NAAQS) (e.g., ozone, particulate matter ($PM_{2.5}$), and PM_{10}). The SCAQMD's 2016 AQMP contains a comprehensive list of pollution control strategies directed at reducing emissions and achieving five NAAQS related to these pollutants, including transportation control strategies from Southern California Association of Governments' (SCAG's) 2016 and 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) designed to focus growth near High Quality Transit Areas (HQTAs) and to reduce vehicle miles traveled (VMT).

SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties, and addresses regional issues relating to transportation, the economy, community development and the environment. SCAG coordinates with various air quality and transportation stakeholders in Southern California to ensure compliance with the federal and state air quality requirements, including the Transportation Conformity Rule and other applicable federal, state, and air district laws and regulations. As the federally designated Metropolitan Planning Organization (MPO) for the six-county Southern California region, SCAG

is required by law to ensure that transportation activities "conform" to, and are supportive of, the goals of regional and state air quality plans to attain the NAAQS. In addition, SCAG is a co-producer, with SCAQMD, of the transportation strategy and transportation control measure sections of the AQMP for the Air Basin.

On September 3, 2020, SCAG's Regional Council adopted the 2020-2045 RTP/SCS. The 2020-2045 RTP/SCS was determined to conform to the federally-mandated state implementation plan (SIP), for the attainment and maintenance of NAAQS standards. The California Air Resources Board (CARB) is the lead agency for climate change programs and oversees all air pollution control efforts in California to attain and maintain health-based air quality standards. On October 30, 2020, CARB also accepted SCAG's determination that the SCS met the applicable state greenhouse gas emissions targets. The 2020-2045 RTP/SCS will be incorporated into the forthcoming 2022 AQMP.

The 2016 AQMP control strategies were developed, in part, based on regional growth projections prepared by SCAG. As the AQMP control strategy is based on projections from local General Plans, projects which are consistent with local General Plans are considered consistent with the growth assumptions of the air quality related regional plans and their emissions are assumed to be accounted for in the AQMP emissions inventory. Projects which include amendments to General or Specific Plans, or are considered significant projects, undergo further scrutiny for AQMP consistency. As noted above, the 2016 AQMP has been adopted by the SCAQMD and CARB. Therefore, this analysis considers the Project's consistency with the 2016 AQMP.

CEQA Guidelines Section 15125 requires an analysis of project consistency with applicable governmental plans and policies. In accordance with SCAQMD's *CEQA Air Quality Handbook,*[5] the following criteria were used to evaluate the Project's consistency with the SCAQMD and SCAG regional plans and policies, including the AQMP:

- Criterion 1: Will the Project result in any of the following:
    - An increase in the frequency or severity of existing air quality violations;
    - Cause or contribute to new air quality violations; or
    - Delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP?
- Criterion 2: Will the Project exceed the assumptions utilized in preparing the AQMP?
    - Is the Project consistent with the population and employment growth projections upon which AQMP forecasted emission levels are based;
    - Does the Project include air quality mitigation measures; or

[5] *South Coast Air Quality Management District, CEQA Air Quality Handbook, 1993.*

- To what extent is Project development consistent with the AQMP control measures?

The Project's impacts with respect to these criteria are discussed to assess the consistency with SCAQMD's AQMP.

Consistency Criterion No. 1: The 2016 AQMP, discussed previously, was prepared to accommodate growth, to reduce the high levels of pollutants within the areas under the jurisdiction of SCAQMD, to return clean air to the region, and to minimize the impact of pollution control on the economy. Projects that are considered to be consistent with the AQMP would not interfere with attainment of the AQMP's goals. Therefore, projects, uses, and activities that are consistent with the applicable assumptions used in the development of the AQMP would not jeopardize attainment of the air quality levels identified in the AQMP. The Project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

Construction Impacts

The violations that Consistency Criterion No. 1 refers to are the California Ambient Air Quality Standards ("CAAQS") and NAAQS. CAAQS and NAAQS violations would occur if localized significance thresholds ("LSTs") or regional significance thresholds were exceeded. The Project would not exceed the applicable LSTs or regional significance thresholds for construction activity (see discussion below under Questions 3(b), 3(c), and 3(d)). **Therefore, the Project would not conflict with the AQMP according to this criterion.**

Operational Impacts

The Project would not exceed the applicable LST or regional significance thresholds for operational activity (see discussion below under Questions 3(b), 3(c), and 3(d)). Therefore, the Project would not conflict with the AQMP according to this criterion.

On the basis of the preceding discussion, the Project is consistent with the first criterion.

Consistency Criterion No. 2: The Project will not exceed the assumptions in the AQMP based on the years of Project build-out phase.

Overview

Consistency with the AQMP assumptions is determined by performing an analysis of the Project with the assumptions in the AQMP. The emphasis of this criterion is to ensure that the analyses conducted for the Project are based on the same forecasts as the AQMP. The 2016-2040 RTP/SCS includes chapters on: the challenges in a changing region, creating a plan for our future, and the road to greater mobility and sustainable growth. These chapters currently respond directly to federal and state requirements placed on SCAG. Local governments are required to use these as the basis of their plans for purposes of consistency with applicable regional plans under CEQA.

On September 1, 2020, SCAG's Regional Council adopted an updated Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) known as the 2020–2045 RTP/SCS or Connect SoCal. As with the 2016–2020 RTP/SCS, the purpose of the 2020–2045 RTP/SCS is to meet the mobility needs of the six-county SCAG region over the subject planning period through a roadmap identifying sensible ways to expand transportation options, improve air quality and bolster Southern California long-term economic viability.[6] The goals and policies of the 2020–2045 RTP/SCS are similar to, and consistent with, those of the 2016–2040 RTP/SCS.

Determining whether or not a project exceeds the assumptions reflected in the AQMP involves the evaluation of three criteria: (1) consistency with applicable population, housing, and employment growth projections; (2) project mitigation measures; and (3) appropriate incorporation of AQMP land use planning strategies. The following discussion provides an analysis with respect to each of these criteria.

As discussed in Section 4.IX, Land Use, the proposed Project would not exceed the population and housing projections of the 2020-2045 RTP/SCS for the Los Angeles subregion, and would therefore be consistent with the assumptions utilized in preparing the AQMP.

Regarding feasible air quality mitigation measures, the proposed Project does not have significant impacts that require mitigation as shown in Appendix A. Additionally, the proposed Project would comply with applicable regulatory measures enforced by the SCAQMD. SCAQMD enforces stationary and mobile source compliance with respect to both operational and construction emissions. The proposed Project would adhere to current and applicable regulatory compliance measures (including SCAQMD Rule 403: Fugitive Dust and Rule 1113: Architectural Coating). As such, the proposed Project is consistent with this criterion. No mitigation measures are required to meet SCAQMD air quality thresholds.

With respect to land use policies set forth in the AQMP, the proposed Project would implement several land use policies and strategies listed in the RTP/SCS and the AQMP. Such land use strategies set forth in the 2016 AQMP that are applicable to the proposed Project include planning for growth around livable corridors, providing more options for short trips/neighborhood mobility areas, expanding electric vehicle charging stations, supporting local sustainability planning, and balancing growth distribution between 500-foot buffer areas and HQTAs. The proposed Project would provide a variety of land uses, including creative office space and a retail/coffee shop, which would help reduce vehicle miles traveled by promoting internal capture trips and would balance growth distribution within HQTAs. The Project Site is currently zoned C4-1XL, and CM-1VL and has a General Plan land use designation of Commercial Manufacturing in the Hollywood Community Plan.

The Project would be developed within an existing urbanized area that provides an established network of roads and freeways that provide local and regional access to the area, including the Project Site. In addition, the Project Site is served by a variety of nearby transit options. The availability and accessibility of public transit in the vicinity of the Project Site is documented by

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[6] *SCAG, News Release: SCAG Regional Council Formally Adopts Connect SoCal, September 3, 2020.*

the Project Site's location within a SCAG-designated HQTA and TPA, as defined in the City's Zoning Information File No. 2452. In addition, the Project would provide bicycle parking spaces for the proposed uses that would serve to promote use of bicycles. The Project would also include adequate parking to serve the proposed uses and would provide charging stations to serve electric vehicle per LAMC. As such, the Project would maximize mobility and accessibility by providing opportunities for the use of several modes of transportation, including convenient access to public transit and opportunities for walking and biking. As such, the Project is an appropriate location for the proposed uses and would serve the local community's demand for creative office space and retail. Thus, the proposed Project would be compatible with the existing established land uses in the Project area. The proposed Project office use would generate a limited number of employees on-site due to the size of the creative office spaces, which would not allow for operation of a business employing large numbers of people to work on-site. Neither the retail or office use would induce population growth due to employment on the site. The Project's estimated employment growth projections would not conflict with SCAG's future growth projections for the City of Los Angeles.

Additionally, the proposed Project would include sustainability features that are further discussed in Section 3.3, Project Description. Sustainability features of the proposed Project include development of a creative office/retail coffee shop that will meet or exceed California's Building Energy Efficiency Standards (Title 24). The proposed Project would be designed to meet the minimum energy efficiency standards of the Los Angeles Green Building Code. Further consideration regarding energy efficiency and sustainability will include use of ultra-low flow plumbing fixtures throughout the Project. All roof, balcony and plaza deck drains will feed into a rainwater harvesting cistern, approximately 10,000-gallon capacity, to be used entirely for irrigation of the on-site landscaping. The irrigation system shall be designed to meet or exceed the state MWELO. The system should utilize a dedicated landscape water meter and automatic weather-based controllers with electronically operated control valves and seasonal irrigation schedules. The on-site drop-off area in the ground floor will encourage ridesharing and carpooling, while the on-site parking will include preferential parking for electric and low-emitting vehicles, and the Project will provide over-code electric vehicle charging stations.

In addition, regarding land use developments, such as the proposed Project, SCAG's 2016/2020 RTP/SCS land use goals and policies focus on the reduction of vehicle trips and VMT. Per the City's Traffic Assessment Guidelines (TAG), projects that are consistent with the RTP/SCS plan in terms of development location and density are part of the regional solution for meeting air pollution and greenhouse gases (GHG) goals. Projects that have less than a significant VMT impact are deemed to be consistent with the SCAG's 2016/2020 RTP/SCS and would have a less-than-significant cumulative impact on VMT. As the Project would generate a total of 481 net daily trips, the Project would not result in any significant VMT transportation impacts. Therefore, the Project is consistent with the RTP/SCS. Additionally, it should be noted that the goals and policies of the recently adopted 2020–2045 RTP/SCS are similar to, and consistent with, those of the 2016–2040 RTP/SCS. Hence, because the proposed Project would be consistent with the 2016– 2040 RTP/SCS as discussed above, the proposed Project would also be consistent with the 2020–2045 RTP/SCS.

In conclusion, the determination of AQMP consistency is primarily concerned with the long-term influence of the proposed Project on air quality in the Air Basin. The proposed Project is an infill development near transit within an existing urbanized area that would concentrate new creative office/retail uses within an HQTA, thus reducing VMT. The proposed Project would not have a significant long-term impact on the region's ability to meet State and federal air quality standards. As discussed above, **the proposed Project would be consistent with the growth assumptions, goals, and policies of the AQMP and, therefore, would not conflict with or obstruct implementation of the SCAQMD's AQMP. This impact would be less than significant and no mitigation measures are required.**

b) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Less Than Significant Impact. A significant impact may occur if the project would add a considerable cumulative contribution to federal or State non-attainment pollutants.

The Project has been evaluated to determine if it will violate an air quality standard or contribute to an existing or projected air quality violation. Additionally, the Project has been evaluated to determine if it will result in a cumulatively considerable net increase of a criteria pollutant for which the South Coast Air Basin ("SCAB") is non-attainment under an applicable federal or state ambient air quality standard. The significance of these potential impacts is described below.

Standards of Significance

The SCAQMD has developed significance thresholds for regulated pollutants, as summarized in Table 4.1, *SCAQMD Air Quality Significance Thresholds*. The SCAQMD's CEQA Air Quality Significance Thresholds (April 2019) indicate that any projects in the SCAB with daily emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively significant air quality impact. It should be noted that the SCAQMD provides a threshold for emissions of lead, however for purposes of this analysis no lead emissions are calculated as there are no substantive sources of lead emissions. Additionally, the air quality modeling program (discussed below) does not calculate any emissions of lead from typical construction or operational activities.

Construction Emissions

Emissions are estimated using the California Emissions Estimator Model (CalEEMod) (Version 2020.4.0) software, which is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant emissions from a variety of land use projects. CalEEMod was developed in collaboration with the air districts of California. Regional data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions.

Table 4.1
SCAQMD Air Quality Significance Thresholds

Mass Daily Thresholds[a]		
Pollutant	**Construction**	**Operation**
NO_x	100 pounds/day	55 pounds/day
VOC[b]	75 pounds/day	55 pounds/day
PM_{10}	150 pounds/day	150 pounds/day
$PM_{2.5}$	55 pounds/day	55 pounds/day
SO_x	150 pounds/day	150 pounds/day
CO	550 pounds/day	550 pounds/day
Lead	3 pounds/day	3 pounds/day
Toxic Air Contaminants and Odor Thresholds		
Toxic Air Contaminants (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Hazard Index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
GHG	10,000 MT/yr CO2eq for industrial facilities	
Ambient Air Quality for Criteria Pollutants [c]		
NO_2 1-hour average Annual arithmetic mean	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.03 ppm (state) and 0.0534 ppm (federal)	
PM_{10} 24-hour average Annual average	10.4 µg/m^3 (construction)[d] & 2.5 µg/m^3 (operation) 1.0 µg/m^3	
$PM_{2.5}$ 24-hour average	10.4 µg/m^3 (construction)[d] & 2.5 µg/m^3 (operation)	
Sulfate 24-hour average	25 µg/m^3 (state)	
CO 1-hour average 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)	

Notes: ppm = parts per million by volume; µg/m^3 = micrograms per cubic meter
[a] *Source: SCAQMD CEQA Handbook (SCAQMD, 1993).*
[b] *The definition of volatile organic compounds (VOC) includes reactive organic gas (ROG) compounds and additional organic compounds not included in the definition of ROG. However, for the purposes of this evaluation, VOC and ROG will be considered synonymous.*
[c] *Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, table A-2 unless otherwise stated.*
[d] *Ambient air quality threshold based on SCAQMD Rule 403.*
Source: SCAQMD CEQA Handbook (SCAQMD, 1993), SCAQMD Air Quality Significance Thresholds, website: http://aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2, revised April 2019 and accessed: June 2021.

to be an accurate and comprehensive tool for quantifying air quality impacts from land use projects throughout California and is recommended by the SCAQMD.[7]

[7] *South Coast Air Quality Management District, California Emissions Estimator Model, http://www.aqmd.gov/caleemod/.*

Daily regional emissions during construction are forecasted by assuming a conservative estimate of construction activities (i.e., assuming all construction occurs at the earliest feasible date) and applying the mobile source and fugitive dust emissions factors. The input values used in this analysis were adjusted to be project-specific for the construction schedule and the equipment used was based on CalEEMod defaults. The program uses the Emission Factor (EMFAC2017) computer program to calculate the emission rates specific for Los Angeles County for construction-related employee vehicle trips and the OFFROAD2011 computer program to calculate emission rates for heavy truck operations. EMFAC2017 and Off Road (OFFROAD2011) are computer programs generated by CARB that calculates composite emission rates for vehicles. Emission rates are reported by the program in grams per trip and grams per mile or grams per running hour. Daily truck trips and CalEEMod default trip length data were used to assess roadway emissions from truck exhaust. The maximum daily emissions are estimated values for the worst-case day and do not represent the emissions that would occur for every day of Project construction. The maximum daily emissions are compared to the SCAQMD daily regional numeric indicators. Detailed construction equipment lists, construction scheduling, and emission calculations are available in the CalEEMod Output provided in Appendix A of this Initial Study document.

Construction activities associated with the Project will result in emissions of VOCs, nitrogen oxide (NO_X), sulfur oxide (SO_X), carbon monoxide (CO), PM_{10}, and $PM_{2.5}$. Construction related emissions are expected from the following construction activities:

- Demolition
- Grading
- Foundation
- Building Construction
- Architectural Coating

Construction is expected to start no sooner than April 2022 and take approximately 20-22 months. The construction schedule utilized in the analysis represents a “worst-case” analysis scenario even if construction was to occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent.[8] The construction activities for the Project are anticipated to include: demolition of an existing surface parking lot and existing one-story, approximately 8,473 square-foot commercial building, grading/excavation of approximately 1.04 acres, construction of approximately 65,003 square-foot creative offices, a 422 square-foot coffee shop and a 168-space subterranean parking structure, and application of architectural coatings.

Dust is typically a major concern during demolition and excavation/grading activities. Because such emissions are not amenable to collection and discharge through a controlled source, they

[8] *As shown in the California Emissions Estimator Model (CalEEMod) User’s Guide Version 2020.4.0, Section 4.3.2 “Off-Road Equipment” as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.*

are called “fugitive emissions”. Fugitive dust emissions rates vary as a function of many parameters (soil silt, soil moisture, wind speed, area disturbed, number of vehicles, depth of disturbance or excavation, etc.). CalEEMod was utilized to calculate fugitive dust emissions resulting from this phase of activity. The Project will be required to comply with existing SCAQMD rules for the reduction of fugitive dust emissions. SCAQMD Rule 403 establishes these procedures. Compliance with this rule is achieved through application of standard best management practices in construction and operation activities, such as application of water or chemical stabilizers to disturbed soils, managing haul road dust by application of water, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 mph, sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph and establishing a permanent, stabilizing ground cover on finished sites. In addition, projects that disturb 50 acres or more of soil or move 5,000 cubic yards of materials per day are required to submit a Fugitive Dust Control Plan or a Large Operation Notification Form to SCAQMD. Based on the size of the Project area (approximately 1.04 acres) a Fugitive Dust Control Plan or Large Operation Notification would not be required.

SCAQMD’s Rule 403 minimum requirements require that the application of the best available dust control measures is used for all grading operations and include the application of water or other soil stabilizers in sufficient quantity to prevent the generation of visible dust plumes. Compliance with Rule 403 would require the use of water trucks during all phases where earth moving operations would occur and is incorporated into the emissions modeling for the Project.

Construction emissions for construction worker vehicles traveling to and from the Project Site, as well as vendor trips (construction materials delivered to the Project site) were estimated based on CalEEMod. SCAQMD Rules that are currently applicable during construction activity for this Project include but are not limited to: Rule 1113 (Architectural Coatings) and Rule 403 (Fugitive Dust). Best Available Control Measures (BACMs) are considered standard regulatory requirements. As such, credit for Rule 403 and Rule 1113 have been taken.

The estimated maximum daily construction emissions are summarized in Table 4.2, *Construction-Related Regional Pollutant Emissions*. Detailed construction model outputs are presented in Appendix A to this document.

As shown in Table 4.2, emissions resulting from the Project construction would not exceed regional criteria pollutant thresholds established by the SCAQMD for emissions of any criteria pollutant. Thus, a less than significant impact would occur for Project-related construction-source regional emissions and no mitigation measures are required.

Table 4.2
Construction-Related Regional Pollutant Emissions

Activity		Pollutant Emissions (pounds/day)					
		ROG	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
Demolition	On-Site[a]	1.69	16.62	13.96	0.02	1.19	0.84
	Off-Site[b]	0.07	0.77	0.68	0.00	0.23	0.06
	Subtotal	1.76	17.39	14.64	0.03	1.42	0.90
Grading/Excavation	On-Site[a]	1.55	15.77	12.79	0.03	3.32	1.99
	Off-Site[b]	0.39	12.88	3.40	0.05	1.52	0.48
	Subtotal	1.94	28.65	16.19	0.08	4.84	2.47
Foundation	On-Site[a]	1.26	10.98	13.45	0.02	0.60	0.59
	Off-Site[b]	0.05	0.04	0.51	0.00	0.15	0.04
	Subtotal	1.31	11.01	13.96	0.02	0.74	0.63
Building Construction	On-Site[a]	1.65	12.50	12.73	0.02	0.59	0.57
	Off-Site[b]	0.22	1.26	2.30	0.01	0.70	0.20
	Subtotal	1.87	13.76	15.03	0.03	1.29	0.77
Architectural Coating	On-Site[a]	16.31	1.75	2.90	0.00	0.07	0.07
	Off-Site[b]	0.03	0.02	0.34	0.00	0.11	0.03
	Subtotal	16.34	1.77	3.24	0.01	0.18	0.10
Total for overlapping phases[c]		18.22	15.53	18.27	0.04	1.47	0.87
Maximum Daily Emissions		**18.22**	**28.65**	**18.27**	**0.08**	**4.84**	**2.47**
SCAQMD Thresholds		75	100	550	150	150	55
Exceeds Thresholds?		**No**	**No**	**No**	**No**	**No**	**No**

[a] *On-site emissions from equipment operated on-site that is not operated on public roads. On-site grading and site preparation PM_{-10} and $PM_{-2.5}$ emissions show mitigated values for fugitive dust for compliance with SCAQMD Rule 403.*
[b] *Off-site emissions from equipment operated on public roads.*
[c] *Construction and painting phases may overlap.*
Source: CalEEMod Version 2020.4.0.Output, available in Appendix A.
Note: Totals may not sum due to rounding.

Operational Emissions

Operational activities associated with the Project will result in emissions of VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$. Operational emissions would be expected from the following primary sources:

- Area Source Emissions
- Energy Source Emissions
- Mobile Source Emissions

Area Source Emissions

Architectural Coatings

Over a period of time the buildings that are part of this Project will be subject to emissions resulting from the evaporation of solvents contained in paints, varnishes, primers, and other surface coatings as part of Project maintenance. Rule 1113 (Architectural Coatings) limits paints applied to buildings to 50g/L VOC content.

Consumer Products

Consumer products include, but are not limited to detergents, cleaning compounds, polishes, personal care products, and lawn and garden products. Many of these products contain organic compounds which when released in the atmosphere can react to form ozone and other photochemically reactive pollutants.

Fireplaces

The Project is not proposing to install any fireplaces and therefore would not result in any emissions associated with hearths/fireplaces.

Landscape Maintenance Equipment

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project.

Energy Source Emissions

Combustion Emissions Associated with Natural Gas and Electricity

Electricity and natural gas are used by almost every project. Criteria pollutant emissions are emitted through the generation of electricity and consumption of natural gas. However, because electrical generating facilities for the Project area are located either outside the region (state) or offset through the use of pollution credits (RECLAIM) for generation within the SCAB, criteria pollutant emissions from offsite generation of electricity are generally excluded from the evaluation of significance and only natural gas use is considered. Please see Section VI Energy for additional details on energy use.

Mobile Source Emissions

Vehicles

Project mobile source air quality impacts are dependent on both overall daily vehicle trip generation and the effect of the Project on peak hour traffic volumes and traffic operations in the vicinity of the Project. The Project-related operational air quality impacts are derived primarily from vehicle trips generated by the Project.

On July 30, 2019, the City of Los Angeles updated its travel demand model, impact evaluation methodology, and transportation impact thresholds based on VMT. In accordance with the new CEQA Section 15064.3, although the City considers the Level of Service (LOS) which measures

vehicle delay during the Site Plan Review process, the Significance of Transportation Impacts for the purposes of CEQA are now determined using the VMT metric.

The Project was evaluated against the initial screening criteria to determine if a full VMT analysis was required. The Project would generate a total of 481 net daily trips (549 daily trips from the Project minus 68 daily trips from the existing use). CalEEMod uses trip generation rates to determine mobile source emissions from Project-generated vehicle trips. Therefore, the weekday VMT trip rates from the traffic analysis[9] were used to analyze the mobile source emissions from both the Project and the existing use. The CalEEMod program then applies the emission factors for each trip, which is provided by the EMFAC2017 model, to determine the vehicular traffic pollutant emissions.

Fugitive Dust Related to Vehicular Travel

Vehicles traveling on paved roads would be a source of fugitive emissions due to the generation of road dust inclusive of tire wear particulates.

Operational Emissions Summary

The potential operations-related air emissions have been analyzed below for the criteria pollutants and cumulative impacts. The worst-case summer or winter criteria pollutant emissions created from the Project's long-term operations have been calculated and are shown below in Table 4.3, *Regional Operational Pollutant Emissions*.

Table 4.3
Regional Operational Pollutant Emissions

Operational Activities	Pollutant Emissions (pounds/day)					
	VOC	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
Area Sources[a]	1.41	0.00	0.02	0.00	0.00	0.00
Energy Usage[b]	0.02	0.21	0.17	0.00	0.02	0.02
Mobile Sources[c]	1.92	2.00	18.48	0.04	4.21	1.14
Subtotal Emissions	**3.35**	**2.20**	**18.68**	**0.04**	**4.23**	**1.16**
-Existing commercial uses being removed	-0.45	-0.31	-2.53	-0.01	-0.54	-0.15
Total Emissions	**2.90**	**1.90**	**16.15**	**0.04**	**3.69**	**1.01**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

[a] *Area sources consist of emissions from consumer products, architectural coatings, and landscaping equipment.*
[b] *Energy usage consists of emissions from generation of electricity and on-site natural gas usage.*
[c] *Mobile sources consist of emissions from vehicles and road dust.*
Source: CalEEMod Version 2020.4.0; the higher of either summer or winter emissions for the Project and the lower of either summer or winter emissions for the existing use, available in Appendix A.

The results from Table 4.3 show that none of the SCAQMD regional thresholds would be exceeded. Thus, a less than significant impact would occur for Project-related operational-source regional emissions and no mitigation measures are required.

[9] *Overland Traffic Consultants, Inc. Traffic Assessment for Melrose & Seward Creative Office, April 2021.*

Therefore, the Project's contribution to cumulative regional emissions would not be cumulatively considerable and, thus, would be less than significant. No mitigation measures are required.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. A significant impact may occur if a project were to generate pollutant concentrations to a degree that would significantly affect sensitive receptors.

Some people are especially sensitive to air pollution and are given special consideration when evaluating air quality impacts from projects. These groups of people include children, the elderly, individuals with pre-existing respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Structures that house these persons or places where they gather to exercise are defined as "sensitive receptors"; they are also known to be locations where an individual can remain for 24 hours.

The Project Site is bounded by West Melrose Avenue to the south, by North Seward Street to the east, by the library and residential uses to the west and commercial buildings to the north.

Construction

Localized Significance – Construction

The SCAQMD has established that impacts to air quality are significant if there is a potential to contribute or cause localized exceedances of the federal and/or state ambient air quality standards (NAAQS/CAAQS). Collectively, these are referred to as localized significance thresholds ("LSTs").

The significance of localized emissions impacts depends on whether ambient levels in the vicinity of any given project are above or below State standards. In the case of CO and NO_2, if ambient levels are below the standards, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a state or federal standard, then project emissions are considered significant if they increase ambient concentrations by a measurable amount. This would apply to PM_{10} and $PM_{2.5}$; both of which are non-attainment pollutants.

The SCAQMD established LSTs in response to the SCAQMD Governing Board's Environmental Justice Initiative I-4. LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest residence or sensitive receptor. The SCAQMD states that lead agencies can use the LSTs as another indicator of significance in its air quality impact analyses.

The local air quality emissions from construction were analyzed using the SCAQMD's Mass Rate Localized Significant Threshold Look-up Tables and the methodology described in LST Methodology prepared by SCAQMD (revised July 2008). The Look-up Tables were developed by the SCAQMD in order to readily determine if the daily emissions of CO, NOx, PM_{10}, and $PM_{2.5}$ from the Project could result in a significant impact to the local air quality. The emission thresholds

were calculated based on the Central Los Angeles source receptor area (SRA) 1 and a disturbance value of one acre per day (as the Project Site is approximately 1.03 acres).

According to LST Methodology, any receptor located closer than 25 meters (82 feet) shall be based on the 25-meter thresholds. The nearest sensitive receptors to the Project Site include: the residential uses located directly adjacent to the northern and western boundaries of the Project Site, the residential uses located approximately 96 feet (~29.3 meters) southwest of the site, on the southeastern corner of West Melrose Avenue and North June Street; and the residential uses located approximately 130 feet (~39.6 meters) southeast of the site, on the southeastern corner of West Melrose Avenue and North Seward Street. Other air quality sensitive land uses are located further from the Project Site and would experience lower impacts. Table 4.4, *Local Construction Emissions at the Nearest Receptors* shows the on-site emissions from the CalEEMod model for the different construction phases and the LST emissions thresholds.

Table 4.4
Local Construction Emissions at the Nearest Receptors

Activity	On-Site Pollutant Emissions (pounds/day)			
	NO_x	CO	PM_{10}	$PM_{2.5}$
Demolition	16.62	13.96	1.19	0.84
Grading/Excavation	15.77	12.79	3.32	1.99
Foundation	10.98	13.45	0.60	0.59
Building Construction	12.50	12.73	0.59	0.57
Architectural Coating	1.75	2.90	0.07	0.07
SCAQMD Thresholds[a]	**74**	**680**	**5**	**3**
Exceeds Threshold?	**No**	**No**	**No**	**No**

[a] *The nearest sensitive receptors to the Project Site include: the residential uses located directly adjacent to the northern and western boundaries of the Project Site, the residential uses located approximately 96 feet (~29.3 meters) southwest of the site, on the southeastern corner of West Melrose Avenue and North June Street; and the residential uses located approximately 130 feet (~39.6 meters) southeast of the site, on the southeastern corner of West Melrose Avenue and North Seward Street; therefore, the 25 meter threshold was used.*

Source: Calculated from CalEEMod and SCAQMD's Mass Rate Look-up Tables for 1 acre at a distance of 25 m in SRA 1 Central Los Angeles.

The data provided in Table 4.4, shows that none of the analyzed criteria pollutants would exceed the local emissions thresholds at the nearest sensitive receptors.

Construction-Related Toxic Air Contaminants

With respect to TACs, the greatest potential for TAC emissions resulting from construction of the Project would involve diesel particulate emissions associated with trucks and heavy equipment. Based on SCAQMD guidance, health effects from TACs are usually described in terms of individual cancer risk, which is the likelihood that a person exposed to TACs over a 70-year lifetime will contract cancer. Project construction activity would not result in long-term substantial sources of TAC emissions (i.e., 30 or 70 years) and would not generate ongoing construction TAC emissions. Given the temporary and short-term construction schedule (approximately 20-22 months), the Project would not result in a long-term (i.e., lifetime or 30-year) exposure as a result of Project construction. Furthermore, as shown above, none of the Project's emissions exceed any local or regional thresholds.

In addition, the construction activities associated with the Project would be similar to other development projects in the City, and would be subject to the regulations and laws relating to toxic air pollutants at the regional, State, and Federal level that would protect sensitive receptors from substantial concentrations of these emissions. The Project would be consistent with applicable AQMP requirements for control strategies intended to reduce emissions from construction equipment and activities. The Project would comply with the CARB Air Toxic Control Measure that limits diesel powered equipment and vehicle idling to no more than five (5) minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation; compliance with these would minimize emissions of TACs during construction. The Project would also comply with the requirements of SCAQMD Rule 1403 if asbestos is found during the demolition activities.

Therefore, a less than significant local air quality impact would occur from construction of the Project and no mitigation measures are required.

Operation

Localized Significance – Operation

Project-related air emissions from on-site sources such as architectural coatings, landscaping equipment, on-site usage of natural gas appliances as well as the operation of vehicles on-site may have the potential to exceed the state and federal air quality standards in the Project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the Air Basin. The nearest sensitive receptors to the Project Site include: the residential uses located directly adjacent to the northern and western boundaries of the Project Site, the residential uses located approximately 96 feet (~29.3 meters) southwest of the site, on the southeastern corner of West Melrose Avenue and North June Street; and the residential uses located approximately 130 feet (approximately39.6 meters) southeast of the site, on the southeastern corner of West Melrose Avenue and North Seward Street.

According to SCAQMD LST methodology, LSTs would apply to the operational phase of a project, if the project includes stationary sources, or attracts mobile sources (such as heavy-duty trucks) that may spend long periods queuing and idling at the site; such as industrial warehouse/transfer facilities. The Project includes 65,003 square feet of creative office space and a 422 square foot coffee shop. Due the lack of on-site/stationary source emissions, no long-term localized significance threshold analysis is warranted.

CO Hot Spots Analysis

CO is the pollutant of major concern along roadways because the most notable source of CO is motor vehicles. For this reason, CO concentrations are usually indicative of the local air quality generated by a roadway network and are used as an indicator of potential local air quality impacts. Local air quality impacts can be assessed by comparing future without and with Project CO levels to the State and federal CO standards which were presented above.

To determine if the Project could cause emission levels in excess of the CO standards discussed above, a sensitivity analysis is typically conducted to determine the potential for CO “hot spots” at a number of intersections in the general Project vicinity. Because of reduced speeds and

vehicle queuing, “hot spots” potentially can occur at high traffic volume intersections with a Level of Service E or worse.

The analysis prepared for CO attainment in the South Coast Air Basin by the SCAQMD can be used to assist in evaluating the potential for CO exceedances in the South Coast Air Basin. CO attainment was thoroughly analyzed as part of the SCAQMD's 2003 Air Quality Management Plan (2003 AQMP) and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan). As discussed in the 1992 CO Plan, peak carbon monoxide concentrations in the South Coast Air Basin are due to unusual meteorological and topographical conditions, and not due to the impact of particular intersections. Considering the region’s unique meteorological conditions and the increasingly stringent CO emissions standards, CO modeling was performed as part of 1992 CO Plan and subsequent plan updates and air quality management plans. In the 1992 CO Plan, a CO hot spot analysis was conducted for four busy intersections in Los Angeles at the peak morning and afternoon time periods. The intersections evaluated included: South Long Beach Boulevard and Imperial Highway (Lynwood); Wilshire Boulevard and Veteran Avenue (Westwood); Sunset Boulevard and Highland Avenue (Hollywood); and La Cienega Boulevard and Century Boulevard (Inglewood). These analyses did not predict a violation of CO standards. The busiest intersection evaluated was that at Wilshire Boulevard and Veteran Avenue, which has a daily traffic volume of approximately 100,000 vehicles per day. The Los Angeles County Metropolitan Transportation Authority evaluated the Level of Service in the vicinity of the Wilshire Boulevard/Veteran Avenue intersection and found it to be Level of Service E during the morning peak hour and Level of Service F during the afternoon peak hour.

Per the *Transportation Assessment for Melrose & Seward Creative Office* (Transportation Assessment) in Appendix H.1 of this IS/MND, the Project would generate a total of 481 net daily trips. Table 7 in the Transportation Assessment showed that the most-impact intersection in the Project vicinity is located at Highland Avenue and Melrose Avenue. The Existing (2021) LOS during AM peak hour is LOS D. The Existing Plus Project Level of Service (LOS) would remain at LOS D at the intersection of Highland Avenue and Melrose Avenue with the addition of Project-related traffic. Therefore, as the most-impacted intersection is not at LOS E, no CO “hot spot” modeling was performed and no significant long term air quality impact is anticipated to local air quality with the ongoing use of the Project.

As discussed above, the Project would not exceed any of thresholds of significance recommended by the SCAQMD; therefore, the Project would not expose sensitive receptors to substantial pollutant concentrations and impacts would be less than significant.

d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less Than Significant Impact. A significant impact may occur if objectionable odors occur which would adversely impact sensitive receptors. Odors are typically associated with the use of chemicals, solvents, petroleum products, and other strong-smelling elements used in manufacturing processes.

According to the SCAQMD *CEQA Air Quality Handbook*, an odor impact would occur if the proposed project creates an odor nuisance pursuant to SCAQMD Rule 402, which states:

> A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.
>
> The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

If the proposed Project results in a violation of Rule 402 with regards to odor impacts, then the proposed project would create a significant odor impact. Land uses and industrial operations that are associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies and fiberglass molding. The Project involves the construction and operation of: office space uses; which is not typically associated with odor complaints.

Potential sources that may emit odors during construction activities include the application of materials such as asphalt pavement. The objectionable odors that may be produced during the construction process are short-term in nature and the odor emissions are expected to cease upon the drying or hardening of the odor producing materials. Due to the short-term nature and limited amounts of odor producing materials being utilized, no significant impact related to odors would occur during construction of the Project. Diesel exhaust and VOCs would be emitted during construction of the Project, which are objectionable to some; however, emissions would disperse rapidly from the Project Site and therefore should not reach an objectionable level at the nearest sensitive receptors. As the Project involves no operational elements related to industrial projects, no long-term operational objectionable odors are anticipated. Trash receptacles for the Project would be covered, and odors from trash would be contained within the trash area. **Therefore, as the Project is required to comply with SCAQMD Rule 402, the Project would not create objectionable odors affecting a substantial number of people. Potential impacts associated with objectionable odors would be less than significant and no mitigation is required.**

Cumulative Impacts

Cumulative projects include local development as well as general growth within the Project area. However, as with most development, the greatest source of emissions is from mobile sources, which travel well out of the local area. Therefore, from an air quality standpoint, the cumulative analysis would extend beyond any local projects and when wind patterns are considered would cover an even larger area.

The Project area is out of State attainment for both ozone and particulate matter (PM_{10} and $PM_{2.5}$). Because the South Coast Air Basin is currently in nonattainment for PM_{10} and $PM_{2.5}$, other new projects in the local vicinity could exceed an air quality standard or contribute to an existing or

projected air quality exceedance. With regard to determining the significance of the Project contribution, the SCAQMD considers any construction-related and/or operational emissions from individual projects that exceed the project-specific thresholds of significance identified above to be considered cumulatively considerable. Individual projects that generate emissions below SCAQMD's significance thresholds would not contribute considerably to any potential cumulative impact. As discussed above, the maximum mass daily regional construction-related and operational emissions associated with the Project would not exceed the thresholds of significance recommended by the SCAQMD. Therefore, in accordance with the SCAQMD methodology, projects that do not exceed the SCAQMD criteria or can be mitigated to less than criteria levels are not significant and would not be cumulatively considerable. **The Project would not result in a significant cumulative air quality emissions impact and no mitigation measures are required.**

As with the Project, construction of the related projects is expected to involve standard construction activities and potential construction odors would include diesel exhaust emissions, roofing, painting, and paving operations. There would be situations where construction activity odors would be noticeable by residents nearby each of the related construction sites. However, similar to the Project, the related projects are also required to comply with SCAQMD Rule 402, and these temporary odors are typical of construction activities and are generally not considered to be objectionable. Additionally, these odors would dissipate rapidly from the source with an increase in distance and construction activities would be subject to applicable construction and air quality regulations (including proper maintenance of machinery) in order to minimize engine emissions. Construction of the Project is not expected to contribute to substantial odors at sensitive uses near any of the other related construction sites in the local vicinity. **Therefore, cumulative odor impacts resulting from construction activities would not be considerable or significant.**

IV. BIOLOGICAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulation, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulation, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

No Impact. A significant impact may occur if a project were to remove or modify habitat for any species identified or designated as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the State or federal regulatory agencies cited. The

Project Site is developed with a commercial building and two surface parking lots and is located in a developed area of the City. The Project Site and immediately surrounding area are not within or near a designated Significant Ecological Area.[10] The Project Site does not contain any habitat capable of sustaining any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. Additionally, there are no known locally designated natural communities at the Project Site or in the immediate vicinity, nor is the Project Site located immediately adjacent to undeveloped natural open space or a natural water source that may otherwise serve as habitat for State- or federally-listed species. **Therefore, no impacts would occur, and no mitigation measures are required.**

b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

No Impact. A significant impact may occur if riparian habitat or any other sensitive natural community identified locally, regionally, or by the State and federal regulatory agencies cited were to be adversely modified without adequate mitigation. The Project Site is developed with a commercial building and two surface parking lots in an urbanized area of the City. No riparian or other sensitive habitat areas are located on or adjacent to the Project Site. As discussed above, neither the Project Site nor adjacent areas are within a biological resource area or Significant Ecological Area. Implementation of the Project would not result in any adverse impacts to riparian habitat or other sensitive natural communities. **Therefore, no impacts would occur, and no mitigation measures are required.**

c) Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. A significant impact may occur if state or federally protected wetlands are modified or removed without adequate mitigation. The Project Site is developed with a commercial building and two surface parking lots in an urbanized area of the City. Review of the National Wetlands Inventory identified no protected wetlands in the vicinity of the Project Site.[11] Furthermore, the Project Site is fully developed and does not support any riparian or wetland habitat, as defined by Section 404 of the Clean Water Act. **Therefore, no impacts would occur, and no mitigation measures are required.**

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[10] *Los Angeles County Department of Regional Planning, Planning & Zoning Information, GIS-NET3 online database, accessed January 2021.*

[11] *U.S. Fish and Wildlife Service, National Wetlands Inventory, Wetlands Mapper, accessed January 2021.*

d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

No Impact. A significant impact may occur if a project would interfere or remove access to a migratory wildlife corridor or impede the use of native wildlife nursery sites. Due to the highly urbanized nature of the Project Site and surrounding area, the lack of a major water body, and the limited vegetation on the site, the Project Site does not support any habitat for native resident or migratory species, or contain native nurseries. **Therefore, no impacts would occur, and no mitigation measures are required.**

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. A project-related significant adverse effect could occur if a project is inconsistent with local regulations pertaining to biological resources, such as the City of Los Angeles Protected Tree Ordinance No. 177,404. As set forth in Ordinance No. 177,404, any of the following Southern California native tree species, which measures four inches or more in cumulative diameter, four and one-half feet above the ground level at the base of the tree, is a protected tree:

- Oak tree including Valley Oak (Quercus lobata), California Live Oak (Quercus agrifolia), or any other tree of the oak genus indigenous to California but excluding the Scrub Oak (Quercus dumosa);
- Southern California Black Walnut (Juglans californica var. californica);
- Western Sycamore (Platanus racemose); and
- California Bay (Umbellularia californica).

The Project Site also contains six non-protected trees (two street trees and four trees located on-site). The Project would require the removal of the six trees, two existing street trees: Pittosporum undulatum/Victoria Box and four courtyard trees: Cupaniopsis anacardioides/Carrotwood. Any street trees that will be removed through the development of the proposed Project would be required to comply with the City's tree removal procedures, and replacement trees would be required to be provided in conformance with the City's current guidelines and policies. There are no protected species or heritage trees. Pursuant to the LAMC, the existing trees will be replaced at a ratio of 2:1 with a minimum 24" box replacement tree (four trees). In addition, one tree per 500 square feet of planting area will be provided (8 trees per 3,797 square foot planting area). Thus a total of 12 trees will be provided as part of the Project.

The Project Site does not contain locally-protected biological resources, such as oak trees, Southern California black walnut, western sycamore, and California bay trees. Additionally, there is limited vegetation landscaping on and adjacent to the Project Site. Construction of the Project would not affect any protected trees. **Therefore, no impacts would occur, and no mitigation measures are required.**

f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. A significant impact may occur if a project is inconsistent with resource policies of any conservation plans of the types cited above. The Project Site and its vicinity are not part of any draft or adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.[12] **Therefore, no impacts would occur, and no mitigation measures are required.**

[12] *California Department of Fish and Wildlife, California State Wildlife Action Plan, September 2015.*

V. CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource pursuant to in §15064.5?	☐	☐	☒	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to 15064.5?	☐	☐	☒	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to in §15064.5?

Less Than Significant Impact. Section 15064.5 of the State CEQA Guidelines defines an historical resources as: 1) a resource listed in or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources; 2) a resource listed in a local register of historical resources or identified as significant in an historical resource survey meeting certain state guidelines; or 3) an object, building, structure, site, area, place, record or manuscript which a lead agency determines to be significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided that the lead agency's determination is supported by substantial evidence in light of the whole record. A project-related significant adverse effect would occur if the proposed project were to adversely affect a historical resource meeting one of the above definitions.

Generally, properties eligible for listing in the National Register are at least 50 years old. The California Office of Historic Preservation generally recommends an evaluation of buildings and structures older than 45 years of age by professionals meeting the Secretary of the Interior Standards Professional Qualifications for Architectural History and Archeology. The Project Site is currently improved with an approximately 8,473 square-foot commercial building and two surface parking lots. This building and surface parking lots would be demolished to allow construction of the Project.

The Project Site is not located in a Historic Preservation Review or Overlay Zone. Additionally, the property is not currently listed under national, state, or local landmark or historic district programs. According to the City of Los Angeles Zoning Information and Map Access System (ZIMAS) and the Los Angeles Historic Resources Inventory, neither the Project Site nor the

building on-site is identified on any historic resource lists or databases.[13] It was also not identified in any historic resource surveys of the area, including SurveyLA, the citywide historic resources survey of Los Angeles, and it is not located in a historic district or other historic overlay zone. Per the ZIMAS, the building was built in 1925.[14]

The South Central Coastal Information Center (SCCIC) is one of twelve regional Information Centers that comprise the California Historical Resources Information System (CHRIS). CHRIS works under the direction of the California Office of Historic Preservation (OHP) and the State Historic Resources Commission (SHRC). The SCCIC houses information about historical resources (e.g. location, size, age, etc.) within Ventura, Los Angeles, and Orange Counties per CHRIS standards.

A records search prepared by the SCCIC did not yield any prior evaluations of the property.[15] The SCCIC records search revealed that there are no built environmental resources within the Project Site. However, a total of 19 resources were identified within the half mile radius of the Project Site (see Appendix B). The Hollywood Community Plan area was surveyed by SurveyLA, which did not identify any potential historic resources on the Project Site. The closest Historic Preservation Overlay Zone to the Project Site is 0.0016 mile to the south across West Melrose Avenue. The closest historic structure to the Project Site is the John C. Freeman Branch Library located at 6121 West Melrose Avenue, approximately 8 feet to the west of the Site. As discussed in Section Noise XIII.b, Mitigation Measures **MM NOI-2 and MM NOI-3**, would require that heavy machinery (excavators, bulldozers, caisson drills) not be operated within 63 feet of the façade of the John C. Fremont Branch Library located west of the Project Site, and the construction contractor shall avoid using large bulldozers or caisson drills within 15 feet of the buildings directly adjacent to the Project boundaries. With the implementation of Mitigation Measures **MM NOI-2 and MM NOI-3,** the construction of the Project would not impact the adjacent Library. In addition, the property is not a historical resource subject to CEQA. **Therefore, impacts would be less than significant and no mitigation measures are required.**

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to 15064.5?

Less Than Significant Impact. Section 15064.5 of the State CEQA Guidelines defines significant archaeological resources as resources which meet the criteria for historical resources, as discussed above, or resources which constitute unique archaeological resources. A project-related significant adverse effect could occur if the project were to affect archaeological resources which fall under either of these categories.

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[13] *City of Los Angeles Department of City Planning, Zone Information & Map Access System, accessed January 2021.*

[14] *City of Los Angeles Department of City Planning, Zone Information & Map Access System, accessed January 2021.*

[15] *South Central Coastal Information Center, Records Search, July 12, 2021.*

The Project Site and surrounding area are not within proximity of a known archaeological site.[16] Furthermore, as discussed above, a records search prepared by the SCCIC did not reveal any prior evaluations of the property. The SCCIC records search revealed that there have been no recorded archaeological resources within half-mile radius of the of the property (including the Project Site). Nonetheless, should archaeological resources be discovered during grading or construction activities, work would cease in the area of the find until a qualified archaeologist has evaluated the find in accordance with federal, State, and local guidelines, including those set forth in Public Resources Code (PRC) Section 21083.2. The required compliance would ensure any found deposits are treated in accordance with federal, State, and local guidelines, including those set forth in PRC Section 21083.2.

In addition, the City has established a standard condition of approval under its police power and land use authority to address any inadvertent discovery of archaeological resources, and which would be imposed on the Project as part of its land use approvals. In the event that any prehistoric subsurface cultural resources are encountered at the Project Site during construction or the course of any ground disturbance activities, all such activities shall halt immediately, at which time the applicant shall notify the City and consult with a qualified archaeologist to assess the significance of the find. If any find is determined to be significant, appropriate avoidance measures recommended by the consultant and approved by the City must be followed unless avoidance is determined to be unnecessary or infeasible by the City. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery, excavation) shall be instituted. **Therefore, impacts would be less than significant, and no mitigation measures are required.**

c) Would the project disturb any human remains, including those interred outside of formal cemeteries?

Less Than Significant Impact. A significant adverse effect may occur if grading or excavation activities associated with a project were to disturb previously interred human remains. It is unknown whether human remains are located at the Project Site. As the Project Site has been previously developed, any human remains that may have existed near the site surface are likely to have been disturbed or previously removed. Even so, should human remains be encountered unexpectedly during grading or construction activities, State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If human remains of Native American origin are discovered during Project construction, compliance with State laws, which fall within the jurisdiction of the Native American Heritage Commission (PRC Section 5097), relating to the disposition of Native American burials would be required. **Considering the low potential for any human remains to be located on the Project Site and that compliance with regulatory standards described above would ensure appropriate treatment of any human remains unexpectedly encountered during grading activities, the**

[16] *City of Los Angeles, Citywide General Plan Framework Final Environmental Impact Report, certified August 2001, Figure CR-1 – Prehistoric and Historic Archaeological Sites and Survey Areas in the City of Los Angeles.*

Project's impact on human remains would be less than significant, and no mitigation measures are required.

VI. ENERGY

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Energy data was generated for the Project to assist in the preparation of the following energy analysis and is included as Appendix C to this document.

a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less Than Significant Impact. A significant impact may occur if a project were to consume energy resources in a wasteful, inefficient, or unnecessary way during construction or operation.

CEQA Guidelines Appendix F recommends quantification of a project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project and provides the following factors that a lead agency may consider in the discussion of energy use:

1. *The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance, and/or removal (If appropriate, the energy intensiveness of materials may be discussed);*
2. *The effects of the project on local and regional energy supplies and on requirements for additional capacity;*
3. *The effects of the project on peak and base period demands for electricity and other forms of energy;*
4. *The degree to which the project complies with existing energy standards;*
5. *The effects of the project on energy resources; and*
6. *The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.*

The Project would consume energy in the form of electricity, natural gas, and petroleum-based transportation-related energy (gasoline and diesel). The Project Site receives electricity from

LADWP and natural gas from the Southern California Gas Company (SoCalGas). Transportation fuels are produced from crude oil, which can be domestic or imported from various regions around the world. The analysis of energy consumption required for construction and operation of the Project is presented below considering the six Appendix F criteria identified above. A detailed explanation of methodology and calculation sheets are provided in Appendix C of this Initial Study document.

The Project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance, and/or removal (If appropriate, the energy intensiveness of materials may be discussed)

Construction

During Project construction, energy would be consumed in the form of electricity associated with the conveyance of water used for dust control and, on a limited basis, powering lights, electronic equipment, or other construction activities necessitating electrical power. Construction activities, including the construction of new buildings and facilities, typically do not involve the consumption of natural gas. Project construction would also consume energy in the form of petroleum-based fuels associated with the use of off-road construction vehicles and equipment on the Project Site, construction worker travel to and from the Project Site, and delivery and haul truck trips (e.g., hauling of demolition material to off-site reuse and disposal facilities). A summary of the estimated total energy required for construction of the Project is presented in Table 4.5, *Summary of Energy Use During Project Construction*.

Electricity

As shown in Table 4.5, construction of the Project would require a total of approximately 211,777 kWh of electricity, which would be supplied by LADWP from existing electrical lines that connect to the Project Site. This electrical demand would be partially offset by the removal of existing use, which, as detailed below, is estimated to consume approximately 131,598 kWh of electricity annually. In addition, the Project's consumption of electricity during construction would represent approximately 15.5 percent of the Project's estimated net annual operational electricity demand.[17] Furthermore, the electricity demand at any given time would vary throughout the construction period based on the construction activities being performed and would cease upon completion of construction. When not in use, electric equipment would be powered off so as to avoid unnecessary energy consumption. Electricity use from construction would be short-term, limited to working hours, used for necessary construction-related activities, and represent a small fraction of the Project's net annual operational electricity. Electrical construction equipment would also comply with California Code of Regulations, Title 24 (Title 24) requirements, which are a set of

[17] *The percentage is derived by taking the total amount of electricity usage during construction (211,777 kWh) and dividing that number by the annual amount of TOTAL electricity usage during operation (1,364,833 kWh) to arrive at 15.5 percent.*

Table 4.5
Summary of Energy Use
During Project Construction[a]

Source	Quantity[b]
Electricity	
Water Consumption[c]	755 kWh
Lighting, Equipment, Other Electrical Power[d]	193,939 kWh
Construction Trailer[e]	17,083 kWh
Total Electricity	**211,777 kWh**
Gasoline[f]	
On-Road Construction Equipment[g]	10,475 gallons
Off-Road Construction Equipment[h]	0 gallons
Total Gasoline	**10,475 gallons**
Diesel[f]	
On-Road Construction Equipment[g]	42,828 gallons
Off-Road Construction Equipment[h]	16,459 gallons
Total Diesel	**59,287 gallons**

kWh = kilowatt hours

[a] *Detailed calculation sheets are provided in Appendix C of this IS/MND.*

[b] *Calculated energy consumption rounded to the nearest hundred. Totals may be off due to this rounding.*

[c] *Electricity usage associated with the supply and conveyance of water used for dust control during construction was calculated using data from the CalEEMod outputs prepared for the air quality and greenhouse gas analyses.*

[d] *Electricity used to power lighting, electronic equipment, and other construction activities necessitating electrical power was calculated based on CalEEMod defaults for generators (i.e. horsepower, load factors, and daily usage). As the SCAQMD recommends the use of electricity instead of diesel generators, the equivalent electricity consumption was calculated.*

[e] *Electricity used to power a standard construction trailer was calculated using the General Office default values in CalEEMod and assumed a 1,000 square-foot trailer.*

[f] *Gasoline and diesel consumption rates were based on the Project's off-road equipment list and number of on-road trips and were calculated using equipment-specific horsepower and load factors as determined by CalEEMod and county-specific miles per gallon and fleet mix as determined by EMFAC2021 for the construction start year (2022).*

[g] *On-road construction equipment encompasses construction worker trips, vendor trips, and haul trips.*

[h] *Off-road construction equipment encompasses construction equipment usage on the Project Site (e.g., excavators, cranes, forklifts, etc.).*

Source: EcoTierra Consulting, Inc., 2021.

prescriptive standards establishing mandatory maximum energy consumption levels for buildings. Although Title 24 requirements typically apply to energy usage for buildings, long-term construction lighting (longer than 120 days) providing illumination for the Project Site and staging areas would also comply with applicable Title 24 requirements, which includes limits on the wattage allowed per specific area, resulting in the conservation of energy.[18] In addition, construction equipment would comply with energy efficiency requirements contained in the

[18] *California Building Energy Efficiency Standards, Title 24, Part 6, §110.9, §130.0, and §130.2.*

Federal Energy Independence and Security Act or previous Energy Policy Acts for electrical motors and equipment.[19]

Natural Gas

Construction activities, including the construction of a new building, typically do not involve the consumption of natural gas. Accordingly, natural gas would not be supplied to support Project construction activities; thus, there would be no natural gas demand generated by construction.

Transportation-Related Energy

As shown in Table 4.5, on- and off-road vehicles would consume an estimated 10,475 gallons of gasoline and approximately 59,287 gallons of diesel fuel throughout the Project's construction. This gasoline consumption would be partially offset while the diesel consumption would be nominally offset by the removal of the existing use, which, as detailed below, is estimated to consume approximately 5,494 gallons of gasoline and approximately 569 gallons of diesel fuel. In addition, transportation fuel usage during Project construction activities would represent approximately 0.0003 percent of the 2022 (construction year) annual on-road gasoline-related energy consumption and 0.01 percent of the 2022 annual diesel fuel-related energy consumption within Los Angeles County, respectively, as projected by CARB's EMFAC on-road vehicle emissions factor model.[20]

Furthermore, construction of the Project would comply with state and federal regulations, such as the anti-idling regulation in accordance with Section 2485 in Title 13 of the California Code of Regulations, and fuel requirements in accordance with Section 93115 in Title 17 of the California Code of Regulations, which would reduce the consumption of energy, such as petroleum-based transportation fuels, from unnecessary idling fuel combustion. While these required regulations are intended to reduce construction emissions, compliance with the anti-idling and emissions regulations would also result in reductions in fuel consumption. Project-related trips from on-road vehicles (i.e., haul trucks, worker vehicles) would also benefit from Pavley and Low Carbon Fuel Standards which are designed to reduce vehicle GHG emissions, but would also result in fuel consumption reductions in addition to compliance with Corporate Average Fuel Economy standards.

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[19] *Energy Independence and Security Act of 2007. (Pub.L. 110-140).*

[20] *California Air Resources Board, EMFAC2021 on-road vehicle emissions factor model, (Modeling input: Los Angeles County; Fleet Aggregate; Annual; 2022). The modeling input values are considered generally representative of conditions for the region and representative of the majority of vehicles associated with Project-related VMT. According to EMFAC2021 modeling, Los Angeles County on-road vehicles will consume 3.79 billion gallons of gasoline and 516 million gallons of diesel in 2022 (the Project's construction year).*

Operation

During operation of the Project, energy would be consumed for multiple purposes, including, but not limited to, heating/ventilating/air conditioning (HVAC); refrigeration; water heating; lighting; and the use of electronics, equipment, and appliances. Energy would also be consumed during Project operations related to water usage, solid waste disposal, and vehicle trips to and from the Project Site by employees and visitors. A summary of the estimated annual energy required for operation of the Project is presented in Table 4.6, *Summary of Net Annual Energy Use During Project Operation*, below.

Table 4.6
Summary of Net Annual Energy Use During Project Operation[a]

Source	Estimated Energy Demand[c]
Electricity[b]	
Structures	1,196,366 kWh
Water	168,467 kWh
Total Electricity	1,364,833 kWh
Less Existing Electricity	*131,598 kWh*
Total Net Electricity	**1,233,235 kWh**
Natural Gas[b]	
Structures	787,332 cf
Less Existing Natural Gas	*89,628 cf*
Total Net Natural Gas	**697,704 cf**
Transportation[d]	
Gasoline	40,799 gallons
Less Existing Gasoline	*5,494 gallons*
Total Net Gasoline	**35,305 gallons**
Diesel	4,484 gallons
Less Existing Diesel	*569 gallons*
Total Net Diesel	**3,915 gallons**

kWh = kilowatt hours; cf = cubic feet
[a] Detailed calculations are provided in Appendix C of this IS/MND.
[b] Electricity and natural gas estimates assume compliance with applicable CALGreen and Title 24, Part 6 requirements.
[c] Totals may be off due to rounding.
[d] Gasoline and diesel consumption rates were based on the Project's annual VMT, which was calculated by CalEEMod, and were calculated using the county-specific miles per gallon and fleet mix as determined by EMFAC2021 for specific years (2022 for Existing and 2024 for Operation).
Source: EcoTierra Consulting, Inc., 2021.

Electricity

During operation, electricity would be supplied to the Project Site by LADWP from the existing electrical system. However, the Project would require the installation of new on-site electrical distribution facilities and connection to the off-site electrical system (please refer to the discussion under Section XIX, Utilities and Service Systems, below, for an analysis of potential impacts associated with installation of electrical facilities). As shown in Table 4.6, with compliance with Title 24 standards and applicable California Code of Regulations, Title 11 (CALGreen)

requirements, buildout of the Project would result in a projected net increase in the on-site demand for electricity totaling approximately 1,233,235 kWh (1.23 gigawatts (GWh)) per year. Based on the LADWP's 2017 Power Strategic Long-Term Resources Plan, LADWP forecasts that its total energy sales in the 2024–2025 fiscal year (the Project's buildout year) will be 23,286 GWh of electricity.[21] As such, the Project-related net increase in annual electricity consumption of 1,233,235 kWh per year would represent approximately 0.005 percent of LADWP's projected sales in 2024.

The Project would be required to comply with Title 24 standards and CALGreen requirements, which includes incorporation of energy efficient water features and lighting fixtures to reduce energy consumption. In addition, the Project would comply with the 2020 LAGBC. The LAGBC requires the use of numerous conservation measures, beyond those required by Title 24, and contains both mandatory and voluntary green building measures to conserve energy. Pursuant to LAGBC, the Project would incorporate ultra-low flow plumbing fixtures and all roof, balcony and plaza deck drains would feed into a 10,000-gallon rainwater harvesting cistern to be used entirely for irrigation of the on-site landscaping. The irrigation system would be designed to meet or exceed the state Model Water Efficient Landscape Ordinance and would utilize: a dedicated landscape water meter, automatic weather-based controllers with electronically operated control valves and seasonal irrigation schedules; and high efficiency irrigation emitters, including micro spray and drip irrigation (bubblers may be used for trees or shrubs where drip irrigation is not feasible). In addition, the Project's air conditioning system would be comprised of highly efficient Variable Refrigerant Flow systems allowing for minimal electrical consumption, particularly when the building is lightly occupied.

Natural Gas

Natural gas required for Project operation would be supplied by SoCalGas from existing natural gas facilities. However, the Project would require construction of new, on-site gas distribution lines to serve the new building and connection to existing off-site natural gas facilities (please refer to the discussion under Section XIX, Utilities and Service Systems, below, for an analysis of potential impacts associated with installation of natural gas facilities). As shown in Table 4.6, with compliance with Title 24 standards and applicable CALGreen requirements, buildout of the Project would result in a projected net increase in the on-site demand for natural gas totaling approximately 697,704 cf per year. Based on the 2020 California Gas Report, the California Energy and Electric Utilities estimates natural gas consumption within SoCalGas' planning area will be approximately 2,349 million cf per day in 2024 (the Project's buildout year) and supplies in 2024 are projected to be 3,435 million cf per day; resulting in an additional 1,086 million cf per day of available supplies.[22] As such, the Project-related net increase in annual natural gas consumption of 697,704 cf per year (or approximately 1,912 cf per day) would account for

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[21] *LADWP defines its future electricity supplies in terms of sales that will be realized at the meter. LADWP, 2017 Power Strategic Long-Term Resource Plan, December 2017, Appendix A, Table A-1, p. A-6.*

[22] *California Gas and Electric Utilities, 2020 California Gas Report, Table 33, p. 144.*

approximately 0.00008 percent of the daily 2024 forecasted consumption in SoCalGas' planning area and approximately 0.0002 percent of the additional supplies available.

The Project would be required to comply with Title 24 standards and CALGreen requirements, which includes incorporation of energy efficient mechanical equipment to reduce energy consumption. In addition, the Project would comply with the 2020 LAGBC which, as discussed above, requires the use of numerous conservation measures, beyond those required by Title 24. Pursuant to the LAGBC, the Project would include enhanced energy-efficiency via high-performance glazing as well as enhanced façade, roof, and deck insulation values. The building systems would include enhanced filtration of outside air being delivered to the occupied areas, and operable windows and oversize folding glass walls would enhance the natural ventilation whenever weather conditions permit.

Transportation-Related Energy

As summarized in Table 4.6, the Project's estimated net annual petroleum-based fuel usage would be approximately 35,305 gallons of gasoline and 3,915 gallons of diesel per year. For comparison purposes, the transportation-related fuel usage for the Project would represent approximately 0.001 percent of the 2024 annual on-road gasoline-related energy consumption and 0.0007 percent of the 2024 annual diesel fuel-related energy consumption in Los Angeles County.[23]

Furthermore, some percentage of automobiles and trucks driven by Project visitors and employees would benefit from Corporate Average Fuel Economy (CAFE) standards, which would result in more efficient use of transportation fuels (lower consumption). The purpose of CAFE is to reduce energy consumption by increasing the fuel economy of cars and light trucks. Transportation fuel efficiency would improve as future Project visitors and employees replace their privately owned or leased older vehicle models with newer vehicle models that achieve greater fuel efficiency. In addition, the Project would increase density and introduce new uses on an infill Site located in an urbanized area of the City. The Project's infill location would promote the concentration of development in an urban location with extensive infrastructure and access to public transit facilities, which would reduce vehicle miles traveled for the office space. The Project would improve the streetscape and pedestrian environment, as well as promote alternative methods of transportation through the provision of both short- and long-term bicycle parking, which would serve to reduce VMT and transportation fuel consumption. In addition, the on-site drop-off area in the ground floor would encourage ridesharing and carpooling, while the on-site

[23] *California Air Resources Board, EMFAC2021 on-road vehicle emissions factor model, (Modeling input: Los Angeles County; Fleet Aggregate; Annual; 2024). The modeling input values are considered generally representative of conditions for the region and representative of the majority of vehicles associated with Project-related VMT. According to EMFAC2021 modeling, Los Angeles County on-road vehicles will consume 3.67 billion gallons of gasoline and 529 million gallons of diesel in 2024 (the Project's buildout year).*

parking would include preferential parking for electric and low-emitting vehicles, and the Project would provide over-code electric vehicle charging stations.

The effects of the project on local and regional energy supplies and on requirements for additional capacity

Construction

As shown in Table 4.6, construction of the Project would require a total of approximately 211,777 kWh of electricity. As discussed above, electricity would be intermittently consumed during Project construction activities for conveyance of water used for dust control and, on a limited basis, powering lights, electronic equipment, or other construction activities necessitating electrical power. The electricity demand at any given time would vary throughout the construction period based on the construction activities being performed and would cease upon completion of construction. Electricity would be supplied to the Project Site by LADWP and would be obtained from the existing electrical lines that connect to the Project Site. When not in use, electric equipment would be powered off so as to avoid unnecessary energy consumption. The estimated construction electricity usage over the anticipated construction period would be partially offset by the removal of existing uses and would represent approximately 15.5 percent of the Project's estimated net annual operational electricity demand, which, as discussed below, would be within the supply and infrastructure service capabilities of LADWP.[24]

Construction activities, including the construction of new buildings and facilities, typically do not involve the consumption of natural gas. Accordingly, natural gas would not be supplied to support Project construction activities; thus, there would be no demand generated by construction.

As shown in Table 4.6, on- and off-road vehicles would consume an estimated 10,475 gallons of gasoline and approximately 59,287 gallons of diesel fuel throughout the Project's construction. Construction transportation energy would be provided by existing retail service stations and from existing mobile fuel services that are typically needed to deliver fuel to a construction site to refuel the off-road construction equipment at the Project Site and no new facilities would be expected to be required. Construction-related gasoline consumption would be fully offset while the diesel consumption would be nominally offset by the removal of existing uses. Transportation fuel usage during Project construction activities would represent approximately 0.0003 percent of the 2022 (construction year) annual on-road gasoline-related energy consumption and 0.01 percent of the 2022 annual diesel fuel-related energy consumption within Los Angeles County, respectively, as

[24] *The percentage is derived by taking the total amount of electricity usage during construction (211,777 kWh) and dividing that number by the annual amount of TOTAL electricity usage during operation (1,364,833 kWh) to arrive at 15.5 percent.*

projected by CARB's EMFAC on-road vehicle emissions factor model.[25]

As energy consumption, including electricity and transportation-fuel during construction would not be substantial compared to existing and projected consumption, and as energy supplies of the existing purveyors are sufficient to serve the Project in addition to existing comment, construction of the Project would not materially affect the local and/or regional energy supplies and would not require additional capacity.

Operation

As shown in Table 4.6, buildout of the Project would result in a projected net increase in the on-site demand for electricity totaling approximately 1,233,235 kWh (1.23 GWh) per year. Based on the LADWP's 2017 Power Strategic Long-Term Resources Plan, LADWP forecasts that its total energy sales in the 2024–2025 fiscal year (the Project's buildout year) will be 23,286 GWh of electricity.[26] As such, the Project-related net increase in annual electricity consumption of 1,233,235 kWh per year would represent approximately 0.005 percent of LADWP's projected sales in 2024. Therefore, the Project's projected electricity demand would fall within LADWP's projected consumption and supplies for the area. Furthermore, LADWP currently has a net dependable capacity of 8,009 megawatts (MW).[27] Peak demand is expected to be 6,029 MW in 2024,[28] which would not exceed the dependable capacity of 8,009 MW. Based on these factors, it is anticipated that LADWP's existing and planned electricity capacity and electricity supplies would be sufficient to serve the Project's electricity demand.

As shown in Table 4.6, buildout of the Project would result in a projected net increase in the on-site demand for natural gas totaling approximately 697,704 cf per year. Based on the 2020 California Gas Report, the California Energy and Electric Utilities estimates natural gas consumption within SoCalGas' planning area will be approximately 2,349 million cf per day in 2024 (the Project's buildout year) and supplies in 2024 are projected to be 3,435 million cf per day; resulting in an additional 1,086 million cf per day of available supplies.[29] As such, the Project-related net increase in annual natural gas consumption of 697,704 cf per year (or approximately 1,912 cf per day) would account for approximately 0.00008 percent of the daily 2024 forecasted consumption in SoCalGas' planning area and approximately 0.0002 percent of the additional

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[25] *California Air Resources Board, EMFAC2021 on-road vehicle emissions factor model, (Modeling input: Los Angeles County; Fleet Aggregate; Annual; 2022). The modeling input values are considered generally representative of conditions for the region and representative of the majority of vehicles associated with Project-related VMT. According to EMFAC2021 modeling, Los Angeles County on-road vehicles will consume 3.79 billion gallons of gasoline and 516 million gallons of diesel in 2022 (the Project's construction year).*

[26] *LADWP defines its future electricity supplies in terms of sales that will be realized at the meter. LADWP, 2017 Power Strategic Long-Term Resource Plan, December 2017, Appendix A, Table A-1, p. A-6.*

[27] *LADWP, Facts & Figures Website, available at: https://www.ladwp.com/ladwp/faces/ladwp/aboutus/a-power/a-p-factandfigures, accessed June 16, 2021.*

[28] *LADWP, 2017 Power Strategic Long-Term Resource Plan, December 2017, Appendix A, Table A-1, p. A-6.*

[29] *California Gas and Electric Utilities, 2020 California Gas Report, Table 33, p. 144.*

supplies available, and would therefore fall within SoCalGas' projected consumption and supplies for the area. Interstate pipeline delivery capability into SoCalGas on any given day is theoretically approximately 6,665 million cubic feet/day based on the Federal Energy Regulatory Commission (FERC) Certificate Capacity or SoCalGas's estimated physical capacity of upstream pipelines. SoCalGas's storage fields attain a combined theoretical storage working inventory capacity of 137.1 billion cubic feet, of that, 112.5 billion cubic feet is allocated to residential, small industrial, and commercial customers. SoCalGas undertakes expansion and/or modification of the natural gas infrastructure to serve future growth within its service area as part of the normal process of providing service. Project operation would result in the irreversible consumption use of non-renewable natural gas and would thus limit the availability of this resource. However, the continued use of natural gas would be on a relatively small scale and consistent with regional and local growth expectations for the area. As such, it is expected that SoCalGas' existing and planned natural gas capacity and supplies will be sufficient to serve the Project's demand.

As summarized in Table 4.6, the Project's estimated net annual petroleum-based fuel usage would be approximately 35,305 gallons of gasoline and 3,915 gallons of diesel per year. For comparison purposes, the transportation-related fuel usage for the Project would represent approximately 0.001 percent of the 2024 annual on-road gasoline-related energy consumption and 0.0007 percent of the 2024 annual diesel fuel-related energy consumption in Los Angeles County.[30] Operational transportation energy would be provided by existing retail service stations and no new retail service stations would be expected to be required. Transportation fuels (gasoline and diesel) are produced from crude oil, which can be domestic or imported from various regions around the world. Based on current proven reserves, crude oil production would be sufficient to meet over 50 years of worldwide consumption.[31] As such, it is expected that existing and planned transportation fuel supplies will be sufficient to serve the Project's demand.

As energy consumption, including electricity, natural gas, and transportation-fuel, during operation would be relatively negligible compared to existing and projected consumption, and as energy supplies of the existing purveyors are sufficient to serve the Project in addition to existing commitments, operation of the Project would not affect the local and/or regional energy supplies and would not require additional capacity.

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[30] *California Air Resources Board, EMFAC2021 on-road vehicle emissions factor model, (Modeling input: Los Angeles County; Fleet Aggregate; Annual; 2024). The modeling input values are considered generally representative of conditions for the region and representative of the majority of vehicles associated with Project-related VMT. According to EMFAC2021 modeling, Los Angeles County on-road vehicles will consume 3.67 billion gallons of gasoline and 529 million gallons of diesel in 2024 (the Project's buildout year).*

[31] *BP Global, Oil reserves, 2018.*

The effects of the project on peak and base period demands for electricity and other forms of energy

As discussed above, electricity demand during construction and operation of the Project would have a negligible effect on the overall capacity of the LADWP's power grid and base load conditions. With regard to peak load conditions, the LADWP power system experienced an all-time high peak of 6,502 MW on August 31, 2017.[32] LADWP also estimates a peak load based on two years of data known as base case peak demand to account for typical peak conditions. Based on LADWP estimates for 2024-2025 (the Project's buildout year), the base case peak demand for the power grid is expected to be 6,029 MW.[33] Under peak conditions, the Project would consume a total of 1,364,833 kWh[34] on an annual basis, which is equivalent to a daily peak load of approximately 3,739 kW (or 3.74 MW). In comparison to the LADWP power grid base peak load of 6,029 MW for 2024, the Project's estimated peak demand would represent approximately 0.06 percent of the LADWP base peak load conditions.[35] Therefore, Project electricity consumption during operational activities would have a negligible effect on peak load conditions of the power grid.

The degree to which the project complies with existing energy standards

Construction

Construction equipment would comply with federal, state, and regional requirements where applicable. With respect to truck fleet operators, the U.S. Environmental Protection Agency (USEPA) and National Highway Traffic Safety Administration (NHSTA) which is responsible for keeping people safe on roadways, have adopted fuel efficiency standards for medium- and heavy-duty trucks. The Phase 1 heavy-duty truck standards apply to combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles for model years 2014 through 2018 and result in a reduction in fuel consumption from 6 to 23 percent over the 2010 baseline, depending on the vehicle type.[36] USEPA and NHTSA also adopted the Phase 2 heavy-duty truck standards, which cover model years 2021 through 2027 and require the phase-in of a 5 to 25 percent reduction in fuel consumption over the 2017 baseline depending on the compliance year and vehicle type.[37] The energy modeling for trucks does not account for specific fuel reductions from these regulations, since they would apply to fleets as they incorporate newer trucks meeting the regulatory standards; however, these regulations would have an overall beneficial effect on

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[32] *LADWP, Facts & Figures Website, available at: https://www.ladwp.com/ladwp/faces/ladwp/aboutus/a-power/a-p-factandfigures, accessed June 16, 2021.*

[33] *LADWP, 2017 Power Strategic Long-Term Resource Plan, Appendix A, Table A-1, December 2017.*

[34] *Peak demand the Project would have on the LADWP power system is calculated based on the total actual demand the Project would have on the LADWP power system, not the net demand as compared to existing conditions.*

[35] *Calculated as follows: 3.74 MW / 5,976 MW = 0.06 percent.*

[36] *California Energy Commission, Tracking Progress – Energy Efficiency Document, Last Updated: September 2018.*

[37] *BP Global, Oil Reserves, 2019, available at: https://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy/oil.html#oil-reserves, accessed: April 29, 2021.*

reducing fuel consumption from trucks over time as older trucks are replaced with newer models that meet the standards.

In addition, construction equipment and trucks are required to comply with CARB regulations regarding heavy-duty truck idling limits of five minutes at a location and the phase-in of off-road emission standards that result in an increase in energy savings in the form of reduced fuel consumption from more fuel-efficient engines. Although these regulations are intended to reduce criteria pollutant emissions, compliance with the anti- idling and emissions regulations would also result in the efficient use of construction- related energy.

Based on the information above, construction of the Project would comply with existing energy standards.

Operation

Electricity and natural gas usage during Project operations would be minimized through incorporation of applicable Title 24 standards, applicable CALGreen requirements, and the LAGBC, in accordance with the applicable version of these standards at the time of building permit issuance. These standards include enhanced energy-efficiency via high-performance glazing as well as enhanced façade, roof, and deck insulation values. The air conditioning system would be comprised of highly efficient Variable Refrigerant Flow systems allowing for minimal electrical consumption, particularly when the building is lightly occupied. The building systems would include enhanced filtration of outside air being delivered to the occupied areas, and operable windows and oversize folding glass walls would enhance the natural ventilation whenever weather conditions permit. Vertical circulation via the feature outdoor stair would further enhance the health and wellness of the occupants. Furthermore, the Project would incorporate energy-conservation measures such as installing energy efficient appliances, and would also incorporate water conservation features, such as installing water-saving fixtures and implementing water-efficient landscaping techniques.

With respect to operational transportation-related fuel usage, the Project would support statewide efforts to improve transportation energy efficiency and reduce transportation energy consumption with respect to private automobiles. The Project's future residents, visitors, and employees would utilize vehicles that comply with CAFE fuel economy standards and the Pavley standards, which are designed to result in more efficient use of transportation fuels. Transportation fuel efficiency would improve as these future Project residents, visitors, and employees replace their privately owned or leased older vehicle models with newer vehicle models that achieve greater fuel efficiency. The Project's mixed-use design and its increase in density located on an infill site in close proximity to existing transit, including rail and bus lines, its proximity to existing off-site retail, restaurant, entertainment, commercial, and job destinations, and its walkable and bike-able environment support the conclusion that that the Project has been properly designed and located so that its development would achieve a reduction in VMT compared to a project with the same land uses that does not have the location-specific nor the Project design-specific benefits nor the infill nature of the Project.

Based on the information above, operation of the Project would comply with existing energy standards.

The effects of the project on energy resources

LADWP's electricity generation is derived from a mix of non-renewable and renewable sources, such as coal, natural gas, solar, geothermal, wind, and hydropower. The LADWP 2017 Power Strategic Long-Term Resource Plan identifies adequate resources (natural gas, coal) to support future generation capacity, and, as discussed above, LADWP's existing and planned electricity capacity and supplies would be sufficient to serve the Project's electricity demand.[38] Therefore, Project construction and operation activities would have a negligible effect on electricity supply.

Natural gas supplied to the Southern California area is mainly sourced from out-of-state with a small portion originating in California. According to the U.S. Energy Information Administration (EIA), the United States currently has about 84 years of natural gas reserves based on 2019 consumption.[39] Compliance with energy standards is expected to result in more efficient use of natural gas (lower consumption) in future years.[40] Therefore, Project construction and operation activities would have a negligible effect on natural gas supply.

Transportation fuels (gasoline and diesel) are produced from crude oil, which can be provided domestically or imported from various regions around the world. Based on current proven reserves, crude oil production would be sufficient to meet over 50 years of worldwide consumption.[41] The Project would also comply with CAFE fuel economy standards, which would result in more efficient use of transportation fuels (lower consumption). Therefore, Project construction and operation activities would have a negligible effect on the transportation fuel supply.

One of the objectives of SB 350 was to increase the procurement of California's electricity from renewable sources from 33 percent to 50 percent by 2030. Accordingly, LADWP is required to procure at least 50 percent of its energy portfolio from renewable sources by 2030. The current sources of LADWP's renewable energy include wind, solar, and geothermal sources. These sources accounted for 34 percent of LADWP's overall energy mix in 2020, the most recent year for which data are available.[42] These represent the available off-site renewable sources of energy

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[38] *"The 2017 [Power Strategic Long-Term Resource Plan] outlines an aggressive strategy for LADWP to accomplish its goals, comply with regulatory mandates, and provide sufficient resources over the next 20 years given the information presently available." Source: LADWP, 2017 Power Strategic Long-Term Resource Plan, December 2016, page ES-25.*

[39] *U.S. Energy Information Administration, Frequently Asked Questions, How much natural gas does the United States have, and how long will it last?, https://www.eia.gov/tools/faqs/faq.php?id=58&t=8, accessed June 16, 2021.*

[40] *California Energy Commission, Tracking Progress – Energy Efficiency Document, Last Updated: September 2018.*

[41] *BP Global, Oil reserves, 2018.*

[42] *Los Angeles Department of Water and Power, 2019 Power Content Labels, October 2020.*

that would meet the Project's energy demand. LADWP has committed to providing an increasing percentage of its energy portfolio from renewable sources so as to exceed the Renewables Portfolio Standard requirements, by increasing to 50 percent by 2025 (5 years before the 2030 requirement), 55 percent by 2030, and 65 percent by 2036. While the Project's electricity usage rate would not be directly affected by the availability of renewable energy, the Project's usage of LADWP's mix of renewable energy would indirectly avoid consumption of fossil fuels.

With regard to on-site renewable energy sources, the Project would incorporate energy-conservation measures such as installing energy efficient appliances, and would also incorporate water conservation features, such as installing water-saving fixtures and implementing water-efficient landscaping techniques. However, due to the Project Site's height and location, the solar-ready building requirements of Title 24, Section 110.10 would not be applicable to the Project,[43] and other on-site renewable energy sources would not be feasible to install on-site as there are no local sources of energy from the following sources: biodiesel, biomass hydroelectric and small hydroelectric, digester gas, methane, fuel cells, landfill gas, municipal solid waste, ocean thermal, ocean wave, and tidal current technologies, or multi-fuel facilities using renewable fuels. Furthermore, wind-powered energy is not viable on the Project Site due to the lack of sufficient wind in the Los Angeles basin. Specifically, based on a map of California's wind resource potential, the Project Site is not identified as an area with wind resource potential. Therefore, the Project would support the procurement of renewable resources as feasible and would not interfere with the procurement of renewable resources.

The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives

The Project would include features to reduce VMT during operational activities. The Project would improve the streetscape and pedestrian environment, as well as promote alternative methods of transportation through the provision of both short- and long-term bicycle parking, which would serve to reduce VMT and transportation fuel consumption. In addition, the on-site drop-off area in the ground floor would encourage ridesharing and carpooling, while the on-site parking would include preferential parking for electric and low-emitting vehicles, and the Project would provide over-code electric vehicle charging stations. In addition, the Project Site is well served by public transit, including the Metro B Line (previously Red Line), as well as Metro local and rapid bus lines. Therefore, the Project would support the use of efficient transportation energy use and efficient transportation alternatives.

Conclusion

As detailed above, the Project's energy requirements would not substantially affect local or regional supplies or capacity. The Project's energy usage during peak and base periods would also not conflict with or exceed future projections for the region. Electricity generation capacity and supplies of natural gas and transportation fuels would also be sufficient to meet the needs of

[43] *Title 24, Section 110.10 solar-ready building requirements for non-residential uses are limited to a height of three habitable stories or less.*

Project-related construction and operations. During construction, the Project would comply with on-road fuel economy and Title 24 energy efficiency standards where applicable, resulting in efficient use of energy. During operation, the Project would comply with energy efficiency requirements for electricity and natural gas, such as the Title 24 standards, CALGreen Code, and the LAGBC, in accordance with the applicable version of these standards at the time of building permit issuance, and consumption reduction strategies for transportation, such as supporting the use of alternative modes of transportation. In summary, the Project's energy demands would not substantially affect available energy supplies and would comply with existing energy efficiency standards. **As such, the Project would not result in the wasteful, inefficient, or unnecessary consumption of energy during construction or operation and impacts would be less than significant.**

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less Than Significant Impact. A significant impact may occur if a project were to conflict with a state or local plan for renewable energy or energy efficiency.

As discussed above in response to Checklist Question VI(a), the energy conservation policies and plans relevant to the Project include the California Title 24 energy standards, CALGreen, and the LAGBC. As these conservation policies are mandatory under the City of LA Building Code, the Project would not conflict with applicable plans for renewable energy or energy efficiency.

With regard to transportation related energy usage, the Project would comply with goals of SCAG's 2020-2045 RTP/SCS. SCAG's 2020-2045 RTP/SCS focuses on creating livable communities with an emphasis on sustainability and integrated planning, and identifies mobility, economy, and sustainability as the three principles most critical to the future of the region. As part of the approach, the 2020-2045 RTP/SCS focuses on reducing fossil fuel use by decreasing VMT, encouraging the reduction of building energy use, and increasing use of renewable sources. The Project's infill siting and proximity to major job centers and public transportation would serve to reduce VMT and associated transportation fuel usage within the region. The Project's inclusion of bicycle facilities and electric vehicle charging stations would also serve to promote alternative modes of transportation to further reduce VMT. In addition, vehicle trips generated during Project operation would comply with CAFE standards. During construction activities, the Project would be required to comply with CARB anti-idling regulations and the In-Use Off-Road Diesel Fleet regulations.

Based on the above, the Project would not conflict with adopted energy conservation plans, nor would it violate state or federal energy standards and impacts would be less than significant.

VII. GEOLOGY AND SOILS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving?				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	☐	☐	☐	☒
ii. Strong seismic ground shaking?	☐	☐	☒	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv. Landslides?	☐	☐	☐	☒
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse caused in whole or in part by the project's exacerbation of the existing environmental conditions?	☐	☐	☒	☐
d. Be located on expansive soil, as identified in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

A Geotechnical Investigation Report (Geotechnical Report)[44] was prepared for the Project to assist in the preparation of the following geology and soils analysis and is included as Appendix D.1 to this IS/MND.

a) Would the directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

(i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

No Impact. A significant impact may occur if a project is located within a State-designated Alquist-Priolo Zone or other designated fault zone, and appropriate building practices are not employed.

Numerous active and potentially active faults with surface expressions (fault traces) have been mapped adjacent to, within, and beneath the City. Active earthquake faults are faults where surface rupture has occurred within the last 11,000 years. The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazards of surface faulting and fault rupture to built structures. Surface rupture of a fault generally occurs within 50 feet of an active fault line.

The Project Site is not located within a designated Alquist-Priolo Earthquake Fault Zone.[45] According to the California Geological Society, the nearest Alquist-Priolo Earthquake Fault Zone is the Hollywood Fault Zone, an approximately 6-mile long zone running slightly northeast-southwest through Hollywood along the southern base of the Santa Monica Mountains, located approximately 1.3 miles to the north of the Project Site.[46] The Project Site is not located within a City-designated Fault Rupture Study Area.[47] Thus, the potential for fault rupture at the Project Site would be low. Furthermore, the Project would be required to comply with applicable State and local building and seismic codes and implement all site- and Project-specific design recommendations contained in the Geotechnical Report (see Appendix D.1) that was prepared for the Project. Final design-level soils and geological reports would be submitted to the Los Angeles Department of Building and Safety (LADBS) for review and approval as part of the standard building permit submittal package prior to Project construction.[48] Conformance with current Building Code requirements and site-specific design recommendations in the

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[44] *Geocon West ,Inc., Geotechnical Investigation, Proposed Commercial Development 6103 West Melrose Avenue, Los Angeles, California, April 28, 2020.*

[45] *City of Los Angeles Department of City Planning, Zone Information & Map Access System Website, accessed: April 13, 2021.*

[46] *California Department of Conservation, California Geological Survey, Earthquake Zones of Required Investigations Interactive Map Viewer, accessed: April 2021.*

[47] *Geocon West ,Inc., Geotechnical Investigation, Proposed Commercial Development 6103 West Melrose Avenue, Los Angeles, California, April 28, 2020.*

[48] *Los Angeles Municipal Code Section 91.7006.2 requires the submittal of soils and geological reports to LADBS for review and approval for all grading work in excess of 5,000 cubic yards.*

Geotechnical Report would minimize the potential for people on the Project Site to sustain loss, injury, or death as a result of fault rupture. **Accordingly, no impacts related to fault rupture would occur under the Project and no mitigation is required.**

(ii) Strong seismic ground shaking?

Less Than Significant Impact. A significant impact may occur if a project represents an increased risk to public safety or destruction of property by exposing people, property or infrastructure to seismically induced ground shaking hazards that are greater than the average risk associated with locations in the Southern California region.

The Project Site is located in the seismically active region of Southern California, and therefore, is susceptible to ground shaking during a seismic event. There are several active faults in the region, including the Hollywood Fault located 1.3 miles to the north, the Newport-Inglewood Fault Zone located 3.3 miles to the southwest, the Santa Monica Fault located 3.7 miles to the west, the Raymond Fault located 6.2 miles to the northeast, and the Verdugo Fault located 7.4 miles to the northeast. The active San Andreas Fault Zone is located approximately 33 miles to the northeast of the Project Site. In addition, several buried thrust faults (those faults without a surface expression) underlie the Los Angeles and are capable of generating significant ground shaking in the Los Angeles Area, including at the Project Site.

The Geotechnical Report prepared for the Project (see Appendix D.1) provided site-specific seismic design parameters based on the uses proposed and soil conditions at the Project Site. The Project would be required through regulatory compliance, including the requirements of LAMC Section 91.7006.2, to incorporate the recommendations of the Project's geotechnical engineer and with any conditions issued by LADBS per their review of the Project's Geotechnical Report, which would account for seismic calculations from probabilistic seismic hazard modeling for the Site. In addition, the Project would be required to comply with the City Building Code, which incorporates, with local amendments, the latest editions of the International Building Code and California Building Code. Compliance with the City Building Code includes incorporation of the seismic standards appropriate to the Project Site and its Seismic Design Category as established in the Geotechnical Report. Modern buildings are designed to resist ground shaking through the use of shear panels, moment frames, and reinforcement in compliance with the Building Code. Accordingly, the Geotechnical Report prepared for the Project concluded that development of the Project is feasible from a geotechnical engineering standpoint, provided that the advice and recommendations contained in the report are included in the Project plans and implemented during construction.[49] **Therefore, impacts related to seismic ground shaking would be less than significant and no mitigation measures would be required.**

[49] *Geocon West ,Inc., Geotechnical Investigation, Proposed Commercial Development 6103 West Melrose Avenue, Los Angeles, California, April 28, 2020, p. 9.*

(iii) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. A significant impact may occur if a project is located in an area identified as having a high risk of liquefaction and mitigation measures required within such designated areas are not incorporated into the Project. Liquefaction describes a phenomenon where cyclic stresses, which are produced by earthquake-induced ground motions, create excess pore pressures in cohesionless soils. As a result, the soils may acquire a high degree of mobility, which can lead to lateral spreading, consolidation and settlement of loose sediments, ground oscillation, flow failure, loss of bearing strength, ground fissuring, and sand boils, and other damaging deformations. This phenomenon occurs only below the water table, but after liquefaction has developed, it can propagate upward into overlying, non-saturated soils as excess pore water escapes. The possibility of liquefaction occurring at a given site is dependent upon the occurrence of a significant earthquake in the vicinity, sufficient groundwater to cause high pore pressures, and on the grain size, relative density, and confining pressures of the soil at the site.

The Project Site is not mapped within a State-identified Liquefaction Zone.[50] Based on the historic high groundwater depth (15 feet below the ground surface), the Geotechnical Report (Appendix D.1) concluded that the liquefaction potential at the Project Site is very low.[51]

Additionally, pursuant to LAMC Section 91.7006.2, a final geotechnical report for the Project that addresses the same existing soils conditions as well as the final design of the development would be reviewed and approved by LADBS as part of the City's ministerial processes of issuing grading and building permits. The Project would be required to incorporate the recommendations of the Geotechnical Report and regulatorily required to comply with all conditions issued by LADBS per their review of the Project's Geotechnical Report, which would account for underlying soil conditions, including liquefaction potential. **Therefore, impacts related to liquefaction, would be less than significant and no mitigation measures would be required.**

(iv) Landslides?

No Impact. A significant adverse effect may occur if a project is located in a hillside area with soil conditions that would suggest high potential for sliding.

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[50] *California Department of Conservation, Geological Survey, Earthquake Zones of Required Investigations Interactive Map Viewer, accessed: April 2021.*

[51] *Geocon West ,Inc., Geotechnical Investigation, Proposed Commercial Development 6103 West Melrose Avenue, Los Angeles, California, April 28, 2020, p. 7.*

The Project Site and surrounding area consist of relatively flat topography and are not located within an area identified by the State[52] or the City[53] as having a potential for landslides, or within the path of a known landslide. Furthermore, the Project does not propose substantial alterations to the existing topography that would directly or indirectly cause adverse effects related to landslides. Accordingly, the Geotechnical Report (see Appendix D.1) concluded that the Project would not be subject to hazards related to landslides and that development of the Project would be feasible from a geotechnical engineering standpoint, provided the advice and recommendations contained in the report are included in the Project plans and are implemented during construction.[54] **Therefore, no impacts related to landslides would occur, and no mitigation measures would be required.**

b) Would the project result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. A significant impact may occur if a project exposes large areas to the erosional effects of wind or water for a protracted period of time.

During construction, Project grading and excavation would expose relatively low amounts of soil for a limited time, allowing for possible erosion. However, due to the temporary nature of the soil exposure during the grading and excavation processes, substantial erosion is unlikely to occur. All grading activities require permits from the LADBS, which reviews compliance with requirements and standards designed to limit potential impacts, including from erosion, to acceptable levels. In addition, all on-site grading and Project Site preparation is required to comply with all applicable provisions of LAMC Chapter IX, Division 70, addressing grading, excavation, and fills. The grading plan for the Project would conform with the City's Landform Grading Manual guidelines, subject to approval by the Department of City Planning and the Department of Building and Safety's Grading Division.

During construction, the Project would be required to prevent the transport of sediments from the Site by stormwater runoff and winds through the use of appropriate Best Management Practices (BMPs). Appropriate erosion control and drainage devices per the Los Angeles Municipal Code Section 91.7013 would be provided to the satisfaction of the Los Angeles Department of Building and Safety. During operation, the Project Site would be entirely covered with the structure and minor amounts of landscaping and there would be no exposed soil that would be susceptible to erosion. Accordingly, the Project would not have the potential to result in substantial soil erosion or the loss of topsoil. **Impacts would be less than significant, and no mitigation measures would be required.**

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[52] *Geocon West ,Inc., Geotechnical Investigation, Proposed Commercial Development 6103 West Melrose Avenue, Los Angeles, California, April 28, 2020, p. 7.*

[53] *City of Los Angeles Department of City Planning, Los Angeles City General Plan Safety Element, November 1996, Exhibit C, Landslide Inventory & Hillside Areas.*

[54] *Geocon West ,Inc., Geotechnical Investigation, Proposed Commercial Development 6103 West Melrose Avenue, Los Angeles, California, April 28, 2020, page 9.*

c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse caused in whole or in part by the project's exacerbation of the existing environmental conditions?

Less Than Significant Impact. A significant impact may occur if a project is built in an unstable area without proper site preparation or design features to provide adequate foundations for project buildings, thus posing a hazard to life and property. Potential impacts with respect to liquefaction and landslide potential are evaluated in Questions 6(a)(iii) and (iv) above.

Consolidation/collapse tests conducted on the subsurface soils at the Project Site as part of the Geotechnical Report indicate that artificial fills were encountered at a depth of 2.5 feet below the ground surface The artificial fill generally consists of dark brown clay with varying amounts of gravel and is characterized as slightly moist and firm. The fill is likely the result of past grading or construction activities at the site. Deeper fill may exist between excavations and in other portions of the site that were not directly explored. The Project Site is underlain by Pleistocene age alluvial sediments that are considered stiff to hard or medium dense to dense and are not prone to liquefaction. Based on these considerations the potential for liquefaction and associated ground deformations beneath the Project Site is very low.

The Project Site is not located within an area of known ground subsidence. No large-scale extraction of groundwater, gas, oil, or geothermal energy is occurring or planned at the Project Site or in the general site vicinity. There appears to be little or no potential for ground subsidence due to withdrawal of fluids or gases at the Project Site.

The topography at the Project Site is relatively level and the topography in the immediate site vicinity slopes gently to the south-southwest. The Project Site is not located within a City of Los Angeles Hillside Grading Area or a Hillside Ordinance Area.[55] Also, the Project Site is not located within an area identified as having a potential for seismic slope instability. There are no known landslides near the Project Site, nor is the site in the path of any known or potential landslides. Therefore, the potential for slope stability hazards to adversely affect the proposed development is considered low.

In addition, safe construction practices would be exercised through required compliance with the City Building Code, the Geotechnical Report's recommendations, and conditions of approval provided by LADBS, which includes building foundation requirements appropriate to site conditions and soil conditions, including soil stability. The Geotechnical Report prepared for the Project (see Appendix D.1) concluded that the Project would not be subject to hazards related to instability, such as settlement, slippage, or landslide provided that the recommendations contained in the Geotechnical Report are followed and implemented during design and

[55] *Geocon West ,Inc., Geotechnical Investigation, Proposed Commercial Development 6103 West Melrose Avenue, Los Angeles, California, April 28, 2020, page 7.*

construction.[56] **Therefore, impacts related to instability would be less than significant and no mitigation measures would be required.**

d) Would the project be located on expansive soil, as identified in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Less Than Significant Impact. A significant impact may occur if a project is built on expansive soils without proper site preparation or design features to provide adequate foundations for project buildings, thus posing a hazard to life and property.

The subterranean parking levels will extend approximately 35 feet below the existing ground surface including foundations depths and dewater systems. Subsurface exploration conduction as part of the Geotechnical Report (see Appendix D.1) determined that the soils beneath the Project Site are artificial fills that were encountered at a depth of 2.5 feet below the ground surface The artificial fill generally consists of dark brown clay with varying amounts of gravel and is characterized as slightly moist and firm. The fill is likely the result of past grading or construction activities at the site. Deeper fill may exist between excavations and in other portions of the site that were not directly explored. The fill soils are underlain by Pleistocene age old alluvial fan deposits consisting of brown to dark brown, reddish brown, yellowish-brown or olive brown interbedded silty sand, clayey sand, sandy silt, sandy clay, and clay. The alluvium is characterized as primarily fine to medium-grained, slightly moist to moist, and medium dense to dense or stiff to hard.[57]

Based on depth of the proposed subterranean levels, the proposed structure would not be prone to the effects of expansive soils.[58] Furthermore, the Project would be required to comply with the City of Los Angeles Uniform Building Code, the Los Angeles Municipal Code, and other applicable building codes which include building foundation requirements appropriate to Site-specific conditions, such as expansion potential, established in the Geotechnical Report, and any conditions or recommendations established for the Project by the LADBS during their review of Project plans and the Geotechnical Report as part of the building and grading permit approval process (pursuant to LAMC Section 91.7006.2). The Project's Geotechnical Report concluded that neither soil nor geologic conditions (including the expansion potential) were encountered during the investigation that would preclude the construction of the proposed development provided the recommendations presented in the Geotechnical Investigation are followed and

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[56] *Geocon West ,Inc., Geotechnical Investigation, Proposed Commercial Development 6103 West Melrose Avenue, Los Angeles, California, April 28, 2020, page 7.*

[57] *Geocon West ,Inc., Geotechnical Investigation, Proposed Commercial Development 6103 West Melrose Avenue, Los Angeles, California, April 28, 2020, page 2.*

[58] *Geocon West ,Inc., Geotechnical Investigation, Proposed Commercial Development 6103 West Melrose Avenue, Los Angeles, California, April 28, 2020, page 12.*

implemented during design and construction.[59] **Therefore, impacts from expansive soil would be less than significant and no mitigation measures would be required.**

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. A significant impact may occur if a project is located in an area not served by an existing sewer system. The Project Site is located in a developed area of the City, which is served by a wastewater collection, conveyance, and treatment system operated by the City. Therefore, no septic tanks or alternative disposal systems would be necessary, nor are they proposed. **Accordingly, no impacts related to inadequate septic tank support would occur and no mitigation measures would be required.**

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant Impact. A significant impact may occur if a project directly or indirectly destroys a unique paleontological resource or site or unique geologic feature.

The Project Site is located in a developed, urban area that has been previously subject to disturbance, including grading and development. Per the General Plan Framework EIR, there are no known paleontological resources within the Project Site.[60] Additionally, a Vertebrate Paleontology Records Check was conducted by the Los Angeles County Natural History Museum for paleontological resources on the Project Site and vicinity. The research did not find any recorded paleontological resources within the Project Site boundaries (see Appendix D.2). The research did find that there are localities of resources nearby from the same sedimentary deposits occurring at depth in the Project Area.[61] Therefore, as the Project would require excavation for subterranean parking, utility and foundation work, and grading and there would be a potential to encounter buried paleontological resources.

The Project would be required to comply with the City of Los Angeles Conservation Element's Site Protection policy regarding designation of a paleontologist and notification, assessment, and removal or protection of paleontological resources that may be encountered during excavation. Per the Conservation Element, "if significant paleontological resources are uncovered during Project execution, authorities are to be notified and the designated paleontologist may order excavations stopped, within reasonable time limits, to enable assessment, removal or protection of the resources."[62] The found deposits would be treated in accordance with federal, State, and local guidelines, including those set forth in California Public Resources Code Section 21083.2.

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[59] *Geocon West ,Inc., Geotechnical Investigation, Proposed Commercial Development 6103 West Melrose Avenue, Los Angeles, California, April 28, 2020, page 9.*

[60] *City of Los Angeles, Citywide General Plan Framework Final Environmental Impact Report, certified August 2001, Figure CR-2, Vertebrate Paleontological Resources in the City of Los Angeles.*

[61] *Correspondence from Samuel A. McLeod, Ph.D., Vertebrate Paleontology, Natural History Museum of Los Angeles County, May 11, 2021.*

[62] *City of Los Angeles, General Plan, Conservation Element, Adopted September 26, 2001, page II-5.*

Therefore, the Project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. Accordingly, impacts would be less than significant and no mitigation measures would be required.

VIII. GREENHOUSE GAS EMISSIONS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Air quality data was generated for the Project to assist in the preparation of the following greenhouse gas emissions analysis and is included as Appendix A to this document.

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less Than Significant Impact. A project may have a significant impact if project-related emissions would exceed federal, State, or regional standards or thresholds.

Greenhouse gases (GHG) are those gaseous constituents of the atmosphere, both natural and human generated, that absorb and emit radiation at specific wavelengths within the spectrum of terrestrial radiation emitted by the earth's surface, the atmosphere itself, and by clouds. The City has adopted the LA Green Plan to provide a citywide plan for achieving the City's GHG emissions targets, for both existing and future generation of GHG emissions. In order to implement the goal of improving energy conservation and efficiency, the Los Angeles City Council has adopted multiple ordinances and updates to establish the current LAGBC (Ordinance No. 181,480). The LAGBC requires projects to achieve a 20 percent reduction in potable water use and wastewater generation. Through required implementation of the LAGBC, the proposed Project would be consistent with local and statewide goals and policies aimed at reducing the generation of GHGs.

CEQA Guidelines Section 15064(h)(3) allows a lead agency to make a finding of less than significance for GHG emissions if a project complies with regulatory programs to reduce GHG emissions. Because there is no applicable adopted or accepted numerical threshold of significance for GHG emissions, the methodology for evaluating the Project's impacts related to GHG emissions focuses on its consistency with statewide, regional, and local plans adopted for the purpose of reducing and/or mitigating GHG emissions. This evaluation of consistency with such plans is the sole basis for determining the significance of the Project's GHG-related impacts on the environment. The Climate Change Scoping Plan approved by the California Air Resources Board; the City's LA Green Plan; and Sustainable City pLAn all apply to the Project and are all intended to reduce GHG emissions to meet the statewide targets set forth in the California Global Warming Solutions Act of 2006 (also known as Assembly Bill (AB) 32) and the Global warming

Solutions Act (also known as Senate Bill (SB) 32). Thus, the Lead Agency has determined that the Project would not have a significant effect on the environment if the Project is found to be consistent with AB 32/SB 32 and SB 375 (through demonstration of conformance with the 2020–2045 RTP/SCS) and the applicable regulatory plans and policies to reduce GHG emissions, including the emissions reduction measures discussed within CARB's 2017 Climate Change Scoping Plan, and the Sustainable City pLAn/L.A.'s Green New Deal. The Project's consistency with these applicable regulatory plans and policies is discussed in threshold (b) below.

However, for informational purposes, the analysis also calculates the amount of GHG emissions that would be attributable to the Project using recommended air quality models, as described below. The primary purpose of quantifying the Project's GHG emissions is to satisfy State CEQA Guidelines Section 15064.4(a), which calls for a good-faith effort to describe and calculate emissions. The significance of the Project's GHG emissions impacts is not based on the amount of GHG emissions resulting from the Project.

The Project is anticipated to generate GHG emissions from area sources, energy usage, mobile sources, waste, water/wastewater, and construction equipment. The following provides the methodology used to calculate the Project-related GHG emissions and the Project impacts.

CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operations from a variety of land use projects. CalEEMod was developed in collaboration with the air districts of California, who provided data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) to account for local requirements and conditions. The model is considered by the SCAQMD to be an accurate and comprehensive tool for quantifying air quality and GHG impacts from land use projects throughout California. CalEEMod Version 2020.4.0 was used to calculate the GHG emissions from the Project. The CalEEMod Annual Outputs for year 2021 for the existing commercial land use (to be removed) and for year 2023, for the Project, are available in Appendix A, of this document. As shown in Table 4.7, *Project-Related GHG Emissions*, the GHG emissions from the existing commercial use (being removed) were subtracted from the Project total. Each source of GHG emissions is described in greater detail below.

Area Sources

Area sources include emissions from consumer products, landscape equipment and architectural coatings. The Project will comply with SCAQMD Rule 1113. SCAQMD Rule 1113 states that paints applied to building envelope are limited to 50g/L VOC content. No changes were made to the default area source emissions.

Table 4.7
Project-Related GHG Emissions

Emissions Source	Estimated Project Generated CO_2e Emissions (Metric Tons per Year)
Area Sources	0.01
Energy Usage (Electricity & Natural Gas)	417.80
Mobile Sources (Motor Vehicles)	392.12
Solid Waste Generation	32.83
Water/Wastewater	88.57
Construction Emissions	24.03
Project Subtotal	**955.35**
-Existing Commercial Use Being Removed	-106.17
Project total	**849.18**
Calculation sheets are provided in Appendix A of this document. *Source: CalEEMod Version 2020.4.0 for Opening Year 2023 for the Project and Year 2021 for Existing Uses.*	

Energy Usage

Energy usage includes emissions from the generation of electricity and natural gas used on-site. No changes were made to the default energy usage parameters.[63]

Mobile Sources

Mobile sources include emissions from the additional vehicle miles generated from the Project. The vehicle trips associated with the Project have been analyzed based on the Project trip generation rates as detailed in Section III above. As discussed in Section XVII of this document, the Project would generate a total of 481 net daily trips (549 daily trips from the Project minus 68 daily trips from the existing use). Based on the data in the Transportation Assessment, the Project would not result in any significant VMT transportation impacts.

Emissions of GHGs associated with mobile sources from operation of the Project are based on the average daily trip rate, trip distance, the GHG emission factors for the mobile sources, and the Global Warming Potential (GWP) values for the GHGs emitted. The types of vehicles that would visit the Project Site include all vehicle types including automobiles, light-duty trucks, delivery trucks, and waste haul trucks. Modeling for the Project was conducted using the vehicle fleet mix for the Los Angeles County portion of the South Coast Air Basin as provided in EMFAC2017 and CalEEMod. Annual mobile source GHG emissions in units of MTCO2e are generally calculated as follows:

Annual Emissions [MTCO2e] = (Σi (Units × ADT × DTRIP × Days × EF × GWP)i) ÷ 2204.6

[63] *No changes were made to the CalEEMod default energy use settings. The baseline for the current CalEEMod energy use defaults is 2019 Title 24 Standards.*

Where:

Units = Number of vehicles (same vehicle model year and class)

ADT = Average daily trip rate [trips/day]

DTRIP = Trip distance [miles/trip]

Days = Number of days per year [days/year]

EF = GHG emission factor [pounds per mile]

GWP = Global warming potential [CO2 = 1, CH4 = 25, N2O = 298]

2204.6 = Conversion factor [pounds/MT]

i = Summation index

Waste

Waste includes the GHG emissions generated from the processing of waste from the Project as well as the GHG emissions from the waste once it is interred into a landfill. According to the City of Los Angeles Zero Waste Progress Report (March 2013), the City achieved a landfill diversion rate of approximately 76 percent by year 2012.[64] AB 341 requires that 75 percent of waste be diverted from landfills by 2020. It is anticipated that the Project would recycle at least 50 percent of its solid waste (see Appendix A mitigated values in the Annual CalEEMod output for details on reduction emissions). No other changes were made to the default waste parameters.

Water/Wastewater

Water includes the water used for the interior of the building as well as for landscaping and is based on the GHG emissions associated with the energy associated with supplying and treating water and wastewater. Reductions for Project design features (low-flow appliances and water-efficient landscape irrigation) are shown in the mitigated CalEEMod output values. No other changes were made to the default water usage parameters.

Construction

The construction-related GHG emissions were also included in the analysis and were based on a 30-year amortization rate as recommended in the SCAQMD GHG Working Group meeting on November 19, 2009. The construction-related GHG emissions were calculated by CalEEMod.

The GHG emissions have been calculated based on the parameters as described in Section III above. A summary of the results is shown below in Table 4.7, *Project-Related GHG Emissions* and the CalEEMod Model runs for the both the existing use (to be removed) and the Project are

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[64] *City of Los Angeles, Department of Public Works, LA Sanitation, Zero Waste Progress Report, March 2013.*

provided in Appendix A of this document. Table 4.7 shows that the subtotal for the Project's emissions would be 955.35 MTCO2e per year. With the removal of the existing uses, the emissions are reduced to 849.18 MTCO2e per year.

As stated above, because there is no applicable adopted or accepted numerical threshold of significance for GHG emissions, the methodology for evaluating the Project's impacts related to GHG emissions focuses on its consistency with statewide, regional, and local plans adopted for the purpose of reducing and/or mitigating GHG emissions. This evaluation of consistency with such plans is the sole basis for determining the significance of the Project's GHG-related impacts on the environment.

As set forth above, the Project would generate incrementally increased GHG emissions over existing conditions. However, even a very large individual project would not generate enough GHG emissions on its own to significantly influence global climate change. As discussed under threshold b) below, the Project would be consistent with the 2020–2045 RTP/SCS, the Climate Change Scoping Plan, and the *Sustainable City pLAn/L.A.'s Green New Deal*. The Project's consistency with these applicable regulatory plans and policies to reduce GHG emissions, along with implementation of project design features discussed in other sections of this IS/MND, would minimize the Project's GHG emissions. **Therefore, the Project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, and impacts with respect to GHGs would be less than significant. No mitigation measures would be required.**

b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less Than Significant Impact. A significant air quality impact may occur if a project is not consistent with the AB32 Scoping Plan or other applicable plans designed to reduce greenhouse gas emissions such as a Climate Action Plan, or would in some way represent a substantial hindrance to employing the policies or obtaining the goals of such a plan.

Applicable plans adopted for the purpose of reducing GHG emissions include the CARB Scoping Plan (2008 and 2017 Scoping Plans), the City of Los Angeles Sustainable City pLAn, and the 2016/2020 RTP/SCS discussed below.

Consistency with CARB Scoping Plan

CARB's Scoping Plan identifies strategies to reduce California's GHG emissions in support of Assembly Bill ("AB") 32 which requires the State to reduce its GHG emissions to 1990 levels by 2020. Many of the strategies identified in the Scoping Plan are not applicable at the project level, such as long-term technological improvements to reduce emissions from vehicles. Some measures are applicable and supported by the Project, such as energy efficiency. Finally, while some measures are not directly applicable, the Project would not conflict with their implementation.

Reduction measures are grouped into 18 action categories, as follows:

1. **California Cap-and-Trade Program Linked to Western Climate Initiative Partner Jurisdictions.** Implement a broad-based California cap-and-trade program to provide a firm limit on emissions. Link the California cap–and-trade program with other Western Climate Initiative Partner programs to create a regional market system to achieve greater environmental and economic benefits for California. Ensure California's program meets all applicable AB 32 requirements for market-based mechanisms.

2. **California Light-Duty Vehicle Greenhouse Gas Standards.** Implement adopted Pavley standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals.

3. **Energy Efficiency.** Maximize energy efficiency building and appliance standards, and pursue additional efficiency efforts including new technologies, and new policy and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California (including both investor-owned and publicly owned utilities).

4. **Renewables Portfolio Standards.** Achieve 33 percent renewable energy mix statewide.

5. **Low Carbon Fuel Standard.** Develop and adopt the Low Carbon Fuel Standard.

6. **Regional Transportation-Related GHG Targets.** Develop regional GHG emissions reduction targets for passenger vehicles.

7. **Vehicle Efficiency Measures.** Implement light-duty vehicle efficiency measures.

8. **Goods Movement.** Implement adopted regulations for the use of shore power for ships at berth. Improve efficiency in goods movement activities.

9. **Million Solar Roofs Program.** Install 3,000 megawatts of solar-electric capacity under California's existing solar programs.

10. **Medium- and Heavy-Duty Vehicles.** Adopt medium- (MD) and heavy-duty (HD) vehicle efficiencies. Aerodynamic efficiency measures for HD trucks pulling trailers 53-feet or longer that include improvements in trailer aerodynamics and use of rolling resistance tires were adopted in 2008 and went into effect in 2010.5 Future, yet to be determined improvements, includes hybridization of MD and HD trucks.

11. **Industrial Emissions.** Require assessment of large industrial sources to determine whether individual sources within a facility can cost-effectively reduce GHG emissions and provide other pollution reduction co-benefits. Reduce GHG emissions from fugitive emissions from oil and gas extraction and gas transmission. Adopt and implement regulations to control fugitive methane emissions and reduce flaring at refineries.

12. **High Speed Rail.** Support implementation of a high-speed rail system.

13. **Green Building Strategy.** Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.

14. **High Global Warming Potential Gases.** Adopt measures to reduce high warming global potential gases.

15. **Recycling and Waste.** Reduce methane emissions at landfills. Increase waste diversion, composting and other beneficial uses of organic materials, and mandate commercial recycling. Move toward zero-waste.

16. **Sustainable Forests.** Preserve forest sequestration and encourage the use of forest biomass for sustainable energy generation. The 2020 target for carbon sequestration is 5 million MTCO2e/yr.

17. **Water.** Continue efficiency programs and use cleaner energy sources to move and treat water.

18. **Agriculture.** In the near-term, encourage investment in manure digesters and at the five-year Scoping Plan update determine if the program should be made mandatory by 2020.

Table 4.8, *Scoping Plan Consistency Summary*, summarizes the Project's consistency with the State Scoping Plan. As summarized, the Project will not conflict with any of the provisions of the

Table 4.8
Scoping Plan Consistency Summary

Action	Supporting Measures	Consistency
Cap-and-Trade Program	--	**Not Applicable**. These programs involve capping emissions from electricity generation, industrial facilities, and broad scoped fuels. Caps do not directly affect commercial/residential projects.
Light-Duty Vehicle Standards	T-1	**Not Applicable**. This is a statewide measure establishing vehicle emissions standards.
Energy Efficiency	E-1 E-2 CR-1 CR-2	**No Conflict**. The Project will include a variety of building, water, and solid waste efficiencies consistent with 2019 CALGREEN requirements.
Renewables Portfolio Standard	E-3	**Not Applicable**. Establishes the minimum statewide renewable energy mix.
Low Carbon Fuel Standard	T-2	**Not Applicable**. Establishes reduced carbon intensity of transportation fuels.
Regional Transportation-Related Greenhouse Gas Targets	T-3	**Not Applicable.** This is a statewide measure and is not within the purview of this Project.
Vehicle Efficiency Measures	T-4	**Not Applicable**. Identifies measures such as minimum tire-fuel efficiency, lower friction oil, and reduction in air conditioning use.
Goods Movement	T-5 T-6	**Not Applicable**. Identifies measures to improve goods movement efficiencies such as advanced combustion strategies, friction reduction, waste heat recovery, and electrification of accessories. While these measures are

Table 4.8
Scoping Plan Consistency Summary

Action	Supporting Measures	Consistency
		yet to be implemented and will be voluntary, the proposed Project would not interfere with their implementation.
Million Solar Roofs (MSR) Program	E-4	**Not Applicable**. The MSR program sets a goal for use of solar systems throughout the state as a whole. The project currently does not include solar energy generation, and it is unknown if the building roof structure will be designed to support solar panels in the future.
Medium- & Heavy-Duty Vehicles	T-7 T-8	**Not Applicable**. MD and HD trucks and trailers accessing the Project will be subject to aerodynamic and hybridization requirements as established by ARB; no feature of the Project would interfere with implementation of these requirements and programs.
Industrial Emissions	I-1 I-2 I-3 I-4 I-5	**Not Applicable**. These measures are applicable to large industrial facilities (> 500,000 $MTCO_2e$/yr) and other intensive uses such as refineries.
High Speed Rail	T-9	**Not Applicable**. Supports increased mobility choice.
Green Building Strategy	GB-1	**No Conflict**. The Project will include a variety of building, water, and solid waste efficiencies consistent with CALGREEN requirements.
High Global Warming Potential Gases	H-1 H-2 H-3 H-4 H-5 H-6 H-7	**Not Applicable**. The proposed Project is not a substantial source of high GWP emissions and will comply with any future changes in air conditioning, fire protection suppressant, and other requirements.
Recycling and Waste	RW-1 RW-2 RW-3	**No Conflict**. The Project will recycle a minimum of 50 percent diversion to recycling from construction activities and operations pursuant to AB 939, AB 341 and AB 75 requirements.
Sustainable Forests	F-1	**No Conflict**. The Project will increase carbon sequestration by increasing on-site trees per the Project landscaping plan.
Water	W-1 W-2 W-3 W-4 W-5 W-6	**No Conflict**. The Project will include use of low-flow fixtures and water-efficient landscaping pursuant to CalGreen requirements.
Agriculture	A-1	**Not Applicable**. The Project is not an agricultural use.

Note: Supporting measures can be found at the following link:
https://www.arb.ca.gov/cc/scopingplan/2013_update/appendix_b.pdf
Table Source: EcoTierra Consulting, 2021.

Scoping Plan and in fact supports seven of the action categories through energy efficiency, water conservation, recycling, and landscaping. As shown above, the Project would be consistent with the applicable measures established in the Scoping Plan.

Consistency with SB 32

At the state level, Executive Orders S-3-05 and B-30-15 are orders from the State's Executive Branch for the purpose of reducing GHG emissions. The goal of Executive Order S-3-05, to reduce GHG emissions to 1990 levels by 2020 was codified by the Legislature as the 2006 Global Warming Solutions Act (AB 32). The Project, as analyzed above, is consistent with AB 32. Therefore, the Project does not conflict with this component of Executive Order S-3-05. The Executive Orders also establish goals to reduce GHG emissions to 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050. However, studies have shown that, in order to meet the 2030 and 2050 targets, aggressive technologies in the transportation and energy sectors, including electrification and the decarbonization of fuel, will be required. In its Climate Change Scoping Plan, CARB acknowledged that the "measures needed to meet the 2050 target are too far in the future to define in detail." In the First Scoping Plan Update, however, CARB generally described the type of activities required to achieve the 2050 target: "energy demand reduction through efficiency and activity changes; largescale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and rapid market penetration of efficiency and clean energy technologies that requires significant efforts to deploy and scale markets for the cleanest technologies immediately."

Unlike the 2020 and 2030 reduction targets of AB 32 and SB 32, respectively, the 2050 target of Executive Order S-3-05 has not been codified, so the 2050 reduction target has not been the subject of any analysis by CARB. For example, CARB has not prepared an update to the aforementioned Scoping Plan that provides guidance to local agencies as to how they may seek to contribute to the achievement of the 2050 reduction target.

In 2017, the California Supreme Court examined the need to use the Executive Order S-3-05 2050 reduction target in Cleveland National Forest Foundation v. San Diego Association of Governments (2017) 3 Cal.5th 497 (Cleveland National). The case arose from San Diego Association of Governments (SANDAG's) adoption of its 2050 Regional Transportation Plan, which included its Sustainable Communities Strategy, as required by SB 375. On review, the Supreme Court held that SANDAG did not violate CEQA by not considering the Executive Order S-3-05 2050 reduction target. Accordingly, since the Project is much smaller in size and scope in comparison to the Regional Transportation Plan examined in Cleveland National, assessing the Project's consistency with regard to the 2050 target of Executive Order S-3-05 is not necessary for determining compliance with CEQA.

The 2017 Scoping Plan builds on the 2008 Scoping Plan in order to achieve the 40 percent reduction from 1990 levels by 2030. Major elements of the 2017 Scoping Plan framework that will achieve the GHG reductions include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing Zero Emission Vehicle (ZEV) buses and trucks. When adopted, this measure would apply to all trucks accessing the Project site; this may include existing trucks or new trucks purchased by the project proponent, which could be eligible for incentives that expedite the Project's implementation of ZEVs.

- Low Carbon Fuel Standard (LCFS), with an increased stringency (20 percent by 2030). When adopted, this measure would apply to all fuel purchased and used by the Project in the state.
- Implementing SB 350, which expands Renewables Portfolio Standard (RPS) to 50 percent and doubles energy efficiency savings by 2030. When adopted, this measure would apply when electricity is provided to the Project by a utility company.
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of ZEV trucks. When adopted, this measure would apply to all trucks accessing the Project Site, this may include existing trucks or new trucks that are part of the statewide goods movement sector.
- Implementing the proposed Short-Lived Climate Pollutant Strategy (SLPS), which focuses on reducing methane and hydrofluorocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030.
- Continued implementation of SB 375. The Project is not within the purview of SB 375 and would therefore not conflict with this measure.
- Post-2020 Cap-and-Trade Program that includes declining caps. When adopted, the Project would be required to comply with the Cap-and-Trade Program if it generates emissions from sectors covered by Cap-and-Trade.
- 20 percent reduction in GHG emissions from refineries by 2030. When adopted, the Project would be required to comply with this measure if it were to utilize any fuel from refineries.
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink. This is a statewide measure that would not apply to the Project.

As shown above, the Project would not conflict with any of the 2017 Scoping Plan elements as any regulations adopted would apply directly or indirectly to the Project.

Further, recent studies show that the State's existing and proposed regulatory framework will allow the State to reduce its GHG emissions level to 40 percent below 1990 levels by 2030.[65]

LA Sustainable City pLAn

While not a plan adopted solely to reduce GHG emissions, within L.A.'s Green New Deal (Sustainable City pLAn 2019), climate mitigation is one of eight explicit benefits that help define its strategies and goals.

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[65] *California Legislative Information, Senate Bill No. 32, [Online] September 8, 2016. https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB32.*

The 2019 L.A. New Green Deal is the first four-year update to the Sustainable City pLAn. It augments, expands, and elaborates in more detail the City's vision for a sustainable future and it addresses the climate emergency with accelerated targets and new aggressive goals. The Project will contribute towards the attainment of the aspirations and goals previously identified in the Regulatory Framework discussion above by:

- Obtaining power from a utility provider that supplies 55% renewable energy by 2025.
- Including components that will reduce building energy use per square foot 22% by 2025.
- Reducing Vehicle Miles Traveled per capita by at least 13% by 2025.
- Ensuring 57% of new housing units are built within 1,500 feet of transit.

The proposed Project would use energy from the Los Angeles Department of Water and Power (LADWP), which currently provides 34 percent of electricity via renewable sources but has committed to providing an increasing percentage from renewable sources that exceed the RPS requirements by providing 50 percent by 2025, 55 percent by 2030, and 65 percent by 2036. The proposed Project would be designed and constructed to meet LA Green Building Code standards, where applicable, by including several measures designed to reduce energy consumption. The proposed Project would include Energy Star® appliances where applicable and would be a modern development with energy efficient heaters and air conditioning systems. As such, the proposed Project would be consistent with the goals and initiatives in the L.A. Green New Deal.

A discussion of the Project's consistency with the Sustainable City pLAn targets is provided below in Table 4.9, *Project Consistency with the LA Sustainable City pLAn*.

Table 4.9
Project Consistency with the LA Sustainable City pLAn

Targets	Project Consistency
Local Water. 20% reduction in water use per capita by 2017; 22.5% by 2025; and 25% by 2035.	**No conflict**. The Project would be consistent with the LAMC to reduce water consumption by 20 percent. The Project is required to follow CalGreen Standards which mandates a 20 percent reduction in indoor water use.
Solar Power. Increase cumulative total megawatts of local solar photovoltaic power to between 900-1,500 megawatts by 2025 and 1,500 to 1,800 megawatts by 2035 as well as increasing the cumulative total megawatts of energy storage capacity to at least 1,654 to 1,750 megawatts by 2025.	**No conflict**. Compliance with the LA Green Building Code and CALGreen Code would ensure energy efficiency. The Project would include, but not be limited to: air-tight and insulated envelope, Low-E windows, Energy Star appliances, and LED lighting.
Energy Efficient Buildings. Reduce energy use per square foot below 2013 baseline levels for all building types by at least 14% by 2025 and 30% by 2035 and use energy efficiency to deliver 15% of all of the City's projected electricity needs by 2020.	**No conflict**. Compliance with the LA Green Building Code and CALGreen Code would ensure energy efficiency. Project would include, but not be limited to: The Project would include, but not be limited to: air-tight and insulated envelope, Low-E windows, Energy Star appliances, and LED lighting.
Carbon and Climate Leadership. Reduce GHG emissions below 1990 baseline by at least	**No conflict.** The Project would be designed to incorporate energy and water efficient design that meet

Table 4.9
Project Consistency with the LA Sustainable City pLAn

Targets	Project Consistency
45 percent by 2025, 60 percent by 2035, and 80 percent by 2050. Improve GHG efficiency of the City from 2009 levels by 55 percent by 2025 and 75 percent by 2035.	or exceed the 2019 Title 24 Building Energy Efficiency Standards and CALGreen Code standards and incorporate energy and water efficiency measures. The Project includes design features and compliance with Code measures that will assist in the reduction of Project-related GHG emissions. Some of these design features include: The Project would include, but not be limited to: enhanced energy-efficiency via high-performance glazing as well as enhanced façade, roof and deck insulation values. The air conditioning system will be comprised of highly efficient Variable Refrigerant Flow systems allowing for minimal electrical consumption, particularly when the building is lightly occupied. The building systems will include enhanced filtration of outside air being delivered to the occupied areas, and operable windows and oversize folding glass walls will enhance the natural ventilation whenever weather conditions permit. Vertical circulation via the feature outdoor stair will further enhance the health and wellness of the occupants. Water usage will be minimized via the use of ultra-low flow plumbing fixtures throughout the project. All roof, balcony and plaza deck drains will feed into a rainwater harvesting cistern, approximately 10,000-gallon capacity, to be used entirely for irrigation of the on-site landscaping. The irrigation system shall be designed to meet or exceed the state Model Water Efficient Landscape Ordinance (MWELO). The system should utilize a dedicated landscape water meter and automatic weather-based controllers with electronically operated control valves and seasonal irrigation schedules. All areas will include high efficiency irrigation emitters, including micro spray and drip irrigation. Bubblers may be used for trees or shrubs where drip irrigation is not feasible. The on-site drop-off area in the ground floor will encourage ridesharing and carpooling, while the on-site parking will include preferential parking for electric and low-emitting vehicles, and the project will provide over-code electric vehicle charging stations.
Waste and Landfills. Increase land fill diversion rates to at least 90 percent by 2025 and 95 percent by 2035, as well as increasing proportion of waste products and recyclable commodities productively reused and repurposed within the County of Los Angeles to at least 25 percent by 2025 and 50 percent by 2035.	**No conflict**. the Project would be required to implement recycling programs that reduce waste to landfills by a minimum of 75 percent (per AB 341). The Project would be served by a solid waste collection and recycling service that may include mixed-waste processing, and that yields waste diversion results comparable to source separation and consistent with citywide recycling targets. The Project would also comply with the City of Los Angeles Space Allocation Ordinance (171,687) which requires that developments include a recycling area or a room of a specified size on the Project Site.

Table 4.9
Project Consistency with the LA Sustainable City pLAn

Targets	Project Consistency
Housing and Development. Increase cumulative new housing unit construction to 100k by 2021, 150k by 2025, and 275k by 2035. Ensure proportion of new housing units built within 1,500 feet of transit is at least 57 percent by 2025 and 65 percent by 2035.	**Not applicable.** The Project includes construction of a new, 67,889 square foot, creative office building. The proposed Project's infill location would promote the concentration of development in an urban location with extensive infrastructure and access to public transit facilities, which would reduce vehicle miles traveled for the office space.
Mobility and Transit. Reduce daily VMT per capita by at least 5 percent by 2025 and 10 percent by 2035. Increase the percentage of all trips made by walking, biking, or transit to at least 35 percent by 2025 and 50 percent by 2035.	**No conflict.** The Project is an urban center/infill development located in close proximity to transit. Additionally, the Project is a 67,889 square foot, creative office building. As part of the 168 parking spaces, a total of 16 spaces would be designated for clean air vehicles, and 10 spaces would be designated for EV charging stations. The Project provides 9 short term bicycle parking spaces and 17 long-term bicycle parking spaces, located and configured in compliance with applicable requirements of the LAMC. One shower for each gender, and a total of 26 lockers, will be provided in the first level of the parking facility.
Air Quality. Increase the percentage of electric and zero emissions vehicles in the city to 10 percent by 2025 and 25 percent by 2035 as well as increasing the percentage of port-related goods movement trips that use zero-emissions technology to at least 15 percent in 2025 and 25 percent in 2035.	**No conflict**. The Project will comply with applicable City of Los Angeles Building Codes pertaining to building code requirements for charging station prewiring and installation of charging stations at workplaces.
Note: This analysis focuses on the Sustainable City pLAn targets most applicable to the Project. *Source: City of Los Angles Sustainable City pLAn, April 2015 and L.A.'s Green New Deal Sustainable City pLAn 2019.*	

The analysis above describes the consistency of the Project with the City's *Sustainable City pLAn*. As discussed in Tables 4.8 and 4.9, generally the Project's consistency with the plans and policies should be demonstrated by a combination of regulatory compliance (green building code etc.) as well as Project-specific characteristics (water conservation, energy conservation, and other features consistent with these plans). Therefore, the Project would be consistent with the City's applicable plans, policies, or regulations for the reduction of GHG emissions.

As discussed above, the Project would comply with the LA Green Building Code and CALGreen Code which would ensure energy efficiency and installation of water conserving fixtures. Moreover, the Project Site would utilize energy from LADWP, which is actively increasing its use of renewable sources. The Project would locate creative office space and a commercial/retail land use close to transit opportunities. The Project Site is served by several bus lines on West Melrose Avenue and North June Street. The proximity of the Project Site to these transit stops would provide employees easy access to the new development on the Project Site. In addition, the Project would provide 26 bicycle parking spaces. Therefore, the Project would be consistent with the goals of the LA Green Plan.

City of Los Angeles Sustainable City pLAn

The Sustainable City pLAn, a mayoral initiative, includes both short-term and long-term aspirations through the year 2035 in various topic areas, including: water, solar power, energy-efficient buildings, carbon and climate leadership, waste and landfills, housing and development, mobility and transit, and air quality, among others. While not a plan adopted solely to reduce GHG emissions, within L.A.'s Green New Deal (Sustainable City pLAn 2019), climate mitigation is one of eight explicit benefits that help define its strategies and goals.

The Sustainable City pLAn provides information as to what the City will do with buildings and infrastructure in their control. It also provides specific targets related to housing and development, as well as mobility and transit, including the reduction of VMT per capita by 5 percent by 2025, and increasing trips made by walking, biking, or transit by at least 35 percent by 2025. The Sustainable City pLAn was updated in April 2019 and renamed as L.A.'s Green New Deal. This latest document establishes targets such as 100 percent renewable energy by 2045, diversion of 100 percent of waste by 2050, and recycling 100 percent of wastewater by 2035. Although the Sustainable city pLAn/Green New Deal is not an adopted plan or directly applicable to private development projects, the Project would generally comply with these aspirations as the Project is an infill development that would densify an existing land use within a HQTA.

Through the Green New Deal, the City would reduce an additional 30 percent in GHG emissions above and beyond the 2015 pLAn and ensures that the City stays within its carbon budget between 2020 and 2050.The Project would generally comply with these aspirations as the Project is an infill development, which is located near regional and local transit services. The Project would be well-served by transit and would generally further goals to reduce GHG emissions by promoting infill development, density, more efficient transportation, etc. Furthermore, the Project would comply with the City's Solid Waste Management Policy Plan, the RENEW LA Plan, and the Exclusive Franchise System Ordinance (Ordinance No. 182,986) in furtherance of the aspirations included in the Sustainable City pLAn with regard to waste and landfills. The Project would also provide secure short- and long-term bicycle storage areas for Project employees and guests. Therefore, the Project would be consistent with the Sustainable City pLAn and the Green New Deal.

LA Green Building Code

The Los Angeles Green Building Ordinance requires that all projects filed on or after January 1, 2020 comply with the current Los Angeles Green Building Code as amended to comply with the 2019 CALGreen Code. Mandatory measures under the Green Building Ordinance that would help reduce GHG emissions include: ten percent of the required and proposed parking spaces will have chargers for electric vehicles and 30 percent of the required and provided parking spaces will be pre-plumbed for future electric vehicle charging; enhanced energy-efficiency via high-performance glazing as well as enhanced façade, roof and deck insulation values; low-water use plumbing fixtures/appliances, rainwater harvesting cistern, water-efficient landscaping and drip irrigation. The Project will comply with the City of Los Angeles' Green Building Ordinance standards and reduce emissions beyond a "Business-as-Usual" scenario.

2020-2045 RTP/SCS

To implement SB 375 and reduce GHG emissions by correlating land use and transportation planning, SCAG adopted the 2016–2040 Regional Transportation Plan / Sustainable Communities Strategy (2016-2040 RTP/SCS) on April 7, 2016.[66,67]

On September 1, 2020, SCAG's Regional Council adopted an updated Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) known as the 2020– 2045 RTP/SCS or Connect SoCal. As with the 2016–2020 RTP/SCS, the purpose of the 2020–2045 RTP/SCS is to meet the mobility needs of the six-county SCAG region over the subject planning period through a roadmap identifying sensible ways to expand transportation options, improve air quality and bolster Southern California long-term economic viability.[68] Applicable Goals and Guiding Principles of the 2020-2045 RTP/STS include:

- Improve mobility, accessibility, reliability, and travel safety for people and goods.
- Enhance the preservation, security, and resilience of the regional transportation system.
- Increase person and goods movement and travel choices within the transportation system.
- Reduce greenhouse gas emissions and improve air quality
- Support health and equitable communities.
- Adapt to a changing climate and support an integrated regional development pattern and transportation network
- Leverage new transportation technologies and data-driven solutions that result in more efficient travel.
- Encourage development of diverse housing types in areas that are supported by multiple transportation options.

The goals and policies of the 2020–2045 RTP/SCS are similar to, and consistent with, those of the 2016–2040 RTP/SCS. Hence, because the proposed Project would be consistent with the 2016–2040 RTP/SCS as discussed below, the proposed Project would also be consistent with the 2020–2045 RTP/SCS.[69]

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[66] *Southern California Association of Governments, Final 2016-2040 RTP/SCS.*

[67] *Southern California Association of Governments, Executive Order G-16-066, SCAG 2016 SCS ARB Acceptance off GHG Quantification Determination, June 2016.*

[68] *SCAG, News Release: SCAG Regional Council Formally Adopts Connect SoCal, September 3, 2020.*

[69] *For example, the proposed Project would be consistent with both the 2016–2040 RTP/SCS and the2020–2045 RTP/SCS because it would increase urban density within a HighQuality Transit Area (HQTA) located less than 0.5 miles from a planned Metro Purple light rail station and in close proximity*

Consistent with SCAG's 2016 RTP/SCS alignment of transportation, land use, and housing strategies, the Project would accommodate increases in population, households, employment, and travel demand. The Project Site is located within an HQTA as designated by the 2016 RTP/SCS.[70,71] As discussed previously, the Project Site is an urban center location close to jobs, off-site housing, shopping and entertainment uses and in close proximity to public transit stops, which would result in reduced VMT, as compared to a project of similar size and land uses at a location without close and walkable access to off-site destinations and public transit stops. The 2016 RTP/SCS projects that these urban center/infill areas, while comprising only three percent of land area in the region make up 46 percent of future household growth and 55 percent of future job growth.

The Project would also be consistent with the following key GHG reduction strategies in SCAG's 2016 RTP/SCS, which are based on changing the region's land use and travel patterns:

- Compact growth in areas accessible to transit;
- New approximately 67,889 square foot, creative office building with coffee shop;
- Jobs closer to transit;
- New job growth focused in HQTAs (defined by the 2016 RTP/SCS as generally walkable transit villages or corridors that are within 0.5 mile of a well-serviced transit stop or a transit corridor with 15-minute or less service frequency during peak commute hours); and
- Biking and walking infrastructure to improve active transportation options and transit access.

Further, the vertical integration of land uses on the Project Site will produce substantial reductions in auto mode share to and from the Project Site that will help the region accommodate growth and promote public transit ridership that minimizes GHG emission increases and reduces per capita emissions consistent with the RTP/SCS. Additionally, the inclusion of electric vehicle charging infrastructure (per LA Green Building Code) will support the penetration of electric zero-emission vehicles into the vehicle fleet.

The Project would be located in an area well-served by public transit. Specifically, Metro operates bus routes in close proximity to the site, along West Melrose Avenue and North June Street. The Project would include bicycle facilities and create a pedestrian-friendly environment by providing landscaped walkways. The Project Site is located adjacent to a mature network of streets that

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to more than a dozen bus routes, would include transit-oriented development, and would implement TDM, all of which would reduce the City's per capita VMT and associated air emissions. Another example is that because the proposed Project would be consistent with the City's existing General Plan land use designation and zoning of the Project Site, it has been accounted for in the regional growth projections in both the 2016–2040 RTP/SCS and 2020–2045 RTP/SCS.

[70] *SCAG, 2016 RTP/SCS April 2016, Exhibit 5:1 High Quality Transit Areas in the SCAG Region for 2040 Plan, p. 77.*

[71] *Metro, High Quality Transit Areas-Southwest Quadrant Map.*

include vehicular, pedestrian and bicycle facilities. Development of the Project within this established community would promote a variety of travel choices and would create new employment and housing opportunities the area. The Project would not conflict with RTP/SCS goals to maximize mobility and accessibility for all people and goods in the region, ensure travel safety and reliability, preserve and ensure a sustainable regional transportation system, protect the environment, encourage energy efficiency and facilitate the use of alternative modes of transportation.

As demonstrated above, the Project would be consistent with the applicable goals, including those pertaining to reductions in GHG emissions, in the 2016 RTP/SCS.

The Project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Furthermore, because the Project is consistent and does not conflict with these plans, policies, and regulations, the Project's incremental increase in GHG emissions as described above would not result in a significant impact on the environment. Project-specific impacts with respect to GHG emissions would be less than significant, and no mitigation is required.

Cumulative Impacts

A cumulatively considerable impact would occur where the impact of the Project in addition to the related projects would be significant. However, in the case of global climate change, the proximity of the Project to other GHG emission generating activities is not directly relevant to the determination of a cumulative impact because climate change is a global condition. According to California Air Pollution Control Officers Association (CAPCOA), "GHG impacts are exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective." As noted above, the analysis of the Project's impact is a cumulative analysis and no further discussion is required. **Given that the analysis above found that the Project GHG impacts would be less than significant, the Project's cumulative impacts would also be considered less than significant.**

IX. HAZARDS AND HAZARDOUS MATERIALS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b. Create significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would exacerbate the current environmental conditions so as to create a significant hazard to the public or the environment?	☐	☐	☒	☐
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☒	☐
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

A Phase I Environmental Site Assessment (ESA)[72] was conducted for the Project to assist in the preparation of the following hazards and hazardous materials analysis and is included as Appendix E to this document.

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less Than Significant Impact. A significant impact may occur if a project involves use or disposal of hazardous materials as part of its routine operations and would have the potential to generate toxic or otherwise hazardous emissions that could adversely affect sensitive receptors.

Construction of the Project would involve the temporary transport, use, and disposal of potentially hazardous materials. These materials include paints, adhesives, surface coatings, cleaning agents, fuels, and oils that are typically associated with development of any urban development project. All of these materials would be used temporarily during construction. Additionally, all potentially hazardous materials associated with construction activities would be used and stored in accordance with manufacturers' instructions and handled in compliance with applicable standards and regulations, which further minimizes the potential risk associated with construction-related hazardous materials. Construction activities would be contained on the Project Site and, thus, any emissions from the use of such materials would be minimal and localized to the Project Site. Therefore, construction of the Project would not expose persons or the environment to a substantial risk resulting from the release of hazardous materials or exposure to health hazards in excess of regulatory standards.

Operation of the Project would not involve the routine use, transport, or disposal of hazardous materials. The Project includes the development of a 67,889 square foot, creative office building, and parking associated with this use. These typical urban uses do not involve the routine use of hazardous materials. Instead, the operation of the Project has limited hazardous materials to those similar to any other commercial urban development such as cleaning solvents, paints, and pesticides for landscaping. Likewise, the Project's uses could include commercial-grade cleaning solvents, waxes, dyes, toners, paints, bleach, grease, and petroleum products that are typically associated with commercial land uses. As a result, the Project generally would not produce significant amounts of hazardous waste, use or transport hazardous waste beyond those materials typically used in an urban development. Therefore, operation of the Project would not expose persons or the environment to a substantial risk resulting from the release of hazardous materials or exposure to health hazards in excess of regulatory standards.

Moreover, the Project would adhere to regulatory requirements for source hazardous waste reduction measures (e.g., recycling of used batteries, recycling of elemental mercury, etc.) that would further minimize the generation of hazardous waste. The Project would be required to comply with the applicable City ordinances regarding implementation of hazardous waste reduction efforts on-site (i.e., the City's Green Building Ordinance). The applicable regulatory requirements further ensure that the minimal amount of hazardous materials associated with the

[72] *L. Joseph Associates, LLC. Phase I Environmental Site Assessment, 6101-6111 Melrose Avenue Los Angeles, California 90038, October 8, 2019.*

Project are properly treated and disposed of at licensed resource recovery facilities or hazardous waste landfills. The potential transport of any hazardous materials and wastes, i.e., paints, adhesives, surface coatings, cleaning agents, fuels, and oils, if it occurs, would occur in accordance with federal and state regulations that govern the handling and transport of such materials. In accordance with such regulations, the transport of hazardous materials and wastes would only occur with transporters who have received training and appropriate licensing.

Therefore, impacts related to the transport, use, and disposal of hazardous materials would be less than significant and no mitigation measures would be required.

b) Would the project create significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less Than Significant Impact. A significant impact may occur if a project could potentially pose a hazard to nearby sensitive receptors by releasing hazardous materials into the environment through accident or upset conditions.

As stated above, an ESA was conducted for the Project Site in October 2019 (see Appendix E). The purpose of the ESA was to identify existing or potential recognized environmental conditions (RECs) affecting the Project Site that could indicate the potential for release of hazardous material into the environment. A REC is the presence or likely presence or any hazardous substances or petroleum products in, on, or at the property due to release to the environment; under conditions indicative of a release to the environment; or under conditions that pose a material threat of a future release to the environment. The ESA also categorizes RECs as controlled RECs and/or historical RECs. A controlled REC is a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority, and a historical REC is a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls.

No RECs, historical RECs, or controlled RECs were identified for the Project Site.[73] The nearest hazardous release site to the Project Site is listed at Veiling Plating, 755 Seward Street, Los Angeles, California. This site is located approximately 400 feet north of the Project Site. Historical metal plating operations at this site impacted the subsurface soil and, to a lesser degree, groundwater beneath this site with metals and volatile organic compounds (VOCs). Mitigation operations consisted of soil excavation and off-site disposal, and a Land Use Covenant has been recorded which limits future land use types at this site. The Department of Toxic Substances Control (DTSC) is not requiring any further environmental assessment or mitigation operations at this time, and it is unlikely that the subsurface soil, groundwater, or soil vapor beneath the Project

[73] *L. Joseph Associates, LLC. Phase I Environmental Site Assessment, 6101-6111 Melrose Avenue Los Angeles, California 90038, October 8, 2019, p. 2.*

Site has been significantly impacted in association with this release. Furthermore, the ESA concluded that further assessment of RECs associated with the Project Site would not be required.[74]

Based on the built date of the existing structure on the Project Site (1929[75]), asbestos-containing materials and lead-based paint may be present. However, all demolition, transport, and disposal of known and suspected asbestos would be required to adhere to the regulations established in the California Code of Regulations, Title 8, Section 341.6(c), Code of Federal Regulations, Title 29, Section 1926.1101(b), Code of Federal Regulations, Title 40, Part 61, Subpart M, and SCAQMD Rule 1403. Demolition, transport, and disposal of known and suspected lead-based paint would be required to adhere to the regulations established in the Code of Federal Regulations, Title 24, Section 35.86; Code of Federal Regulations, Title 40, Section 745.103; Code of Federal Regulations, Title 29, Section 1926.62; and California Code of Regulations, Title 8, Section 1532.1. Adherence to the regulations and procedures would ensure that all materials containing asbestos and lead-based paint would be remediated and disposed of in accordance with federal, state, and local regulations. **Accordingly, impacts related to the release of hazardous materials into the environment would be less than significant and no mitigation measures would be required.**

c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less Than Significant Impact. A significant adverse effect may occur if a project site is located within one-quarter mile of an existing or proposed school site and is projected to release toxic emissions which pose a health hazard beyond regulatory thresholds.

The closest school to the Project site is Wagon Wheel School (653 North Cahuenga Boulevard) located 0.3 miles to the east of the Project Site. However, as detailed above in response to Question IX(a) and Question IX(b), impacts related to hazardous materials during construction and operation of the Project would be less than significant. The Project would be required to comply with manufacturer recommendations and all federal, state, and local regulations for the storage, use, transport, and disposal of hazardous materials. Furthermore, the school would be generally shielded from the Project Site by its distance from the Project Site, intervening urban buildings, and standard construction walls and sheeting to reduce dust and other emissions from the Site. **As such, impacts related to the emission of hazardous emissions or handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of a school would be less than significant and no mitigation measures would be required.**

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[74] *L. Joseph Associates, LLC. Phase I Environmental Site Assessment, 6101-6111 Melrose Avenue Los Angeles, California 90038, October 8, 2019, p. 19.*

[75] *L. Joseph Associates, LLC. Phase I Environmental Site Assessment, 6101-6111 Melrose Avenue Los Angeles, California 90038, October 8, 2019, p. 1.*

d) Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would exacerbate the current environmental conditions so as to create a significant hazard to the public or the environment?

Less Than Significant Impact. California Government Code Section 65962.5 requires various State agencies to compile lists of hazardous waste disposal facilities, unauthorized releases from underground storage tanks, contaminated drinking water wells and solid waste facilities where there is known migration of hazardous waste and submit such information to the Secretary for Environmental Protection on at least an annual basis. A significant impact may occur if a project site is included on any of the above lists and poses an environmental hazard to surrounding sensitive uses.

The ESA prepared for the Project (see Appendix E), included a search of environmental records published by local, state, tribal, and federal agencies pursuant to Government Code Section 65962.5. The Project Site was listed in the EDR Historical Cleaners database. This listing is related to "Bardwil Said clo clnr" being listed at 6103 Melrose Avenue in a 1933 city directory.

As noted in the ESA, it is unlikely that this listing is related to commercial dry cleaning companies at the subject property, based on the years in which these occupants were listed, the short period of operation, and the building configuration. Additionally, it was common for city directories to identify the occupation of residential tenants in directories produced in the 1940s and earlier. According to the ESA these "clothes cleaners" listings do not represent an REC that warrants further investigation, and It is unlikely that the subsurface soil, groundwater, or soil vapor beneath the subject property was adversely impacted in association with this listing.[76] **Accordingly, impacts associated with the Site's inclusion on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 would be less than significant and no mitigation measures would be required.**

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

Less Than Significant Impact. A significant impact may occur if a project is located within a public airport land use plan area, or within two miles of a public airport, and subject to a safety hazard.

The Project Site is located approximately 11.1 miles south of the Hollywood-Burbank Airport (2627 North Hollywood Way). However, the Project Site is not located within the Planning Boundary/Influence Area of the Hollywood-Burbank Airport including within the Runway Protection Zone or Airport Land Use Plan Noise Contour, which establishes the area susceptible

[76] *L. Joseph Associates, LLC. Phase I Environmental Site Assessment, 6101-6111 Melrose Avenue Los Angeles, California 90038, October 8, 2019, p. 16.*

to noise levels that would exceed the annoyance threshold for noise (defined as >65 Community Noise Equivalent Level (CNEL) for commercial airports such as the Hollywood-Burbank Airport).[77] **Accordingly, impacts associated with safety hazards or excessive noise from proximate airports would be less than significant and no mitigation measure would be required.**

f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less than Significant Impact. A significant impact may occur if a project were to interfere with roadway operations used in conjunction with an emergency response plan or emergency evacuation plan or would generate traffic congestion that would interfere with the execution of such a plan.

La Brea Avenue is identified as a selected disaster route by the City[78] and as a secondary disaster route by Los Angeles County.[79] Construction of the Project would not require road closures and emergency access to the Project Site would be maintained in accordance with the LAMC and the Los Angeles Fire Department (LAFD) requirements. In addition, construction of the Project would not substantially impede public access or travel on public rights- of-way such as La Brea Avenue or Melrose Avenue, and would not interfere with any adopted emergency response plan or emergency evacuation plan.

Additionally, operation of the Project would not permanently alter vehicular circulation routes and patterns, or impede public access or travel upon public rights-of-way. Furthermore, as discussed below under Section XVII, Transportation, the Project would not result in any significant traffic impacts. The Project Site is not located within a Hillside Area[80] and the Project would comply with evacuation requirements according to the LAMC and the LAFD. An emergency response plan would be submitted to the LAFD during review of plans as part of the City's standard building permit process. **Therefore, impacts to emergency response and evacuation plans would be less than significant and no mitigation measures would be required.**

g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

No Impact. A significant impact may occur if a project is located in proximity to wildland areas and poses a potential fire hazard, which could expose persons or structures, either directly or indirectly, in the area in the event of a fire.

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[77] *Los Angeles County, Airport Land Use Commission, Burbank/Glendale/Pasadena Airport, Airport Influence Area Map, May 13, 2003.*

[78] *City of Los Angeles Department of City Planning, Los Angeles City General Plan Safety Element, Exhibit H, Critical Facilities & Lifeline Systems in the City of Los Angeles, Adopted November 1996.*

[79] *Los Angeles County Department of Public Works, Disaster Routes with Roads Districts Map, North Los Angeles County, September 24, 2012.*

[80] *City of Los Angeles Department of City Planning, Zone Information & Map Access System Website, accessed: February 2020.*

The Project Site is not located in a Very High Fire Hazard Severity Zone;[81] nor is the Project Site within a wildland fire hazard area.[82] In addition, the Project Site is located in a highly urbanized area of the City, and does not include wildlands or high fire hazard terrain or vegetation. Furthermore, the Project would be developed in accordance with LAMC and LAFD requirements pertaining to fire safety. **Accordingly, no impacts related to the exposure of people or structures to loss, injury, or death involving wildland fires would occur and no mitigation measures would be required.**

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[81] *City of Los Angeles Department of City Planning, Zone Information & Map Access System Website, accessed: January 2021.*

[82] *City of Los Angeles Department of City Planning, Los Angeles City General Plan Safety Element, Exhibit D, Selected Wildfire Hazard Areas in the City of Los Angeles, Adopted November 1996.*

X. HYDROLOGY AND WATER QUALITY

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i. Result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv. Impede or redirect flood flows?	☐	☐	☒	☐
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

A Hydrological Evaluation[83] was conducted for the Project to assist in the preparation of the following hydrological and water quality analysis and is included as Appendix F to this document.

[83] *Geocon Consultants ,Inc., Hydrological Evaluation, Proposed Commercial Development 6103 West Melrose Avenue, Los Angeles, California, February 7, 2022.*

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface ground water quality?

Less Than Significant Impact. A significant impact may occur if a project discharges water which does not meet the quality standards of agencies which regulate surface water quality and water discharge into storm water drainage systems. Significant impacts may also occur if a project does not comply with all applicable regulations with regard to surface water quality as governed by the State Water Resources Control Board (SWRCB). These regulations include compliance with the Standard Urban Storm Water Mitigation Plan (SUSMP) requirements to reduce potential water quality impacts.

Construction

Groundwater was encountered during subsurface exploration conducted as part of the Geotechnical Report to the maximum depth explored (32 feet below the ground surface)[84] and historically high groundwater depth in the vicinity is approximately 15 feet below the ground surface.[85] Excavation for the construction of the lowest subterranean level is anticipated to extend to a depth of 35 feet below ground surface, including foundation excavations and dewatering systems. Based on these considerations, groundwater may be encountered near the excavation bottom. Due to the depth of the proposed excavation and the potential for seasonal fluctuation in the groundwater level, temporary dewatering measures would be required to reduce groundwater during excavation and construction.

Construction activities associated with the Project have the potential to increase stormwater runoff and degrade surface water quality through the exposure of surface runoff (primarily rainfall) to exposed soils, dust, and other debris, during demolition, excavation, as well as from runoff from construction and construction equipment. The total disturbance area during construction would be less than one acre. Thus, construction stormwater regulations and the need for a stormwater pollution prevention plan (SWPPP) would not directly apply to the Project. However, construction activities would be subject to the requirements of the Los Angeles Regional Water Quality Control Board Order No. R4-2012-0175, National Pollutant Discharge Elimination System (NPDES) No. CAS00400, effective December 28, 2012, Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County (the "Los Angeles County MS4 Permit"), which controls the quality of runoff entering municipal storm drains in the County. Section VI.D.8, of this Permit, Development Construction Program, requires Permittees (which include the City of Los Angeles) to enforce implementation of BMPs, including, but not limited to, approval of an Erosion and Sediment Control Plan (ESCP) for all construction activities within their jurisdiction. Accordingly, the construction contractor for the Project would be required to implement BMPs that would meet or exceed federal, state, and local mandated guidelines for storm water treatment to control erosion and to protect the quality of surface water runoff during the construction period. BMPs utilized could include, without

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[84] *Geocon West ,Inc., Geotechnical Investigation, Proposed Commercial Development 6103 West Melrose Avenue, Los Angeles, California, April 28, 2020, p. 3.*

[85] *Geocon West ,Inc., Geotechnical Investigation, Proposed Commercial Development 6103 West Melrose Avenue, Los Angeles, California, April 28, 2020, p. 3.*

limitation, containing storm water within the construction area during subsurface excavation, installing sediment filters around the construction area and on drop inlets, use of truck tire cleaning grids, covering trucks before soil is hauled offsite, sweeping the streets around the Project Site, disposing of waste in accordance with applicable laws and regulations, promptly cleaning up leaks and spills, and maintaining all equipment in good working order.

Specific BMPs for the Project would include:

- Dust control measures to reduce offsite deposition of fine sediment;
- Installation of sediment filters on drop inlets near the site on West Melrose Avenue and North Seward Street;
- Use of truck tire cleaning grids to reduce track out;
- Tarping trucks that are transporting excavated soil offsite;
- Regular street sweeping around the site, if track out or dust accumulation occurs;
- Proper vehicle and equipment maintenance to reduce leaks and spills; and
- Compliance with proper procedures for use and disposal of hazardous substances.

During the period when excavation is occurring at the Project Site, runoff could also be reduced substantially by retaining storm water within the disturbance area.

Dewatering would be required to reach the full excavation depth and allow construction of the subterranean parking garage. The dewatering would produce groundwater that would need to be discharged to a nearby storm sewer or sanitary sewer inlet in accordance with the proper permits from the Regional Water Quality Control Board and the City and/or County of Los Angeles. A dewatering analysis is provided in Appendix F. The dewatering analysis identifies the quantity of water that might be produced, the magnitude and extent of the temporary drawdown of the groundwater surface around the Project Site, and the potential for the dewatering to produce contamination from nearby sites.

The dewatering analysis in Appendix F presumes that dewatering for the Project would occur within fine-grained soils using trenches within the shored excavation. In addition, the analysis is based on the reported historic high groundwater level of 15 ft bgs.

The stabilized dewatering rates after one year of dewatering are estimated to range from 0.5 gallons per minute (gpm) for the low transmissivity case, to 2 gpm for the middle transmissivity case, to 12 gpm for the high transmissivity case. These low pumping rates are due to the fine-grained nature of the soils beneath the Project Site.

The effective drawdown is estimated to range from 2.9 to 8.1 feet at the edge of the excavation, depending on the actual soil properties beneath the Project Site. At the center line of North Seward Avenue, the drawdown after one year of dewatering is estimated to potentially range from 2.0 feet to 7.5 feet. At the east side of North Seward Street and at the center line of West Melrose

Avenue, the drawdown after one year of dewatering is estimated to range from 1.3 feet to 7.0 feet. If the dewatering duration is shorter or longer than one year, the drawdowns would be proportionally smaller or larger, respectively, than those described for one year of dewatering. Additional details and discussion are presented in Appendix F.

Based on the parameters identified in the dewatering simulations, the capture zone during dewatering could range from 43 feet to 212 feet from the edge of the excavation after one year of dewatering to as much as 53 feet to 260 feet from the edge of the excavation if dewatering occurs for 18 months, depending on the actual hydraulic conductivity of the fine-grained saturated soils beneath the Project Site.

The California State Water Resources Control Board maintains the Geotracker website, which identifies active and closed contamination sites throughout California. Our review of Geotracker indicates that there are no currently active groundwater contamination sites within 1,500 feet of the Project Site. Residual contamination may be present at two closed sites located approximately 1,000 feet north of the Project Site and six closed sites located 1,500 feet to the east and to the west of the Project Site. The concentration levels of any residual contamination at these closed sites are not indicative of the presence of persistent contaminant plumes.

While there are no identified contaminant plumes within at least 1,500 feet of the Project Site, there is the potential that groundwater beneath the Project Site may contain low levels of residual fuel hydrocarbons and/or dry cleaning-related chemicals. If such chemicals are present in the water pumped from the excavation during dewatering, then contaminant treatment would be required to meet the discharge requirements of permits from the Regional Water Quality Control Board and City or County of Los Angeles.

Operation

The roof, balcony and plaza deck drains will feed into a rainwater harvesting cistern with a capacity of approximately 10,000 gallons. The harvested rainwater would be used exclusively for irrigation of the on-site landscaping. The irrigation system would be designed to meet or exceed the state Model Water Efficient Landscape Ordinance (MWELO). The system would utilize a dedicated landscape water meter and automatic weather-based controllers with electronically operated control valves and seasonal irrigation schedules. All areas will include high efficiency irrigation emitters, including micro spray and drip irrigation. Bubblers may be used for trees or shrubs where drip irrigation is not feasible.

The LACDPW Hydrology Manual (2006) requires projects to have drainage facilities that meet the Urban Flood level of protection. The Urban Flood is runoff from a 25-year frequency design storm falling on a saturated watershed. The City also considers the 50-year frequency design storm event to analyze potential impacts on surface water hydrology as a result of development. Thus, to provide a more conservative analysis, this Hydrological Evaluation uses the larger storm event (the 50-year, 24-hour storm) as the design storm event for evaluation of potential impacts. According to the Los Angeles County hydrology map, the 50-year, 24-hour storm event has a magnitude of 5.81 inches and will be used as the design storm event for evaluation of potential impacts.

With respect to runoff water quality during operation of the Project, Los Angeles County and all cities within LA County (except for the City of Long Beach) are permittees under the Los Angeles County MS4 Permit. Section VI.D.7 of this Permit, Planning and Land Development Program, is applicable to, among others, land-disturbing activities that result in the creation or addition or replacement of 5,000 square feet or more of impervious surface area on an already developed site, and would thus apply to the Project which is a "Designated Project" under the Los Angeles County Department of Public Works (LACDPW) Low Impact Development (LID) standards. This Program requires, among other things, that projects retain on site the runoff volume from: (a) the .75 inch, 24-hour rain event; or (b) the 85th percentile, 24-hour rain event, as determined from the Los Angeles County 85th percentile precipitation isohyetal map, whichever is greater. The 85th percentile, 24-hour rain event for the Site is 1.01 inches. The runoff from this storm event is referred to as the stormwater quality design volume (SWQDv). The City and County LID standards provide stormwater management requirements for “Designated Projects” and include items such as management of the SWQDv on-site using infiltration, evapotranspiration, stormwater runoff harvesting and re-use, or a combination of these methods.

The Project would also be subject to the BMP requirements of the Standard Urban Stormwater Mitigation Plan (SUSMP) adopted by the Regional Water Quality Control Board for the Los Angeles Region. As a permittee, the City of Los Angeles is responsible for implementing the requirements of the County-wide SUSMP within the City. A Project-specific SUSMP would be implemented during the operation of the Project. In compliance with the MS4 Permit and SUSMP requirements, the Project would be required to retain, treat and/or filter stormwater runoff through biofiltration before it enters the City stormwater drainage system. The system incorporated into the Project must follow specific design requirements set forth in the MS4 permit and must be approved by the City as part of the standard building permit process.

In addition, the Project would be subject to the provisions of the City’s Low Impact Development (LID) Ordinance effective May 12, 2012, which is designed to mitigate the impacts of increases in runoff and stormwater pollution as close to the source as possible. LID comprises a set of site design approaches and BMPs that promote the use of natural systems for infiltration, evapotranspiration and use of stormwater. The LID Ordinance would require the Project to incorporate LID standards and practices to encourage the beneficial use of rainwater and urban runoff; reduce stormwater runoff, promote rainwater harvesting; and provide increased groundwater recharge. In this regard, the City has established review procedures to be implemented by the Department of City Planning, Department of Building and Safety and Department of Public Works that parallel the review of the SUSMP discussed above. Incorporation of these features would minimize the increase in stormwater runoff from the site. The SUSMP consists of structural BMPs built into the design of a project for ongoing water quality purposes over the life of a project.

As discuss in the Hydrological Evaluation (Appendix F) and shown in Table 4.10, *Hydrological Parameter and HydroCalc Results*, for the 50-year, 24-hour design storm event, the time of concentration and the peak flow rate are the same due to the very small Project area. However, the peak runoff decreases by more than 10 percent, from 88,144 gallons to 79,049 gallons, due to the decrease from 95 percent to 76 percent of the area that would be impervious as a result of

Table 4.10
Hydrological Parameters and HydroCalc Results

Site Parameters				50-yr 24-hr rain event (LA CEQA Threshold)					
Scenario	Area (acres)	Slope	Percent Impervious	Rainfall Depth (in)	Peak Intensity (in/hr)	Time of Conc. (cd, minutes)	Peak flow rate (cubic feet per second)	Peak Runoff (cubic feet)	Peak Runoff (gallons)
Existing Condition	0.643	0.006	95	5.81	3.47	5	2.01	11,784	88,144
Proposed Condition	0.643	0.006	76	5.81	3.47	5	2.01	10,568	79,049
Site Parameters				**85th Percentile 24-hr event (LID Manual)**					
Scenario	Area (acres)	Slope	Percent Impervious	Rainfall Depth (in)	Peak Intensity (in/hr)	Time of Conc. (cd, minutes)	Peak flow rate (cubic feet per second)	SWQDv (cubic feet)	SWQDv (gallons)
Existing Condition	0.643	0.006	95	1.01	0.37	14	0.21	2,016	15,080
Proposed Condition	0.643	0.006	76	1.01	0.37	14	0.20	1,681	12,574

Source: Geocon Consultants, Inc. Hydrological Evaluation (Appendix F), February 2022.

the Project. As discussed in Appendix F, the 50-year, 24-hour event is used to determine the size of the drainage facilities to meet the Urban Flood level of protection and to evaluate potential impacts. Since the Project design incorporates a system to harvest up to 10,000 gallons of rainwater, the stormwater drainage system for the Project would need to be designed to convey approximately 69,049 gallons over a 24-hour period, at a peak rate of 2.01 cubic feet per second. Since the runoff from the Project would be less than that from existing, or baseline, conditions, there would be a less than significant impact related to drainage and stormwater runoff per the applicable CEQA threshold.

For the 85th percentile, 24-hour design storm event, the time of concentration and the peak flow rate are effectively the same due to the very small Project area. However, the SWQDv decreases by over 25 percent, from 15,080 gallons to 12,574 gallons, due to the decrease from 95 percent to 76 percent of the area that would be impervious as a result of the Project. As discussed above, the Project must manage the SWQDv using infiltration, evapotranspiration, stormwater runoff harvesting and re-use, or a combination of these methods. The Project design already includes a runoff harvesting and re-use system which would address up to 10,000 gallons. Thus, the Project would need to develop additional LID management methods to address the additional 2,574 gallons of the SWQDv not addressed by the harvesting and re-use system. LACDPW LID Standards Manual describe a range of BMPs and source control measures that could be used to filter the stormwater runoff before discharge offsite. These methods include additional rainwater harvesting, flow-through planters, tree-well filters, and use of permeable pavement at ground level to promote percolation to the subsurface, among others.

Furthermore, operational activities that could affect groundwater quality include spills of hazardous materials and leaking underground storage tanks. No underground storage tanks are currently operated at the Project Site nor would any be operated by the Project. While the development of new building facilities would slightly increase the use of on-site hazardous materials, such as cleaning, maintenance, and landscaping supplies, compliance with all applicable existing regulations at the Project Site regarding the handling, storage, and potentially required cleanup of hazardous materials would prevent the Project from affecting or expanding any potential areas of contamination, increasing the level of contamination, or causing regulatory water quality standards at an existing production well to be violated, as defined in the California Code of Regulations, Title 22, Division 4, Chapter 15 and the Safe Drinking Water Act.

With compliance with regulatory requirements, a project-specific SUSMP, and BMPs, construction and operation-related water quality impacts would be reduced to a level of less than significant and no mitigation measures would be required.

b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

No Impact. A significant impact may occur if a project includes deep excavations resulting in the potential to interfere with groundwater movement or included withdrawal of groundwater or paving of existing permeable surfaces important to groundwater recharge.

As discussed above, groundwater was encountered during subsurface exploration conducted as part of the Geotechnical Report to the maximum depth explored (32 feet below the ground surface)[86] and historically high groundwater depth in the vicinity is approximately 15 feet below the ground surface.[87] Excavation for the construction of the lowest subterranean level is anticipated to extend to a depth of 35 feet below ground surface, including foundation excavations and dewatering systems. Based on these considerations, groundwater may be encountered near the excavation bottom. As stated above in Section X(a), due to the depth of the proposed excavation and the potential for seasonal fluctuation in the groundwater level, temporary dewatering measures would be required to reduce groundwater during excavation and construction.

As stated above, dewatering would be required to reach the full excavation depth and allow construction of the subterranean parking garage. The dewatering would produce groundwater that would need to be discharged to a nearby storm sewer or sanitary sewer inlet in accordance with the proper permits from the Regional Water Quality Control Board and the City and/or County of Los Angeles. A dewatering analysis is provided in Appendix F. The dewatering analysis identifies the quantity of water that might be produced, the magnitude and extent of the temporary

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[86] *Geocon West ,Inc., Geotechnical Investigation, Proposed Commercial Development 6103 West Melrose Avenue, Los Angeles, California, April 28, 2020, p. 3.*

[87] *Geocon West ,Inc., Geotechnical Investigation, Proposed Commercial Development 6103 West Melrose Avenue, Los Angeles, California, April 28, 2020, p. 3.*

drawdown of the groundwater surface around the Project Site, and the potential for the dewatering to produce contamination from nearby sites.

The dewatering analysis in Appendix F presumes that dewatering for the Project would occur within fine-grained soils using trenches within the shored excavation. In addition, the analysis is based on the reported historic high groundwater level of 15 ft bgs.

The stabilized dewatering rates after one year of dewatering are estimated to range from 0.5 gallons per minute (gpm) for the low transmissivity case, to 2 gpm for the middle transmissivity case, to 12 gpm for the high transmissivity case. These low pumping rates are due to the fine-grained nature of the soils beneath the Project Site.

The effective drawdown is estimated to range from 2.9 to 8.1 feet at the edge of the excavation, depending on the actual soil properties beneath the Project Site. At the center line of North Seward Avenue, the drawdown after one year of dewatering is estimated to potentially range from 2.0 feet to 7.5 feet. At the east side of North Seward Street and at the center line of West Melrose Avenue, the drawdown after one year of dewatering is estimated to range from 1.3 feet to 7.0 feet. If the dewatering duration is shorter or longer than one year, the drawdowns would be proportionally smaller or larger, respectively, than those described for one year of dewatering. Additional details and discussion are presented in Appendix F.

Based on the parameters identified in the dewatering simulations, the capture zone during dewatering could range from 43 feet to 212 feet from the edge of the excavation after one year of dewatering to as much as 53 feet to 260 feet from the edge of the excavation if dewatering occurs for 18 months, depending on the actual hydraulic conductivity of the fine-grained saturated soils beneath the Project Site.

In addition, the Project would receive water from the Los Angeles Department of Water and Power (LADWP) and would not include supply wells or other direct methods of groundwater withdraw.

Regarding groundwater recharge, the Project Site is currently entirely impervious with no groundwater recharge potential. The Project would develop hardscape and structures that cover the entire Project Site with impervious surfaces. The roof, balcony and plaza deck drains will feed into a rainwater harvesting cistern with a capacity of approximately 10,000 gallons. The harvested rainwater would be used exclusively for irrigation of the on-site landscaping. The irrigation system would be designed to meet or exceed the state Model Water Efficient Landscape Ordinance (MWELO). The system would utilize a dedicated landscape water meter and automatic weather-based controllers with electronically operated control valves and seasonal irrigation schedules. All areas will include high efficiency irrigation emitters, including micro spray and drip irrigation. Bubblers may be used for trees or shrubs where drip irrigation is not feasible. Therefore, the groundwater recharge potential would remain minimal. The stormwater that bypasses the proposed BMP systems would discharge to an approved discharge point in the public right-of-way and would not result in infiltration of a large amount of rainfall that would affect groundwater hydrology, including the direction of groundwater flow.

Therefore, the Project would not substantially decrease groundwater supplies in a manner that would impede sustainable groundwater management of the basin. **No impacts to groundwater supplies and recharge would occur and no mitigation measures would be required.**

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner, which would:

(i) Result in substantial erosion or siltation on- or off-site?

Less than Significant Impact. A significant impact may occur if a project results in a substantial alteration of drainage patterns that would result in a substantial increase in erosion or siltation during construction or operation of the project.

Construction activities for the Project would include demolition of the existing structure, grading, building the proposed structure, and constructing hardscape and landscape around the building. These activities have the potential to temporarily alter existing drainage patterns and flows on the Project Site by exposing the underlying soils, modifying flow direction, and making the Project Site temporarily more permeable. In addition, exposed and stockpiled soils could be subject to erosion and conveyance into nearby storm drains during storm events. On-site watering activities to reduce airborne dust could also contribute to pollutant loading in runoff. However, as previously discussed, the Project would implement an ESCP that specifies BMPs and erosion control measures to be used during construction to manage runoff flows. The ESCP measures are designed to contain stormwater or construction watering on the Project Site so runoff does not impact offsite drainage facilities or receiving waters. Construction activities are temporary and flow directions and runoff volumes during construction would be controlled. In addition, the Project would be required to comply with all applicable City grading permit regulations that require necessary measures, plans, and inspections to reduce sedimentation and erosion during construction.

In its present condition, the Project Site is nearly 100 percent impervious, and stormwater discharges directly to West Melrose Avenue and North Seward Street. The Project would develop a building and paved areas that cover virtually the entire surface area of the Project Site; as a result, post-development, the Project Site would remain nearly 100 percent impervious. The roof, balcony and plaza deck drains will feed into a rainwater harvesting cistern with a capacity of approximately 10,000 gallons. The harvested rainwater would be used exclusively for irrigation of the on-site landscaping. The irrigation system would be designed to meet or exceed the state Model Water Efficient Landscape Ordinance (MWELO). The system would utilize a dedicated landscape water meter and automatic weather-based controllers with electronically operated control valves and seasonal irrigation schedules. All areas will include high efficiency irrigation emitters, including micro spray and drip irrigation. Bubblers may be used for trees or shrubs where drip irrigation is not feasible. Therefore, the Project would not significantly alter the drainage pattern of the Project Site. Furthermore, no exposed soil would exist at the Project Site during operation. Accordingly, the potential for erosion of soils at the Project Site would be low. The surrounding streets and adjacent properties are also developed with hardscape and do not contain exposed soil that would be susceptible to erosion.

Therefore, based on the above, through compliance with all MS4 requirements, implementation of BMPs, and compliance with applicable City grading regulations, the Project would not substantially alter the Project Site drainage patterns in a manner that would result in substantial erosion or siltation on- or offsite during construction or operation. **Impacts related to erosion or siltation would be less than significant and no mitigation measures would be required.**

(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

Less Than Significant Impact. A significant impact may occur if a project results in increased runoff volumes during construction or operation of the project that would result in flooding conditions affecting the project site or nearby properties.

As discussed under Question X(ci), during construction of the Project, a temporary alteration of the existing on-site drainage pattern may occur from the demolition of existing structures and land cover, and site preparation and grading for construction. However, these changes would not result in a substantial increase in the rate or amount of surface runoff that could result in flooding due to stringent controls imposed under the NPDES MS4 Permit, including preparation of an ESCP and BMPs for the control of runoff.

Additionally, as also discussed under Question X(ci), the Project would not significantly alter the drainage pattern of the Site. Furthermore, the Project is unlikely to alter the drainage pattern in a manner that would result in substantial flooding during operation because the Project would be required to comply with the requirements of the SUSMP, MS4 permit, and LID Ordinance, which result in and require a reduction of the volume of runoff from the Project Site after the Project is constructed. Additionally, because adherence to these regulations and permits would prevent an increase in stormwater flows, and because the Project would not alter offsite water conveyance facilities, no offsite flooding would occur.

Therefore, the Project would not substantially alter the existing drainage pattern of the site or area in a manner that would result in flooding on- or offsite. **Impacts related to flooding would be less than significant and no mitigation measures would be required.**

(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less Than Significant Impact. A significant impact may occur if a project would increase the volume of storm water runoff to a level which exceeded the capacity of the storm drain system serving a project site. A project-related significant adverse effect may also occur if a project would substantially increase the probability that polluted runoff would reach the storm drain system.

Construction-Related Project Impacts

As previously discussed, the Project would not increase the amount of surface runoff from the Project Site during construction. The Project would prepare an ESCP and include BMPs for the

control of runoff and water quality impacts during construction in accordance with the MS4 Permit. Therefore, stormwater runoff from the Project Site would not exceed the capacity of the existing or planned stormwater drainage systems during construction. However, should the City determine improvements to the stormwater drainage system are necessary during the normal permit review process, the Applicant would be responsible for the improvements, and such improvements would be conducted as part of the Project either on-site or offsite within the right-of-way, and as such, any related construction activities would be temporary and of short duration, and would not result in any significant environmental impacts given the disturbed nature of the right-of-way. Furthermore, as the Project would manage, capture, and treat runoff during construction, as required by regulatory compliance, implementation of the Project would represent an improvement in water quality as compared to the existing condition where runoff sheet flows untreated to the drainage system.

Operation-Related Project Impacts

As previously discussed, the Project would not significantly increase the amount of impervious surface at the Project Site; therefore, it is unlikely that the amount of runoff from the Project Site would significantly increase. Moreover, the Project would be required to comply with the LID Ordinance, which, as noted above, would limit or reduce flows to the City storm drain system during operation. The Project BMPs would be required to control stormwater runoff with no increase in runoff resulting from the Site. Furthermore, with regard to polluted runoff, the LID requirements for the Project Site would outline the stormwater treatment post-construction BMPs required to control pollutants associated with storm events up to the 85th percentile storm event, per the City's Stormwater Program.

Conclusion

Therefore, based on the above, the Project would not substantially alter the existing drainage pattern of the site or area in a manner that would create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff during construction or operation. **Impacts would be less than significant and no mitigation measures would be required.**

(iv) Impede or redirect flood flows?

Less Than Significant Impact. A significant impact may occur if a project results in a substantial alteration of flood flows.

According to the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map, the Project Site is within Zone X, which is a designation for areas determined to have a minimal

flood hazard.[88] No streams or rivers that may overflow or breech a levee are located on or near the Project Site and the Project Site is not located within any high-risk coastal areas.

The City of Los Angeles Safety Element indicates that the Project Site is located within the inundation area boundaries of the Hollywood Reservoir and Mulholland Dam.[89] However, the Project does not propose any structures which would impede floodwater such as a dam or berm, and, as detailed above, no substantial alterations to the existing drainage pattern of the Project Site or area would occur during construction or operation. Accordingly, the Project would not be expected to impede or redirect flood flows from the Hollywood Reservoir or the Mulholland Dam. Additionally, this reservoir, as well as others in California, are continually monitored by various governmental agencies (such as the State of California Division of Safety of Dams and the U.S. Army Corps of Engineers) to guard against the threat of dam failure. Current design and construction practices and ongoing programs of review, modification, or total reconstruction of existing dams are intended to ensure that all dams are capable of withstanding the maximum considered earthquake for the site as well as other conditions that could undermine the integrity of the dam. Pursuant to these regulations, the Mulholland Dam is regularly inspected and meets current safety regulations. In addition, the LADWP has emergency response plans to address any potential impacts to its dams. **Given the oversight by the Division of Safety of Dams, including regular inspections, and the LADWP's emergency response program, the potential for substantial adverse impacts related to inundation at the Project Site as a result of dam failure would be less than significant and no mitigation measures would be required.**

d) Would the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Less Than Significant Impact. A significant impact may occur if a project site is sufficiently close to the ocean or other water body to be potentially at risk of the effects of seismically-induced tidal phenomena (seiche and tsunami) or if the project site is located adjacent to a hillside area with soil characteristics that would indicate potential susceptibility to mudslides or mudflows.

As discussed in Question X(civ), the Project Site is within Zone X, which is a designation for areas determined to have a minimal flood hazard.[90]. Additionally, the Project Site is over 11 miles from the Pacific Ocean and not within an area potentially impacted by a tsunami.[91] There are also no

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[88] *Federal Emergency Management Agency, Flood Insurance Rate Map, Los Angeles County, California, FEMA Map Number 06037C1340F, effective October 2020.*

[89] *City of Los Angeles, Department of City Planning, Safety Element of the Los Angeles City General Plan, Exhibit G: Inundation and Tsunami Hazard Areas, August 8,1996.*

[90] *Federal Emergency Management Agency, Flood Insurance Rate Map, Los Angeles County, California, FEMA Map Number 06037C1340F, effective October 2020.*

[91] *California Department of Conservation, Los Angeles County Tsunami Inundation Maps, accessed April 16, 2021.*

major water bodies in the vicinity of the Project Site that would put the Project Site at risk of inundation by seiche.

As previously discussed, the Los Angeles County General Plan Safety Element indicates that the Project Site is located within the inundation area boundaries of the Mulholland Dam.[92] Inundation of the Project Site resulting from dam failure could release pollutants into surface water should flood waters encounter contaminants at the Project Site. However, the Project proposes commercial uses, which do not represent the type of use that would otherwise degrade water quality (e.g., an industrial land use that could adversely affect water quality). Anticipated and potential pollutants generated by the Project would be limited to those typical of the proposed land uses and include sediment, nutrients, pesticides, metals, pathogens, and oil and grease. These materials would be properly stored and handled as to avoid spilling contents in an area that may encounter flood water. **Therefore, the Project would not risk release of pollutants due to inundation. Impacts would be less than significant, and no mitigation measures would be required.**

e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less Than Significant Impact. A significant air quality impact may occur if a project is not consistent with water quality control plans or sustainable groundwater management plans.

Water quality control plans applicable to the Project include the Los Angeles Regional Water Quality Control Board's (LARWQCB) *Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (Basin Plan) and the City's *Water Quality Compliance Master Plan for Urban Runoff* (Master Plan). Adopted by LARWQCB, the Basin Plan designates beneficial uses for surface and groundwaters, sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the State's anti-degradation policy, and describes implementation programs to protect all waters in the Los Angeles Region. In addition, the Basin Plan incorporates (by reference) all applicable State and Regional Board plans and policies and other pertinent water quality policies and regulations. The Master Plan was developed by the Bureau of Sanitation, Watershed Protection Division in collaboration with stakeholders with the primary goal of the Master Plan is to help meet water quality regulations. The Master Plan identifies and describes the various watersheds in the City, summarizes the water quality conditions of the City's waters, identifies known sources of pollutants, describes the governing regulations for water quality, describes the BMPs that are being implemented by the City, discusses existing Total Maximum Daily Loads (TMDL).[93]

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[92] *City of Los Angeles, Department of City Planning, Safety Element of the Los Angeles City General Plan, Exhibit G: Inundation and Tsunami Hazard Areas, August 8,1996.*

[93] *Total Maximum Daily Load (TMDL) is a regulatory term referring to the maximum amount of a pollutant that a body of water can receive per day while still meeting water quality standards.*

Implementation Plans and Watershed Management Plans

Construction and operation of the Project would involve activities that have the potential to conflict with the water quality goals in the Basin Plan and Master Plan through the spread of contaminants into surface or groundwater supplies. However, as previously detailed, construction of the Project is not expected to encounter groundwater and would prevent the spread of contaminants into surface water through adherence to applicable regulations and BMPs for the handling and storing of hazardous materials, and the requirements of the MS4 Permit, including implementation of an ESCP for the prevention of erosion and spread of polluted runoff. These regulations and practices effectively control the potential stormwater pollution to surface water during construction. Furthermore, the proposed commercial and artist land uses do not represent the type of use that would have the ability to adversely affect water quality. Anticipated and potential pollutants generated by operation of the Project would be addressed through the implementation of approved LID BMPs. While the development of new building facilities would slightly increase the use of on-site hazardous materials (i.e., those typically used on commercially zoned properties such as cleaning, maintenance, and landscaping supplies), compliance with all applicable existing regulations at the Project Site regarding the handling, storage, and potentially required cleanup of hazardous materials would prevent the Project from affecting or expanding any potential areas of contamination, increasing the level of contamination, or causing regulatory water quality standards at an existing production well to be violated. In addition, operation of the Project would not require direct groundwater extraction either through permanent dewatering or for water supply use.

With regard to groundwater management plans, on September 16, 2014, the State of California signed into law the Sustainable Groundwater Management Act (SGMA). Comprised of three bills, AB 1739, SB 1168, and SB 1319, the SGMA provides a framework for long-term sustainable groundwater management across California and requires governments and water agencies of high and medium priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge. Under the roadmap laid out by the legislation, local, and regional authorities in medium and high priority groundwater basins have formed Groundwater Sustainability Agencies (GSAs) that will oversee the preparation and implementation of a local Groundwater Sustainability Plan (GSP). Local stakeholders have until 2022 (in critically over drafted basins until 2020) to develop, prepare, and begin implementation of Groundwater Sustainability Plans. GSAs will have until 2042 (2040 in critically over drafted basins) to achieve groundwater sustainability.

The Project Site overlies the Coastal Plain of Los Angeles-Hollywood Groundwater Basin.[94] The Project would receive its water from the LADWP. Both the LADWP and the California Department of Water Resources have programs in place to monitor wells to prevent overdrafting. The LADWP's groundwater pumping strategy is based on a "safe yield" strategy, in which the amount of water removed over a period of time equals the amount of water entering the groundwater

[94] *California Natural Resources Agency, Groundwater Basin Boundary Assessment Tool, Interactive Map Website, accessed February 2020.*

basin through native and imported groundwater recharge. Further, protection from potential overdraft conditions is provided by the court-appointed Los Angeles River Area Watermaster for the San Fernando Basin. LADWP addresses water supply needs through preparation of an Urban Water Management Plan (UWMP), which projects future water use demands and identifies water supplies to meet these demands and is updated every five years.

As described in detail in Question XIX(b), the Project's water demand would be within the projections of the UWMP and the Project would be required to implement water saving features to reduce the amount of water used by the Project in accordance with water conservation measures, including Title 20 and 24 of the California Administrative Code**.** Furthermore, as previously discussed, neither construction nor operation of the Project is anticipated to encounter groundwater, therefore, the extraction of groundwater would not be required. Additionally, the Project would not have the potential to impact the amount of groundwater recharge as the Project Site is entirely impervious and does not currently provide recharge for the groundwater basin.

Accordingly, based on the above, the Project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. **Impacts to water quality control plans and sustainable groundwater management plans would be less than significant and no mitigation would be required.**

XI. LAND USE AND PLANNING

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Physically divide an established community?	☐	☐	☐	☒
b. Cause a significant environmental impact due to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

a) Would the project physically divide an established community?

No Impact. A significant impact may occur if a project were sufficiently large enough or otherwise configured in such a way as to create a physical barrier within an established community (a typical example would be a project which involved a continuous right-of-way such as a roadway which would divide a community and impede access between parts of the community).

The Project Site is located at 6101-6117 West Melrose Avenue and 713-735 North Seward Street, and is bounded by West Melrose Avenue to the south, by North Seward Street to the east, by North June Street to the west and West Waring Avenue to the north.

The 45,136 square-foot Project Site is currently developed with a 8,473 square-foot commercial building and two surface parking lots. The Project Site does not include any roadways or access to other streets or properties. The Project Site is surrounded by other development and there are no existing residences on the site, or a residential use that would be physically separated or otherwise disrupted by the Project. Development of the Project would remain within the boundaries of the existing Project Site and would result in further infill of an already developed community. The Project would not disrupt, divide, or isolate an existing neighborhood or community directly or indirectly, as all proposed improvements would occur within the limits of the Project Site. **Therefore, no impact would occur, and no mitigation measures are required.**

b) Would the project cause a significant environmental impact due to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Less Than Significant Impact. A significant impact may occur if a project is inconsistent with the General Plan or zoning designations currently applicable to the project site and would cause adverse environmental effects, which the General Plan and zoning ordinance are designed to avoid or mitigate.

The Project Site is currently zoned C4-1XL, and CM-1VL and has a General Plan land use designation of Commercial Manufacturing in the Hollywood Community Plan. The Project Site is

located in Height District No. 1VL that restricts the height to 45 feet, three stories, and the portion of the Project Site that is located in Height District No. 1 XL, restricts the height development to 30 feet, two stories. Additionally, the Project Site is designated a Los Angeles State Enterprise Zone, a Revised Hollywood Injunction, and Transit Priority Area in the City of Los Angeles.

The Applicant has requested a Zone and Height District Change from C4-1XL and CM-1VL to CM-2 which would allow the Project to be developed with a FAR of 1.88:1 and to a maximum height of 77 feet 9 inches (73 feet 6 inches to the top of the parapet), five stories.

The Project includes the demolition of the existing one-story, approximately 8,473 square-foot commercial building, and the construction of a new, 67,889 square-foot office building The proposed building would be developed with a maximum height of 77'-9"/ five-stories. Two buildings with a total of 17,134 square feet of existing creative office would remain on the northern portion of the Project Site.

The Project is composed of a five-story creative office building built above a subterranean garage. The building massing is comprised of two volumes atop a podium and stitched together with several planted decks and an east exterior exiting stairway. The west elevation terraces down to reduce the buildings massing along the neighboring residential lots.

The building design includes use of modern materials. The Project's facade is comprised of three systems: a vertical metal panel system, a stucco system, and Simulated Wood Cladding System with punched windows and window walls throughout. The Project's façade incorporates a variety of materials to break a solid wall to provide interest with vertical elements these include painted stucco, wood frames, wood paneling, wood soffit, white metal panels, aluminum window frames, Perforate Metal hand rails, high performance glazing, and an art wall.

Project Site Improvements surrounding the building would include curb adjustments, and new sidewalks as required. The streetscape design shall be supportive of the street life characteristics of West Melrose Avenue. New street trees shall be provided in accordance with City recommendations and per the requirements of the Bureau of Street Services, Urban Forestry Division.

At its maximum height, the proposed building would be taller than the other building heights in the vicinity, however, the proposed design is compatible with the design elements of surrounding buildings, especially those with similar use. As stated above, the west elevation terraces down to reduce the buildings massing along the neighboring residential lots as shown in the Figures 3.11 through 3.14.

The following is a list of applicable land use plans, policies, and regulations:

- SCAG Regional Transportation Plan (RTP)
- City of Los Angeles General Plan
- Mobility Element 2035

- Citywide Design Guidelines
- Hollywood Community Plan
- Hollywood Redevelopment Plan

Consistency with Regional Plans

Southern California Association of Governments (SCAG)/Regional Transportation Plan (RTP)

On September 3, 2020, the Southern California Association of Governments (SCAG) Regional Council adopted the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), also known as Connect SoCal. The 2020-2045 RTP/SCS presents a long-term transportation vision through the year 2045 for the six-county region of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. The 2020-2045 RTP/SCS contains baseline socioeconomic projections that are used as the basis for SCAG's transportation planning, and the provision of services by other regional agencies. SCAG's overarching strategy for achieving its goals is integrating land use and transportation. SCAG policies are directed towards the development of regional land use patterns that contribute to reductions in vehicle miles and improvements to the transportation system. Rooted in past RTP/SCS plans, Connect SoCal's "Core Vision" centers on maintaining and better managing the region's transportation network, expanding mobility choices by co-locating housing, jobs, and transit, and increasing investment in transit and complete streets. The plans "Key Connections" augment the "Core Vision" to address challenges related to the intensification of core planning strategies and increasingly aggressive greenhouse gas reduction goals, and include but are not limited to, Housing Supportive Infrastructure, Go Zones, and Shared Mobility. Connect SoCal intends to create benefits for the SCAG region by achieving regional goals for sustainability, transportation equity, improved public health and safety, and enhancement of the regions' overall quality of life. These benefits include but are not limited to a five percent reduction in VMT per capita and vehicle hours traveled by nine percent, increase in work-related transit trips by two percent, create more than 264,500 new jobs, reduce greenfield development by 29 percent, and, building off of the 2019-2040 RTP/SCS, increase the share of new regional household growth occurring in HQTA's by six percent and the share of new job growth in HQTAs by 15 percent.

The Project would be developed within an existing urbanized area that provides an established network of roads and freeways that provide local and regional access to the area, including the Project Site. In addition, the Project Site is served by a variety of nearby transit options. The availability and accessibility of public transit in the vicinity of the Project Site is documented by the Project Site's location within a SCAG-designated HQTA and TPA, as defined in the City's Zoning Information File No. 2452. In addition, the Project would provide bicycle parking spaces for the proposed uses that would serve to promote use of bicycles. The Project would also include adequate parking to serve the proposed uses and would provide charging stations to serve electric vehicle per LAMC. As such, the Project would maximize mobility and accessibility by providing opportunities for the use of several modes of transportation, including convenient

access to public transit and opportunities for walking and biking. Therefore, the Project would not conflict with the applicable objectives of the 2019-2040 RTP/SCS.

Consistency with Local Plans

City of Los Angeles General Plan

The City's General Plan is a dynamic document consisting of 11 elements, including 10 citywide elements (Air Quality Element, Conservation Element, Historic Preservation and Cultural Resources Element, Housing Element, Infrastructure Systems Element, Noise Element, Open Space Element, Public Facilities and Services Element, Safety Element, and Transportation Element) and the Land Use Element, which provides individual land use consistency plans for each of the City's 35 Community Plan Areas.

City of Los Angeles General Plan Framework Element

The Framework Element, adopted in December 1996 and readopted in August 2001, sets forth general guidance regarding land use issues for the City and defines citywide policies regarding land use that influence the Community Plans and most of the City's General Plan Elements. Specifically, the Framework Element defines citywide policies for land use, housing, urban form and neighborhood design, open space and conservation, economic development, transportation, and infrastructure and public services.

Land Use Chapter

The Land Use Chapter of the Framework Element provides objectives to support the viability of the City's residential neighborhoods and commercial and industrial districts and to encourage sustainable growth. The Land Use Chapter establishes the following land use categories, which are described in terms of intensity/density ranges, development heights, and lists of typical land uses: Single-Family Residential, Multifamily Residential, Neighborhood Districts, Community Centers, Regional Centers, Downtown Center, General Commercial Areas, Mixed-Use Boulevards, Industrial Districts, Transit Stations, Pedestrian-Oriented Districts, and Historic Districts. These land use categories are intended to serve as guidelines for the Community Plans and do not convey land use entitlements or affect existing zoning for properties in the City. The Project Site is identified as being located within a Commercial Manufacturing Area.

Housing Chapter

The overarching goal of the Housing Chapter of the Framework Element is to define the distribution of housing opportunities by type and cost for all residents of the City.

Urban Form and Neighborhood Design Chapter

The Urban Form and Neighborhood Design Chapter of the Framework Element establishes a goal of creating a livable City for existing and future residents. This chapter defines "urban form" as the City's general pattern of building height, development intensity, activity centers, focal elements, and structural elements, such as natural features, transportation corridors, open space, and public facilities. "Neighborhood design" is defined as the physical character of neighborhoods

and communities. The Urban Form and Neighborhood Design Chapter of the Framework Element encourages growth in areas that have a sufficient base of both commercial and residential development to support transit service.

Open Space and Conservation Chapter

The Open Space and Conservation Chapter of the Framework Element contains goals, objectives, and policies to guide the provision, management, and conservation of public open space resources; address the outdoor recreational needs of the City's residents; and guide amendments to the General Plan Open Space Element and Conservation Element.

Economic Development Chapter

The Economic Development Chapter of the Framework Element seeks to identify physical locations necessary to attract continued economic development and investment to targeted districts and centers. Goals, objectives, and policies include retaining commercial uses, particularly within walking distance of residential areas, promoting business opportunities in areas where growth can be accommodated without encroaching on residential neighborhoods, and retaining industrial land uses on appropriate sites.

Transportation Chapter

The goals of the Transportation Chapter of the Framework Element are to provide adequate accessibility to commerce, work opportunities, and essential services, and to maintain acceptable levels of mobility for all those who live, work, travel, or move goods in the City. The Transportation Chapter includes proposals for major transportation improvements to enhance the movement of goods and to provide greater access to major intermodal facilities, such as the ports and airports. The goals, objectives, policies, and related implementation programs of the Transportation Chapter are set forth in the Transportation Element of the General Plan adopted by the City in September 1999. The City Council initially adopted Mobility Plan 2035 in August 2015 as an update to the Transportation Element of the General Plan. Mobility Plan 2035 was readopted in January 2016 and again in September 2016. Accordingly, the Transportation Chapter of the Framework Element is now implemented through Mobility Plan 2035.

Infrastructure and Public Services Chapter

The Infrastructure and Public Services Chapter of the Framework Element addresses infrastructure and public service systems, including wastewater, stormwater, water supply, solid waste, police, fire, libraries, parks, power, schools, telecommunications, street lighting, and urban forest. For each of the public services and infrastructure systems, basic policies call for monitoring service demands and forecasting the future need for improvements, maintaining an adequate system/service to support the needs of population and employment growth, and implementing techniques that reduce demands on utility infrastructure or services. Generally, these techniques encompass a variety of conservation programs (e.g., reduced use of natural resources, increased site permeability, watershed management, and others). Attention is also placed on the establishment of procedures for the maintenance and/or restoration of service after emergencies, including earthquakes.

The Project's consistency with applicable goals, objectives, and policies in the Framework Element adopted for the purpose of avoiding or mitigating an environmental effect is discussed in the impact analysis below. A detailed list of the goals, objectives, and policies of the Framework Element applicable to the Project is included in Table 4.11, *Applicable Objectives and Policies of the General Plan Framework Element* along with a discussion of whether or not the Project does or does not conflict with that particular goal, objective, or policy. In addition, the Project's consistency with certain economic development goals, objectives, or policies is discussed below for informational purposes. As these economic development goals, objectives, and policies were not adopted for the purpose of avoiding or mitigating an environmental effect, any potential inconsistency therewith would not be considered to be a significant environmental impact. (CEQA Guidelines Section 15064(e).)

Table 4.11, lists the goals, objectives, and policies that apply to developers in collaboration with local government. As shown, the Project will be consistent with the applicable policies.

Table 4.11
Applicable Objectives and Policies of the General Plan Framework Element

Objective/Policy	Would the Project Conflict?
Land Use Chapter	
Objective 3.1: Accommodate a diversity of uses that support the needs of the City's existing and future residents, businesses, and visitors.	**No conflict.** The Project would construct a five-story, 67,889 square-foot office building, thereby contributing to the diversity of businesses in the area. The Project would be located adjacent to commercial and transit uses and would support those uses by locating potential employees and transit users in an area served by transit and commercial options.
Policy 3.1.1: Identify areas on the Long-Range Land Use Diagram and in the community plans sufficient for the development of a diversity of uses that serve the needs of existing and future residents (housing, employment, retail, entertainment, cultural/institutional, educational, health, services, recreation, and similar uses), provide job opportunities, and support visitors and tourism.	**No conflict.** As shown in Figure 2-1 of the Community Plan, the Project Site is located in a Transit-Oriented District. The Project would develop office uses in this area and expand employment opportunities. Development of office uses would serve the needs of existing and future residents in the area by increasing employment in the area. The concentration of development would support the Project area's existing range of services and activities and would be consistent with the Community Plan land use designation.
Policy 3.1.2: Allow for the provision of sufficient public infrastructure and services to support the projected needs of the City's population and businesses within the patterns of use established in the community plans as guided by the Framework Citywide Long-Range Land Use Diagram.	**No conflict.** As discussed in the Initial Study of this Draft EIR, the agencies that provide public infrastructure, services, and utilities to the Project Site would have capacity to serve the Project.
Policy 3.1.3: Identify area for the establishment of new open space opportunities to serve the needs of existing and future residents. These opportunities may include a citywide linear network of parkland sand trails, neighborhood parks and urban open spaces.	**No conflict.** While the Project does not provide any dedicated public parkland, the Project would provide a minimum of 11,325 square feet of open space for employees. The Project would include pocket courtyard, pocket patio, and the decks.
Objective 3.2: To provide for the spatial distribution of development that promotes an	**No conflict.** The Project would promote an improved quality of life by constructing infill development near

Table 4.11
Applicable Objectives and Policies of the General Plan Framework Element

Objective/Policy	Would the Project Conflict?
improved quality of life by facilitating a reduction of vehicle trips, vehicle miles traveled, and air pollution.	several public transit option, which would reduce vehicle trips, vehicle miles traveled, and air pollution. In addition, the Project encourages active transportation by including 26 bicycle parking stalls and bike amenities, such as one shower for each gender, and a total of 26 lockers, will be provided in the first level of the parking facility.
Policy 3.2.3: Provide for the development of land use patterns that emphasize pedestrian/bicycle access and use in appropriate locations.	**No conflict.** The Project location in an area well-served by transit and office uses would encourage bicycle access to these uses. The Project would provide secure bicycle parking to promote cycling.
Objective 3.4: Encourage new multi-family residential, retail commercial, and office development in the City's neighborhood districts, community, regional, and downtown centers as well as along primary transit corridors/boulevards, while at the same time conserving existing neighborhoods and related districts.	**No conflict.** The Project would provide new creative office in an urbanized area well-served by transit, and within walking distance of commercial uses. The creative office use would support the Project area's existing range of services and activities and would be consistent with the Community Plan land use designation.
Policy 3.15.5: Provide for the development of public streetscape improvements, where appropriate.	**No conflict.** The Project would include replacing any sidewalks and the installation of new curb, gutter, trees, and streetlights, as needed, to accommodate the Project.
Urban Form and Neighborhood Design Chapter	
Objective 5.9: Encourage proper design and effective use of the built environment to help increase personal safety at all times of the day.	**No conflict.** The Project would incorporate security features into the Project design to enhance safety. These features include controlled access to residential areas via gated pedestrian entries, the utilization of security staff at the two primary entrances, and the use of cameras for video surveillance around the Project perimeter.
Open Space and Conservation Chapter	
Policy 6.4.8: Maximize the use of existing public open space resources at the neighborhood scale and seek new opportunities for private development to enhance the open space resources of the neighborhoods. a. Encourage the development of public plazas, forested streets, farmers markets, residential commons, rooftop spaces, and other places that function like open space in urbanized areas of the City with deficiencies of natural open space, especially in targeted growth areas. b. Encourage the improvement of open space, both on public and private property, as opportunities arise. Such places may include the dedication of "unbuildable" areas or sites that may serve as green space, or pathways and connections that may be improved to serve	**No conflict.** The Project would provide a minimum of 11,325 square feet of open space for employees. The Project would include pocket courtyard, pocket patio, and the decks.

Table 4.11
Applicable Objectives and Policies of the General Plan Framework Element

Objective/Policy	Would the Project Conflict?
as neighborhood landscape and recreation amenities.	
Infrastructure and Public Services Chapter	
Policy 9.3.1: Reduce the amount of hazardous substances and the total amount of flow entering the wastewater system.	**No conflict.** The Project would be required to obtain coverage under the National Pollutant Discharge Elimination System Construction General Permit and would implement a Stormwater Pollution Prevention Plan that specifies Best Management Practices and erosion control measures to be used during construction to manage runoff flows and prevent pollution. In addition, in accordance with National Pollutant Discharge Elimination System Municipal Permit requirements, the Project would implement Low Impact Development requirements throughout the operational life of the Project. Consistent with the City's Low Impact Development requirement to reduce the quantity and improve the quality of rainfall runoff that leaves the Project Site, the Project would include the installation of an infiltration system as established by the Low Impact Development Manual.
Objective 9.6: Pursue effective and efficient approaches to reducing stormwater runoff and protecting water quality.	**No conflict.** The Project would implement Low Impact Development requirements throughout the operational life of the Project.
Objective 9.10: Ensure the water supply, storage, and delivery systems are adequate to support planned development.	**No conflict.** The Project would be within the Los Angeles Department of Water and Power's current and projected available water supplies for normal, single-dry, and multiple-dry years. As such, the LADWP would be able to meet the water demand of the Project, as well as existing and planned future water demands of its service area. Further, the Project would not exceed the available capacity within the distribution infrastructure that would serve the Project Site. Thus, the Project would not require or result in the construction of new water facilities or expansion of existing facilities.
Source: City of Los Angeles, The Citywide General Plan Framework Element, adopted December 11, 1996 and August 8, 2001; EcoTierra Consulting, 2021.	

Mobility Plan 2035

The overarching goal of Mobility Plan 2035 is to achieve a transportation system that balances the needs of all road users. Mobility Plan 2035 incorporates "complete streets" principles. In 2008, the California State Legislature adopted Assembly Bill (AB) 1358, The Complete Streets Act, which requires local jurisdictions to "plan for a balanced, multimodal transportation network that meets the needs of all users of streets, roads, and highways, defined to include motorists, pedestrians, bicyclists, children, persons with disabilities, seniors, movers of commercial goods, and users of public transportation, in a manner that is suitable to the rural, suburban or urban context." Mobility Plan 2035 includes the following five main goals that define the City's high-level mobility priorities:

- Safety First;
- World Class Infrastructure;
- Access for All Angelenos;
- Collaboration, Communication, and Informed Choices; and
- Clean Environments and Healthy Communities.

Each of these goals contains objectives and policies to support the achievement of those goals. The Project's consistency with applicable policies in Mobility Plan 2035 adopted for the purpose of avoiding or mitigating an environmental effect is discussed in the impact analysis below. A detailed list of the goals, objectives, and policies of Mobility Plan 2035 applicable to the Project is included in Table 4.12, *Applicable Policies of the Mobility Plan 2035* along with a discussion of whether or not the Project does or does not conflict with that particular goal, objective, or policy.

Table 4.12
Applicable Policies of the Mobility Plan 2035

Policy	Would the Project Conflict?
Chapter 1: Safety First	
Policy 1.6: Design detour facilities to provide safe passage for all modes of travel during times of construction.	**No conflict.** The Project would prepare and implement a Construction Management Plan that would reduce construction-related impacts on the surrounding community, and would incorporate safety measures around the construction site to reduce the risk to pedestrian traffic near the work area; minimize the potential conflicts between construction activities, street traffic, bicyclists, and pedestrians; and reduce the use of residential streets and congestion to pubic streets and highways.
Chapter 2: World Class Infrastructure	
Policy 2.6: Provide safe, convenient, and comfortable local and regional bicycling facilities for people of all types and abilities.	**No conflict.** The Project would not modify existing bicycle facilities. The Project would enhance bicycle facilities on-site by providing short-term and long-term bicycle spaces in conformance with the City's Bicycle Ordinance.
Policy 2.10: Facilitate the provision of adequate on and off-street loading areas.	**No conflict.** Vehicular access to the Project Site would be provided via a two-way entry/ exit driveway on North Seward Street. The Project will also include an at-grade onsite drop-off area to serve both rideshare arrivals/departures and onsite valet parking operations. The existing four-foot easement on the west side of the Project Site will be expanded to provide a five-foot setback that will provide one of the project's required exits to West Melrose Avenue. Therefore, all loading would occur off-street and internally to the Project Site.
Chapter 3: Access for All Angelenos	
Policy 3.1: Recognize all modes of travel, including pedestrian, bicycle, transit, and vehicular modes – including goods movement – as integral of the City's transportation system.	**No conflict.** Given the Project Site's location in proximity to a variety of transportation options and the infill nature of the Project, the Project would maximize the potential for mobility and accessibility. The Project

Table 4.12
Applicable Policies of the Mobility Plan 2035

Policy	Would the Project Conflict?
	would promote the use of bicycles by providing access to short-term and long-term bicycle parking spaces on Site.
Policy 3.3: Promote equitable land use decisions that result in fewer vehicle trips by providing greater proximity and access to jobs, destinations, and other neighborhood services.	**No conflict.** The Project would provide a creative office use in an urbanized area well-served by transit, and within walking distance of commercial uses. The office use would support the Project area's existing range of services and activities and would be consistent with the Community Plan land use designation.
Policy 3.4: Provide all residents, workers, visitors with affordable, efficient, convenient, and attractive transit services.	**No conflict.** The Project Site is located in an area well-served by public transit.
Policy 3.8: Provide bicyclists with convenient, secure and well-maintained bicycle parking facilities.	**No conflict.** The Project would provide bicycle parking spaces on-site in accordance with LAMC requirements. The Project would provide 9 long-term bicycle parking spaces and 17 short-term spaces, for a total of 26 bike parking spaces. The bicycle parking spaces would be located in the subterranean parking structure.
Chapter 5: Clean Environments & Healthy Communities	
Policy 5.2: Support ways to reduce vehicle miles traveled (VMT) per capita.	**No conflict.** The Project supports reductions in VMT by providing an office use within walking distance of a well-developed transit system, as well as within numerous retail, dining, and employment opportunities, and thus, provides opportunities for employees to use transportation alternatives to single-occupancy vehicles. In addition, the Project's provision of short- and long-term bicycle parking spaces facilitates travel to and from the Project by bicyclists.
Source: City of Los Angeles, Mobility Plan 2035, September 7, 2017; EcoTierra Consulting, 2021.	

Citywide Design Guidelines

The Citywide Design Guidelines serve to implement the Framework Element's urban design principles and are intended to be used by City staff, developers, architects, engineers, and community members in evaluating project applications, along with relevant policies from the Framework Element and Community Plans. By offering more direction for proceeding with the design of a project, the Citywide Design Guidelines illustrate options, solutions, and techniques to achieve the goal of excellence in new design. The Citywide Design Guidelines, which were initially adopted by the City Planning Commission in July 2013 and updated in October 2019, are intended as performance goals and not zoning regulations or development standards and, therefore, do not supersede regulations in the LAMC. The guidelines are intended to "carry out the common design objectives that maintain neighborhood form and character while promoting quality design and creative infill development solutions" and are organized around Pedestrian-First Design, 360 Degree Design, and Climate-Adapted Design. The Project conforms to the Citywide Design Guidelines (adopted by City Planning Commission October 24, 2019), as shown in Table 4.13.

Table 4.13
Citywide Design Guidelines

Guideline	Would the Project Conflict?
Guideline 1: Promote a safe, comfortable and accessible pedestrian experience for all.	**No conflict.** The Project proposes a welcoming pedestrian entrance on North Steward Street. The entrance will include signage and covered entryway so that pedestrians can safely and comfortably enter and exit. Glass facades and ample landscaping will further create a transparent and welcoming environment for pedestrians as they either enter or walk around the Project Site. A diverse range of plants and trees will surround the Project Site to further create a naturally welcoming environment for pedestrians and visitors. Ample lighting along North Seward Street and West Melrose Avenue are proposed to further maintain a comfortable and accessible pedestrian experience.
Guideline 2: Carefully incorporate vehicular access such that it does not degrade the pedestrian experience.	**No conflict.** An at-grade onsite drop-off area to serve both rideshare arrivals/departures and onsite valet parking operations has specifically been proposed to ensure safe loading/unloading for employees and visitors. Vehicular access to the Project Site will be via a two-way entry/ exit driveway on North Seward Street. The Project will provide 168 vehicular parking spaces, located and configured in compliance with applicable requirements of the LAMC. The Project will provide approximately 16 spaces at in the at-grade level, with the balance of the parking being located in two below-grade levels accessed by internal vehicle ramps. As part of the 168 parking spaces, a total of 16 spaces would be designated for clean air vehicles, and 10 spaces would be designated for EV charging stations. Mechanical parking stackers will be provided on the second subterranean parking level. The Project parking is designed for managed parking at all levels (surface to the second underground level). The Project would be consistent with applicable parking requirements of the LAMC. This further ensures any vehicles that may otherwise be searching for street parking and disrupt the pedestrian experience are easily accommodated on-site. Landscaping around the entire perimeter of the Project Site buffers the appearance of the office from the street view to provide a visually appealing pedestrian experience.
Guideline 3: Design projects to actively engage with streets and public space and maintain human scale.	**No conflict.** The Project proposes to include 26 bicycle parking spaces located in the parking structure. The screening provided by landscaping and the underground parking will reduce any car vehicle headlight visibility from the public right-of-way and from pedestrian view.
Guideline 4: Organize and shape projects to recognize and respect surrounding context. .	**No conflict.** The Project will include design elements that reinforce orientation to the street, including a glass facade and a clearly identifiable pedestrian entrance along North Seward Street. The building design includes use of modern materials. The Project's facade is comprised of three systems: a vertical metal panel

Table 4.13
Citywide Design Guidelines

Guideline	Would the Project Conflict?
	system, a stucco system, and Simulated Wood Cladding System with punched windows and window walls throughout. The Project's façade incorporates a variety of materials to break a solid wall to provide interest with vertical elements these include painted stucco, wood frames, wood paneling, wood soffit, white metal panels, aluminum window frames, Perforate Metal hand rails, high performance glazing, and an art wall. Project Site Improvements surrounding the building would include curb adjustments, and new sidewalks as required. The streetscape design shall be supportive of the street life characteristics of West Melrose Avenue. New street trees shall be provided in accordance with City recommendations and per the requirements of the Bureau of Street Services, Urban Forestry Division and will allow for a pleasant sidewalk view and experience.
Guideline 5: Express a clear and coherent architectural idea.	The Project incorporates the use of modern materials. The Project's facade is comprised of three systems: a vertical metal panel system, a stucco system, and Simulated Wood Cladding System with punched windows and window walls throughout. The Project's façade incorporates a variety of materials to break a solid wall to provide interest with vertical elements these include painted stucco, wood frames, wood paneling, wood soffit, white metal panels, aluminum window frames, Perforate Metal hand rails, high performance glazing, and an art wall. At its maximum height, the proposed building would be taller than the other building heights in the vicinity, however, the proposed design is compatible with the design elements of surrounding buildings, especially those with similar use. As stated above, the west elevation terraces down to reduce the buildings massing along the neighboring residential lots as shown in the Figures 3.11 through 3.14. The incorporation of ample landscaping around the perimeter complements the architectural style of the building and maintains a buffer as needed from unappealing views for pedestrians and adjacent properties.
Guideline 6: Provide amenities that support community building and provide an inviting, comfortable user experience.	**No conflict.** Project Site improvements include planting at grade along the facades on West Melrose Avenue and North Seward Street as well as on the upper level terraces, and planting on the north side of the building in and near the shared plaza. This shared plaza between the Project and the existing creative office space to the north will be delineated from the

Table 4.13
Citywide Design Guidelines

Guideline	Would the Project Conflict?
	surface parking and valet through plantings as well as ground pavers. Planting along North Seward Street and West Melrose Avenue will connect the future tenant interior and exterior space. A total of 12 trees will be provided as part of the Project. The Project will also provide 2,870 square feet of landscaping. Landscaping would be added to the pocket courtyard, pocket patio, decks, and on West Melrose Avenue and at the North Seward Street entrance. The Project will not be open to the public, thus no LAMC code required open space, recreational space is required. The Project will provide 11,325 square feet of non-required open space for the proposed tenants. This open space includes the pocket courtyard, pocket patio, and the decks. The Project proposes to include ample landscaping along the perimeter of the Project to provide pedestrians and visitors with a visually appealing and pleasing view.
Guideline 7: Carefully arrange design elements and uses to protect site users.	**No conflict.** Project proposes to include a clearly delineated and safely accessible entrance along North Seward Street for pedestrians. An at-grade onsite drop-off area to serve both rideshare arrivals/departures and onsite valet parking operations has specifically been proposed to ensure safe loading/unloading for employees and visitors. Vehicular access to the Project Site will be via a two-way entry/ exit driveway on North Seward Street.
Guideline 8: Protect the site's unique natural resources and features.	**No conflict.** The Project includes ample landscaping with a variety of trees and shrubs that promote growth of natural resources throughout the perimeter of Project Site. The Project preserves the natural topography of the Project Site by creating subterranean parking for the creative office.
Guideline 9: Configure the site layout, building massing and orientation to lower energy demand and increase the comfort and well-being of users.	**No conflict.** Parking spaces will in a subterranean garage to prevent any excessive headlight impact or glare from headlights of vehicles.
Guideline10: Enhance green features to increase opportunities to capture stormwater and promote habitat.	**No conflict.** The Project proposes to include ample landscaping with a variety of trees and shrubs that enhance the green features and promote opportunities for stormwater capture. These selected plants are proposed to be native and drought-tolerant as feasible and available.
Source: City of Los Angeles, Citywide Design Guidelines, October 24, 2019. EcoTierra Consulting, 2021.	

Hollywood Community Plan

The Project Site is located within the Hollywood Community Plan (Community Plan), which was adopted in December 1988. Table 4.14, *Applicable Objectives and Policies of the Hollywood Community Plan*, sets forth the Community Plan's goals and policies for commercial land use and discusses the Project's consistency and applicability with each of them. The Project would not conflict with any of the goals and policies of the Community Plan. The Project would be consistent with all applicable policies related to the buildings siting, location, uses, and design features.

Table 4.14
Applicable Objectives and Policies of the Hollywood Community Plan

Objective and Polices	Would the Project Conflict?
Objective 1. To coordinate the development of Hollywood with that of other parts of the City of Los Angeles and the metropolitan area. To further the development of Hollywood as a major center of population, employment, retail services, and entertainment; and to perpetuate its image as the international center of the motion picture industry.	**No conflict.** The Project is composed of a five-story creative office building built above a subterranean garage. The Project includes the demolition of the existing one-story, approximately 8,473 square-foot commercial building with a total of 32 employees, per the applicant, and the construction of a new, 69,146 square-foot office building with 647 square foot retail space. Two buildings with a total of 17,134 square feet of existing creative office would remain on the northern portion of the Project Site. These two buildings have a total of 106 employees per the applicant. The Project would generate a net increase of approximately 244 employees on the Project Site. The Project would further employment services in the area.
Objective 5: To provide a basis for the location and programming of public services and utilities and to coordinate the phasing of public facilities with private development. To encourage open space and parks in both local neighborhoods and in high density areas	**No conflict.** The Project would not require the construction of public services facilities, the construction of which would cause significant environmental impacts. In addition, utilities to the Project Site would have capacity to serve the Project. As indicated in the Initial Study, Utilities Section, the Project's impacts would be less than significant. Project Site improvements include planting at grade along the facades on West Melrose Avenue and North Seward Street as well as on the upper level terraces, and planting on the north side of the building in and near the shared plaza. This shared plaza between the Project and the existing creative office space to the north will be delineated from the surface parking and valet through plantings as well as ground pavers. Planting along North Seward Street and West Melrose Avenue will connect the future tenant interior and exterior space. A total of 12 trees will be provided as part of the Project. The Project will also provide 2,870 square feet of landscaping. Landscaping would be added to the pocket courtyard, pocket patio, decks, and on West Melrose Avenue and at the North Seward Street entrance.

Table 4.14
Applicable Objectives and Policies of the Hollywood Community Plan

Objective and Polices	Would the Project Conflict?
	The Project will not be open to the public, thus no LAMC code required open space, recreational space is required. The Project will provide 11,325 square feet of non-required open space for the proposed tenants. This open space includes the pocket courtyard, pocket patio, and the decks which would reduce the potential for additional demand to be placed on public parks and open space areas.
Objective 6: To make provision for a circulation system coordinated with land uses and densities and adequate to accommodate traffic; and to encourage the expansion and improvement of public transportation service.	**No conflict.** While this is a citywide objective, the Project would support its implementation. Specifically, the Project Site is located in a highly urbanized area and designated HQTA and TPA that is well-served by public transit provided by Metro and Los Angeles Department of Transportation (LADOT). The Project would include various streetscape improvements such as additional street trees and landscaping to encourage walkability. Furthermore, the Project would provide approximately short- and long-term bicycle parking spaces, per LAMC requirements. Thus, the Project would promote opportunities for the use of alternative modes of transportation, including use of public transportation, walking, and bicycling.
Objective 7: To encourage the preservation of open space consistent with property rights when privately owned and to promote the preservation of views, natural character and topography of mountainous parts of the Community for the enjoyment of both local residents and persons throughout the Los Angeles region.	**No conflict.** There is currently no open space on the Project Site and the Project would not conflict with this objective.
Circulation	
No increase in density shall be effected by zone change or subdivision unless it is determined that the local streets, major and secondary highways, freeways, and public transportation available in the area of the property involved, are adequate to serve the traffic generated.	The Project would require a Zone Change and Height District Change as follows: Lot located at the northwest corner of West Melrose Avenue and North Seward Street (6101-6117 West Melrose Avenue): From C4-1XL to CM-2. All other Project Site lots (713-733 North Seward Street): From CM-1VL to CM-2. As discussed in the Transportation Section, of this Initial Study, the existing highways and public transportation infrastructure would have adequate capacity to serve the Project.
Service Systems	
No increase in density shall be effected by zone change or subdivision unless it is determined that such facilities are adequate to serve the proposed development.	The Project would require a Zone Change and Height District Change as follows: Lot located at the northwest corner of West Melrose Avenue and North Seward Street (6101-6117 West Melrose Avenue): From C4-1XL to CM-2. All other Project Site lots (713-733 North Seward Street): From CM-1VL to CM-2.

Table 4.14
Applicable Objectives and Policies of the Hollywood Community Plan

Objective and Polices	Would the Project Conflict?
	As discussed in the Public Service and Utilities Sections, of this Initial Study, the Project would not result in significant impacts to public services and utilities. In addition, compliance with regulatory measures would ensure that public services and utilities would have adequate capacity to service the Project.
Source: City of Los Angeles, Hollywood Community Plan, December 1988. EcoTierra Consulting, 2021.	

Although the Project would exceed 30 and 45 feet in height, based on the analysis above, the Project would be substantially consistent with applicable goals, policies, and objectives in local and regional plans that govern development on the Project Site. **Therefore, the Project would not conflict with applicable land use plans adopted for the purpose of avoiding or mitigating an environmental effect. As such, impacts would be less than significant.**

XII. MINERAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?	☐	☐	☐	☒
b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?

No Impact. A significant impact may occur if a project is located in an area used or available for extraction of a regionally-important mineral resource and the project converted an existing or potential future regionally-important mineral extraction use to another reuse or if the project affected access to a site used or was potentially available for regionally-important mineral resource extraction.

The Project Site is fully developed and no oil wells are present.[95][96] Additionally, the Project Site is not located within the boundaries of a major oil drilling area or within a State-designated oil field. The State Geologist classifies mineral resource zones (MRZs) within a region based on the following factors:

- MRZ-1: Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- MRZ-2: Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence.
- MRZ-3: Areas containing mineral deposits for which the significance cannot be determined from available data.

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[95] *City of Los Angeles Department of City Planning, Zone Information & Map Access System, accessed January 2021.*

[96] *California Department of Conservation, Division of Oil, Gas & Geothermal Resources, Well Finder, accessed January 2021.*

- MRZ-4: Areas where available information is inadequate for assignment of any other MRZ category.

Four major MRZ-2s are identified in, or partially within the unincorporated areas of Los Angeles County: Little Rock Creek Fan, Soledad Production Area, Sun Valley Production Area, and Irwindale Production Area.[97] The Project Site is not located within an mineral resource zone (MRZ-2 zone). The Project would not involve mineral extraction activities, nor are any such activities presently occurring on the Project Site. **Therefore, no impact would occur, and no mitigation measures are required.**

b) Would the project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No Impact. A significant impact may occur if a project is located in an area used or available for extraction of a locally-important mineral resource extraction and the project converted an existing or potential future locally-important mineral extraction use to another use or if the project affected access to a site used or potentially available for locally-important mineral resource extraction.

As discussed above under responses to Checklist Question XII(a), the Project Site is not within a major drilling area or State-designated oil field, or within an MRZ-2 zone. The Project would not affect any extraction activities and there would be no impact on existing or future regionally important mineral extraction sites. Therefore, development of the Project would not result in the loss of availability of a mineral resource that would be of value to the residents of the State or a locally-important mineral resource, or mineral resource recovery site, as delineated on a local general plan, specific plan, or land use plan. **Therefore, no impact would occur, and no mitigation measures are required.**

[97] *County of Los Angeles General Plan, Chapter 9: Conservation and Natural Resources Element, 1980, accessed January 2021.*

XIII. NOISE

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☒	☐	☐
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Noise data was generated for the Project to assist in the preparation of the following noise analysis and is included as Appendix G to this document.

a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less Than Significant With Mitigation Incorporated. A significant impact may occur if the project would generate excess noise that would cause the ambient noise environment at the Project Site to fail to comply with noise level standards set forth in the City of Los Angeles General Plan Noise Element (Noise Element) and the City of Los Angeles Noise Ordinance (Noise Ordinance) (Section 111.00 through Section 116.01 of the LAMC). Implementation of the Project would result in an increase in ambient noise levels during both construction and operations, as discussed in detail below.

Regulatory Setting

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise. In most areas, automobile and truck traffic is the major source of environmental noise. Traffic activity generally produces an average sound level that remains constant with time. Air and rail traffic, and commercial and industrial activities are also major sources of noise in some areas. Federal,

state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies.

State of California Noise Requirements

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards and provides guidance for local land use compatibility. State law requires that each county and city adopt a General Plan that includes a Noise Element which is to be prepared per guidelines adopted by the Governor's Office of Planning and Research. The purpose of the Noise Element is to limit the exposure of the community to excessive noise levels. In addition, CEQA requires that all known environmental effects of a project be analyzed, including the potential environmental noise impacts.

State of California Building Code

The State of California's noise insulation standards are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 2, and the California Building Code. These noise standards are applied to new construction in California for controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when noise-sensitive structures, such as residential buildings, schools, or hospitals, are developed near major transportation noise sources, and where such noise sources create an exterior noise level of 60 decibels (dBA) CNEL or higher. Acoustical studies that accompany building plans for noise-sensitive land uses must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new residential buildings, schools, and hospitals, the acceptable interior noise limit for new construction is 45 dBA CNEL.

City of Los Angeles General Plan Noise Element

The City of Los Angeles has adopted a Noise Element of the General Plan to identify goals, objectives, and policies for managing noise issues within the City. The following goal and objectives are identified in the General Plan Noise Element:

Goal A city where noise does not reduce the quality of urban life.

Objective 1 Reduce airport and harbor related noise impacts.

Objective 2 Reduce or eliminate nonairport related intrusive noise, especially relative to noise sensitive uses.

Objective 3 Reduce or eliminate noise impacts associated with proposed development of land and changes in land use.

Exhibit I of the City of Los Angeles General Plan Noise Element identifies Guidelines for Noise Compatible Land Use to evaluate the potential impacts of transportation-related noise. Office buildings, business and professional commercial uses, such as the Project, is considered conditionally acceptable with unmitigated exterior noise levels of less than 77 dBA CNEL. For

conditionally acceptable exterior noise levels, new construction or development only after a detailed analysis of noise mitigation is made and needed noise insulation features are included in project design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning normally will suffice.

City of Los Angeles Operational Noise Standards

To analyze noise impacts originating from a designated fixed location or private property such as the Project, stationary-source (operational) noise such as HVAC equipment and trash enclosure activity are typically evaluated against standards established under a jurisdiction's Municipal Code or General Plan.

Chapter XI of the LAMC establishes Noise Regulations, setting exterior noise limits to control community noise impacts from commercial noise sources including air conditioning units, refrigeration, heating, pumping, and filtering equipment. Section 112.02 indicates that such equipment shall not operate in a manner as to cause the noise level at any sensitive use to exceed the existing ambient noise level by 5 dBA. Section 114.03 prohibits loading or unloading any vehicle, or operate dollies, carts, forklifts, or other wheeled equipment causing impulsive sound, raucous or unnecessary sound within 200 feet of any residential building between the hours of 10:00 P.M. and 7:00 A.M of the following day. Also, Section 114.06 prohibits installation, operation or use of any vehicle theft alarm system that emits or causes the emission of an audible sound, which is not, or does not become, automatically and completely silenced within five minutes.

City of Los Angeles Construction Noise Standards

Section 112.05 of the City's Municipal Code identifies exterior noise level limits for construction equipment in any residential zone or within 500 feet thereof, as follows:

- 75dB(A) for construction, industrial, and agricultural machinery including crawler-tractors, dozers, rotary drills and augers, loaders, power shovels, cranes, derricks, motor graders, paving machines, off-highway trucks, ditchers, trenchers, compactors, scrapers, wagons, pavement breakers, compressors and pneumatic or other powered equipment.

However, the above limitation does not apply where technically infeasible (i.e., the noise limitation cannot be complied with despite the use of mufflers, shields, sound barriers, and/or any other feasible noise reduction measures).

Significance Criteria

Noise impacts shall be considered significant if any of the following occur as a direct result of the Project.

Off-Site Operational Traffic Noise

- When the noise levels at existing and future noise-sensitive land uses (e.g., residential, etc.):

- are less than 60 dBA CNEL and the Project creates a readily perceptible 5 dBA CNEL or greater Project-related noise level increase; or
- range from 60 to 65 dBA CNEL and the Project creates a barely perceptible 3 dBA CNEL or greater Project-related noise level increase; or
- already exceed 65 dBA CNEL, and the Project creates a community noise level impact of greater than 1.5 dBA CNEL (FICON, 1992).

Operational Stationary-Source Noise

- If the Project causes the ambient noise level measured at the property line of affected uses to increase by 3 dBA in CNEL to or within the "normally unacceptable" or "clearly unacceptable" category (as specified in the Table on page I.2-4 of the *L.A. CEQA Thresholds Guide*, Community Noise Exposure), or;

- If Project-related operational (stationary source) noise levels exceed the exterior ambient noise levels at adjacent sensitive receiver locations by 5 dBA Leq (LAMC § 112.02).

Construction Noise and Vibration

The 2006 L.A. CEQA Thresholds Guide identifies the following criteria to evaluate construction noise:

- *Construction activities lasting more than one day would exceed existing ambient exterior noise levels by 10 dBA or more at a noise sensitive use;*

- *Construction activities lasting more than 10 days in a three-month period would exceed existing ambient exterior noise levels by 5 dBA or more at a noise sensitive use; or*

- *Construction activities would exceed the ambient noise level by 5 dBA at a noise sensitive use between the hours of 9:00 P.M. and 7:00 A.M. Monday through Friday, before 8:00* The City currently does not have significance criteria to assess vibration impacts during construction. Thus, Federal Transit Administration (FTA) guidelines set forth in FTA's Transit Noise and Vibration Assessment, dated September 2018, are used to evaluate potential impacts related to construction vibration for both potential building damage and human annoyance. The FTA guidelines regarding construction vibration are the most current guidelines and are commonly used in evaluating vibration impacts.

Based on this FTA guidance, impacts relative to ground-borne vibration associated with potential building damage would be considered significant if any of the following future events were to occur:

- Project construction activities cause ground-borne vibration levels to exceed 0.5 PPV at the nearest off-site reinforced-concrete, steel, or timber building.

- Project construction activities cause ground-borne vibration levels to exceed 0.3 PPV at the nearest off-site engineered concrete and masonry building.

- Project construction activities cause ground-borne vibration levels to exceed 0.2 PPV at the nearest off-site non-engineered timber and masonry building.
- Project construction activities cause ground-borne vibration levels to exceed 0.12 PPV at buildings extremely susceptible to vibration damage, such as historic buildings.

Based on FTA guidance, construction vibration impacts associated with human annoyance would be significant if the following were to occur (applicable to frequent events; 70 or more vibration events per day):

- Project construction activities cause ground-borne vibration levels to exceed 72 VdB at off-site sensitive uses, including residential and hotel uses.
- Project construction activities cause ground-borne vibration levels to exceed 65 VdB at off-site studio (recording/broadcast) uses.

Existing Noise Level Measurements

To assess the existing noise level environment, four short-term, 15-minute noise level measurements were taken at sensitive receiver locations in the Project study area. The receiver locations were selected to describe and document the existing noise environment within the Project study area. The 15-Minute Noise Measurement Datasheet (see Appendix G) provides the location of the Project site and the noise level measurement locations. To fully describe the existing noise conditions, noise level measurements were collected on May 20, 2021.

Measurement Procedure and Criteria

The noise measurements were taken using the Larson Davis SoundTrack LxT2 sound level meter, which conforms to industry standards set forth in American National Standard Institute (ANSI) S1.4-1983 (R2006) – Specification for Sound Level Meters/Type 1, and is consistent with the requirements specified in LAMC Section 111.01(l) that the instruments be “Type S2A” standard instruments or better. This instrument was calibrated and operated according to the manufacturer’s written specifications. At the measurement sites, the microphone was placed at a height of approximately five feet above the ground. The sound level meter was programmed to record the average sound level (Leq) over a period of 15 minutes in accordance with LAMC Section 111.01(a).

Noise Measurement Locations

The short-term noise level measurements were positioned as close to the nearest sensitive receiver locations as possible to assess the existing ambient noise levels surrounding the Project Site. Both Caltrans and the FTA recognize that it is not reasonable to collect noise level measurements that can fully represent any part of a private yard, patio, deck or balcony normally used for human activity when estimating impacts for new development projects. This is demonstrated in the Caltrans general site location guidelines which indicate that, *sites must be free of noise contamination by sources other than sources of interest. Avoid sites located near sources such as barking dogs, lawnmowers, pool pumps, and air conditioners unless it is the*

express intent of the analyst to measure these sources. Further, FTA guidance states, *it is not necessary nor recommended that existing noise exposure be determined by measuring at every noise-sensitive location in the project area. Rather, the recommended approach is to characterize the noise environment for clusters of sites based on measurements or estimates at representative locations in the community*.

Based on recommendations of Caltrans and the FTA, it is not necessary to collect measurements at each individual building or residence, because each receiver measurement represents a group of buildings that share acoustical equivalence. In other words, the area represented by the receiver shares similar shielding, terrain, and geometric relationship to the reference noise source. Receivers represent a location of noise sensitive areas and are used to estimate the future noise level impacts. Collecting reference ambient noise level measurements at the nearby sensitive receiver locations allows for a comparison of the before- and after-Project noise levels and is necessary to assess potential noise impacts due to the Project's contribution to the ambient noise levels.

Noise Measurement Results

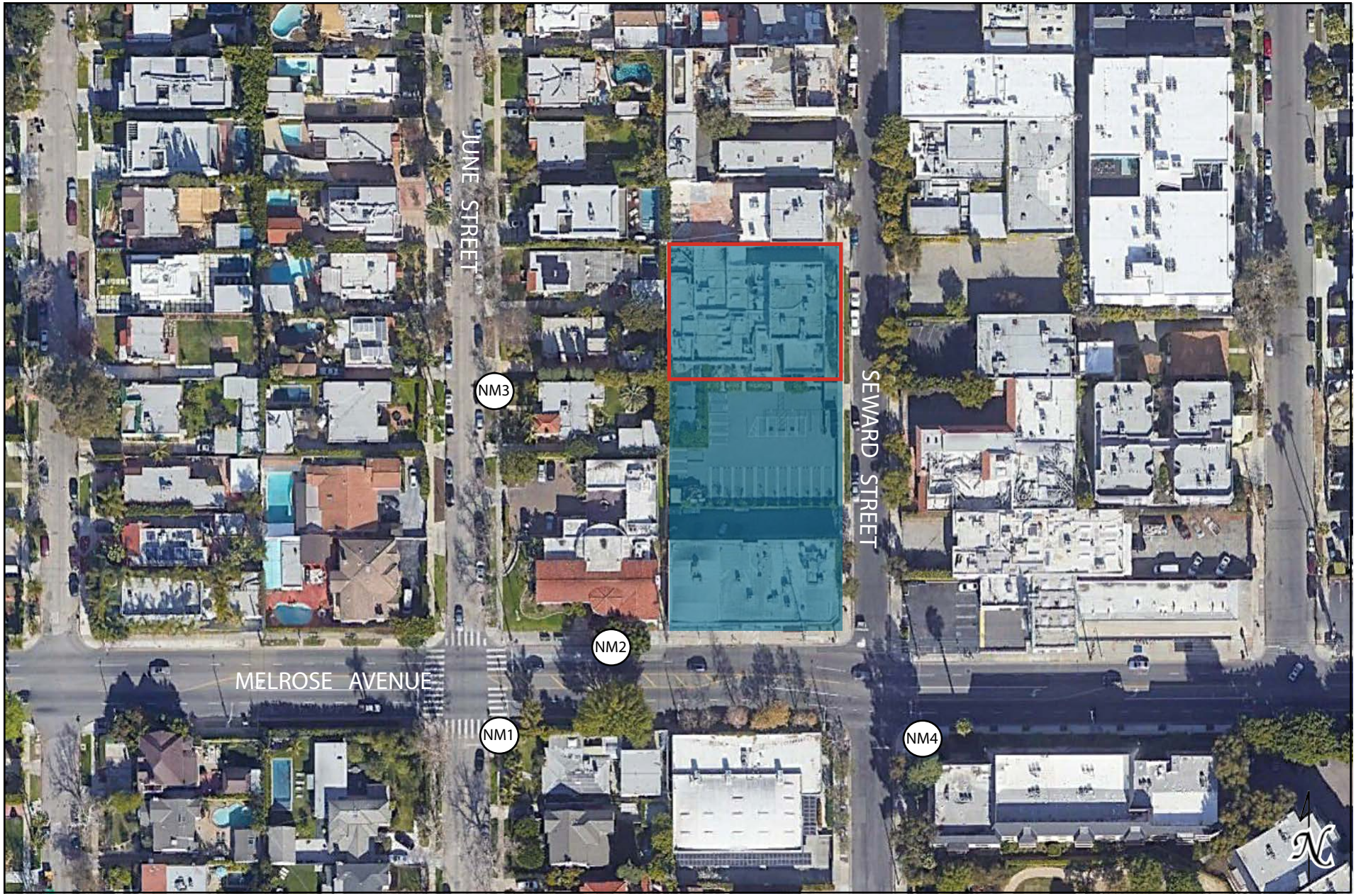
The results of the measurements are summarized in Table 4.15, *Existing Ambient Noise Levels*. The noise monitoring outputs are provided in Appendix G of this document. See Figure 4.1, *Noise Measurement Locations*.

Table 4.15
Existing Ambient Noise Levels

Noise Measurement Location	Location	Primary Noise Sources	Noise Levels[a]		
			L_{eq}	L_{max}	L_{min}
NM1	Adjacent to the residential use at 646 N June St.	Traffic along Melrose Ave and June St, pedestrians, and aircraft.	70.9	88.0	53.0
NM2	On the sidewalk adjacent to the John C. Fremont Library	Traffic along Melrose Ave and June St. pedestrians, and aircraft	73.5	88.5	53.9
NM3	On the sidewalk adjacent to residential use at 716 N. June St.	Light traffic along June St, birds, aircraft.	57.5	70.1	48.0
NM4	Adjacent to the Hancock Park Terrace apartments on the south side of Melrose Avenue	Traffic along Melrose Ave and Seward St. pedestrians, and aircraft.	74.6	89.4	56.8

[a] Noise measurements were taken on May 20,2021 at each location for a duration of 15 minutes.
See Appendix of G this document for noise data.
Source: EcoTierra, 2021.

As shown in Table 4.15, the ambient recorded noise levels range from 57.5 dBA Leq to 74.6 dBA Leq in the Project vicinity.



Project Site Existing Buildings to Remain

Source: EcoTierra Consulting, June 2021.

Figure 4.1
Noise Measurememt Locations

Construction Impacts

This section analyzes potential impacts resulting from the short-term construction activities associated with the development of the Project.

The City of Los Angeles General Plan Noise Element defines noise-sensitive uses as: *single-family and multi-unit dwellings, long-term care facilities (including convalescent and retirement facilities), dormitories, motels, hotels, transient lodgings and other residential uses; houses of worship; hospitals; libraries; schools; auditoriums; concert halls; outdoor theaters; nature and wildlife preserves, and parks*. Land uses that are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, natural open space, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals.

Construction Noise Levels

Noise generated by the Project construction equipment will include a combination of trucks, power tools, concrete mixers and portable generators that when combined can reach high levels. The number and mix of construction equipment are expected to occur in the following stages:

- Demolition
- Grading/Excavation
- Foundation
- Building Construction
- Architectural Coating

The Project is anticipated to start demolition no sooner than November 2021, and construction is anticipated to last approximately 21 months with final buildout occurring around July 2023.

The closest sensitive receptors to the Project Site include:

- The residential uses located at 646 and 646N North June Street, south of the site (across West Melrose Avenue) approximately 92 feet from the Project boundary (NM1),
- The John C. Freeman Branch Library located at West 6121 Melrose Avenue, approximately 8 feet to the west of the site (NM2),
- The residential uses located at 716 North June Street (north of West Melrose Avenue), approximately 8 feet from the Project boundary (NM3), and
- Hancock Park Terrace apartments located at 647 North Wilcox Avenue (east of North Seward Street, south of West Melrose Avenue) approximately 130 feet from the Project boundary (NM4).

Other noise sensitive land uses are located further from the Project Site and would experience lower impacts. Construction and demolition noise will vary depending on the construction

process, type of equipment involved, location of the construction site with respect to sensitive receptors, the schedule proposed to carry out each task (e.g., hours and days of the week) and the duration of the construction work.

A summary of noise level data for a variety of construction equipment compiled by the FTA is presented in Table 4.16, *Noise Range of Project Construction Equipment***.** Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings.

Table 4.16
Noise Range of Project Construction Equipment

Equipment Description	Impact Device?	Acoustical use Factor (%)	Typical Noise Level @ 50ft (Lmax dBA)
Compressor (air)	No	40	78
Concrete Mixer Truck	No	40	79
Concrete Pump	No	20	81
Concrete Saw	No	20	90
Crane	No	16	81
Drill Rig	No	20	79
Dozer	No	40	82
Forklift [a, b]	No	50	61
Front End Loader	No	40	79
Generator	No	50	81
Grader	No	40	85
Haul/Dump Truck	No	40	76
Paver	No	50	77
Pickup Truck	No	50	77
Roller	No	20	80
Tractor/Loader Backhoe	No	40	79
Welder/Torch	No	40	74

[a] *Warehouse & Forklift Noise Exposure - NoiseTesting.info Carl Stautins, November 4, 2014 http://www.noisetesting.info/blog/carl-strautins/page-3/*
[b] *Data provided Leq as measured at the operator. Sound Level at 50 feet is estimated.*
Source: FHWA RCNM User's Guide, 2006.

Construction noise associated with the Project was calculated utilizing methodology presented in the FTA Transit Noise and Vibration Impact Assessment Manual (2018) together with several key construction parameters including: distance to each sensitive receiver, equipment usage, percent usage factor, and baseline parameters for the Project Site. Distances to receptors were based on the acoustical center of the proposed construction activity. Construction noise levels were calculated for each phase. To be conservative, the noise generated by each piece of equipment was added together for each phase of construction; however, it is unlikely (and unrealistic) that every piece of equipment will be used at the same time, at the same distance from the receptor, for each phase of construction. The highest noise levels during each construction phase at the closest receptors (located adjacent to NM1 [southwest], NM2 [west], NM3 [west]), and NM4 (southeast) are presented in Table 4.16, and worksheets are included as Appendix G to this

document. Construction noise levels are compared to existing noise levels, which are shown in Table 4.16 above.

As defined by the Section 41.40 of the LAMC, a project would normally have a significant impact on noise levels from construction if construction activity (including demolition) or repair work, where the use of any power tool, device, or equipment would disturb persons occupying sleeping quarters in any dwelling hotel, apartment, or other place of residence, occurs between the hours of 9:00 P.M. and 7:00 A.M. Monday through Friday, or between 6:00 P.M. and 8:00 A.M. on Saturday. Per Section 112.05 of the LAMC, a significant impact on noise levels from construction could also occur if equipment is operated in a manner that causes it to exceed 75 dBA at a distance of 50 feet, between the hours of 7:00 A.M. and 10:00 P.M.

The above noise level limitations do not apply where compliance is deemed to be technically infeasible, which means that said noise limitations cannot be met despite the use of mufflers, shields, sound barriers, and/or other noise reduction techniques during the operation of the equipment.

The highest unmitigated Project construction noise levels at the nearest sensitive receptors during construction are shown in Table 4.17, *Unmitigated Construction Noise Levels at Closest Receptor Locations*. As shown in Table 4.17, the highest construction noise levels, which would occur during the demolition phase, would result in significant noise increases at two sensitive receptor locations, NM2 and NM3, which are located adjacent to the western boundary of the Project Site.

Table 4.17
Unmitigated Construction Noise Levels at Closest Receptor Locations

Off-Site Receptor Location	Existing Ambient Noise Levels (Leq)[a]	Maximum Unmitigated Construction Noise Levels[b]	Applicable Standard (dBA)[c]	Exceeds Standard?
(NM1) The residential uses located at 646 and 646 North June Street, south of the site (across West Melrose Avenue)	70.9	72.9	75.9	No
(NM2) The John C. Freeman Branch Library located at 6121 West Melrose Avenue, approximately 8 feet to the west of the site	73.5	81.5	78.5	**Yes**
(NM3) The residential uses located west of the site, at 716 North June Street (north of West Melrose Avenue)	57.5	76.4	62.5	**Yes**
(NM4) Hancock Park Terrace apartments located at 647 North Wilcox Avenue (east of North Seward Street, south of West Melrose Avenue)	74.6	71.6	79.6	No

[a] *Noise measurement locations are shown on Figure 4.1.*
[b] *Construction noise worksheets showing noise levels for all phases of construction are provided in Appendix G.*
[c] *The applicable LAMC standard is the daytime ambient noise levels plus 5 dBA_{leq}.*
Source: EcoTierra, 2021.

Without mitigation, construction noise levels at sensitive receptors located closest the Project Site may reach up to 81.5 dBA Leq, which would exceed the 75 dBA construction noise level defined by the Section 41.40 of the LAMC. Furthermore, per the *L.A. CEQA Thresholds Guide*, a project would normally have a significant impact on noise levels from construction if:

> *Construction activities lasting more than 10 days in a three-month period would exceed existing ambient exterior noise levels by 5 dBA or more at a noise sensitive use.*

As shown in Table 4.17, modeled, unmitigated construction noise levels could have an increase of up to 18.9 dBA over ambient noise levels at the single-family residential use located west of the Project Site (NM3, 716 North June Street) during demolition, grading/excavation, foundation and building construction. An increase in ambient noise of up to 8.0 dBA over ambient noise levels would also occur at the library use (NM2), located at 6121 West Melrose Avenue during demolition. Therefore, mitigation is required to reduce construction noise impacts at those receptor locations.

As shown in Table 4.18, *Mitigated Construction Noise Levels at Impacted Receptor Locations*, mitigation that would provide at least 14 dBA of noise reduction during the demolition, grading/excavation, foundation and building construction phases would reduce the construction noise level down to 62.4 dBA Leq or lower, with a 5 or less dBA increase over existing noise levels at the affected residential sensitive receptor located west of the site, and reduce the construction noise level down to 67.5 dBA Leq, which would result in noise levels lower than the ambient noise level at the library receptor (NM2). Construction-related noise impacts at sensitive receptor locations NM1 to the southwest, NM4 to the southeast, and those located further from the Project would not experience a significant increase in ambient noise levels during any phase of construction (please see Construction Noise Calculation Worksheets available in Appendix G for details).

Table 4.18
Mitigated Construction Noise Levels at Impacted Receptor Locations

Off-Site Receptor Location	Existing Ambient Noise Levels (Leq)[a]	Maximum Mitigated Construction Noise Levels[b]	Applicable Standard (dBA)[c]	Exceeds Standard ?
(NM2) The John C. Freeman Branch Library located at 6121 Melrose Avenue, approximately 8 feet to the west of the site	73.5	67.5	78.5	**No**
(NM3) The residential uses located west of the site, at 716 N. June Street (north of Melrose Avenue)	57.5	62.4	62.5	**No**

[a] *Noise measurement locations are shown on Figure 4.1.*
[b] *Reflects noise level reduction from shielding that would provide at least a 14 dBA reduction. Construction noise worksheets showing noise levels for all phases of construction are provided in Appendix G.*
[c] *The applicable LAMC standard is the daytime ambient noise levels plus 5 dBA_{leq}.*
Source: EcoTierra, 2021.

With incorporation of **MM NOI-1**, the noise generated during the demolition, grading/excavation, foundation and building construction of the Project would no longer exceed 75 dBA and will not exceed existing ambient exterior noise levels by 5 dBA or more during construction activities lasting more than 10 days in a three-month period. **Therefore, with incorporation of mitigation measure MM NOI-1, construction noise impacts would be less than significant.**

The following mitigation measure is recommended to reduce construction-related noise levels to a less than significant level.

Mitigation Measures

MM NOI-1: During all Project Site demolition, grading/excavation, foundation and building construction, the construction contractors shall install a temporary, continuous sound barrier along the western boundary of the Project Site. The barrier shall be tall enough to break the line-of-site between construction activity and the adjacent library and residential use, and be constructed of materials achieving a Transmission Loss (TL) value of at least 14 dBA, such as ½ inch plywood.[98] The supporting structure shall be engineered and erected according to applicable codes.

Off-Site Construction Noise Impacts

The highest potential for off-site construction noise is sourced from hauling trips. During the demolition duration of 20 days, the Project would generate approximately 4 haul truck trips per day (2 inbound, 2 outbound) travelling to and from the Project Site. During the grading/excavation duration of 50 days, the Project would generate approximately 70 haul truck trips per day (35 inbound, 35 outbound) travelling to and from the Project Site. The anticipated outbound haul route from the Project Site would be along Melrose Avenue to Normandie Avenue, to the 101 freeway. Approximately 29,400 cy of soil will be excavated and exported from the Project Site. There are multi-family residential units, commercial uses and a few scattered single-family dwellings along the route. Building frontages along the haul route are located approximately 40 feet or more from the roadway center line. As shown in Table 4.17 above, typical noise from haul trucks driving by can reach up to 76 dBA Lmax at a distance of 50 feet. As shown in Table 4.16 above, the existing, daytime maximum noise for Melrose Avenue is 89.4 dBA Lmax. Therefore, the noise level generated by a Project haul truck passing by would be less than the existing, ambient noise levels at receptor locations along haul route roadway segments. **Therefore, impacts from off-site construction noise would be less than significant and no mitigation measures are required.**

Off-Site Operational Noise Impacts

Existing and Existing Plus Project traffic noise levels were modeled utilizing the Federal Highway Administration (FHWA) Traffic Noise Prediction Model - FHWA-RD-77-108 at a distance of 50

[98] *Based on the FHWA Noise Barrier Design Handbook (July 14, 2011), see Table 3, Approximate sound transmission loss values for common materials; ½ inch plywood has a transmission loss of 20 dBA.*

feet from roadway centerline. The uniform distance allows for direct comparisons of potential increases or decreases in noise levels based upon various traffic scenarios; however, at this distance, no specific noise standard necessarily applies. Therefore, the change in a noise level between scenarios is the focus of this portion of the analysis, rather than the resulting independent noise level for any one segment. These worksheets are included as Appendix G. The modeling is theoretical, and is considered conservative because it does not account for any existing barriers, structures, and/or topographical features that may further reduce noise levels. Therefore, the levels are shown for comparative purposes only to show the difference in with and without Project conditions. Roadway input parameters are based on ADTs, speeds, and vehicle distribution data. The potential off- site noise impacts caused by an increase of traffic volumes from operation of the Project on the nearby roadways were calculated for the following scenarios:

Existing refers to existing year 2021 traffic noise conditions. *Existing Plus Project* refers to existing year 2021 traffic noise conditions plus traffic generated by the Project. Both scenarios are demonstrated in Table 4.19, *Off-Site Traffic Noise Impacts– Existing With Project Conditions*.

Table 4.19
Off-Site Traffic Noise Impacts – Existing With Project Conditions

Noise Levels 50 feet from Roadway Centerline*						
	Existing (2021)		Existing Plus Project			
Road Segments	ADT	dB CNEL	ADT	Total	Project-Specific Increase	Is the Increase Significant ?
Willoughby Avenue						
w/o Highland Ave	2,940	62.4	2,970	62.4	0.0	**No**
e/o Highland Ave	4,850	64.6	4,880	64.6	0.0	**No**
Melrose Avenue						
w/o Highland Ave	11,790	68.4	11,900	68.5	0.1	**No**
e/o Highland Ave	12,680	68.7	12,700	68.7	0.0	**No**
w/o Wilcox Ave	10,900	68.1	10,940	68.1	0.0	**No**
e/o Wilcox Ave	12,510	68.7	12,650	68.7	0.0	**No**
Highland Avenue						
n/o Willoughby Ave	13,420	69.0	13,530	69.0	0.0	**No**
s/o Willoughby Ave	13,680	69.1	13,690	69.1	0.0	**No**
s/o Melrose Ave	14,050	69.2	14,160	69.2	0.0	**No**
Wilcox Avenue						
n/o Melrose Ave	2,600	61.8	2,600	61.8	0.0	**No**
s/o Melrose Ave	3,420	63.0	3,450	63.1	0.1	**No**

Notes: ADT = average daily trips, dB = decibels, CNEL = community noise equivalent level
* *The uniform distance of 50 feet allows for direct comparisons of potential increases or decreases in noise levels based upon various traffic scenarios; however, at this distance, no specific noise standard necessarily applies.*
Source: EcoTierra, 2021.

As defined in the *L.A. CEQA Thresholds Guide*, and the *Noise Element of the Los Angeles City General Plan* threshold standards, a project would normally have a significant impact on noise

levels from operations if the ambient noise level measured at the property line of affected uses were to increase by 3 dBA in CNEL to within the "normally unacceptable" or clearly unacceptable" category (as shown in the Table on page I.2-4 of the *L.A. CEQA Thresholds Guide*, Community Noise Exposure), or any 5 dBA or greater noise increase. To be conservative, the 3 dBA standard has been used.

As shown in Table 4.19, Project generated vehicular trips from all of the modeled roadway's segments would result in an increase in ambient noise levels of 0.1 dBA[99] over the Existing scenario, and would not exceed the *City of Los Angeles CEQA Threshold* or the *Noise Element* threshold standards presented above. **Therefore, traffic noise impacts to off-site receptors due to Project generated trips would be less than significant and no mitigation measures are required.**

On-Site Operational Noise Impacts

This section analyzes the potential on-site operational noise impacts due to the Project's stationary noise sources.

Parking Noise

The proposed parking areas have the potential to generate noise due to cars entering and exiting, engines accelerating, braking, car alarms, squealing tires, and other general activities associated with people using the parking areas (i.e., talking, opening/closing doors, etc.). Noise levels within the parking areas would fluctuate with the amount of automobile and human activity. Activity levels are anticipated to be higher in the early morning and evening when the largest number of employees would enter and exit. However, these events would occur at low exiting and entering speeds, which would not generate high noise levels. During these times, the noise levels can range from 44 to 63 dBA Leq[100]. As the parking area would be enclosed in a subterranean parking garage, except for the driveway areas, noise generated from within the parking area would not adversely affect off-site sensitive receptors. Furthermore, operational noise generated by motor vehicles within the Project Site is regulated under the LAMC. Specifically, Section 114.02 of the LAMC prohibits the operation of any motor vehicles upon any property within the City such that the created noise would cause the noise level on the premises of the property to exceed the ambient noise level by more than five decibels. LAMC Section 114.06 prohibits any person to install, operate or use any vehicle theft alarm system that emits or causes the emission of an audible sound, which is not, or does not become, automatically and completely silenced within five minutes. LAMC Section 114.03 prohibits loading or unloading of any vehicle, operating any dollies, carts, forklifts, or other wheeled equipment, which causes any impulsive sound, raucous or unnecessary noise within 200 feet of any residential building between the hours of 10:00 P.M. and 7:00 A.M. of the following day. **Therefore, through project design and compliance with**

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[99] *As the increase in noise levels is 0.1 dBA CNEL at 50 feet from the centerline, it would also be an increase of 0.1 dBA CNEL at the property line of affected uses.*

[100] *Source: Gordon Bricken & Associates, 1996. Estimates are based on actual noise measurements taken at various parking lots.*

existing LAMC regulations, noise impacts associated with parking would be less than significant and no mitigation measures are required.

Stationary Noise Sources

As part of the Project, HVAC units, and exhaust fans would be installed for the proposed uses. Although the operation of this equipment would generate noise, the design of all mechanical equipment would be required to comply with the regulations under Section 112.02 of the LAMC, which prohibits noise from air conditioning, refrigeration, heating, pumping, and filtering equipment from exceeding the ambient noise level on the premises of other occupied properties by more than 5 decibels. **Therefore, impacts related to stationary noise sources would be less than significant with compliance with existing LAMC regulations. No mitigation measures are required.**

b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant With Mitigation Incorporated. A significant impact may occur if a project were to generate excessive vibration during construction or operation.

Per the FTA Transit Noise Impact and Vibration Assessment, vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure-borne noise. Sources of ground-borne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, ground-borne vibrations may be described by amplitude and frequency.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings, but is not always suitable for evaluating human response (annoyance) because it takes some time for the human body to respond to vibration signals. Instead, the human body responds to average vibration amplitude often described as the root mean square (RMS). The RMS amplitude is defined as the average of the squared amplitude of the signal and is most frequently used to describe the effect of vibration on the human body. Decibel notation (VdB) is commonly used to measure RMS. Decibel notation (VdB) serves to reduce the range of numbers used to describe human response to vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receivers for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration-sensitive equipment.

The background vibration-velocity level in residential areas is generally 50 VdB. Ground-borne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth,

the ground-borne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings.

Construction Vibration Standards

The City's General Plan and Municipal Code do not identify specific vibration level standards. Therefore, applicable vibration standards identified by the Caltrans Transportation and Construction Vibration Guidance Manual were used in the analysis. The vibration damage criteria adopted by the FTA are shown in Table 4.20, *Construction Vibration Damage Criteria*.

Table 4.20
Construction Vibration Damage Criteria

Building Category	PPV (in/sec)
I. Reinforced-concrete, steel or timber (no plaster)	0.50
II. Engineered concrete and masonry (no plaster)	0.30
III. Non-engineered timber and masonry buildings	0.20
IV. Buildings extremely susceptible to vibration damage	0.12
Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, September 2018.	

The FTA has also adopted standards associated with human annoyance for groundborne vibration impacts for the following three land-use categories:

(1) Vibration Category 1 – High Sensitivity,

(2) Vibration Category 2 – Residential, and

(3) Vibration Category 3 – Institutional.

The FTA defines Category 1 as buildings where vibration would interfere with operations within the building, including vibration-sensitive research and manufacturing facilities, hospitals with vibration-sensitive equipment, and university research operations. Vibration-sensitive equipment includes, but is not limited to, electron microscopes, high-resolution lithographic equipment, and normal optical microscopes. Category 2 refers to all residential land uses and any buildings where people sleep, such as hotels and hospitals. Category 3 refers to institutional land uses such as schools, churches, other institutions, and quiet offices that do not have vibration-sensitive equipment, but still have the potential for activity interference. The vibration criteria associated with human annoyance for these three land-use categories are shown in Table 4.21, *Groundborne Vibration Criteria for General Assessment*. No thresholds have been adopted or recommended for commercial or office uses.

Significance Criteria

Vibration impacts shall be considered significant if any of the following occur as a direct result of the Project.

- If short-term Project generated construction vibration levels exceed the FTA building damage vibration criteria listed in Table 4.20 or the FTA human annoyance standards for frequent events listed in Table 4.21.

Table 4.21
Groundborne Vibration Impact Criteria for General Assessment

Land Use Category	Frequent Events	Occasional Events	Infrequent Events
Category 1	65 VdB	65 VdB	65 VdB
Category 2	72 VdB	75 VdB	80 VdB
Category 3	75 VdB	78 VdB	83 VdB
Per FTA Transit Noise and Vibration Impact Assessment, September 2018, page 8-1, infrequent events are fewer than 30 vibration events of the same kind per day. Occasional events are between 30 and 70 vibration events of the same source per day. Frequent events are more than 70 vibration events of the same source per day. *Source: FTA, Transit Noise and Vibration Impact Assessment Manual, September 2018.*			

Construction Vibration Impacts

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. The Project's construction activities most likely to cause vibration impacts are:

- Heavy Construction Equipment: Although all heavy mobile construction equipment has the potential of causing at least some perceptible vibration while operating close to buildings, the vibration is usually short-term and is not of sufficient magnitude to cause building damage.

- Trucks: Trucks hauling building materials to construction sites can be sources of vibration intrusion if the haul routes pass through residential neighborhoods on streets with bumps or potholes. Repairing the bumps and potholes generally eliminates the problem.

Table 4.22, *Construction Equipment Vibration Source Levels* identifies various PPV levels for the types of construction equipment that would operate during the construction of the Project. For example, as shown in Table 4.22, a vibratory roller could generate up to 0.21 PPV at a distance of 25 feet; and operation of a large bulldozer (0.089 PPV) at a distance of 25 feet (two of the most vibratory pieces of construction equipment). Groundborne vibration at sensitive receptors associated with this equipment would drop off as the equipment moves away. For example, as the vibratory roller moves further than 100 feet from the sensitive receptors, the vibration associated with it would drop below 0.0026 PPV. It should also be noted that these vibration levels are reference levels and may vary slightly depending upon soil type and specific usage of each piece of equipment.

Table 4.22
Construction Equipment Vibration Source Levels

Equipment	Peak Particle Velocity (inches/second) at 25 feet	Approximate Vibration Level (L_V) at 25 feet
Pile driver (impact)	1.518 (upper range) 0.644 (typical)	112 104
Pile driver (sonic)	0.734 upper range 0.170 typical	105 93
Clam shovel drop (slurry wall)	0.202	94
Hydromill (slurry wall)	0.008 in soil 0.017 in rock	66 75
Vibratory Roller	0.210	94
Hoe Ram	0.089	87
Large bulldozer	0.089	87
Caisson drill	0.089	87
Loaded trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58

Source: Transit Noise and Vibration Impact Assessment, Federal Transit Administration, Table 7-4. September 2018.

Annoyance to Persons

The primary effect of perceptible vibration is often a concern. However, secondary effects, such as the rattling of a china cabinet, can also occur, even when vibration levels are well below perception. Any effect (primary perceptible vibration, secondary effects, or a combination of the two) can lead to annoyance. The degree to which a person is annoyed depends on the activity in which they are participating at the time of the disturbance. For example, someone sleeping or reading will be more sensitive than someone who is running on a treadmill. Reoccurring primary and secondary vibration effects often lead people to believe that the vibration is damaging their home, although vibration levels are well below minimum thresholds for damage potential.

The nearest off-site buildings are existing creative office uses located adjacent to the northern portion of the Project Site. Per the FTA Transportation and Construction Vibration Guidance Manual (May 2018), land uses sensitive to vibration include: buildings where people normally sleep, such as dwelling units, hotels, and hospitals; research and manufacturing facilities that are vibration-sensitive such as hospitals with vibration-sensitive equipment and universities conducting physical research operations; and institutions and offices that have vibration-sensitive equipment and have the potential for activity interference such as schools, churches, and doctors' offices. Further, the FTA states that commercial or industrial locations including office buildings are not included in this category, unless there is vibration-sensitive activity or equipment within

the building. Therefore, annoyance-based vibration impacts to the existing creative office commercial use located adjacent to the northern portion of the Project Site, would be considered less than significant.

As shown in Table 4.22, vibration from frequent events can be annoying to Category 2 uses (and any buildings where people sleep) at a level 72 VdB. Per the CalEEMod modeling (provided in Appendix A), a large bulldozer and caisson drill would be the most vibratory pieces of equipment expected to be used at the Project Site. Vibration worksheets are provided in Appendix G of this document.

The nearest sensitive receptors to the Project Site boundary would be the John C. Fremont Branch Library, located approximately 8 feet west of the Project Site, and the residential use located at 716 North June Street, located approximately 50 feet west of the Project Site. To be conservative, this distance represents the closest a piece of equipment could come to the building façade of the sensitive receptors as the equipment passes by the Project boundary. Other vibration sensitive land uses are located further from the Project Site and would experience lower impacts.

At a distance of 8 feet, use of a large bulldozer or caisson drill would be expected to generate 101.9 VdB[101] and at 50 feet, the use of a bulldozer or caisson drill would be expected to generate 78 VdB[102]. As detailed in Table 4.22 above, the level at which human annoyance could occur from infrequent events would be approximately 72 VdB for residential uses; 75 VdB for institutional uses, such as the library. As the use of a large bulldozer or caisson drill at 8 feet from the library uses and 50 feet from the residential use would exceed the 75 VdB threshold for Category 3 land uses and 72 VdB for Category 2 land uses respectively, mitigation is required.

At a distance of 80 feet, use of a large bulldozer or caisson drill would generate a VdB of 71.9 and at a distance of 63 feet, use of a large bulldozer or caisson drill would generate a VdB of 74.96. Therefore, with incorporation of mitigation measure **MM NOI-2** below, which restricts use of a large bulldozer or caisson drill within 80 feet of the façade of the residential use located west of the site, at 716 North June Street and within 63 feet of the façade of the John C. Fremont Branch Library, annoyance-based vibration levels would no longer exceed vibration annoyance thresholds. **Therefore, with implementation of MM NOI-2, annoyance-based vibration impacts to the closest sensitive uses located west of the site, would be reduced to a level of less than significant.**

The following mitigation measure is recommended to reduce the annoyance to sensitive receptors from construction-related vibration levels to the maximum extent feasible.

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[101] *Based on the 2018 FTA Transit Noise and Vibration Impact Assessment Manual vibration equation 7-3: Lv.distance = Lvref – 30 log (D/25), where Lv.distance is the vibration level adjusted for distance, VdB; Lvref is the source reference vibration level at 25 feet, VdB; and D = distance from the equipment to the receiver. Page 185.*

[102] *Ibid.*

Mitigation Measures

MM NOI-2: The construction contractor shall avoid using large bulldozer or caisson drill within 80 feet of the façade of the residential use located west of the Project Site at 716 North June Street and within 63 feet of the façade of the John C. Fremont Branch Library located west of the Project Site.

Architectural Damage

Vibration generated by construction activity generally has the potential to damage structures. This damage could be structural damage, such as cracking of floor slabs, foundations, columns, beams, or wells, or cosmetic architectural damage, such as cracked plaster, stucco, or tile.

Table 4.22, above, identifies a PPV level of 0.2 as the threshold at which there is a risk to non-engineered timber and masonry buildings. The building façade of the existing creative offices to the north of the Project is located approximately 5 feet from the Project boundary. The building façade of the garage belonging to the closest residential use and the façade of the John C. Fremont Branch Library are located approximately 8 feet west of the Project Boundary. At a distance of 5 feet, a large bulldozer or caisson drill would generate 0.995 in/sec PPV. At a distance of 8 feet, the vibration level would be 0.492 in/sec PPV (please see vibration calculations available in Appendix G for details). Therefore, vibration damage to the closest buildings could potentially occur during construction of the Project.

As shown in Table 4.20, above, the FTA's the vibration criteria for potential structural damage to FTA Building Category III – Non-engineered timber and masonry buildings is 0.2 in/sec PPV.[103] At a distance of 15 feet from building facades, the vibration level from a large bulldozer or caisson drill is 0.191 in/sec PPV. Therefore, to avoid the potential for any structural damage to the adjacent buildings during construction, a bulldozer or caisson drill must not be operated within 15 feet of the facades of existing buildings. **With the implementation of mitigation measure MM NOI-3, impacts from groundborne vibration would be reduced to a level of less than significant.**

The following mitigation measure is recommended to reduce construction-related vibration levels to the maximum extent feasible.

Mitigation Measures

MM NOI-3: The construction contractor shall avoid using large bulldozers or caisson drills within 15 feet of the buildings directly adjacent to the Project boundaries.

MM NOI-2 and **MM NOI-3** require that heavy machinery (excavators, bulldozers, caisson drills) is to be operated at least 80 feet of the façade of the residential use located west of the Project Site at 716 North June Street and within 63 feet of the façade of the John C. Fremont Branch Library located west of the Project Site. Construction activity that must occur within these distances to

[103] *FTA, Transit Noise and Vibration Impact Assessment. 2018.*

the residential and library buildings' façades would need to be performed with smaller equipment types that do not exceed the vibration thresholds applied herein. As shown in above, the estimated maximum vibration levels for the construction of the proposed Project with the use of required setback distance mitigation measures (**MM NOI-2**) would be less than significant. Furthermore, the compliance with the setback distance detailed in **MM NOI-2** will also reduce the potential for architectural damage to adjacent structures from construction-related vibration, as the buffer distances required to reduce annoyance-related vibration impacts are greater than the buffer distance needed to reduce architectural-related vibration impacts. In summary, during the construction of the proposed Project, setback distance attenuation during construction would reduce the vibration levels to a less than significant level with the incorporation of Mitigation Measure MM NOI-2.

With incorporation of mitigation measure MM NOI-2 and MM NOI-3, annoyance-based vibration impacts to sensitive receptors closest to the site and vibration impacts to buildings adjacent to the Project Site will be less than significant.

Operational Vibration

The Project proposes the construction of a new five-story, approximately 77'-9"-foot tall (73'-6"-foot tall to the top of the parapet), 67,889 square-foot, creative office building on top of a subterranean parking structure. The Project would not involve the use of stationary equipment that would result in high vibration levels, which are more typical for large manufacturing and industrial projects. Groundborne vibrations at the Project Site and immediate vicinity currently result from heavy-duty vehicular travel (e.g., refuse trucks and transit buses) on the nearby local roadways, and the proposed land uses at the Project Site would not result in a substantive increase of these heavy-duty vehicles on the public roadways. While refuse trucks would be used for the removal of solid waste at the Project Site, these trips would typically only occur once a week and would not be any different than those presently occurring in the vicinity of the Project Site. **As such, vibration impacts associated with operation of the Project would be less than significant and no mitigation measures are required.**

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. A significant impact would occur if the project were located in the vicinity of a private airstrip or an airport land use plan and would expose people residing or working in the project area to excessive noise levels.

The Project Site is located approximately 11.1 miles south of the Hollywood-Burbank Airport (2627 North Hollywood Way). However, the Project Site is not located within the Planning Boundary/Influence Area of the Hollywood-Burbank Airport including within the Runway Protection Zone or Airport Land Use Plan Noise Contour, which establishes the area susceptible to noise levels that would exceed the annoyance threshold for noise (defined as >65 CNEL for

commercial airports such as the Hollywood-Burbank Airport).[104] Moreover, the Project Site is not located within an existing or projected noise contour associated with any private or public airport.[105] **Therefore, no impacts would occur, and no mitigation measures are required.**

[104] *Los Angeles County, Airport Land Use Commission, Burbank/Glendale/Pasadena Airport, Airport Influence Area Map, May 13, 2003.*

[105] *Los Angeles County Airport Land Use Commission, Los Angeles County Airport Land Use Plan, Airport Influence Area figures, adopted December 19, 1991, revised December 4, 2004; accessed: April 2021.*

XIV. POPULATION AND HOUSING

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

a) Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Less Than Significant Impact. A significant impact may occur if a project were to locate new development such as homes, businesses or infrastructure, with the effect of substantially inducing growth that would otherwise not have occurred as rapidly or in as great a magnitude.

Construction

The Project would involve the demolition of approximately 8,473 square-foot commercial building and the construction of a new, 69,146 square-foot office building with 647 square foot retail space. Two buildings with a total of 17,134 square feet of existing creative office would remain on the northern portion of the Project Site. Construction would result in increased employment opportunities in the construction industry. However, it is not likely that construction workers would relocate their households as a result of their employment associated with construction of the Project. The construction industry differs from other employment sectors in that many construction workers are highly specialized and move from job site to job site as dictated by the demand for their skills, and they remain at a job site for only the timeframe in which their specific skills are needed to complete a particular phase of the construction process. Furthermore, it is likely that the construction workers employed for the construction of the Project would be taken from the labor pool currently residing in the City. Therefore, construction workers on the Project would not represent unplanned population growth, either directly or indirectly. **Impacts on population and housing due to Project construction activities would be less than significant, and no mitigation measures are required.**

Operation

Employment

The Project includes the demolition of the existing one-story, approximately 8,473 square-foot commercial building with a total of 32 employees, per the applicant, and the construction of a new, 69,146 square-foot office building with 647 square foot retail space. Two buildings with a total of 17,134 square feet of existing creative office would remain on the northern portion of the Project Site. These two buildings have a total of 106 employees per the applicant.

Table 4.23, *Project Net Employee Generation*, shows the actual estimated number of employees after implementation of the Project.

Table 4.23
Project Net Employee Generation

Land Use	Size	Generation Rate	Employees[a]
Office	68,499 sf	.004 employees/sf	274
Retail	647 sf	0.002 employees/sf	2
Project Total			**276**
Less Existing Uses to be demolished Total			*32*
Project Net Total			***244***

Notes: sf = square feet
[a] *The number of employees does not include the Two buildings with a total of 17,134 square feet of existing creative office that have a total of 106 employees per the applicant.*
Source for generation rate: City of Los Angeles VMT Calculator Documentation, Version 1.3, LADOT, Los Angeles Department of Transportation and Los Angeles Department of City Planning, Table 1, Land Use and Trip Generation Base Assumptions, May 2020. Accessed April 19, 2021.
Source: EcoTierra Consulting Inc. 2021.

As shown in Table 4.23, the Project would generate a net increase of approximately 244 employees on the Project Site.

As shown in Table 4.24, *Population, Housing, and Employment Forecasts for the City of Los Angeles Subregion*, SCAG estimates that there will be 4,135,995 residents, 1,469,828 total housing unit, and 1,917,721 jobs in the City in 2023 at project buildout.

Moreover, SCAG's RTP/SCS estimates the population of the City will increase to 4,771,300 residents by 2045. Housing in the City is estimated by SCAG to increase to 1,793,000 housing units by 2045. Employment in the City is estimated by SCAG to increase to 2,135,900 jobs by 2045.

Table 4.24
Population, Housing, and Employment Forecasts
for the City of Los Angeles Subregion

Area	Population	Households	Employment
City of Los Angeles			
SCAG Forecasts			
2016	3,933,800	1,367,000	1,848,300
2023	4,135,955	1,469,828	1,917,721
2045	4,771,300	1,793,000	2,135,900
Percent Change (%)			
2020 to 2023	+5.1	+7.5	+3.8
2020 to 2045	+15.1	+22.0	+11.4
Source: *Southern California Association of Governments, 2020-2045 Regional Transportation Plan/Sustainable Communities Strategies, Demographics and Growth Forecast, Table 14, September 3, 2020.*			

With respect to employment, the Project would result in a net increase of 244 jobs to the area Estimates extrapolated from SCAG data projects the Citywide job supply to increase by 69,421 jobs between 2016 and 2023, and by 218,179 jobs between 2023 and 2045. The addition of 244 proposed jobs would be within the growth anticipated based on SCAG projections, representing approximately 0.3 percent of the Citywide total jobs for the period of 2016 to 2023, and approximately 0.1 percent of the Citywide total growth for the period of 2016 to 2045. This increase is within the anticipated job based on SCAG projections for employment and would therefore not represent unplanned growth within the City of Los Angeles. As such, job growth associated with the Project would be less than significant and no mitigation measures are required.

Housing

The Project Site is currently a commercial lot and does not include residential units, thus the Project would not result in the displacement of housing. As shown in Table 4.24, the Project would result in a net increase of 244 employees on the Project Site to work at the Project which could include a range of full-time and part-time positions. It is not anticipated that this would result in induced housing growth on and in the vicinity of the Project Site as it is reasonable to expect that some of the new employees would be drawn from the local labor force within the City of Los Angeles and surrounding cities. It is also possible that some of the employment offered by the Project would be filled by persons moving into the surrounding area, which could increase demand for housing. However, it is anticipated that some of this demand would be filled by existing vacancies in the housing market and others by any new developments that may occur in the vicinity of the Project Site. Moreover, the Project Site and City of Los Angeles is well-served by existing transit options, which would be readily available for employees to use to commute to and from their jobs at the Project Site. Thus, the Project's potential to induce housing growth from the increase in employees on the Project Site is not considered to be significant due to the readily available local labor force, existing transit opportunities to the Project Site, and the existing and forthcoming housing stock available within the City.

As discussed previously, the Project does not propose the development of residential units. The Project would result in a net increase of 244 employees on the Project Site, which would not result

in a notable increase in the demand for new housing, and any new housing development, should it occur, would be minor in context of forecasted growth in the City of Los Angeles. Therefore, the Project would be within SCAG's Citywide projections for housing unit growth. As such, impacts related to housing growth would be less than significant.

Population

As discussed previously, the Project does not propose the development of residential units. As such, the Project would not result in a notable increase in the population of the City of Los Angeles, and any new development, should it occur, would be minor in context of forecasted growth in the City of Los Angeles. Therefore, impacts related to population growth would be less than significant.

Infrastructure

The Project is located in a developed urbanized area and would not require the extension of roadways or other infrastructure (e.g., water facilities, sewer facilities, electricity transmission lines, natural gas lines, etc.) into undeveloped areas. As the Project would be supported by the existing urban infrastructure, the Project would not result in indirect unplanned population growth and impacts would be less than significant. Therefore, impacts of the Project related to unplanned population growth due to infrastructure would be less than significant, and no mitigation measures are required.

Therefore, the impact to substantial unplanned population growth in an area, either directly or indirectly would be less than significant, and no mitigation measures are required.

b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. A significant impact may occur if a project would result in displacement of existing people or housing units, necessitating construction of replacement housing elsewhere.

The Project Site currently is developed with a commercial uses and surface parking lots and, thus, the Project would not displace existing people or housing, as no residences currently exist on the Project Site. **Therefore, no impacts would occur, and no mitigation measures are required.**

XV. PUBLIC SERVICES

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objective for any of the following public services:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Fire Protection?	☐	☐	☒	☐
b. Police Protection?	☐	☐	☒	☐
c. Schools?	☐	☐	☐	☒
d. Parks?	☐	☐	☐	☒
e. Other Public Facilities?	☐	☐	☐	☒

a) Fire protection?

Less Than Significant Impact. Based on the *L.A. CEQA Thresholds Guide*, a project would normally have a significant impact on fire protection if it requires the addition of a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain service. The City of Los Angeles Fire Department (LAFD) considers fire protection services for a project to be adequate if a project is within the maximum response distance for the land use proposed. Pursuant to LAMC Section 57.09.07A, the maximum response distance between residential land uses and a LAFD fire station that houses an engine or truck company is 1.5 miles. If this distance is exceeded, all structures located in the applicable residential area would be required to install automatic fire sprinkler systems.

The Project Site is served primarily by Fire Station No. 27, located at 1327 North Cole Avenue, approximately 1.0-mile to the northeast of the Project Site.[106] Fire Station No. 27 includes a Task Force Engine and Truck, a Paramedic Ambulance, a Rescue Ambulance, and Urban Search and Rescue, satisfying the engine company 1.0-mile response distance requirement.[107]

The adequacy of fire protection is also based upon the required fire flow, equipment access, and LAFD's safety requirements regarding needs and service for the area. The required fire flow necessary for fire protection varies with the type of development, life hazard, occupancy, and the degree of fire hazard. Pursuant to LAMC Section 57.507.3.1, City-established fire flow requirements for industrial and commercial land uses is 6,000 gallons per minute (gpm) to 9,000 gpm from four to six fire hydrants flowing simultaneously. A minimum residual water pressure of

[106] *City of Los Angeles Fire Department, Find Your Station Website, accessed: May 2021.*
[107] *California Fire and EMS, http://www.cafirefighters.com/lafd.htm, accessed May 2021.*

20 pounds per square inch (PSI) is to remain in the water system while the required gpm is flowing. The adequacy of existing water pressure and availability in the Project area with respect to required fire flow would be confirmed by LAFD during the plan check review process. As part of the normal building permit process, the Project would be required to upgrade water service laterals, meters, and related devices, as applicable, in order to provide required fire flow; however, no new water facilities are anticipated. Moreover, such improvements would be conducted as part of the Project either on-site or off-site within the right-of-way, and as such, the construction activities would be temporary and not result in any significant environmental impacts.

Pursuant to LAMC Section 57.507.3.2, an approved fire hydrant must be located within 300 feet of all first-story portions of industrial and commercial buildings. The nearest fire hydrant, hydrant No. 35298, is located adjacent to the southeastern corner of the Project Site. The entire Project Site is within 300 feet of this existing hydrant. Additional fire hydrants may be required, depending on the building design and LAFD requirements, as determined by LAFD; however, no new hydrants are anticipated. Such improvements would be conducted as part of the Project either on-site or off-site within the right-of-way under the City's B-Permit process and in accordance with all applicable City and LAFD requirements. Construction activities to install any new pipes or pumping infrastructure would be temporary and in short duration. Accordingly, any limited infrastructure-related construction activity would not result in any significant environmental impacts.

Emergency vehicle access to the Project Site would continue to be provided from West Melrose Avenue and North Seward Street. All improvements proposed would comply with the Fire Code, including any additional access requirements of LAFD. Additionally, emergency access to the Project Site would be maintained at all times during both construction and operation. Accordingly, the Project would not result in any significant impacts to emergency access. Furthermore, construction- or operation-related traffic generated by the Project would not significantly impact LAFD access or response times within the Project vicinity as emergency vehicles normally have a variety of options for avoiding traffic, such as using sirens to clear a path of travel or driving in the lanes of opposing traffic, pursuant to California Vehicle Code (CVC) Section 21806.

LAFD has not established response times standards for emergency response, nor adopted the National Fire Protection Association (NFPA) standard response time goal of six minutes to nearly all medical emergencies.[108] Based on response metrics from January through March 2021, Fire Station No. 27 had an average response time for non-EMS calls of 5 minutes and 45 seconds, and 6 minutes and 29 seconds for EMS calls.[109] According to the LAFD, although response time is considered in assessment of the adequacy of fire protection services, it is one factor among several that LAFD utilizes in evaluating its ability to respond to fires and life and health safety emergencies, along with a variety of other criteria, including required fire flow, response distance from existing fire stations, and the LAFD's judgement for needs in an area. Given the already

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[108] *National Fire Protection Association, NFPA 1710: Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments.*

[109] *City of Los Angeles Fire Department, Fire Stat LA Website, accessed May 2021.*

urbanized nature of the surrounding area, development of the Project is not expected to require the construction of a new or expanded fire station, the construction of which could cause significant environmental impacts. Although there are no known fire station construction or facilities expansion projects planned for the Project area, in the event that the City determines that expanded or new fire facilities are warranted, such facilities: (1) would occur where allowed under the designated land use; (2) would be located on parcels that are infill opportunities on lots that are between 0.5 and 1 acre in size; and (3) could qualify for a categorical exemption under CEQA Guidelines Section 15301 or 15332 or Mitigated Negative Declaration. If the number of incidents in a given area increases, it is the LAFD's responsibility to assign new staff and equipment and potentially build new or expanded facilities, as necessary, to maintain adequate levels of service. Accordingly, in conformance with the California Constitution Article XIII, Section 35(a)(2) and the *City of Hayward v. Board of Trustees of California State University* ruling, the City has and will continue to meet its legal constitutional obligations to provide adequate public safety services, including fire protection and emergency medical services.

As detailed above, prior to plan check review, the Project would be required to consult with the LAFD regarding the installation of public and/or private fire hydrants, sprinklers, access, and/or other fire protection features within the Project Site. All required fire protection features would be installed to the satisfaction of the LAFD. **Therefore, for the reasons stated above, impacts related to the construction of new or expanded fire facilities to meet an increase in the demand for protection services would be less than significant and no mitigation measures would be required.**

b) Police protection?

Less Than Significant Impact. A significant impact may occur if a project creates the need for new or physically altered police facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objective.

The Project would be served by the City of Los Angeles Police Department (LAPD) Wilshire Community Police Station located at 4861 West Venice, approximately 3.5-mile to the southwest of the Project Site. The Wilshire Community Police Station, which is under the jurisdiction of the West Bureau, serves a community area encompassing 13.97 square miles, including the Project Site, and contains a population of approximately 500,000.[110] For the purposes of the LAPD, the Wilshire Community Area boundaries are roughly defined as: La Cienega Boulevard to the west, Willoughby Avenue to the north, to Santa Monica Boulevard to the south, and the Bronson Avenue to the east.[111]

Although the increase in daytime population at the Project Site during construction would be temporary, construction sites can be sources of attracting nuisances, providing hazards, and inviting theft and vandalism. When not properly secured, construction sites can become a

[110] *Los Angeles Police Department Wilshire Community Police Station, About Wilshire Website, accessed May 2021.*

[111] *Los Angeles Police Department, RD Map of Wilshire Area.*

distraction for local law enforcement from more pressing matters. Accordingly, developers typically take precautions to prevent trespassing through construction sites. Most commonly, temporary fencing is installed around the construction site. Temporary construction fencing would be placed along the periphery of the active construction areas to screen as much of the construction activity from view at the local street level and to keep unpermitted persons from entering the construction area. These security measures would ensure that valuable materials (e.g., building supplies, metals such as copper wiring) and construction equipment would not be easily stolen or abused and would minimize the need for LAPD services during construction.

With regard to operation, while current response times, crime statistics, and congestion at surrounding intersections are relevant background information, these data are not used to determine police protection impacts under CEQA. The adequacy of police protection is evaluated using the existing number of police officers in the Project's police service area, the number of residents currently served in the area, the adequacy of the existing officer-to-population ratio in the area, and the number of residents that the Project would introduce to the area. The Project would not include residential uses, and accordingly, would not alter the existing officer-to-population ratio. Furthermore, the potential for crime can be reduced with site-specific designs and features. The Project would include standard security measures such as adequate security lighting and keyed access to the creative office building. In addition, the LAPD will require that the commanding officer of the Community Area be provided a diagram of the property showing access routes, and any additional information that might facilitate police response.

Given the already urbanized nature of the surrounding area, development of the Project is not expected to require the construction of a new or expanded police station, the construction of which could cause significant environmental impacts. Although there are no known police station construction or facilities expansion projects planned for the Project area, in the event that the City determines that expanded or new police facilities are warranted, such facilities: (1) would occur where allowed under the designated land use; (2) would be located on parcels that are infill opportunities on lots that are between 0.5 and 1 acre in size; and (3) could qualify for a categorical exemption under CEQA Guidelines Section 15301 or 15332 or Mitigated Negative Declaration. Furthermore, as with fire services, if the demand for police services in a given area increases, it is the LAPD's responsibility to assign new staff and equipment and potentially build new or expanded facilities, as necessary, to maintain adequate levels of service. Accordingly, in conformance with the California Constitution Article XIII, Section 35(a)(2) and the *City of Hayward v. Board of Trustees of California State University* ruling, the City has and will continue to meet its legal constitutional obligations to provide adequate public safety services, including police protection services. **Therefore, for the reasons stated above, impacts related to the construction of new or expanded police facilities to meet an increase in the demand for protection services would be less than significant and no mitigation measures would be required.**

c) Schools?

No Impact. A significant impact may occur if a proposed project includes substantial employment or population growth, which could generate demand for school facilities that exceeds the capacity of the school district(s) responsible for serving the project site.

The Project would have less than significant impacts on schools because it would be subject

California Government Code Section 65995, which allows Los Angeles Unified School District (LAUSD) to collect impact fees from developers of new residential developments.

The Project includes demolition and removal of the existing building and surface parking lots from the Project Site and development of the Site with a creative office building . The Project does not include any housing and would not employ a significant number of employees; therefore, it would not be expected to generate a significant number of school-aged children. Furthermore, pursuant to the California Government Code Section 65995/California Education Code Section 17620, mandatory payment of the school fees established by the LAUSD in accordance with existing rules and regulations regarding the calculation and payment of such fees would, by law, fully address any indirect impacts to schools as a result of the Project. **Therefore, no impacts related to an increased demand for school facilities would be occur under the Project and no mitigation measures would be required.**

d) Parks?

No Impact. A significant impact to parks may occur if implementation of a project includes a new or physically altered park or creates the need for a new or physically altered park, the construction of which could cause substantial adverse physical impacts.

The Project includes demolition and removal of the existing commercial building and surface parking lots from the Project Site and development of the Project Site with a creative office building. The Project does not include any residential uses, and although it would generate a small number of jobs, any associated increase in demand for park services would be negligible. The Project will provide 11,325 square feet of non-required open space for the proposed tenants. This open space includes the pocket courtyard, pocket patio, and the decks. **Therefore, no impacts related to an increased demand for park facilities would occur under the Project and no mitigation measures would be required.**

e) Other public facilities?

No Impact. A significant impact may occur if a project generates a demand for other public facilities (such as libraries) that exceeds the capacity available. The Project Site would be served by the John C. Fremont Branch Library. The John C. Fremont Branch Library, which is located at 6121 West Melrose Avenue, Los Angeles, adjacent to the Project Site.

The Project includes demolition and removal of the existing commercial building and surface parking lots from the Project Site and development of the Project Site with a creative office building. The Project does not include any residential uses, and although it would generate a small number of jobs, any associated increase in demand for public facilities would be negligible. The Los Angeles Public Library System (LAPL) provides library services at the Central Library, 7 reginal branch libraries, 56 community branches, and 2 bookmobile units consisting of a total of 5 individual bookmobiles. The Project is not expected to create a demand for library services as no new residential population would be generated. As such, the Project is not expected to create substantial capacity or service problems that would require provision of new or physically altered facilities in order to maintain an acceptable level of service for libraries. **Therefore, no impacts**

related to an increased demand for other public facilities, such as libraries, would occur under the Project and no mitigation measures would be required.

XVI. RECREATION

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Less Than Significant Impact. A significant impact may occur if a project includes substantial population growth which could generate a demand for parks or recreational facilities that exceed the capacity of existing parks or recreational facilities and causes premature deterioration of the facilities. As discussed in Question 15(a)(iv), the project would…

Project proposes the construction of a 67,889 square-foot, creative office building. Although the Project would include some employment, and the Project would only incrementally increase the number of employees in the area that use parks and recreational facilities in the area. This limited number of new park users would not result in substantial physical deterioration of park facilities. In addition, the Project will provide 11,325 square feet of non-required open space for the proposed tenants. This open space includes the pocket courtyard, pocket patio, and the decks. **Therefore, impacts related to parks and recreation would be less than significant, and no mitigation measures are required.**

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Less Than Significant Impact. A significant impact may occur if a project includes the construction or expansion of park facilities and such construction would have a significant adverse effect on the environment. As discussed in Question 15(a)(iv), the Project proposes the construction of a 67,889 square-foot, creative office building. Although the Project would include some employment, and the Project would only incrementally increase the number of employees in the area that use parks and recreational facilities in the area. In addition, the Project will provide 11,325 square feet of non-required open space for the proposed tenants. This open space

includes the pocket courtyard, pocket patio, and the decks. The Project would not construct any recreational uses, nor does it include any residential uses that could increase park visitation in the area. **Therefore, impacts related to parks and recreation would be less than significant, and no mitigation measures are required.**

XVII. TRANSPORTATION

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☒	☐	☐
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d. Result in inadequate emergency access?	☐	☒	☐	☐

The following analysis summarizes and incorporates by reference the information provided in the *Transportation Assessment for Melrose & Seward Creative Office* (Transportation Assessment) prepared by Overland Traffic Consultants, Inc. dated April 2021. A Memorandum of Understanding (MOU) establishing the parameters for the Transportation Assessment was prepared and approved by the Department of Transportation ("LADOT") on March 2, 2021. An LADOT Assessment Letter was prepared on September 13, 2021. Both documents are available as Appendix H.1 and H.2, respectively to this IS/MND.

In November 2018, the California Natural Resources Agency finalized the updates to the State CEQA Guidelines, which became effective on December 28, 2018 and were subsequently adopted by the City on February 28, 2019. Based on these changes, on July 30, 2019, the City adopted the LADOT Transportation Impact Study Guidelines (TAG) which sets forth the revised thresholds of significance for evaluating transportation impacts as well as screening and evaluation criteria for determining impacts.

a) Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less Than Significant Impact. A significant impact may occur if a project would conflict with a program plan, ordinance, or policy designed to maintain adequate effectiveness of an overall circulation system, including transit, roadway, bicycle, and pedestrian facilities.

The City has adopted programs, plans, ordinances, and policies that establish the transportation planning framework for all travel modes, including vehicular, transit, bicycle, and pedestrian facilities. Land development projects shall be evaluated for conformance with these City adopted transportation plans, programs, and policies. Per the TAG, a project would not be shown to result

in an impact merely based on whether a project would not implement a program, policy, or plan. Rather, it is the intention of this threshold test to ensure that proposed development does not conflict with nor preclude the City from implementing adopted programs, plans, and policies. The TAG provides a list of key City plans, policies, programs, and ordinances for consistency review. Projects that generally conform with and do not obstruct the City's development policies and standards addressing the circulation system, will generally be considered consistent. The Project's consistency with these plans, policies, programs, and ordinances is presented in Table 4.25, *Consistency Check with Key City Circulation System Plans, Programs, Ordinances, and Policies*.

Table 4.25
Consistency Check with Key City Circulation System Plans, Programs, Ordinances, and Policies

Plan or Policy	Consistent?	Notes	Preclude City Implementation?
LA Mobility Plan 2035	Yes	Pursuant to the City of Los Angeles Mobility Plan 2035, arterial roadways are designated as Boulevards and Avenues. Avenues may vary in their land use context, with some streets passing through both residential and commercial areas; the roadway standard for an Avenue II roadway is a right-of-way width of 86 feet and a roadway width of 56 feet. Non-arterial roadways connect arterial roadways to local residential neighborhoods or industrial areas. Non-arterial roadways are designated collector or local streets. The standard for a Local Street is a right-of-way width of 60 feet and a roadway width of 36 feet. North Seward Street is designated as a Local Street in the Mobility Plan 2035. Currently North Seward Street is dedicated to 50 feet in width and required to provide 60 feet. A 5-foot half street dedication and 3-foot roadway widening would typically be required of the Project. However, multiple existing and recently approved buildings along North Seward Street are built to the property line. As such, North Seward Street cannot be widened along these properties, negating continuity of roadway width should North Seward Street be widened along the Project Site only. In addition, West Melrose Avenue is designated as an Avenue II in the Mobility Plan 2035 and is currently dedicated to 80 feet in width. An Avenue II requires an 86-foot dedication. A 3-foot dedication would typically be required of the Project. However, a designated historic library building is located directly west of the Project Site on West Melrose Avenue. As such, West Melrose Avenue cannot not be widened in this area.	Yes

Table 4.25
Consistency Check with Key City Circulation System Plans, Programs, Ordinances, and Policies

Plan or Policy	Consistent?	Notes	Preclude City Implementation?
		Accordingly, the Project is requesting a waiver of these dedications and improvements based on dedication being physically impracticable and not necessary to meet the City's future mobility needs.	
Plan for a Healthy LA	Yes	The Project would support Policy 5.7, Land Use Planning for Public Health and GHG Emission Reduction, by reducing single-occupant vehicle trips by its proximity to transit service and on-site amenities for the employees. The Project would not conflict with other policies in the Plan for Healthy LA.	No
Land Use Element of the General Plan (35 Community Plans)	Yes	The Project is in the Hollywood Community Plan area. The Project would be in substantial conformance with the purposes, intent, and provisions of the General Plan and the Community Plan.	No
Specific Plans	NA	The Project is not within a Specific Plan area.	No
LAMC Section 12.21 A.16 (Bicycle Parking)	Yes	The Project would, at a minimum, comply with the required short- and long-term bicycle parking pursuant to LAMC Section 12.21 A16.	No
LAMC Section 12.26 J (TDM Ordinance)	Yes	LAMC Section 12.26 J for Transportation Demand Management and Trip Reduction Measures applies to the construction of new non-residential floor area greater than 25,000 square feet. The Project will comply with this requirement.	No
LAMC Section 12.37 (Waivers of Dedication and Improvement)	Yes	A waiver of dedication and improvements is requested for North Seward Street and West Melrose Avenue based on dedications being physically impracticable and not necessary to meet the City's future mobility needs. The designated historic library building, immediately to the west, is built to the property on West Melrose Avenue, therefore West Melrose Avenue would not be improved in this area. Multiple existing and recently approved buildings along North Seward Street are built to the property line.	Yes
Vision Zero Action Plan	Yes	The Project would reduce the number of vehicle driveways at the site. Instead of the four existing driveways on North Seward Street, the Project would retain two existing for buildings to remain and construct one new one where there are currently two driveways. No driveways are proposed on West Melrose Avenue. The Project would not preclude or conflict with the implementation of future Vision Zero projects in the public right-of-way.	No

Table 4.25
Consistency Check with Key City Circulation System Plans, Programs, Ordinances, and Policies

Plan or Policy	Consistent?	Notes	Preclude City Implementation?
Vision Zero Corridor Plan	Yes	The Project would not preclude or conflict with the implementation of future Vision Zero projects in the public right-of-way.	No
Citywide Design Guidelines			
Guideline 1: Promote a safe, comfortable, and accessible pedestrian experience for all.	Yes	The Project would create a continuous and straight sidewalk clear of obstructions for pedestrian travel. The Project would provide adequate sidewalk width and right-of-way that accommodates pedestrian flow and activity. Pedestrian access would be provided at street level with direct access to the surrounding neighborhood and amenities.	No
Guideline 2: Carefully incorporate vehicular access such that it does not degrade the pedestrian experience.	Yes	The Project complies with the Citywide Design Guidelines to incorporate vehicle access locations that do not discourage and/or inhibit the pedestrian experience. Vehicular access and parking would be located on the local street only. The Project vehicular access would comply with driveway location standards. No vehicular access would be provided on West Melrose Avenue.	No
Guideline 3: Design projects to actively engage with streets and public space and maintain human scale.	Yes	The building design uses attractive architectural elements. The Project would not preclude or conflict with the implementation of future streetscape projects in the public right-of-way.	No

NA = not applicable
Source: Overland Traffic Consultants, Inc. April 2021.

As summarized above in Table 4.25, the Project would not conflict with the key City planning documents. North Seward Street is designated as a Local Street in the Mobility Plan 2035. Currently North Seward Street is dedicated to 50 feet in width and is required to provide 60 feet. A 5-foot half street dedication and 3-foot roadway widening would typically be required of the Project. However, multiple existing and recently approved buildings along North Seward Street are built to the property line. As such, North Seward Street cannot be widened along these properties, negating continuity of roadway width should North Seward Street be widened along the Project Site only. In addition, West Melrose Avenue is designated as an Avenue II and is currently dedicated to 80 feet in width. An Avenue II requires an 86-foot dedication. A 3-foot dedication would typically be required of the Project. However, a designated historic library building is located directly west of the Project Site on West Melrose Avenue. As such, West Melrose Avenue cannot not be widened in this area.

Accordingly, the Project is requesting a waiver of these dedications and improvements based on dedication being physically impracticable and not necessary to meet the City's future mobility needs. **Therefore, the Project would not conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian**

facilities and impacts would be less than significant and no mitigation measures would be required.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Less than Significant Impact with Mitigation Incorporated. A significant impact may occur if a project's vehicle miles traveled substantially increase compared to existing counts.

LADOT's TAG establishes analysis methods and impact significance criteria to apply in the analysis of VMT effects associated with new land use projects. Specifically, Threshold T-2.1 asks whether the project would conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)(1). CEQA Guidelines Section 15064.3(b) relates to use of VMT as the methodology for analyzing transportation impacts. To address this question, LADOT's TAG established potential impact criteria for residential, office, regional-serving, and other land use development projects and identified significant VMT impact thresholds for each of seven Area Planning Commission (APC) sub-areas in the City. The Project does not propose residential land uses and is not considered to be regional-serving. Because the Project is an office development project, per Section 2.2.3 of the TAG, the Project would have a potentially significant impact if it would generate work VMT per employee exceeding 15 percent below the existing average VMT per employee for the APC in which the Project is located. The Project is in the Central APC sub-area, which limits daily work VMT per employee to a threshold value of above 7.6 (15% below the existing VMT for the Central APC). The Project's daily work VMT per employee was calculated by the Transportation Assessment using the City's VMT Calculator Version 1.3. LADOT developed the VMT Calculator to estimate project-specific daily household VMT per capita and daily work VMT per employee for developments within City limits.

As a project design feature (see **PDF TR-1** below), the Project proposes to reduce parking, provide a sufficient number of bicycle parking to meet City of Los Angeles bicycle parking requirements per LAMC Section 12.21 A.16 with 8 short-term bicycle parking spaces, 16 long-term bicycles spaces, and provide one shower for each gender and a total of 24 lockers on the P-1 Level of the parking facility. With implementation of PDF TR-1, the VMT Calculator estimated that the Project's daily work VMT per employee would be 8.4, exceeding the 7.6 threshold for the Central APC sub-area. As such, mitigation measure **MM TR-1**, which requires that the Project implement Transportation Demand Management strategies, is included below. Specific strategies required by **MM TR-1** include providing promotions and marketing materials for site-specific transportation options to employees, encouraging a minimum of 25 percent of employees to participate in alternative work schedules or telecommuting, and establishing a ride share program with measures to achieve a minimum of 10 percent employee eligibility. Following implementation of mitigation measure **MM TR-1**, the VMT Calculator estimated that the Project's daily work VMT per employee would be reduced to 7.6, which would not exceed the threshold for the Central APC sub-area. **Accordingly, the Project would not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b) and impacts would be less than significant with mitigation.**

The following project design feature and mitigation measure is recommended to reduce traffic-related impacts to a less than significant level.

Project Design Features

PDF TR-1 The following Transportation Demand Management strategies will be incorporated into the Project design:

- REDUCED PARKING SUPPLY – This strategy changes the Project's parking supply to provide less than the amount of vehicle parking required by direct application of the LAMC requirements without consideration of parking reduction permitted in the code. The Project is required to provide 172 parking spaces per code but will incorporate replacement of 4 parking by providing 4 bicycle parking spaces per vehicle parking space.
- BICYCLE INFRASTRUCTURE – Include Bike Parking per LAMC – This strategy involves implementation of short and long-term bicycle parking to support safe and comfortable bicycle travel by providing parking facilities at destinations under existing LAMC regulations applicable to the Project. The Project is required to, and will provide, a minimum of 26 bicycle parking spaces.
- BICYCLE INFRASTRUCTURE – Include Bike Parking and Showers – This strategy involves implementation of additional end of trip bicycle facilities to support safe and comfortable bicycle travel by providing amenities at the Project. This Project will provide up to two showers.

Mitigation Measures

MM TR-1 The Project shall incorporate the following Transportation Demand Management strategies as part of the ongoing Project operations:

- EDUCATION & ENCOURAGEMENT – Promotions and Marketing – This strategy involves the use of marketing and promotional tools to educate and inform travelers about site-specific transportation options and the effects of their travel choices. This strategy includes passive education and promotional materials, such as posters, information boards or a website with information that a traveler could choose to read at their own leisure. All employees will be included in this TDM strategy.
- COMMUTE TRIP REDUCTIONS – Alternative Work Schedules and Telecommute Program – This strategy encourages employees to work alternative schedules or telecommute, including staggered start times, flexible schedules, or compressed work weeks. A minimum 25% of the employees will be participating in this program.

- COMMUTE TRIP REDUCTIONS – Ride Share Program – This strategy increases vehicle occupancy by providing ride-share matching services, designated preferred parking for ride-share participants, designing adequate passenger loading/unloading and waiting areas for ride-share vehicles and providing a website or message board to connect riders and coordinate rides. A minimum of 10% of the employees will be eligible.

c) Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less Than Significant Impact. A significant impact may occur if a project includes new roadway design or introduced a new land use or project features into an area with specific transportation requirements, characteristics, or project access or other features designed in such a way as to create hazardous conditions.

Impacts regarding the potential increase of hazards due to a geometric design feature generally relate to the design of access points to and from the Project Site, and may include safety, operational, or capacity impacts. Impacts can be related to vehicle conflicts as well as to operational delays caused by vehicles slowing and/or queuing to access a Project Site. A review of the Project Site plans was conducted to identify any hazardous geometric design features.

Vehicular access to all parking would be provided be from a new driveway on the local street of North Seward Street. No driveways would be introduced on W**est** Melrose Avenue, an Avenue II roadway. In addition, the Project would reduce the number of driveways currently on North Seward Street from four to three. By providing one less driveway, the Project would reduce the number of potential hazard points with pedestrians, cyclists, and other vehicles. Furthermore, the Project's local street access is consistent with LADOT driveway placement and location per LADOT Manual of Policies and Procedures, Section 321, Driveway Design. With respect to pedestrian safety during construction, the Applicant shall plan construction and construction staging to maintain pedestrian access on adjacent sidewalks throughout all construction phases. This would include adequate and safe pedestrian protection, such as physical separation from work areas and vehicular traffic, and overhead protection. Temporary pedestrian facilities would be adjacent to the Project Site and provide safe, accessible routes. Covered walkways would be provided where pedestrians are exposed to potential injury from falling objects to ensure the safety of pedestrians and other vehicles in general during construction. **Accordingly, the Project would not substantially increase hazards due to a geometric design feature or incompatible uses and impacts would be less than significant.**

d) Would the project result in inadequate emergency access?

Less than Significant Impact. A significant impact may occur if a project design does not provide emergency access meeting the requirements of the Fire Department or in any other way threatens the ability of emergency vehicles to access and serve the project site or adjacent uses.

Construction

Construction activities have the potential to affect emergency access, by adding construction traffic to the street network and requiring partial lane closures during street improvements and utility installations. However, any such closures would be temporary in nature and would be coordinated with the Departments of Transportation, Building and Safety, and Public Works. The temporary closures would not be expected to substantially interfere with emergency response or evacuation plans.

To ensure limited interruptions due to construction activities, the Project includes project design feature **PDF TR-2** to ensure adequate circulation and emergency access through implementation of a Construction Traffic Control/Management Plan (CTM Plan) that will be approved by LADOT. The CTM Plan would minimize the effects of construction on vehicular and pedestrian circulation and assist in the orderly flow of vehicular and pedestrian circulation in the area of the Project. While it is expected that the majority of construction activities for the Project would primarily be confined onsite, limited offsite construction activities may occur in adjacent street rights-of-way during certain periods of the day, which could potentially require temporary lane closures. However, if lane closures are necessary, the remaining travel lanes would be maintained in accordance with the LADOT-approved CTM Plan. Therefore, the Project would not cause permanent alterations to vehicular circulation routes and patterns or impede public access or travel upon public rights-of-way. **As such the Project would not result in inadequate emergency access during construction and impacts would be less than significant.**

Operation

There are no hazardous design features included in the proposed vehicular design or site plan for the proposed Project that could impede emergency access. The proposed Project does not propose the permanent closure of any local public streets and primary access to the Project Site would continue to be provided from Melrose Avenue and Seward Avenue. Furthermore, the proposed Project would be subject to the plan review requirements of the LAFD pursuant to Section 118 of the Fire Code to ensure that all access roads, driveways, and parking areas would remain accessible to emergency service vehicles. All Project driveways would be designed according to LADOT standards to ensure adequate access, including emergency access, to the Project Site. Furthermore, the drivers of emergency vehicles normally have a variety of options for avoiding traffic, such as using sirens to clear a path of travel or driving in the lanes of opposing traffic. As such, existing emergency access to the Project Site and surrounding uses would be maintained during operation of the proposed Project. **Therefore, the Project would not result in inadequate emergency access during operation and impacts would be less than significant.**

The following project design feature is recommended to reduce traffic-related impacts to a less than significant level.

Project Design Features

PDF TR-2 The Applicant will, prior to construction, develop a Construction Traffic Control/Management Plan (CTM Plan) to be approved by LADOT to minimize the effects of construction on vehicular and pedestrian circulation and assist in the orderly flow of vehicular and pedestrian circulation in the area of the Project. The CTM Plan will identify the location of any roadway closures, traffic detours, haul routes, hours of operation, protective devices, warning signs and access to abutting properties. The CTM Plan will also address the potential conflicts associated with concurrent construction activities of related projects, if applicable.

XVIII. TRIBAL CULTURAL RESOURCES

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is?				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1 (k)?	☐	☐	☒	☐
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant, pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	☐	☐	☒	☐

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1 (k)?

Less Than Significant Impact. Assembly Bill 52 ("AB 52"), signed into law on September 25, 2014, requires lead agencies to evaluate a project's potential to impact Tribal Cultural Resources ("TCR") and establishes a formal notification and, if requested, consultation process for California

Native American Tribes as part of CEQA. TCR includes sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that are eligible for inclusion in the California Register or included in a local register of historical resources. AB 52 also gives lead agencies the discretion to determine, supported by substantial evidence, whether a resource qualifies as a TCR. Consultation is required upon request by a California Native American tribe that has previously requested that the City provide it with notice of such projects, and that is traditionally and culturally affiliated with the geographic area of a project.

ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

Less Than Significant Impact. Under AB 52, if a lead agency determines that a project may cause a substantial adverse change to a TCR, the lead agency must consider measures to mitigate that impact. PRC Section 21074 provides a definition of a TCR. In brief, in order to be considered a TCR, a resource must be either: 1) listed, or determined to be eligible for listing, on the national, State, or local register of historic resources, or 2) a resource that the lead agency chooses, in its discretion supported by substantial evidence, to treat as a TCR. In the latter instance, the lead agency must determine that the resource meets the criteria for listing in the State register of historic resources or City Designated Cultural Resource. As mentioned above, a TCR includes sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that are eligible for inclusion in the California Register or included in a local register of historical resources. A substantial adverse change to a TCR is a significant effect on the environment under CEQA. In applying those criteria, a lead agency shall consider the value of the resource to the tribe.

A records search prepared by the SCCIC did not yield any prior evaluations of the property (see Appendix B).[112] The SCCIC records search revealed that there have been no recorded archaeological resources within half-mile radius of the of the property (including the Project Site).

A Sacred Lands File Search was preformed, by the Native Heritage Commission which indicated negative results (see Appendix I.1).[113] As specified in AB 52, lead agencies must provide notice to tribes that are traditionally and culturally affiliated with the geographic area of a proposed project if the tribe has submitted a written request to be notified. The tribe must respond to the lead agency within 30 days of receipt of the notification if it wishes to engage in consultation on the project, and the lead agency must begin the consultation process within 30 days of receiving the request for consultation.

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[112] *South Central Coastal Information Center, Records Search, July 12, 2021.*

[113] *Correspondence from Andrew Green, Cultural Resources Analyst, Native American Heritage Commission, June 21, 2021.*

As lead agency, the City mailed letters to the ten listed Native American tribes included on the City's consultation list (see Appendix I.2). Letters were sent out to all contacts on June 24, 2021. The City did not receive any correspondence or request for consultation from the tribes.

Though unlikely, if present, any unidentified tribal cultural resources have the potential to be significant under CEQA. However, while the Project would not adversely affect known Tribal cultural resources, the City has established a standard condition of approval to address inadvertent discovery of Tribal cultural resources:

> In the event that objects or artifacts that may be tribal cultural resources are encountered during the course of any ground disturbance activities (excavating, digging, trenching, plowing, drilling, tunneling, quarrying, grading, leveling, removing peat, clearing, driving posts, augering, backfilling, blasting, stripping topsoil or a similar activity), all such activities shall temporarily cease on the Project Site until the potential tribal cultural resources are properly assessed and addressed pursuant to the process set forth below:

- Upon a discovery of a potential tribal cultural resource, the Applicant shall immediately stop all ground disturbance activities and contact the following: (1) all California Native American tribes that have informed the City they are traditionally and culturally affiliated with the geographic area of the proposed project; (2) and the Department of City Planning.
- If the City determines, pursuant to Public Resources Code Section 21074 (a)(2), that the object or artifact appears to be tribal cultural resource, the City shall provide any effected tribe a reasonable period of time, not less than 30 days, to conduct a site visit and make recommendations to the Applicant and the City regarding the monitoring of future ground disturbance activities, as well as the treatment and disposition of any discovered tribal cultural resources.
- The Applicant shall implement the tribe's recommendations if a qualified archaeologist and by a culturally affiliated tribal monitor, both retained by the City and paid for by the Applicant, reasonably concludes that the tribe's recommendations are reasonable and feasible.
- The Applicant shall submit a tribal cultural resource monitoring plan to the City that includes all recommendations from the City and any effected tribes that have been reviewed and determined by the qualified archaeologist and by a culturally affiliated tribal monitor to be reasonable and feasible. The Applicant shall not be allowed to recommence ground disturbance activities until this plan is approved by the City.
- If the Applicant does not accept a particular recommendation determined to be reasonable and feasible by the qualified archaeologist or by a culturally affiliated tribal monitor, the Applicant may request mediation by a mediator agreed to by the Applicant and the City who has the requisite professional qualifications and experience to mediate such a dispute. The Applicant shall pay any costs associated with the mediation.

- The Applicant may recommence ground disturbance activities outside of a specified radius of the discovery site, so long as this radius has been reviewed by the qualified archaeologist and by a culturally affiliated tribal monitor and determined to be reasonable and appropriate.
- Copies of any subsequent prehistoric archaeological study, tribal cultural resources study or report, detailing the nature of any significant tribal cultural resources, remedial actions taken, and disposition of any significant tribal cultural resources shall be submitted to the South Central Coastal Information Center (SCCIC) at California State University, Fullerton.

In accordance with the condition of approval, all activities would be conducted in accordance with regulatory requirements. Therefore, impacts would be less than significant, and no mitigation measures are required.

XIX. UTILITIES AND SERVICE SYSTEMS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☒	☐
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d. Generate solid waste in excess of State and local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

a) Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?

Less Than Significant Impact. A significant impact may occur if a project would require or result in the relocation or construction of water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunication facilities to such a degree that the construction or relocation of which could cause significant environmental effects.

Water Facilities

As detailed below in response to Question XIX(b), sufficient water supplies would be available to serve the Project and no new offsite lines would be required. Additionally, as discussed in

response to Question XV(a), no new hydrants are anticipated. Furthermore, the demand and installation of new water supply lines and fire hydrants are evaluated and managed by LADWP and LAFD, respectively, under their own independent environmental analysis.[114] The Project would require construction of new, on-site water distribution lines to serve the new building. Impacts associated with the installation of water distribution lines would primarily involve trenching in order to place the water distribution lines below surface and would be limited to on-site water distribution, and minor offsite work associated with connections to the public main. Prior to ground disturbance, Project contractors would coordinate with LADWP to identify the locations and depth of all lines. Furthermore, LADWP would be notified in advance of proposed ground disturbance activities to avoid water lines and disruption of water service and including offsite connection to existing water lines. Therefore, the construction of new water facilities would not result in significant environmental effects. **Accordingly, impacts related to the construction of new water facilities would be less than significant and no mitigation measures would be required.**

Wastewater Facilities

As detailed below in response to Question XIX(c), the Project's wastewater would be treated by the Hyperion Water Reclamation Plant (HWRP), which has adequate capacity to serve the Project. Accordingly, it is not anticipated that the Project would require the construction of new wastewater treatment facilities. During construction of the Project, workers would utilize portable restrooms, which would not contribute to wastewater flows to the City's wastewater system. Therefore, wastewater generation from Project construction activities is not anticipated to cause any increase in wastewater flows. The Project would require construction of new on-site wastewater infrastructure to serve the new building, and potential upgrade and/or relocation of existing infrastructure. Impacts associated with wastewater infrastructure would primarily be confined to trenching for miscellaneous utility lines and connections to public infrastructure. Installation of wastewater infrastructure would be limited to on-site wastewater distribution, and minor offsite work associated with connections to the public main. Although no upgrades to the public main are anticipated, minor offsite work along the Project frontage would be required in order to connect to the public main. All offsite work would be performed in consultation and under the approval of the Bureau of Sanitation. Furthermore, as part of the building permit process, the City would require detailed gauging and evaluation of the Project's wastewater connection point at the time of connection to the system. If deficiencies are identified at that time, the Project Applicant would be required, at their own cost, to build secondary sewer lines to a connection point in the sewer system with sufficient capacity, in accordance with standard City procedures.[115] The installation of any such secondary lines, if needed, would require minimal trenching and pipeline installation, which would be a temporary action. Therefore, the construction of new wastewater facilities would not result in significant environmental effects. Accordingly, impacts

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[114] *Correspondence from Charles C. Holloway, Manager of Environmental Planning and Assessment, Los Angeles Department of Water & Power, April 1, 2021.*

[115] *Correspondence from Ali Poosti, Division Manager, Wastewater Engineering Services Division, LA Sanitation and Environment, February 19, 2020.*

related to the construction of new wastewater facilities would be less than significant and no mitigation measures would be required.

Stormwater Drainage Facilities

Refer to Question c(iii) in Section X, Hydrology and Water Quality, above for a discussion of stormwater drainage facilities. As discussed there, BMPs would be required to control stormwater runoff with no increase in runoff resulting from the Site, and runoff would continue to discharge to the same location (discharges directly to West Melrose Avenue and North Seward Street) and drain to the same stormwater systems. As such, stormwater runoff from the Project Site would not exceed the capacity of the existing or planned stormwater drainage systems and would not be expected to require the construction of new facilities. However, should the City determine improvements to the stormwater drainage system are necessary during the normal permit review process, the Applicant would be responsible for the improvements, and such improvements would be conducted as part of the Project either on-site or offsite within the right-of-way, and as such, any related construction activities would be temporary and of short duration. Therefore, the construction of new stormwater drainage facilities would not result in significant environmental effects. Accordingly, impacts related to the construction of new stormwater facilities would be less than significant and no mitigation measures would be required.

Electric Power Facilities

The LADWP would supply the Project from the existing electrical system. However, the Project would require the installation of new on-site electrical distribution facilities and connection to the off-site electrical system. All electrical facility installation and connection to the existing system would be done in coordination and under the approval of the LADWP. Electricity demand during construction would vary throughout the construction period based on the construction activities being performed, and would cease upon completion of construction. When not in use, electric equipment would be powered off so as to avoid unnecessary energy consumption. Accordingly, it is not expected that the temporary demand for electricity during construction would require new electric power facilities.

As detailed in response to Question VI(a), the estimated electricity demand of the Project during operation would represent an insignificant percentage of the LADWP's projected annual sales.[116] Furthermore, as discussed in response to Question VI(a), the incorporation of the 2016 Title 24 energy conservation standards into the Project would ensure that the Project would not result in the inefficient, unnecessary, or wasteful consumption of energy, including electricity. As such, it is anticipated that LADWP's existing and planned electricity capacity and electricity supplies would be sufficient to support the Project's electricity demand.

Based on the above, the construction of new on-site electric power distribution facilities would not result in significant environmental effects and the expansion of off-site electric power sources

[116] *LADWP defines its future electricity supplies in terms of sales that will be realized at the meter.*

would not be required. Accordingly, impacts would be less than significant and no mitigation measures would be required.

Natural Gas Facilities

SoCalGas would supply the Project from the existing natural gas facilities. However, the Project would require construction of new on-site gas distribution lines to serve the new building and connection to the existing off-site natural gas facilities. The Project would connect to existing natural gas facilities in coordination with and under the supervision of SoCalGas. Construction activities typically do not involve the consumption of natural gas. Accordingly, there would be no demand generated by construction and no new natural gas facilities would be required.

As detailed in response to Question VI(a), the estimated natural gas demand of the Project during operation would represent an insignificant percentage of the forecasted consumption of natural gas in SoCalGas' planning area. Furthermore, as discussed in response to Question VI(a), the incorporation of the 2016 Title 24 energy conservation standards into the Project would ensure that the Project would not result in the inefficient, unnecessary, or wasteful consumption of energy, including natural gas. As such, it is expected that SoCalGas' existing and planned natural gas capacity and supplies will be sufficient to serve the Project's demand.

Based on the above, the construction of new on-site electric power facilities would not result in significant environmental effects and the expansion of off-site natural gas sources would not be required. Accordingly, impacts would be less than significant and no mitigation measures would be required.

Telecommunication Facilities

Construction-related activities, including grading and excavation, could encroach on telecommunication facilities. However, before construction begins, the Project Applicant would be required to coordinate with applicable regulatory agencies and telecommunication providers to locate and avoid or implement the orderly relocation of telecommunication facilities that need to be removed or relocated. Therefore, the relocation of new telecommunication facilities would not result in significant environmental effects. Furthermore, telecommunication services are provided by private companies, the selection of which is at the discretion of the Applicant and/or the successor on an ongoing basis. Upgrades to existing telecommunication facilities and construction of new facilities to meet the demand of users is determined by providers and is subject to its own environmental review. Accordingly, Project impacts to telecommunication facilities would be less than significant and no mitigation measures would be required.

Therefore, the project would not require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects. Impacts would be less than significant and no mitigation would be required.

b) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

Less Than Significant Impact. A significant impact may occur if a project were to increase water consumption to such a degree that new water sources would need to be identified, or that existing resources would be consumed at a pace greater than planned for by purveyors, distributors, and service providers.

The City's water supply primarily comes from the Los Angeles-Owens River Aqueduct, State Water Project, and from the Metropolitan Water District of Southern California (MWD), which is obtained from the Colorado River Aqueduct, and to a lesser degree from local groundwater sources. The City is also making efforts to increase the availability of water supplies, including increasing recycled water use and identification of alternative water supplies, such as water transfer, desalination, and stormwater runoff reuse, as well as implementing management agreements for long-term groundwater use strategies to prevent overdraft.

The LADWP's *2015 Urban Water Management Plan* water demand projection for 2040 is approximately 675,700 af/y for average years, 709,500 af/y for single-dry years, and 709,500 af/y for multiple-dry years. As shown in Table 4.26, *Estimated Daily Water Consumption*, below, the Project would consume a net increase of approximately 8,227gpd (9.2 af/y) of water. This amount would represent approximately 0.0014 percent of the water supply in 2040 in average years and 0.0013 percent of the water supply in single-dry and multiple-dry years. Furthermore, the above projections are considered to be conservative as the Bureau of Sanitation generation rates used to calculate the Project's estimated water consumption do not account for any water conservation features required by local and State policies and regulations. In accordance with LAMC Sections 122.00 - 122.10 and the City's Green Building Code Section 99.4.304.2, the Project would be required to implement water saving features to reduce the amount of water used by the Project, including, high efficiency toilet and urinals and low flow faucets. All fixtures would be required to meet applicable flush volumes and flow rates. In addition, the Project would be prohibited from using single-pass cooling systems. Compliance with these requirements and water conservation measures, including Title 20 and 24 of the California Administrative Code, would further reduce the above projected water demand below the sewage generation factors assumed by the City's Bureau of Sanitation.

Consideration of existing sources of supply, coupled with the combined effect of these City efforts to increase available water supplies, it is expected to assure adequate water supplies for the LADWP service area through at least 2040. Any shortfall in LADWP controlled supplies (e.g., groundwater, recycled, conservation, or aqueduct) is offset with MWD purchases to rise to the level of demand.[117] Therefore, the amount of new annual demand from the Project would be insignificant relative to available supplies through 2040, projected growth in Los Angeles, and planned water resource development by LADWP. Moreover, the Project's land uses, density,

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[117] *City of Los Angeles Department of Water and Power, Urban Water Management Plan 2015, June 7, 2016.*

Table 4.26
Estimated Daily Water Consumption

Land Use	Size	Consumption Rate[a] (gpd)	Total Consumption (gpd)	Total Consumption (af/y)[b]
Office	67,242 sf	120/1,000 sf	8,069	9.0
Retail	674 sf	25/1,000 sf	16	0.02
Open Space	11,325 sf	50/1,000 sf	566	0.6
Total Project Water Consumption			8,651	9.7
Less Existing Water Consumption[b]			*424*	*0.47*
Net Total Water Consumption			**8,227**	**9.2**

Notes: gpd = gallons per day; af/y = acre-feet per year; sf = square feet
[a] *Consumption rate based on 100 percent of City of Los Angeles Bureau of Sanitation sewerage generation factors.*
[b] *Totals may be off due to rounding.*
[c] *Existing consumption was determined based on 100 percent of the City of Los Angeles Bureau of Sanitation sewerage generation factor.*
Source (table): EcoTierra Consulting, 2021.

and intensity would be consistent with the General Plan/Community Plan's land use designation, and the increased water demand as a result of the Project would be accounted for in the 2015 UWMP. As such, the Project's estimated water demand would be within overall LADWP projections and would not require new water supply entitlements and/or require the expansion of existing or construction of new water facilities beyond those already considered in the 2015 UWMP.

Therefore, based on the above, sufficient water supplies would be available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years. **Accordingly, impacts related to water supply would be less than significant and no mitigation measures would be required.**

c) Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Less Than Significant Impact. A significant impact may occur if a project would increase wastewater generation to such a degree that the capacity of facilities currently serving the project site would be exceeded.

The City's Bureau of Sanitation provides sewer service to the Project area. The Project Site currently has existing sewer connections to the City's sewer system. Sewage from the Project site is conveyed via 14-inch concrete sewer pipe in North Seward Street, and 27-inch, 30-inch, and 36-inch concrete sewer pipes in West Melrose Avenue to the Hyperion Water Reclamation Plant (HWRP).[118] Recent data on the HWRP website indicates that on average 275 million

[118] *Correspondence, Ali Poosti, Division Manager, City of Los Angeles, Wastewater Engineering Services Division, LA Sanitation and Environment, March 4, 2021.*

gallons of wastewater enters the HWRP on a dry weather day.[119] Because the amount of wastewater entering HWRP can double on rainy days, the plant was designed to accommodate both dry and wet weather days with a maximum daily flow of 450 mgd and peak wet weather flow of 800 mgd.[120] Accordingly, there is a residual dry weather day capacity of 175 mgd, or 39 percent of the total. There is also a peak weather flow remaining capacity of 250 mgd, 31 percent of the total.

The type and amount of wastewater that would be generated by the Project would be typical for the types of office and retail spaced proposed for the Project Site. Estimated wastewater generation for the Project is presented below in Table 4.27, *Estimated Average Daily Wastewater Generation*. As shown, the Project would generate approximately 8,277 net gpd (0.007 mgd) of wastewater. This amount would represent approximately 0.0016 percent of the remaining daily capacity at the Hyperion Treatment Plant (HTP). Therefore, the HTP has adequate capacity to serve the Project's demand in addition to its existing commitments and the Project would not require the construction of new or expanded wastewater treatment facilities. Furthermore, as with the projections of water demand detailed above, the estimated wastewater generation is a conservative estimate as the Bureau of Sanitation generation rates do not account for water conservation features that would reduce the amount of the Project's water usage and, therefore, resulting conveyance into the wastewater distribution and treatment system. **Accordingly, impacts related to wastewater treatment capacity would be less than significant and no mitigation measures would be required**.

Table 4.27
Estimated Average Daily Wastewater Generation

Land Use	Size	Generation Rate[a]	Total Wastewater Generated (gpd)
Office	67,242 sf	120/1,000 sf	8,069
Retail	674 sf	25/1,000 sf	16
Open Space	11,325 sf	50/1,000 sf	566
		Total Project Wastewater Generation	8,651
		Less Existing Wastewater Generation	*424*
		Net Total Wastewater Generation	**8,227**

Notes: du = dwelling units; gpd = gallons per day; sf = square feet
[a] *Generation rate based on 100 percent of City of Los Angeles Bureau of Sanitation sewerage generation factors.*
[b] *Totals may be off due to rounding.*
[c] *Existing generation was determined based on 100 percent of the City of Los Angeles Bureau of Sanitation sewerage generation.*
Source (table): EcoTierra Consulting, 2021.

[119] *City of Los Angeles, Department of Public Works, Bureau of Sanitation, Hyperion Water Reclamation Plant Website, accessed: March 2021.*

[120] *City of Los Angeles, Department of Public Works, Bureau of Sanitation, Hyperion Water Reclamation Plant Website, accessed: March 2021.*

d) Would the project generate solid waste in excess of State and local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less Than Significant Impact. A significant impact may occur if a project were to increase solid waste generation to a degree that existing and projected landfill capacity would be insufficient to accommodate the additional solid waste.

Waste disposal sites (i.e., landfills) are operated by the City and County as well as by private companies. In addition, transfer stations temporarily store debris until larger haul trucks are available to transport the materials directly to the landfills. Landfill availability is limited by several factors, including: (1) restrictions to accepting waste generated only within a particular landfill's jurisdiction and/or watershed boundary, (2) tonnage permit limitations, (3) types of waste, and (4) operational constraints. Planning to serve long-term disposal needs is constantly being conducted at the regional level (e.g., siting new landfills within the County and transporting waste outside the region). Most commonly, the City is serviced by the Sunshine Canyon Landfill. The landfill accepts residential, commercial, and construction waste. Solid waste from the Project area is transported to the Sunshine Canyon Landfill for disposal by private waste haulers. The average daily intake of the Sunshine Canyon Landfill is approximately 7,582 tons and the permitted daily intake is 12,100 tons per day.[121]

Construction of the Project would generate construction and demolition waste. Demolition waste would consist primarily of debris from the demolition of the existing 8,473-square-foot building that would be disposed of as inert waste and is estimated to total approximately 733 tons.[122] Construction of the Project building is estimated to generate a total of approximately 16.48 tons of solid waste.[123] This forecasted solid waste generation is a conservative estimate as it assumes no reductions in solid waste generation would occur due to recycling. As required by City Ordinance No. 181,519, the construction and demolition waste would be delivered to City certified construction and demolition waste processors where it would be recycled as feasible. Moreover, the *Countywide Integrated Management Plan 2017 Annual Report* concludes that there is current capacity of 55.71 million tons available throughout the County for the disposal of inert waste.[124] Therefore, the Project-generated demolition debris of 733 tons and construction waste of 16.48 tons would represent a very small percentage of the inert waste disposal capacity in the region.

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[121] *California Integrated Waste Management Board, Solid Waste Information System, Facility/Site Summary Details Website, accessed March 2021.*

[122] *A demolition waste generation rate of 173.00 pounds per square foot was used. 8,473 square feet of demolition multiplied by 173.00 pounds is 1,465,829 pounds (733 tons). Source: U.S. EPA, Characterization of Building-Related Construction and Demolition Debris in the United States, Table A-4, June 1998.*

[123] *A construction waste generation rate of 3.89 pounds per square foot for nonresidential construction was used. 8,473 square feet of nonresidential construction multiplied by 3.89 pounds is 32,960 pounds (16.48 tons). Source: USEPA Report No. EPA A530-98-010, Characterization of building Related Construction and Debris in the United States, July 1998.*

[124] *County of Los Angeles Department of Public Works, Countywide Integrated Management Plan 2017 Annual Report, April 2019, Appendix E-2, Table 1.*

During operation, the Project would generate solid waste that is typical of a creative office building use and would be consistent with all federal, state, and local statutes and regulations regarding proper disposal. As shown in Table 4.28, *Project Estimated Daily Solid Waste Generation*, the Project would generate approximately 7,497 pounds per day of net solid waste. As discussed below in response to Question XIX(e), AB 939 was enacted to reduce, recycle, and reuse solid waste generated in the State to the maximum extent feasible. Specifically, AB 939 required cities and counties to identify an implementation schedule to divert 50 percent of the total waste stream from landfill disposal by 2000. AB 939 also required each city and county to promote source reduction, recycling, and safe disposal or transformation. All solid waste-generating activities within the City, including the Project, would continue to be subject to the requirements set forth in AB 939. Therefore, it is assumed that the Project would divert 50 percent of its solid waste generated, thereby diverting this waste from landfills. Nonetheless, it is conservatively assumed that all 7,497 pounds per day of the Project's solid waste would be disposed of at regional landfills. The Sunshine Canyon Landfill's permitted daily intake of 12,100 tons per day would have capacity to accept the net daily operational waste generated by the Project under the existing permitted amount. Therefore, the Project would not generate solid waste in excess of state and local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. **Accordingly, impacts related to solid waste and solid waste reduction goals would be less than significant and no mitigation measures would be required.**

Table 4.28
Project Estimated Daily Solid Waste Generation

Land Use	Size	Employees	Generation Rate (pounds/employee/day)[a]	Total Generation (pounds/day)
Office	67,242 sf	274	10.53	7,813
Retail	674 sf	2	10.53	21
Open Space	11,325 sf	0	0	0
			Total Project Solid Waste Generation	7,834
			Less Existing Solid Waste Generation[b]	*337*
			Net Solid Waste Generation	**7,497**

Notes: sf = square feet
[a] *Source: City of Los Angeles CEQA Thresholds, 2006, accessed: May 2021.*
[b] *Source: C City of Los Angeles CEQA Thresholds, 2006, accessed: May 2021.*
Source (table): EcoTierra Consulting, 2021.

e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less Than Significant Impact. A significant impact may occur if a project would generate solid waste that was not disposed of in accordance with applicable regulations. Solid waste generated onsite by the project would be disposed of in accordance with all applicable federal, state, and local regulations, related to solid waste, such as AB 939.

Consistency with California Integrated Waste Management Act of 1989

The AB 939 requirement to reduce the solid waste stream in landfills by 50 percent means that half of the Project's net total solid waste generated (7,497 pounds per day) must be recycled rather than disposed of in a landfill. The Project would be required to comply with AB 939 requirements and approximately 50 percent of the Project's waste would be diverted for reuse or recycling; the remaining solid waste generated during operation would be disposed of in landfills. The Project would also be required to comply with the Bureau of Sanitation Solid Resources Infrastructure Facility Plan to reduce the amount of solid waste being disposed into landfills by promoting diversion techniques that increase recycling of solid waste, consistent with AB 939. Therefore, the Project would not substantially increase solid waste generation in the City or the amount disposed into the landfills. Accordingly, the Project would be consistent with AB 939.

Consistency with the City of Los Angeles General Plan Framework Element

The Framework Element of the City of Los Angeles General Plan also supports AB 939 and its goals by encouraging "an integrated solid waste management system that maximizes source reduction and materials recovery and minimizes the amount of waste requiring disposal."[125] The Project would implement strategies to create minimal waste and utilize recycled materials, which in turn would reduce the number of refuse haul trips. The Project would include enclosed trash areas and recycling storage areas and divert 50 percent of the construction waste debris away from landfills. The Project would be consistent with the City of Los Angeles General Plan Framework goal of maximizing source reduction and materials recovery, and minimizing the amount of waste requiring disposal. Therefore, the Project would be consistent with the Framework Element.

Consistency with City of Los Angeles Zero Waste Plan

The City's Zero Waste Plan, identifies a long term plan through 2030 for the City of Los Angeles's solid waste programs, policies and environmental infrastructure. The Zero Waste Plan aims for the City of Los Angeles to achieve a goal of 90 percent diversion by 2025. This targeted diversion rate would be implemented through an enhancement of existing policies and programs such as implementing additional downstream programs (e.g. adding textiles to the blue bin recycling program; adding food scraps to the green bin recycling program; and requiring private solid waste collection service to provide access to multi-family and commercial customers); implementation of mandatory participation programs for residential, government, commercial, industrial, and institutional users; requiring transfer stations and landfills to provide resource recovery centers; and increased diversion requirements at C&D facilities new policies and programs, and the development of future recycling facilities.[126] The Project would include enclosed trash areas and recycling storage areas and would divert construction waste debris away from landfills. The

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[125] *Los Angeles Department of City Planning, Citywide General Plan Framework, 1996, page 9-11.*

[126] *Los Angeles Sanitation, Solid Waste Integrated Resources Plan – A Zero Waste Master Plan, October 2013, https://www.lacitysan.org/san/ sandocview?docname=cnt012522. Accessed January 13, 2022.*

Project would be also be consistent with the City's Zero Waste Plan goal of minimizing the amount of waste requiring disposal through green bin recycling program. Therefore, the Project would be consistent with the City's Zero Waste Plan.

Consistency with the Los Angeles Municipal Code

The LAMC requires a project to be designed to incorporate a recycling area or room.[127] The Project would be required to comply with this requirement and have sufficient containers to accommodate the amount of solid waste and recycling generated by the premises, and landscape waste would be placed in designated green waste bins. Therefore, the Project would be consistent with the LAMC.

Therefore, based on the above, the Project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste. **Accordingly, impacts would be less than significant and no mitigation measures would be required.**

[127] *Los Angeles Municipal Code, Section 12.21.A.19.c.*

XX. WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b. Due to the slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risks or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope stability, or drainage changes?	☐	☐	☐	☒

a) Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. A significant impact may occur if a project were to interfere with roadway operations used in conjunction with an emergency response plan or emergency evacuation plan or would generate traffic congestion that would interfere with the execution of such a plan. The Project Site is located near La Brea Avenue, a designated secondary disaster route, which may be utilized for an evacuation route during an emergency.[128] The Project constitutes a private development located on private land and does not propose alteration to the public rights-of-way. No full road closures along Melrose Avenue or La Brea Avenue during construction are anticipated. However, if lane closures are necessary to local streets adjacent to the Project Site, the remaining travel lanes would be maintained in accordance with standard construction management plans that would be implemented to ensure adequate emergency access and circulation. Regarding operations, the Project would comply with access

[128] *Los Angeles County Department of Public Works, Disaster Route Maps, City of Los Angeles Central Area and City of Los Angeles Department of City Planning, General Plan Safety Element, Exhibit H, Critical Facilities & Lifeline Systems in the City of Los Angeles, Adopted November 1996.*

requirements from the LAFD and would not impede emergency access within the Project vicinity. Therefore, the Project would not cause an impediment along the City's designated disaster routes or impair the implementation of the City's emergency response plan. **Impacts related to the implementation of the City's emergency response plan would be less than significant, and no mitigation measures would be required**.

b) Due to the slope, prevailing winds, and other factors, would a project exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

No Impact. A significant impact may occur if a project were to expose people to pollutant concentrations from a wildfire or in the path of an uncontrolled spread of a wildfire. The Project Site is located within a highly developed area of the City and does not include wildlands or high fire hazard terrain or vegetation. The Project Site is not within a Very High Fire Hazard Severity Zone,[129] nor is the Project Site or surrounding area within a wildland fire hazard area.[130] Therefore, the Project would not exacerbate wildfire risks and no exposure of Project occupants to pollutant concentrations from a wildfire would occur. **Accordingly, no impact would occur and no mitigation is required.**

c) Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risks or that may result in temporary or ongoing impacts to the environment?

Less Than Significant Impact. A significant impact may occur if a project would require the installation or maintenance of associated infrastructure that may exacerbate fire risks or that may result in temporary or ongoing impacts to the environment. The Project would involve the demolition of an existing building and construction of a new building in a highly urbanized area in the Hollywood community of the City of Los Angeles. No roads, fuel breaks, or emergency water sources would be installed or maintained. Installation of any required power lines or other utilities would be done in a manner consistent with other construction projects typical of urban development requiring connection to the existing utility grid and infrastructure and in accordance with applicable City building codes and utility provider policies and would not exacerbate fire risk. **Compliance with all building code, developmental regulations, and utility providers requirements and policies would ensure that the Project would not exacerbate fire risks and impacts would be less than significant and no mitigation measures are required.**

d) Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope stability, or drainage changes?

No Impact. A significant impact may occur if a project were to expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope stability, or drainage changes. The Project would be required to comply with all

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[129] *City of Los Angeles Department of City Planning, Zone Information & Map Access System.*

[130] *City of Los Angeles Department of City Planning, General Plan Safety Element, Exhibit D, Selected Wildlife Hazard Areas in the City of Los Angeles, Adopted November 1996.*

developmental regulations and City building codes with regard to fire safety and would not exacerbate the potential for fire at the Site. Any installation of on-site power lines required to provide the Project with electricity and connections to existing power lines would be conducted in coordination and under the supervision of the utility provider. Further, the Project Site and the surrounding vicinity is relatively flat with no major slopes that would be susceptible to flooding or landslide are located nearby. **Accordingly, the Project would not expose people or structures to such hazards and impacts would be less than significant.**

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☒
b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c. Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

No Impact. A significant impact may occur if a project, in conjunction with other related projects in the area of the project site, would result in impacts that are less than significant when viewed separately, but would be significant when viewed together.

The Project is located in an urbanized area and would have no significant and unavoidable impacts with respect to biological resources or cultural resources. The Project would not degrade the quality of the environment, reduce or threaten any fish or wildlife species (endangered or otherwise), or eliminate important examples of the major periods of California history or pre-history. **Therefore, no impact would occur and no mitigation measures are required.**

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Less Than Significant Impact. A significant impact may occur if a project, in conjunction with other related projects in the area of the project site, would result in impacts that are less than significant when viewed separately, but would be significant when viewed together.

In accordance with CEQA Guidelines Section 15064(h), this IS/MND includes an evaluation of the Project's cumulative impacts. An adequate discussion of a project's significant cumulative impact, in combination with other closely Related Projects, can be based on either: (1) a list of past, present, and probable future related impacts; or (2) a summary of projections contained in an adopted local, regional, statewide plan, or related planning document that describes conditions contributing to the cumulative effect. (CEQA Guidelines Section 15130(b)(1)(A)-(B). The lead agency may also blend the "list" and "plan" approaches to analyze the severity of impacts and their likelihood of occurrence. Accordingly, all proposed, recently approved, under construction, or reasonably foreseeable projects that could produce a related or cumulative impact on the local environment, when considered in conjunction with the Project, were identified for evaluation.

There are six Related Projects as shown in Table 4.29, *List of Related Projects*, in the general vicinity of the Project Site that were identified in the Project's Traffic Assessment. None of these are within direct vicinity of the Project Site (i.e., within 500 feet). The nearest Related Projects include: No. 4, apartments, approximately 932 feet (0.18 miles) west of the Project Site. The rest of the related projects are greater than 1,000 feet away, distances which ensure that any other localized impacts of the Related Projects would not combine with the Project.

Aesthetics

Development of the Project in conjunction with the Related Projects would result in an incremental intensification of existing prevailing land uses in an already heavily urbanized area of Los Angeles. With respect to aesthetics and views, and shade and shadow impacts, none of the Related Projects are located in proximity to the Project Site such that their development would affect the aesthetic character of the Project Site or its immediate surroundings. There are no scenic or protected views in the area. Views in the immediate area would not be affected by the Project or the nearest Related Project. Development of the Related Projects is expected to occur in accordance with adopted plans and regulations. As per ZI No. 2145 and SB 743, aesthetic impacts "shall not be considered significant impacts on the environment." **Thus, the Project would not be cumulatively considerable. Therefore, cumulative aesthetic impacts would be less than significant.**

Table 4.29
List of Related Projects

No.	Project Location	Land Use	Size	Miles From The Project Site
1	956 Seward St	Office	130,000 sf	0.4 mile
2	6601 W Romain St	Hollywood Center Studios Office Storage	104,155 sf 1,970 sf	0.4 mile
3	859 Highland Av	Restaurant	806 sf	0.5 mile
4	707 N Cole Av	Apartments	84 du	0.18 mile
5	901 Vine St	Apartments Restaurant Retail	85 du 4,000 sf 4,000sf	0.6 mile
6	6535 Melrose Av	Apartments Restaurant Retail	33 du 2,635 sf 2,321 sf	0.3 mile

Notes:
sf = square feet
du = dwelling units
Source: Overland Traffic Consultants, Inc., Traffic Assessment for Melrose and Seward Creative Office, April 2021.

Agriculture and Forestry Resources

Development of the Project in combination with the Related Projects would not result in the conversion of State-designated agricultural land from agricultural use to a non-agricultural use, nor result in the loss of forest land or conversion of forest land to non-forest use. The Extent of Important Farmland Map Coverage maintained by the Division of Land Protection indicates that the Project Site and the surrounding area are not included in the Important Farmland category. The Project Site and the surrounding area are highly urbanized area and do not include any State-designated agricultural lands or forest uses. **Therefore, the Project would not make a cumulatively considerable contribution to any potential cumulative impacts and no cumulative impacts to agricultural or forestry resources would occur.**

Air Quality

Cumulative projects include local development as well as general growth within the Project area. However, as with most development, the greatest source of emissions is from mobile sources, which travel well out of the local area. Therefore, from an air quality standpoint, the cumulative analysis would extend beyond any local projects and when wind patterns are considered would cover an even larger area.

The Project area is out of State attainment for both ozone and particulate matter (PM_{10} and $PM_{2.5}$). Because the South Coast Air Basin is currently in nonattainment for PM_{10} and $PM_{2.5}$, other new projects in the local vicinity could exceed an air quality standard or contribute to an existing or projected air quality exceedance. With regard to determining the significance of the Project contribution, the SCAQMD considers any construction-related and/or operational emissions from

individual projects that exceed the project-specific thresholds of significance identified above to be considered cumulatively considerable. Individual projects that generate emissions below SCAQMD's significance thresholds would not contribute considerably to any potential cumulative impact. As discussed above, the maximum mass daily regional construction-related and operational emissions associated with the Project would not exceed the thresholds of significance recommended by the SCAQMD. Therefore, in accordance with the SCAQMD methodology, projects that do not exceed the SCAQMD criteria or can be mitigated to less than criteria levels are not significant and would not be cumulatively considerable. **Therefore, the Project would not make a cumulatively considerable contribution to any potential cumulative impacts and cumulative air quality emissions would be less than significant.**

As with the Project, construction of the related projects is expected to involve standard construction activities and potential construction odors would include diesel exhaust emissions, roofing, painting, and paving operations. There would be situations where construction activity odors would be noticeable by residents nearby each of the related construction sites. However, similar to the Project, the related projects are also required to comply with SCAQMD Rule 402, and these temporary odors are typical of construction activities and are generally not considered to be objectionable. Additionally, these odors would dissipate rapidly from the source with an increase in distance and construction activities would be subject to applicable construction and air quality regulations (including proper maintenance of machinery) in order to minimize engine emissions. Construction of the Project is not expected to contribute to substantial odors at sensitive uses near any of the other related construction sites in the local vicinity. **Therefore, cumulative odor impacts resulting from construction activities would not be considerable or significant.**

Biological Resources

The Project would not impact any protected trees. The Project would have no impact upon biological resources. Development of the Project in combination with the Related Projects would not significantly impact wildlife corridors or habitat for any candidate, sensitive, or special status species identified in local plans, policies, or regulations, or by the CDFG or the USFWS. No such habitat occurs in the vicinity of the Project Site or Related Projects due to the existing urban development. Development of any of the Related Projects would be subject to the City of Los Angeles Protected Tree Ordinance. The Related Projects have no habitats, as they are infill developments. **Therefore, the Project would not make a cumulatively considerable contribution to any potential cumulative impacts, and cumulative impacts to biological resources will be less than significant.**

Cultural Resources

The Project and Related Projects would comply with applicable federal, state, and city regulations that would preclude significant cumulative impacts regarding cultural resources. This resource area is site and locally specific so that each Related Project would need to be evaluated within its own site-specific context. In addition, any Related Project within a historic district or affecting a historic resource would require a historic resource evaluation to ensure that removal of an existing building, addition of a new building, and/or conversion would not impact the historic resource in

the area. The Project will have no impact on a historic resource and a less than significant impact on archeological resources, paleontological resources, and human remains, with implementation of required regulatory compliance measures. **Therefore, the Project would not make a cumulatively considerable contribution to any potential cumulative impacts, and cumulative impacts on cultural resource will be less than significant.**

Energy

Each of the Related Projects would be evaluated within its own context with consideration of energy conservation features that could alleviate electrical demand. Each Related Projects would be required to be in compliance with Title 24 of the California Code of Regulations (CCR) (CalGreen) requiring building energy efficiency standards, and would also be in compliance with the Los Angeles Green Building Code. Further, each Related Projects would need to be consistent with the building energy efficiency requirements of Title 24 as well as how SCG serves each location with its existing distribution infrastructure. Finally, each Related Projects would need to be consistent with how the LADWP serves each location with its existing distribution infrastructure.

LADWP and SCG undertake system expansions and secure the capacity to serve their service areas and take into consideration general growth and development. Operation would result in the irreversible consumption use of non-renewable natural gas and would thus limit the availability of this resource. However, the continued use of natural gas would be on a relatively small scale and consistent with regional and local growth expectations for the area. The Related Projects would be in compliance with the City's Green Building Ordinance (for the City of Los Angeles) and would thus exceed the standards in Title 24 of the CCR requiring building energy efficiency standards.

All forecasted growth would incorporate design features and energy conservation measures, as required by Title 24 of the CCR (CalGreen) requiring building energy efficiency standards, and would also be in compliance with the LA Green Building Code, which would reduce the impact on natural gas demand. It is also anticipated that future developments would upgrade distribution facilities, commensurate with their demand, in accordance with all established policies and procedures. There would be sufficient statewide supplies to accommodate the statewide requirements from 2018-2030. Thus, there is a plan to secure natural gas supplies to meet demand. **Therefore, the Project would not make a cumulatively considerable contribution to any potential cumulative impacts, and cumulative energy impacts would be less than significant.**

Geology and Soils

Geotechnical hazards are site-specific and there is little, if any, cumulative geological relationship between the Project and any of the Related Projects. Similar to the Project, potential impacts related to geology and soils would be assessed on a case-by-case basis and, if necessary, the applicants of the Related Projects would be required to implement the appropriate mitigation measures. Furthermore, the analysis of the Project's geology and soils impacts concluded that Project impacts would be less than significant levels. **Therefore, the Project would not make a**

cumulatively considerable contribution to any potential cumulative impacts, and cumulative geology and soil impacts would be less than significant.

Greenhouse Gas Emissions

A cumulatively considerable impact would occur where the impact of the Project in addition to the related projects would be significant. However, in the case of global climate change, the proximity of the Project to other GHG emission generating activities is not directly relevant to the determination of a cumulative impact because climate change is a global condition. According to CAPCOA, "GHG impacts are exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective." As noted above, the analysis of the Project's impact is a cumulative analysis and no further discussion is required. **Given that the analysis above found that the Project GHG impacts would be less than significant, the Project's cumulative impacts would also be considered less than significant.**

Hazards and Hazardous Materials

Hazards are site-specific and there is little, if any, cumulative hazardous relationship between the Project and any of the Related Projects. Similar to the Project, potential impacts related to hazards would be assessed on a case-by-case basis and, if necessary, the applicants of the Related Projects would be required to implement the appropriate mitigation measures. Furthermore, the analysis of the Project's hazards and hazardous materials impact concluded that Project impacts would be less than significant levels. **Therefore, the Project would not make a cumulatively considerable contribution to any potential cumulative impacts, and cumulative hazard and hazardous materials impacts would be less than significant.**

Hydrology and Water Quality

The Project Site and the surrounding areas are served by the existing City storm drain system. Runoff from the Project Site and adjacent urban uses is typically directed into the adjacent streets, where it flows to the nearest drainage improvements. It is likely that most, if not all, of the Related Projects would also drain to the surrounding street system. However, little if any additional cumulative runoff is expected from the Project Site and the Related Projects, since this part of the City is already fully developed with impervious surfaces. Under the requirements of the Low Impact Development Ordinance, each Related Project will be required to implement stormwater BMPs to retain or treat the runoff from a storm event producing 3⁄4 inch of rainfall in a 24-hour period. Mandatory structural BMPs in accordance with the NPDES water quality program will therefore result in a cumulative reduction to surface water runoff, as the development in the surrounding area is limited to infill developments and redevelopment of existing urbanized areas. Therefore, the Project would not make a cumulatively considerable contribution to impacting the volume or quality of surface water runoff, and cumulative impacts to the existing or planned stormwater drainage systems would be less than significant. **Therefore, the Project would not make a cumulatively considerable contribution to any potential cumulative impacts, and cumulative water quality impacts would be less than significant.**

Land Use and Planning

Compliance with City's land use standards would ensure that any cumulative impacts related to land use would be less than significant. Further, all Related Projects would be individually evaluated for consistency with applicable land use standards. None of the Related Projects would physically divide an established community or conflict with a habitat conservation plan. **The Project would not make a cumulatively considerable contribution to land use planning, and cumulative land use impacts would be less than significant.**

Mineral Resources

Development of the Project in combination with the Related Projects would not result in the loss of availability of mineral resources. The Project Site and the surrounding area are highly urbanized area and do not include any MRZ zones. **Therefore, the Project would not make a cumulatively considerable contribution to any potential cumulative impacts, and no cumulative impacts to mineral resources would occur.**

Noise

Construction Noise

For construction noise impacts, only the immediate area surrounding a specific development site is included in the cumulative context as the immediate area would be the most affected by construction noise. Typically, if a development site is 500 feet or more away from another site then noise levels would have attenuated to a point that they would not combine to produce a cumulative noise impact. The nearest Related Projects include: No. 4, apartments, approximately 932 feet (0.18 miles) west of the Project Site. **Therefore, construction noise would not combine to result in a cumulatively considerable construction noise impact.**

Operational Noise

Similar to construction noise, it is unlikely for stationary noise sources to result in a cumulatively considerable noise impact, unless related projects are located within the close vicinity of the Project. The nearest Related Projects include: No. 4, apartments, approximately 932 feet (0.18 miles) west of the Project Site and operational stationary noise would not combine to create a cumulatively considerable stationary noise impact. For operational/roadway related noise impacts, the traffic study accounted for trip generation from related projects which was used to model mobile noise levels. No mobile noise impacts have been identified. **Therefore, a cumulatively considerable noise impact would not occur related to operational noise.**

Construction Vibration

For construction vibration impacts, only the immediate area surrounding a specific development site is included in the cumulative context as the immediate area would be the most affected by construction noise. Typically, if a development site is 50 feet or more away from another site, vibration levels would have attenuated to a point that they would not combine to produce a

cumulative vibration impact. The nearest Related Projects include: No. 4, apartments, approximately 932 feet (0.18 miles) west of the Project Site. **Construction vibration levels would not combine to result in a cumulatively considerable construction vibration impact.**

Operational Vibration

Urban infill developments do not typically generate significant operational vibration levels. Related Project and Project vehicle trips could generate vibration, although similar to the existing condition, roadway vibration from passenger vehicles would not be perceptible outside of the roadway right-of-way. A significant operational vibration impact would not occur. **Therefore, operational vibration levels would not combine to result in a cumulatively considerable vibration impact.**

Population and Housing

The Related Projects would introduce additional residential and other related uses to the City of Los Angeles. Any residential Related Projects would result in direct population growth. The Related Projects growth would not exceed the projected growth because SCAG can update its projections after the 2020 Census when some of the Related Projects are in operation. The net increase of employees is not cumulatively considerable as there are no thresholds for employee impacts. **Because the Project would not displace any residents, the Project's population growth would not be cumulatively considerable**. **Therefore, the Project's cumulative impacts to population and housing would be less than significant.**

Public Services

Fire

Given the geographic range of the Related Projects, they would be served by Fire Station No. 27 the same as the Project Site.[131] The Project, in combination with the Related Projects, could increase the demand for fire protection services in the Project area. Specifically, there could be increased demands for additional LAFD staffing, equipment, and facilities over time. This need would be funded via existing mechanisms (e.g., property taxes, government funding, and developer fees) to which the Project and Related Projects would contribute. Similar to the Project, each of the Related Projects in the City of Los Angeles would be individually subject to LAFD review and would be required to comply with all applicable fire safety requirements of the LAFD in order to adequately mitigate fire protection impacts. Specifically, any Related Projects that exceeded the applicable response distance standards described above would be required to install automatic fire sprinkler systems in order to mitigate the additional response distance. To the extent cumulative development causes the need for additional fire stations to be built throughout the City, the development of such stations would be on small infill lots within existing developed areas. Nevertheless, the development of any new fire stations would be subject to

[131] *City of Los Angeles Fire Department, Find Your Station Website, accessed: May 2021.*

further CEQA review and evaluated on a case-by-case basis. However, as the LAFD does not currently have any plans for new fire stations to be developed in proximity to the Project Site, no impacts are currently anticipated to occur. **On this basis, the Project would not make a cumulatively considerable contribution to fire protection services impacts, and as such cumulative impacts on fire protection would be less than significant.**

Police

The Project, in combination with the Related Projects, would increase the demand for police protection services in the Project area. Specifically, there would be an increased demand for additional LAPD staffing, equipment, and facilities over time. This need would be funded via existing mechanisms (e.g., sales taxes, government funding, and developer fees), to which the Project and Related Projects would contribute. In addition, each of the Related Projects would be individually subject to LAPD review and would be required to comply with all applicable safety requirements of the LAPD and the City of Los Angeles in order to adequately address police protection service demands. Furthermore, each of the Related Projects would likely install and/or incorporate adequate crime prevention design features in consultation with the LAPD, as necessary, to further decrease the demand for police protection services. To the extent cumulative development causes the need for additional police stations to be built throughout the City, the development of such stations would be on small infill lots within existing developed areas. Nevertheless, the siting and development of any new police stations would be subject to further CEQA review and evaluated on a case-by-case basis. However, as the LAPD does not currently have any plans for new police stations to be developed in proximity to the Project Site, no impacts are currently anticipated to occur. **On this basis, the Project would not make a cumulatively considerable contribution to police protection services impacts, and cumulative impacts on police protection would be less than significant.**

Schools

Given the geographic range of the related projects, they would be served by a variety of public schools depending on the location and service boundaries. The Project, in combination with the related projects is expected to result in a cumulative increase in the demand for school services. These related projects would have the potential to generate students that would attend the same schools as students associated with the Project. However, each of the related projects would be responsible for paying mandatory school fees to mitigate the increased demands for school services. Overall, the payment of school fees in compliance with SB 50 would provide full and complete mitigation of school impacts for the purposes of CEQA. **Therefore, the Project's school impacts would not be cumulatively considerable, and cumulative impacts on schools would be less than significant.**

Parks and Recreation

Development of the Project in conjunction with the Related Projects could result in an increase in permanent residents residing in the Project area. Additional cumulative development would

contribute to lowering the City's existing parkland to population ratio, which is currently below the preferred standard. However, each of the residential Related Projects is required to comply with payment of Quimby (for condominium units) and other fees, such as the Parks and Recreation Fee (for apartment units). Each residential Related Projects would also be required to comply with the on-site open space requirements of the LAMC. **Therefore, with payment of the applicable recreation fees on a project-by-project basis, the Project would not make a cumulatively considerable impact to parks and recreational facilities and cumulative impacts would be less than significant.**

Library

Given the geographic range of the Related Projects, they would be served by John C. Fremont Branch Library, and Will & Ariel Durant Branch Library.[132] Development of the Related Projects would likely generate additional demands upon library services. The LAPL has no plans for new or expanded libraries; however, the Related Projects, like the Project, would contribute to the City General Fund, which goes to, among other things, library services. **Therefore, the Project would not make a cumulatively considerable contribution to any potential cumulative impacts, and impacts related to library facilities would be less than significant.**

Transportation

Conflict with Program Plans

Development of the Project in conjunction with the Related Projects would result in an increase in average daily vehicle trips and peak hour vehicle trips. Each of the Related Projects considered in this cumulative analysis of consistency with programs, plans, policies, and ordinances would be separately reviewed and approved by the City, including a check for their consistency with applicable policies. Collectively, the Project and the Related Projects add high-density development in a major commercial area with high-quality transit options and high levels of pedestrian activity. Therefore, the Project, together with the Related Projects identified in Table 4.29, would neither create inconsistencies nor result in cumulative impacts with respect to the identified programs, plans, policies, and ordinances.

Therefore, Project operation-related and cumulative-related traffic would not conflict with program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. **Therefore, the Project would not make a cumulatively considerable contribution to any potential cumulative impacts, and Project transportation policy impacts would be less than significant.**

VMT Analysis

A development project would have a cumulative VMT impact if it were deemed inconsistent with 2020-2045 RTP/SCS, the regional plan to reach state air quality and greenhouse gas reduction

[132] *LAPL Locations, June 2021.*

targets. However, based on the TAG, a project that does not result in a significant VMT impact would be in alignment with the RTP/SCS and therefore, would not result in a cumulative VMT impact. **Therefore, the Project would not make a cumulatively considerable contribution to any potential cumulative impacts, and the Project would not result in a significant cumulative VMT impact.**

Hazards Due to Geometric Design

The TAG indicates that cumulative impacts for this threshold requires a review of related projects with access points proposed along the same block(s) as a proposed project in order to determine the combined impact and the proposed project's contribution. None of the Related Projects identified in the Traffic Impact Assessment, and provided in Table 4.29, provide access along the same block as the Project. Thus, Related Projects and the Project would not increase hazards due to geometric design features. **Therefore, the Project would not make a cumulatively considerable contribution to any potential cumulative impacts, and the Project and Related Projects would not result in a cumulative Geometric Design impact.**

Emergency Access

Vehicular access to the Project Site would be provided via a two-way entry/ exit driveway on North Seward Street. The Project will also include an at-grade onsite drop-off area to serve both rideshare arrivals/departures and onsite valet parking operations. The existing four-foot easement on the west side of the Project Site will be expanded to provide a five-foot setback that will provide one of the project's required exits to West Melrose Avenue. None of the Related Project sites are located within 500 feet of the Project Site and each has access to streets other than North Seward Street. Thus, the Project and related projects would not generate vehicle trips that would threaten the ability of emergency vehicles to access land uses in the project area. **Therefore, the Project would not make a cumulatively considerable contribution to any potential cumulative impacts, and the Project and Related Projects would not result in a cumulative emergency access impact.**

Tribal Cultural Resources

The Project and Related Projects would comply with AB 52 in which the lead agency for each project would be required to notice tribes that are traditionally and culturally affiliated with the geographic area of the related project sites if the tribe has submitted a written request to be notified. Due to being locally specific, each Related Project would need to conduct a Sacred Lands File search and be evaluated within its own site specific context. The Project would not adversely affect known Tribal Cultural Resources. **Therefore, the Project would not make a cumulatively considerable contribution to any potential cumulative impacts, and cumulative impacts on cultural resources will be less than significant.**

Utilities and Service Systems

Individual sewer and water infrastructure is location and site-specific and made on a case by case basis. Through the 2015 Urban Water Management Plan, the LADWP has demonstrated that it can provide adequate water supplies for the City through the year 2040. Demands on water

consumption, wastewater generation, and solid waste generation resulting from the Project would be less than significant. Ultimately, the wastewater and water facilities HTP and Los Angeles Aqueduct Filtration Plant (LAAFP) and Sunshine Canyon landfill have adequate capacity to accommodate the project and Related Projects along with the general growth within the City.[133] It is anticipated that LADWP's existing and planned electricity capacity and electricity supplies would be sufficient to support the Related Projects like Project, electricity demand. It is expected that SoCalGas' existing and planned natural gas capacity and supplies will be sufficient to serve the Project's demand**.** Furthermore, telecommunication services are provided by private companies, the selection of which is at the discretion of the Applicant and/or the successor on an ongoing basis. Upgrades to existing telecommunication facilities and construction of new facilities to meet the demand of users is determined by providers and is subject to its own environmental review. **Therefore, the Project's contribution to cumulative wastewater, water, solid waste, electricity, natural gas, and telecommunications impacts will not be cumulatively considerable and cumulative impacts would be less than significant.**

Wildfire

No related project is located within 500 feet of the Project Site and do not share access to North Seward Street. If lane closures are necessary to local streets adjacent to Related Project sites, travel lanes would be maintained in accordance with standard construction management plans that would be implemented to ensure adequate emergency access and circulation. Regarding operations, the Related Projects, like the Project, would comply with access requirements from the LAFD and would not impede emergency access within the vicinity of each Related Project site. Therefore, the Project would not cause an impediment along the City's designated disaster routes or impair the implementation of the City's emergency response plan. **Cumulative impacts related to the implementation of the City's emergency response plan would be less than significant**.

All of the Related Project Sites and the Project Site are within urbanized areas of the City and do not include wildlands or fire hazard terrain or vegetation. Therefore, the Project and Related would not exacerbate wildfire risks and no exposure of Project occupants to pollutant concentrations from a wildfire would occur. **Therefore, the Project would not make a cumulatively considerable contribution to any potential cumulative impacts, and no cumulative wildfire impact would occur.**

c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant With Mitigation Incorporated. A significant impact may occur if a project has the potential to result in significant impacts, as discussed in the preceding sections. Based on the preceding environmental analysis, the Project would not have significant environmental effects on human beings, either directly or indirectly after mitigation. Mitigation is required to

[133] *The Countywide Integrated Management Plan 2017 Annual Report concludes that there is current capacity of 55.71 million tons available throughout the County for the disposal of inert waste.*

reduce, construction noise/vibration (**MM NOI-1 - MM NOI-3**), and traffic construction and VMT (**MM TR-1 and MM TR-2**). Thus, with mitigation, any potentially significant impacts to humans would be less than significant.

INITIAL STUDY

5 MITIGATION AND MONITORING PROGRAM

5.1 INTRODUCTION

This Mitigation Monitoring Program ("MMP") has been prepared pursuant to Public Resources Code Section 21081.6, which requires a Lead Agency to adopt a "reporting or monitoring program for changes to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment." In addition, Section 15097(a) of the State CEQA Guidelines requires that a public agency adopt a program for monitoring or reporting mitigation measures and project revisions, which it has required to mitigate or avoid significant environmental effects. This MMP has been prepared in compliance with the requirements of CEQA, Public Resources Code Section 21081.6 and Section 15097 of the State CEQA Guidelines.

The City of Los Angeles is the Lead Agency for the Project and therefore is responsible for administering and implementing the MMP. A public agency may delegate reporting or monitoring responsibilities to another public agency or to a private entity that accepts the delegation; however, until mitigation measures have been completed, the Lead Agency remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with the program.

An Environmental Impact Report (EIR) has been prepared to address the potential environmental impacts of the Project. The evaluation of the Project's impacts in the EIR takes into consideration the project design features (PDF) and applies mitigation measures (MM) needed to avoid or reduce potentially significant environmental impacts. This MMP is designed to monitor implementation of the PDFs and MMs identified for the Project.

5.2 ORGANIZATION

As shown on the following pages, each identified project design feature and mitigation measure for the Project is listed and categorized by environmental impact area, with accompanying identification of the following:

- Enforcement Agency: the agency with the power to enforce the PDF or MM.
- Monitoring Agency: the agency to which reports involving feasibility, compliance, implementation, and development are made.
- Monitoring Phase: the phase of the Project during which the PDF or MM shall be monitored.
- Monitoring Frequency : the frequency at which the PDF or MM shall be monitored.

- Action Indicating Compliance: the action by which the Enforcement or Monitoring Agency indicates that compliance with the identified PDF or required MM has been implemented.

5.3 ADMINISTRATIVE PROCEDURES AND ENFORCEMENT

This MMP shall be enforced throughout all phases of the Project. The Applicant shall be responsible for implementing each PDF and MM and shall be obligated to provide certification, as identified below, to the appropriate monitoring and enforcement agencies that each PDF and MM has been implemented. The Applicant shall maintain records demonstrating compliance with each PDF and MM. Such records shall be made available to the City upon request.

During the construction phase and prior to the issuance of building permits, the Applicant shall retain an independent Construction Monitor (either via the City or through a third-party consultant), approved by the Department of City Planning, who shall be responsible for monitoring implementation of PDFs and MMs during construction activities consistent with the monitoring phase and frequency set forth in this MMP.

The Construction Monitor shall also prepare documentation of the Applicant's compliance with the PDFs and MMs during construction every 90 days in a form satisfactory to the Department of City Planning. The documentation must be signed by the Applicant and Construction Monitor and be included as part of the Applicant's Compliance Report. The Construction Monitor shall be obligated to immediately report to the Enforcement Agency any non-compliance with the MMs and PDFs within two businesses days if the Applicant does not correct the non-compliance within a reasonable time of notification to the Applicant by the monitor or if the non-compliance is repeated. Such non-compliance shall be appropriately addressed by the Enforcement Agency.

5.4 PROGRAM MODIFICATION

After review and approval of the final MMP by the Lead Agency, minor changes and modifications to the MMP are permitted, but can only be made subject to City approval. The Lead Agency, in conjunction with any appropriate agencies or departments, will determine the adequacy of any proposed change or modification. This flexibility is necessary in light of the nature of the MMP and the need to protect the environment. No changes will be permitted unless the MMP continues to satisfy the requirements of CEQA, as determined by the Lead Agency.

The Project shall be in substantial conformance with the PDFs and MMs contained in this MMP. The enforcing departments or agencies may determine substantial conformance with PDFs and MMs in the MMP in their reasonable discretion. If the department or agency cannot find substantial conformance, a PDF or MM may be modified or deleted as follows: the enforcing department or agency, or the decision maker for a subsequent discretionary project related approval finds that the modification or deletion complies with CEQA, including CEQA Guidelines Sections 15162 and 15164, which could include the preparation of an addendum or subsequent environmental clearance, if necessary, to analyze the impacts from the modifications to or deletion of the PDFs or MMs. Any addendum or subsequent CEQA clearance shall explain why the PDF or MM is no longer needed, not feasible, or the other basis for modifying or deleting the PDF or

MM, and that the modification will not result in a new significant impact consistent with the requirements of CEQA. Under this process, the modification or deletion of a PDF or MM shall not, in and of itself, require a modification to any Project discretionary approval unless the Director of Planning also finds that the change to the PDF or MM results in a substantial change to the Project or the non-environmental conditions of approval.

5.5 MITIGATION MONITORING PROGRAM

Noise

Mitigation Measures

MM NOI-1 During all Project Site demolition, grading/excavation, foundation and building construction, the construction contractors shall install a temporary, continuous sound barrier along the western boundary of the Project Site. The barrier shall be tall enough to break the line-of-site between construction activity and the adjacent library and residential use, and be constructed of materials achieving a Transmission Loss (TL) value of at least 14 dBA, such as ½ inch plywood.[134] The supporting structure shall be engineered and erected according to applicable codes.

- **Enforcement Agency:** Department of Building and Safety
- **Monitoring Agency:** Department of Building and Safety
- **Monitoring Phase:** Construction
- **Monitoring Frequency:** Construction
- **Action Indicating Compliance:** Field Inspection sign-off

MM NOI-2 The construction contractor shall avoid using large bulldozer or caisson drill within 80 feet of the façade of the residential use located west of the Project Site at 716 North June Street and within 63 feet of the façade of the John C. Fremont Branch Library located west of the Project Site.

- **Enforcement Agency:** Department of Building and Safety
- **Monitoring Agency:** Department of Building and Safety
- **Monitoring Phase:** Construction
- **Monitoring Frequency:** Construction
- **Action Indicating Compliance:** Field Inspection sign-off

MM NOI-3 The construction contractor shall avoid using large bulldozers or caisson drills within 15 feet of the buildings directly adjacent to the Project boundaries.

- **Enforcement Agency:** Department of Building and Safety

[134] *Based on the FHWA Noise Barrier Design Handbook (July 14, 2011), see Table 3, Approximate sound transmission loss values for common materials; ½ inch plywood has a transmission loss of 20 dBA.*

- **Monitoring Agency:** Department of Building and Safety
- **Monitoring Phase:** Construction
- **Monitoring Frequency:** Construction
- **Action Indicating Compliance:** Field Inspection sign-off

Traffic

Project Design Features

PDF TR-1 The following Transportation Demand Management strategies will be incorporated into the Project design:

- REDUCED PARKING SUPPLY – This strategy changes the Project's parking supply to provide less than the amount of vehicle parking required by direct application of the LAMC requirements without consideration of parking reduction permitted in the code. The Project is required to provide 172 parking spaces per code but will incorporate replacement of 4 parking by providing 4 bicycle parking spaces per vehicle parking space.

- BICYCLE INFRASTRUCTURE – Include Bike Parking per LAMC - This strategy involves implementation of short and long-term bicycle parking to support safe and comfortable bicycle travel by providing parking facilities at destinations under existing LAMC regulations applicable to the Project. The Project is required to, and will provide, a minimum of 26 bicycle parking spaces.

- BICYCLE INFRASTRUCTURE – Include Bike Parking and Showers - This strategy involves implementation of additional end of trip bicycle facilities to support safe and comfortable bicycle travel by providing amenities at the Project. This Project will provide up to two showers.

  - **Enforcement Agency:** Department of Building and Safety
  - **Monitoring Agency:** Department of Building and Safety
  - **Monitoring Phase:** During Project Design and Prior to Construction
  - **Monitoring Frequency:** Review of Plans
  - **Action Indicating Compliance:** Department of Building and Safety sign-off

PDF TR-2 The Applicant will, prior to construction, develop a Construction Traffic Control/Management Plan (CTM Plan) to be approved by LADOT to minimize the effects of construction on vehicular and pedestrian circulation and assist in the orderly flow of vehicular and pedestrian circulation in the area of the Project. The CTM Plan will identify the location of any roadway closures, traffic detours, haul routes, hours of operation, protective devices, warning signs and access to abutting properties. The CTM Plan will also address the potential conflicts associated with concurrent construction activities of related projects, if applicable.

- **Enforcement Agency:** Department of Building and Safety
- **Monitoring Agency:** Department of Building and Safety
- **Monitoring Phase:** During Project Design and Prior to Construction
- **Monitoring Frequency:** Review of Plans
- **Action Indicating Compliance:** LADOT sign-off

Mitigation Measures

MM TR-1 The Project shall incorporate the following Transportation Demand Management strategies as part of the ongoing Project operations:

- EDUCATION & ENCOURAGEMENT – Promotions and Marketing – This strategy involves the use of marketing and promotional tools to educate and inform travelers about site-specific transportation options and the effects of their travel choices. This strategy includes passive education and promotional materials, such as posters, information boards or a website with information that a traveler could choose to read at their own leisure. All employees will be included in this TDM strategy.

- COMMUTE TRIP REDUCTIONS – Alternative Work Schedules and Telecommute Program – This strategy encourages employees to work alternative schedules or telecommute, including staggered start times, flexible schedules, or compressed work weeks. A minimum 25% of the employees will be participating in this program.

- COMMUTE TRIP REDUCTIONS – Ride Share Program – This strategy increases vehicle occupancy by providing ride-share matching services, designated preferred parking for ride-share participants, designing adequate passenger loading/unloading and waiting areas for ride-share vehicles and providing a website or message board to connect riders and coordinate rides. A minimum of 10% of the employees will be eligible.

  - **Enforcement Agency:** Department of Building and Safety
  - **Monitoring Agency:** Department of Building and Safety
  - **Monitoring Phase:** During Project Design and Prior to Construction
  - **Monitoring Frequency:** Review of Plans
  - **Action Indicating Compliance:** LADOT sign-off

INITIAL STUDY

6 PREPARERS AND PERSONS CONSULTED

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INITIAL STUDY

7 ABBREVIATIONS & ACRONYMS

AB	Assembly Bill
ADT	Average daily trip rate
ANSI	American National Standard Institute
APC	Area Planning Commission
AQMP	Air Quality Management Plan
Basin	South Coast Air Basin
BACM	Best Available Control Measures
BMPs	Best Management Practices
BOE	Bureau of Engineering
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CalGreen	California Green Building Standards
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
Caltrans	California Department of Transportation
CCR	California Code of Regulations
C&D	Construction and Demolition
CEQA	California Environmental Quality Act
CF	Cubic Feet
CH_4	Methane
CHRIS	California Historical Resources Information System

City	City of Los Angeles, California
CMA	Critical Movement Analysis
CMP	Congestion Management Program
CNEL	Community Noise Exposure
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalents
CTM	Construction Traffic Control/Management Plan
CY	Cubic Yards
CWC	California Water Code
dBA	Decibel
EF	Emission Factor
EIA	U.S. Energy Information Administration
EMFAC	Emission Factor
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
ESCP	Erosion and Sediment Control Plan
FAA	Federal Aviation Administration
FAR	Floor-to-area ratio
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GHG	Greenhouse gas(es)
GPM	Gallons Per Minute
GSA	Groundwater Sustainability Agencies
GSP	Groundwater Sustainability Plan

GWH	Gigawatt
GWP	Global Warming Potential
HFCs	Hyrdofluorcarbons
H_20	Water Vapor
HQTA	High Quality Transit Areas
HTP	Hyperion Treatment Plant
HVAC	Heating, Ventilation and Air Conditioning
ITE	Institute of Transportation Engineers
kWh	Kilowatt Hours
LAAFP	Los Angeles Aqueduct Filtration Plant
LACC	Los Angeles County Code
LACDPW	Los Angeles County Department of Public Works
LADBS	City of Los Angeles Department of Building and Safety
LADWP	City of Los Angeles Department of Water and Power
LADOT	City of Los Angeles Department of Transportation
LAFD	City of Los Angeles Fire Department
LAGBC	Los Angeles Green Building Code
LAMC	Los Angeles Municipal Code
LAPD	City of Los Angeles Police Department
LAPL	City of Los Angeles Public Library
LARWQCB	Los Angeles Regional Water Quality Control Board
LAUSD	Los Angeles Unified School District
LCFS	Low Carbon Fuel Standard
LEQ	Average Sound Level
LOS	Level of Service
LID	Low Impact Development

HWRP	Hyperion Water Reclamation Plant
MBTA	Migratory Bird Treaty Act
Metro	Los Angeles County Metropolitan Transportation Authority
MMP	Mitigation Monitoring Program
MOU	Memorandum of Understanding
MPOs	California Metropolitan Planning Organizations
MS4	Municipal Separate Storm Sewer System
MTA	Metropolitan Transportation Authority
$MTCO_2e$	Metric Tons Carbon Dioxide Equivalents
MRZ	Mineral Resource Zone
MW	Megawatts
MWD	Metropolitan Water District of Southern California
MWELO	Model Water Efficient Landscape Ordinance
NAAQS	National Ambient Air Quality Standard
NFPA	National Fire Protection Association
NHSTA	National Highway Traffic Safety Administration
NPDES	National Pollution Discharge Elimination System
N_2O	Nitrous Oxide
NO_x	Nitrogen Oxides
OES	Obstruction Evaluation Service
OFFROAD	Off Road
OHP	California Office of Historic Preservation
OS	Open Space
PCBs	Polychlorinated Biphenyls
pCi/L	picoCuries per Liter
PDF	Project Design Feature

PFCs	Perfluorocarbons
$PM_{2.5}$	Fine Particulate Matter
PM_{10}	Particulate Matter
PPV	Peak Particle Velocity
PRC	Public Resource Code
PSI	Pounds Per Square Inch
RCPG	Regional Comprehensive Plan and Guides
REC	Recognized Environmental Conditions
RMS	Root Mean Square
ROG	Reactive Organic Gas
RPS	Renewables Portfolio Standard
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
SANDAG	San Diego Association of Governments
SB	Senate Bill
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCCIC	The South Central Coastal Information Center
SF_6	Sulfur Hexafluoride
SGMA	Sustainable Groundwater Management Act
SHRC	State Historic Resources Commission
SoCalGas	Southern California Gas Company
SO_x	Sulfur Oxides
SUSMP	Standard Urban Stormwater Mitigation Plan
SWPPP	Stormwater Pollution Prevention Program

SWRCB	State Water Resources Control Board
SWQDv	Stormwater Quality Design Volume
TAC	Toxic Air Contaminants
TAG	Traffic Assessment Guidelines
TCR	Tribal Cultural Resources
TMDL	Total Maximum Daily Load
TL	Transmission Loss
USEPA	U.S. Environmental Protection Agency
UWMP	Urban Water Management Plan
V/C	Volume to Capacity Ratio
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds
ZEV	Zero Emission Vehicle
ZI	Zoning Information
ZIMAS	City of Los Angeles Zoning Information and Map Access System

Environmental Review

California Environmental Quality Act (CEQA)

The state legislature enacted the California Environmental Quality Act (http://opr.ca.gov/ceqa/) (CEQA) in 1970. CEQA established statewide regulations for the environmental review of discretionary (/development-services/land-use-process/planning-processes) projects as well as a process for mitigating or avoiding potential environmental impacts.

The purpose of CEQA is to:

- Disclose to the public the potentially significant environmental effects of a proposed project;
- Develop alternatives and mitigation measures to prevent or minimize environmental impacts;
- Identify additional opportunities for public participation and community input;
- Improve the findings to support the future approval of discretionary projects.

CEQA requires public agencies to publish Negative Declarations, Mitigated Negative Declarations, Environmental Impact Reports, and Sustainable Communities Environmental Assessments. Visit the Published Documents (/development-services/environmental-review/published-documents) page to view Los Angeles City Planning's CEQA documents.

CEQA Flow Chart

(https://planning.lacity.org/odocument/e524a6c4-8de9-449a-87e5-b5093d65c4c2/CEQA_flow_chart.pdf)

Tribal Cultural Resources Guidance

(https://planning.lacity.org/odocument/ab9e5647-1d96-4db7-aab1-2905984fbd1e/TechnicalReports_Studies-TribalCulturalResources.pdf)

Discretionary Projects

CEQA applies to all discretionary projects. Most land use proposals are subject to CEQA, including revisions to the General Plan (/plans-policies/general-plan-overview) and Community Plans (/plans-policies/community-plans), as well as certain proposed ordinances (/plans-policies/proposed-land-use-regulations). All development projects requiring discretionary approvals undergo environmental review.

Stand-alone ministerial and by-right projects are statutorily exempt under CEQA. These projects do not need planning approvals (/development-services/land-use-process/planning-processes) because they comply with zoning and building code requirements.

CEQA Process Overview

1. Determine if the proposed project or policy qualifies for a statutory or categorical exemption from CEQA based on State Guidelines. The CEQA Guidelines (http://resources.ca.gov/ceqa/)interpret state statute and published court decisions to better inform the environmental review process and preparation of any associated documents.

   Statutory Exemptions (SEs) apply to projects that the California Legislature has determined to be specifically excluded from CEQA consideration.

   For example, emergency projects such as emergency repairs to publicly or privately owned service facilities necessary to maintain services essential to the public health, safety or welfare are statutorily exempt from CEQA.

   Categorical Exemptions (CEs) apply to projects that are not determined to have a significant environmental impact. CEQA recognizes over 30 types of CEs. They are listed in Section 15300 of the CEQA Guidelines that are adopted by the Natural Resources Agency under rulemaking authority and are

by the Natural Resources Agency under rulemaking authority and are maintained in the California Code of Regulations at Title 14, Chapter 3.

For example, Class 32 is a Categorical Exemption available for qualifying infill development located in an urban area. To qualify, a project must meet all of the following criteria:

- The Project Site must be 5 acres or less in size;
- The Project must be consistent with the General Plan (i.e. Community Plan) and zoning requirements;
- The Project site has no value as habitat for endangered, rare or threatened species.
- Approval of the Project would not result in any significant effects relating to traffic, noise, air quality, or water quality.
- The site can adequately be served by all required utilities and public services.

Other commonly used Categorical Exemptions include Class 1 (which may include the minor alteration of an existing facility) and Class 3 (which may include new construction of small structures).

- Unlike statutory exemptions, categorical exemptions must be further reviewed to ensure that a particular project doesn't trigger an exception that would disqualify a project from being categorically exempt under CEQA.
- These exceptions include factors that address:
  - A project's location in a sensitive environment (not applicable to Class 32);
  - Significant cumulative impacts from successive projects in same location of same type;
  - Identifiable unusual circumstances;
  - Potential impacts to State designated scenic highways
  - A project's location within a hazardous waste site listed under state law, or a
  - Project's significant impact to historical resources

  The application of CEQA does not apply to projects over which the City only has ministerial authority. This means that stand-alone by-right or

ministerial projects are exempt from CEQA based on the project scope and the planning approvals (/development-services/land-use-process/planning-processes).

2. If the proposed project is not exempt under either a statutory or categorical exemption, an initial study is prepared to assess the project's potential impacts to the environment. The initial study analysis will determine if a Negative Declaration (ND), a Mitigated Negative Declaration (MND) or

   an Environmental Impact Report (EIR) (/development-services/eir) must be prepared for the associated project.

Note: The summary above provides a general overview of the CEQA process and is intended to be used for informational purposes only. The steps enumerated above do not address new streamlining tools for projects located within Transit Priority Areas or involve affordable housing. For more information, consult the California Natural Resources Agency website (http://resources.ca.gov/ceqa/).

EIR Dashboard

Environmental Impact Reports (EIRs) are complex documents that combine the input of numerous subject-matter experts as well as comments and concerns of diverse stakeholders. These reports may require many rounds of Planning staff review and applicant revision.

The Department's standards for EIR review and preparation and the Department's Environmental Consultant List are provided in the links below.

EIR Review Criteria and Performance Standards

(https://planning.lacity.org/odocument/b307e4c2-bb7a-43ec-88ff-a97260da23a6/Env_PS_Criteria_November.pdf)

Environmental Consultant List (https://planning.lacity.org/development-services/environmental-review/environmental-consultant-list)

Los Angeles published nearly 13 percent of the Draft EIRs and 80 percent of the

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HELPFUL LINKS

City of Los Angeles (https://www.lacity.org)
City Departments, Agencies, and Bureaus (https://www.lacity.org/your-government/departments-commissions/departments-bureaus)
2020 Census (https://census.lacity.org/)
Community Resource Guide (/resources/community-resource-guide)
Site Map (/sitemap)

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PLANNING TOOLKIT

GET IT ON Google Play (https://play.google.com/store/apps/details?id=org.lacity.ladcp.planningToolkit&hl=en)

Available on the App Store (https://itunes.apple.com/TR/app/id787467145)

Final EIRs in California in 2019—even though the City represents only 10 percent of the State's population. The dashboard below explores a number of metrics related to both active and completed EIRs. These interactive charts will be updated on a monthly basis, so check this space for updated information on EIR progress and completion times.

(a) **Residential Property Noise Limits.**

(1) No person shall produce or allow to be produced by any machine, or device, music or entertainment or any combination of same, on residential property over which the person has ownership or control, a noise level more than five dBA above the ambient at any point outside of the property plane.

(2) No person shall produce or allow to be produced by any machine, or device, music or entertainment or any combination of same, on multi-unit residential property over which the person has ownership or control, a noise level more than five dBA above the local ambient three feet from any wall, floor, or ceiling inside any dwelling unit on the same property, when the windows and doors of the dwelling unit are closed, except within the dwelling unit in which the noise source or sources may be located.

(b) **Commercial And Industrial Property Noise Limits.** No person shall produce or allow to be produced by any machine, or device, music or entertainment or any combination of same, on commercial or industrial property over which the person has ownership or control, a noise level more than eight dBA above the local ambient at any point outside of the property plane. With respect to noise generated from a licensed Place of Entertainment, licensed Limited Live Performance Locale, or other location subject to regulation by the Entertainment Commission or its Director, in addition to the above dBA criteria a secondary low frequency dBC criteria shall apply to the definition above. No noise or music associated with a licensed Place of Entertainment, licensed Limited Live Performance Locale, or other location subject to regulation by the Entertainment Commission or its Director, shall exceed the low frequency ambient noise level defined in Section 2901(f) by more than 8 dBC.

(c) **Public Property Noise Limits.** No person shall produce or allow to be produced by any machine or device, or any combination of same, on public property, a noise level more than ten dBA above the local ambient at a distance of twenty-five feet or more, unless the machine or device is being operated to serve or maintain the property or as otherwise provided in this Article.

(d) **Fixed Residential Interior Noise Limits.** In order to prevent sleep disturbance, protect public health and prevent the acoustical environment from progressive deterioration due to the increasing use and influence of mechanical equipment, no fixed noise source may cause the noise level measured inside any sleeping or living room in any dwelling unit located on residential property to exceed 45 dBA between the hours of 10:00 p.m. to 7:00 a.m. or 55 dBA between the hours of 7:00 a.m. to 10:00p.m. with windows open except where building ventilation is achieved through mechanical systems that allow windows to remain closed.

(e) **Noise Caused By Activities Subject To Permits From the City and County of San Francisco.** None of the noise limits set forth in this Section apply to activity for which the City and County of San Francisco has issued a permit that contains noise limit provisions that are different from those set forth in this Article.

(Added by Ord. 274-72, App. 9/20/72; amended by Ord. 278-08, File No. 081119, App. 11/25/2008; Ord. 172-11, File No. 110506, App. 9/12/2011, Eff. 10/12/2011; Ord. 100-13 , File No. 130182, App. 6/6/2013, Eff. 7/6/2013)

SEC. 2910. VARIANCES.

The Directors of Public Health, Public Works, Building Inspection, or the Entertainment Commission, or the Chief of Police may grant variances to noise regulations, over which they have jurisdiction pursuant to Section 2916. All administrative decisions granting or denying variances are appealable to the San Francisco Board of Appeals.

(Added by Ord. 274-72, App. 9/20/72; Ord. 278-08, File No. 081119, App. 11/25/2008)

SEC. 2911. RESERVED.

(Added by Ord. 274-72, App. 9/20/72; repealed by Ord. 278-08, File No. 081119, App. 11/25/2008)

SEC. 2912. ADDITIONAL RESPONSIBILITIES OF THE DEPARTMENT OF PUBLIC HEALTH AND THE DEPARTMENT OF BUILDING INSPECTION.

(a) The Department of Public Health shall designate a Noise Prevention and Control Officer to coordinate the responsibilities of the Department of Public Health under this Article and the Health Code with respect to noise.

(b) The Department of Public Health may monitor the noise complaint response by all City agencies charged with regulating noise under this Article. City Departments and Agencies charged with responsibility for responding to noise complaints shall cooperate and share information with the Department of Public Health in tracking and monitoring complaint responses.

(c) At least every two years the Department of Public Health shall make recommendations to the Planning Commission for noise assessment and prevention in land use planning or environmental review.

(d) The Department of Public Health may investigate and take enforcement action on any noise complaint resulting in human health impacts. The Director of the Department of Public Health shall be the sole determiner of what constitutes a human health impact with respect to noise.

(e) The Department of Building Inspection shall send acoustical reports submitted with each building permit to the Department of Public Health within 15 days of the date the building permit applicant submits the acoustical report to the Department of Building Inspection.

(Added by Ord. 274-72, App. 9/20/72; Ord. 278-08, File No. 081119, App. 11/25/2008)

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GUIDELINES FOR COMMUNITY NOISE

Edited by

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This WHO document on the *Guidelines for Community Noise* is the outcome of the WHO-expert task force meeting held in London, United Kingdom, in April 1999. It bases on the document entitled "Community Noise" that was prepared for the World Health Organization and published in 1995 by the Stockholm University and Karolinska Institute.

World Health Organization, Geneva
Cluster of Sustainable Development and Healthy Environment (SDE)
Department for Protection of the Human Environment (PHE)
Occupational and Environmental Health (OEH)

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Foreword

Noise has always been an important environmental problem for man. In ancient Rome, rules existed as to the noise emitted from the ironed wheels of wagons which battered the stones on the pavement, causing disruption of sleep and annoyance to the Romans. In Medieval Europe, horse carriages and horse back riding were not allowed during night time in certain cities to ensure a peaceful sleep for the inhabitants. However, the noise problems of the past are incomparable with those of modern society. An immense number of cars regularly cross our cities and the countryside. There are heavily laden lorries with diesel engines, badly silenced both for engine and exhaust noise, in cities and on highways day and night. Aircraft and trains add to the environmental noise scenario. In industry, machinery emits high noise levels and amusement centres and pleasure vehicles distract leisure time relaxation.

In comparison to other pollutants, the control of environmental noise has been hampered by insufficient knowledge of its effects on humans and of dose-response relationships as well as a lack of defined criteria. While it has been suggested that noise pollution is primarily a "luxury" problem for developed countries, one cannot ignore that the exposure is often higher in developing countries, due to bad planning and poor construction of buildings. The effects of the noise are just as widespread and the long term consequences for health are the same. In this perspective, practical action to limit and control the exposure to environmental noise are essential. Such action must be based upon proper scientific evaluation of available data on effects, and particularly dose-response relationships. The basis for this is the process of risk assessment and risk management.

The extent of the noise problem is large. In the European Union countries about 40 % of the population are exposed to road traffic noise with an equivalent sound pressure level exceeding 55 dB(A) daytime and 20 % are exposed to levels exceeding 65 dB(A). Taking all exposure to transportation noise together about half of the European Union citizens are estimated to live in zones which do not ensure acoustical comfort to residents. More than 30 % are exposed at night to equivalent sound pressure levels exceeding 55 dB(A) which are disturbing to sleep. The noise pollution problem is also severe in cities of developing countries and caused mainly by traffic. Data collected alongside densely travelled roads were found to have equivalent sound pressure levels for 24 hours of 75 to 80 dB(A).

The scope of WHO's effort to derive guidelines for community noise is to consolidate actual scientific knowledge on the health impacts of community noise and to provide guidance to environmental health authorities and professional trying to protect people from the harmful effects of noise in non-industrial environments. Guidance on the health effects of noise exposure of the population has already been given in an early publication of the series of Environmental Health Criteria. The health risk to humans from exposure to environmental noise was evaluated and guidelines values derived. The issue of noise control and health protection was briefly addressed.
At a WHO/EURO Task Force Meeting in Düsseldorf, Germany, in 1992, the health criteria and guideline values were revised and it was agreed upon updated guidelines in consensus. The essentials of the deliberations of the Task Force were published by Stockholm University and

Karolinska Institute in 1995. In an recent Expert Task Force Meeting convened in April 1999 in London, United Kingdom, the Guidelines for Community Noise were extended to provide global coverage and applicability, and the issues of noise assessment and control were addressed in more detail. This document is the outcome of the consensus deliberations of the WHO Expert Task Force.

Dr Richard Helmer
Director, Department of Protection of the Human Environment
Cluster Sustainable Development and Healthy Environments

Preface

Community noise (also called environmental noise, residential noise or domestic noise) is defined as noise emitted from all sources except noise at the industrial workplace. Main sources of community noise include road, rail and air traffic, industries, construction and public work, and the neighbourhood. The main indoor sources of noise are ventilation systems, office machines, home appliances and neighbours. Typical neighbourhood noise comes from premises and installations related to the catering trade (restaurant, cafeterias, discotheques, etc.); from live or recorded music; sport events including motor sports; playgrounds; car parks; and domestic animals such as barking dogs. Many countries have regulated community noise from road and rail traffic, construction machines and industrial plants by applying emission standards, and by regulating the acoustical properties of buildings. In contrast, few countries have regulations on community noise from the neighbourhood, probably due to the lack of methods to define and measure it, and to the difficulty of controlling it. In large cities throughout the world, the general population is increasingly exposed to community due to the sources mentioned above and the health effects of these exposures are considered to be a more and more important public health problem. Specific effects to be considered when setting community noise guidelines include: interference with communication; noise-induced hearing loss; sleep disturbance effects; cardiovascular and psycho-physiological effects; performance reduction effects; annoyance responses; and effects on social behaviour.

Since 1980, the World Health Organization (WHO) has addressed the problem of community noise. Health-based guidelines on community noise can serve as the basis for deriving noise standards within a framework of noise management. Key issues of noise management include abatement options; models for forecasting and for assessing source control action; setting noise emission standards for existing and planned sources; noise exposure assessment; and testing the compliance of noise exposure with noise immission standards. In 1992, the WHO Regional Office for Europe convened a task force meeting which set up guidelines for community noise. A preliminary publication of the Karolinska Institute, Stockholm, on behalf of WHO, appeared in 1995. This publication served as the basis for the globally applicable *Guidelines for Community Noise* presented in this document. An expert task force meeting was convened by WHO in March 1999 in London, United Kingdom, to finalize the guidelines.

The *Guidelines for Community Noise* have been prepared as a practical response to the need for action on community noise at the local level, as well as the need for improved legislation, management and guidance at the national and regional levels. WHO will be pleased to see that these guidelines are used widely. Continuing efforts will be made to improve its content and structure. It would be appreciated if the users of the *Guidelines* provide feedback from its use and their own experiences. Please send your comments and suggestions on the WHO *Guidelines for Community Noise – Guideline document* to the Department of the Protection of the Human Environment, Occupational and Environmental Health, World Health Organization, Geneva, Switzerland (Fax: +41 22-791 4123, e-mail: schwelad@who.int).

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The World Health Organization thanks all who have contributed to the preparation of this document, *Guidelines for Community Noise*. The international, multidisciplinary group of contributors to, and reviewers of, the *Guidelines* are listed in the "Participant list" in Annex 6. Special thanks are due to the chairpersons and workgroups of the WHO expert task force meeting held in London, United Kingdom, in March 1999: Professor Thomas Lindvall, who acted as the chairperson of the meeting, Professor Birgitta Berglund, Dr John Bradley and Professor Gerd Jansen, who chaired the three workgroups. Special contributions from those who provided the background papers and who contributed to the success of the WHO expert meeting are gratefully acknowledged:

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Particular thanks are due to the Ministry of Environment of Germany, which provided the funding to convene the WHO expert task force meeting in London, United Kingdom, in March 1999 to produce the Guidelines for Community Noise.

Executive Summary

1. Introduction

Community noise (also called environmental noise, residential noise or domestic noise) is defined as noise emitted from all sources except noise at the industrial workplace. Main sources of community noise include road, rail and air traffic; industries; construction and public work; and the neighbourhood. The main indoor noise sources are ventilation systems, office machines, home appliances and neighbours.

In the European Union about 40% of the population is exposed to road traffic noise with an equivalent sound pressure level exceeding 55 dB(A) daytime, and 20% are exposed to levels exceeding 65 dB(A). When all transportation noise is considered, more than half of all European Union citizens is estimated to live in zones that do not ensure acoustical comfort to residents. At night, more than 30% are exposed to equivalent sound pressure levels exceeding 55 dB(A), which are disturbing to sleep. Noise pollution is also severe in cities of developing countries. It is caused mainly by traffic and alongside densely-travelled roads equivalent sound pressure levels for 24 hours can reach 75–80 dB(A).

In contrast to many other environmental problems, noise pollution continues to grow and it is accompanied by an increasing number of complaints from people exposed to the noise. The growth in noise pollution is unsustainable because it involves direct, as well as cumulative, adverse health effects. It also adversely affects future generations, and has socio-cultural, esthetic and economic effects.

2. Noise sources and measurement

Physically, there is no distinction between sound and noise. Sound is a sensory perception and the complex pattern of sound waves is labeled noise, music, speech etc. Noise is thus defined as unwanted sound.

Most environmental noises can be approximately described by several simple measures. All measures consider the frequency content of the sounds, the overall sound pressure levels and the variation of these levels with time. Sound pressure is a basic measure of the vibrations of air that make up sound. Because the range of sound pressures that human listeners can detect is very wide, these levels are measured on a logarithmic scale with units of decibels. Consequently, sound pressure levels cannot be added or averaged arithmetically. Also, the sound levels of most noises vary with time, and when sound pressure levels are calculated, the instantaneous pressure fluctuations must be integrated over some time interval.

Most environmental sounds are made up of a complex mix of many different frequencies. Frequency refers to the number of vibrations per second of the air in which the sound is propagating and it is measured in Hertz (Hz). The audible frequency range is normally considered to be 20–20 000 Hz for younger listeners with unimpaired hearing. However, our hearing systems are not equally sensitive to all sound frequencies, and to compensate for this various types of filters or frequency weighting have been used to determine the relative strengths of frequency components making up a particular environmental noise. The A-weighting is most

commonly used and weights lower frequencies as less important than mid- and higher-frequencies. It is intended to approximate the frequency response of our hearing system.

The effect of a combination of noise events is related to the combined sound energy of those events (the equal energy principle). The sum of the total energy over some time period gives a level equivalent to the average sound energy over that period. Thus, LAeq,T is the energy average equivalent level of the A-weighted sound over a period T. LAeq,T should be used to measure continuing sounds, such as road traffic noise or types of more-or-less continuous industrial noises. However, when there are distinct events to the noise, as with aircraft or railway noise, measures of individual events such as the maximum noise level (LAmax), or the weighted sound exposure level (SEL), should also be obtained in addition to LAeq,T. Time-varying environmental sound levels have also been described in terms of percentile levels.

Currently, the recommended practice is to assume that the equal energy principle is approximately valid for most types of noise and that a simple LAeq,T measure will indicate the expected effects of the noise reasonably well. When the noise consists of a small number of discrete events, the A-weighted maximum level (LAmax) is a better indicator of the disturbance to sleep and other activities. In most cases, however, the A-weighted sound exposure level (SEL) provides a more consistent measure of single-noise events because it is based on integration over the complete noise event. In combining day and night LAeq,T values, night-time weightings are often added. Night-time weightings are intended to reflect the expected increased sensitivity to annoyance at night, but they do not protect people from sleep disturbance.

Where there are no clear reasons for using other measures, it is recommended that LAeq,T be used to evaluate more-or-less continuous environmental noises. Where the noise is principally composed of a small number of discrete events, the additional use of LAmax or SEL is recommended. There are definite limitations to these simple measures, but there are also many practical advantages, including economy and the benefits of a standardized approach.

3. Adverse health effects of noise

The health significance of noise pollution is given in chapter 3 of the *Guidelines* under separate headings according to the specific effects: noise-induced hearing impairment; interference with speech communication; disturbance of rest and sleep; psychophysiological, mental-health and performance effects; effects on residential behaviour and annoyance; and interference with intended activities. This chapter also considers vulnerable groups and the combined effects of mixed noise sources.

Hearing impairment is typically defined as an increase in the threshold of hearing. Hearing deficits may be accompanied by tinnitus (ringing in the ears). Noise-induced hearing impairment occurs predominantly in the higher frequency range of 3 000–6 000 Hz, with the largest effect at 4 000 Hz. But with increasing LAeq,8h and increasing exposure time, noise-induced hearing impairment occurs even at frequencies as low as 2 000 Hz. However, hearing impairment is not expected to occur at LAeq,8h levels of 75 dB(A) or below, even for prolonged occupational noise exposure.

Worldwide, noise-induced hearing impairment is the most prevalent irreversible occupational hazard and it is estimated that 120 million people worldwide have disabling hearing difficulties.

In developing countries, not only occupational noise but also environmental noise is an increasing risk factor for hearing impairment. Hearing damage can also be caused by certain diseases, some industrial chemicals, ototoxic drugs, blows to the head, accidents and hereditary origins. Hearing deterioration is also associated with the ageing process itself (presbyacusis).

The extent of hearing impairment in populations exposed to occupational noise depends on the value of LAeq,8h, the number of noise-exposed years, and on individual susceptibility. Men and women are equally at risk for noise-induced hearing impairment. It is expected that environmental and leisure-time noise with a LAeq,24h of 70 dB(A) or below will not cause hearing impairment in the large majority of people, even after a lifetime exposure. For adults exposed to impulse noise at the workplace, the noise limit is set at peak sound pressure levels of 140 dB, and the same limit is assumed to be appropriate for environmental and leisure-time noise. In the case of children, however, taking into account their habits while playing with noisy toys, the peak sound pressure should never exceed 120 dB. For shooting noise with LAeq,24h levels greater than 80 dB(A), there may be an increased risk for noise-induced hearing impairment.

The main social consequence of hearing impairment is the inability to understand speech in daily living conditions, and this is considered to be a severe social handicap. Even small values of hearing impairment (10 dB averaged over 2 000 and 4 000 Hz and over both ears) may adversely affect speech comprehension.

Speech intelligibility is adversely affected by noise. Most of the acoustical energy of speech is in the frequency range of 100–6 000 Hz, with the most important cue-bearing energy being between 300–3 000 Hz. Speech interference is basically a masking process, in which simultaneous interfering noise renders speech incapable of being understood. Environmental noise may also mask other acoustical signals that are important for daily life, such as door bells, telephone signals, alarm clocks, fire alarms and other warning signals, and music.

Speech intelligibility in everyday living conditions is influenced by speech level; speech pronunciation; talker-to-listener distance; sound level and other characteristics of the interfering noise; hearing acuity; and by the level of attention. Indoors, speech communication is also affected by the reverberation characteristics of the room. Reverberation times over 1 s produce loss in speech discrimination and make speech perception more difficult and straining. For full sentence intelligibility in listeners with normal hearing, the signal-to-noise ratio (i.e. the difference between the speech level and the sound level of the interfering noise) should be at least 15 dB(A). Since the sound pressure level of normal speech is about 50 dB(A), noise with sound levels of 35 dB(A) or more interferes with the intelligibility of speech in smaller rooms. For vulnerable groups even lower background levels are needed, and a reverberation time below 0.6 s is desirable for adequate speech intelligibility, even in a quiet environment.

The inability to understand speech results in a large number of personal handicaps and behavioural changes. Particularly vulnerable are the hearing impaired, the elderly, children in the process of language and reading acquisition, and individuals who are not familiar with the spoken language.

Sleep disturbance is a major effect of environmental noise. It may cause primary effects during sleep, and secondary effects that can be assessed the day after night-time noise exposure. Uninterrupted sleep is a prerequisite for good physiological and mental functioning, and the primary effects of sleep disturbance are: difficulty in falling asleep; awakenings and alterations

of sleep stages or depth; increased blood pressure, heart rate and finger pulse amplitude; vasoconstriction; changes in respiration; cardiac arrhythmia; and increased body movements. The difference between the sound levels of a noise event and background sound levels, rather than the absolute noise level, may determine the reaction probability. The probability of being awakened increases with the number of noise events per night. The secondary, or after-effects, the following morning or day(s) are: reduced perceived sleep quality; increased fatigue; depressed mood or well-being; and decreased performance.

For a good night's sleep, the equivalent sound level should not exceed 30 dB(A) for continuous background noise, and individual noise events exceeding 45 dB(A) should be avoided. In setting limits for single night-time noise exposures, the intermittent character of the noise has to be taken into account. This can be achieved, for example, by measuring the number of noise events, as well as the difference between the maximum sound level and the background sound level. Special attention should also be given to: noise sources in an environment with low background sound levels; combinations of noise and vibrations; and to noise sources with low-frequency components.

Physiological Functions. In workers exposed to noise, and in people living near airports, industries and noisy streets, noise exposure may have a large temporary, as well as permanent, impact on physiological functions. After prolonged exposure, susceptible individuals in the general population may develop permanent effects, such as hypertension and ischaemic heart disease associated with exposure to high sound levels. The magnitude and duration of the effects are determined in part by individual characteristics, lifestyle behaviours and environmental conditions. Sounds also evoke reflex responses, particularly when they are unfamiliar and have a sudden onset.

Workers exposed to high levels of industrial noise for 5–30 years may show increased blood pressure and an increased risk for hypertension. Cardiovascular effects have also been demonstrated after long-term exposure to air- and road-traffic with LAeq,24h values of 65–70 dB(A). Although the associations are weak, the effect is somewhat stronger for ischaemic heart disease than for hypertension. Still, these small risk increments are important because a large number of people are exposed.

Mental Illness. Environmental noise is not believed to cause mental illness directly, but it is assumed that it can accelerate and intensify the development of latent mental disorders. Exposure to high levels of occupational noise has been associated with development of neurosis, but the findings on environmental noise and mental-health effects are inconclusive. Nevertheless, studies on the use of drugs such as tranquillizers and sleeping pills, on psychiatric symptoms and on mental hospital admission rates, suggest that community noise may have adverse effects on mental health.

Performance. It has been shown, mainly in workers and children, that noise can adversely affect performance of cognitive tasks. Although noise-induced arousal may produce better performance in simple tasks in the short term, cognitive performance substantially deteriorates for more complex tasks. Reading, attention, problem solving and memorization are among the cognitive effects most strongly affected by noise. Noise can also act as a distracting stimulus and impulsive noise events may produce disruptive effects as a result of startle responses.

Noise exposure may also produce after-effects that negatively affect performance. In schools around airports, children chronically exposed to aircraft noise under-perform in proof reading, in

persistence on challenging puzzles, in tests of reading acquisition and in motivational capabilities. It is crucial to recognize that some of the adaptation strategies to aircraft noise, and the effort necessary to maintain task performance, come at a price. Children from noisier areas have heightened sympathetic arousal, as indicated by increased stress hormone levels, and elevated resting blood pressure. Noise may also produce impairments and increase in errors at work, and some accidents may be an indicator of performance deficits.

Social and Behavioural Effects of Noise; Annoyance. Noise can produce a number of social and behavioural effects as well as annoyance. These effects are often complex, subtle and indirect and many effects are assumed to result from the interaction of a number of non-auditory variables. The effect of community noise on annoyance can be evaluated by questionnaires or by assessing the disturbance of specific activities. However, it should be recognized that equal levels of different traffic and industrial noises cause different magnitudes of annoyance. This is because annoyance in populations varies not only with the characteristics of the noise, including the noise source, but also depends to a large degree on many non-acoustical factors of a social, psychological, or economic nature. The correlation between noise exposure and general annoyance is much higher at group level than at individual level. Noise above 80 dB(A) may also reduce helping behaviour and increase aggressive behaviour. There is particular concern that high-level continuous noise exposures may increase the susceptibility of schoolchildren to feelings of helplessness.

Stronger reactions have been observed when noise is accompanied by vibrations and contains low-frequency components, or when the noise contains impulses, such as with shooting noise. Temporary, stronger reactions occur when the noise exposure increases over time, compared to a constant noise exposure. In most cases, LAeq,24h and L_{dn} are acceptable approximations of noise exposure related to annoyance. However, there is growing concern that all the component parameters should be individually assessed in noise exposure investigations, at least in the complex cases. There is no consensus on a model for total annoyance due to a combination of environmental noise sources.

Combined Effects on Health of Noise from Mixed Sources. Many acoustical environments consist of sounds from more than one source, i.e. there are mixed sources, and some combinations of effects are common. For example, noise may interfere with speech in the day and create sleep disturbance at night. These conditions certainly apply to residential areas heavily polluted with noise. Therefore, it is important that the total adverse health load of noise be considered over 24 hours, and that the precautionary principle for sustainable development be applied.

Vulnerable Subgroups. Vulnerable subgroups of the general population should be considered when recommending noise protection or noise regulations. The types of noise effects, specific environments and specific lifestyles are all factors that should be addressed for these subgroups. Examples of vulnerable subgroups are: people with particular diseases or medical problems (e.g. high blood pressure); people in hospitals or rehabilitating at home; people dealing with complex cognitive tasks; the blind; people with hearing impairment; fetuses, babies and young children; and the elderly in general. People with impaired hearing are the most adversely affected with respect to speech intelligibility. Even slight hearing impairments in the high-frequency sound range may cause problems with speech perception in a noisy environment. A majority of the population belongs to the subgroup that is vulnerable to speech interference.

4. Guideline values

In chapter 4, guideline values are given for specific health effects of noise and for specific environments.

Specific health effects.

Interference with Speech Perception. A majority of the population is susceptible to speech interference by noise and belongs to a vulnerable subgroup. Most sensitive are the elderly and persons with impaired hearing. Even slight hearing impairments in the high-frequency range may cause problems with speech perception in a noisy environment. From about 40 years of age, the ability of people to interpret difficult, spoken messages with low linguistic redundancy is impaired compared to people 20–30 years old. It has also been shown that high noise levels and long reverberation times have more adverse effects in children, who have not completed language acquisition, than in young adults.

When listening to complicated messages (at school, foreign languages, telephone conversation) the signal-to-noise ratio should be at least 15 dB with a voice level of 50 dB(A). This sound level corresponds on average to a casual voice level in both women and men at 1 m distance. Consequently, for clear speech perception the background noise level should not exceed 35 dB(A). In classrooms or conference rooms, where speech perception is of paramount importance, or for sensitive groups, background noise levels should be as low as possible. Reverberation times below 1 s are also necessary for good speech intelligibility in smaller rooms. For sensitive groups, such as the elderly, a reverberation time below 0.6 s is desirable for adequate speech intelligibility even in a quiet environment.

Hearing Impairment. Noise that gives rise to hearing impairment is by no means restricted to occupational situations. High noise levels can also occur in open air concerts, discotheques, motor sports, shooting ranges, in dwellings from loudspeakers, or from leisure activities. Other important sources of loud noise are headphones, as well as toys and fireworks which can emit impulse noise. The ISO standard 1999 gives a method for estimating noise-induced hearing impairment in populations exposed to all types of noise (continuous, intermittent, impulse) during working hours. However, the evidence strongly suggests that this method should also be used to calculate hearing impairment due to noise exposure from environmental and leisure time activities. The ISO standard 1999 implies that long-term exposure to LAeq,24h noise levels of up to 70 dB(A) will not result in hearing impairment. To avoid hearing loss from impulse noise exposure, peak sound pressures should never exceed 140 dB for adults, and 120 dB for children.

Sleep Disturbance. Measurable effects of noise on sleep begin at LAeq levels of about 30 dB. However, the more intense the background noise, the more disturbing is its effect on sleep. Sensitive groups mainly include the elderly, shift workers, people with physical or mental disorders and other individuals who have difficulty sleeping.

Sleep disturbance from intermittent noise events increases with the maximum noise level. Even if the total equivalent noise level is fairly low, a small number of noise events with a high maximum sound pressure level will affect sleep. Therefore, to avoid sleep disturbance, guidelines for community noise should be expressed in terms of the equivalent sound level of the

noise, as well as in terms of maximum noise levels and the number of noise events. It should be noted that low-frequency noise, for example, from ventilation systems, can disturb rest and sleep even at low sound pressure levels.

When noise is continuous, the equivalent sound pressure level should not exceed 30 dB(A) indoors, if negative effects on sleep are to be avoided. For noise with a large proportion of low-frequency sound a still lower guideline value is recommended. When the background noise is low, noise exceeding 45 dB LAmax should be limited, if possible, and for sensitive persons an even lower limit is preferred. Noise mitigation targeted to the first part of the night is believed to be an effective means for helping people fall asleep. It should be noted that the adverse effect of noise partly depends on the nature of the source. A special situation is for newborns in incubators, for which the noise can cause sleep disturbance and other health effects.

Reading Acquisition. Chronic exposure to noise during early childhood appears to impair reading acquisition and reduces motivational capabilities. Evidence indicates that the longer the exposure, the greater the damage. Of recent concern are the concomitant psychophysiological changes (blood pressure and stress hormone levels). There is insufficient information on these effects to set specific guideline values. It is clear, however, that daycare centres and schools should not be located near major noise sources, such as highways, airports, and industrial sites.

Annoyance. The capacity of a noise to induce annoyance depends upon its physical characteristics, including the sound pressure level, spectral characteristics and variations of these properties with time. During daytime, few people are highly annoyed at LAeq levels below 55 dB(A), and few are moderately annoyed at LAeq levels below 50 dB(A). Sound levels during the evening and night should be 5–10 dB lower than during the day. Noise with low-frequency components require lower guideline values. For intermittent noise, it is emphasized that it is necessary to take into account both the maximum sound pressure level and the number of noise events. Guidelines or noise abatement measures should also take into account residential outdoor activities.

Social Behaviour. The effects of environmental noise may be evaluated by assessing its interference with social behavior and other activities. For many community noises, interference with rest/recreation/watching television seem to be the most important effects. There is fairly consistent evidence that noise above 80 dB(A) causes reduced helping behavior, and that loud noise also increases aggressive behavior in individuals predisposed to aggressiveness. In schoolchildren, there is also concern that high levels of chronic noise contribute to feelings of helplessness. Guidelines on this issue, together with cardiovascular and mental effects, must await further research.

Specific environments.

A noise measure based only on energy summation and expressed as the conventional equivalent measure, LAeq, is not enough to characterize most noise environments. It is equally important to measure the maximum values of noise fluctuations, preferably combined with a measure of the number of noise events. If the noise includes a large proportion of low-frequency components, still lower values than the guideline values below will be needed. When prominent low-frequency components are present, noise measures based on A-weighting are inappropriate. The difference between dB(C) and dB(A) will give crude information about the presence of low-frequency components in noise, but if the difference is more than 10 dB, it is recommended that

a frequency analysis of the noise be performed. It should be noted that a large proportion of low-frequency components in noise may increase considerably the adverse effects on health.

In Dwellings. The effects of noise in dwellings, typically, are sleep disturbance, annoyance and speech interference. For bedrooms the critical effect is sleep disturbance. Indoor guideline values for bedrooms are 30 dB LAeq for continuous noise and 45 dB LAmax for single sound events. Lower noise levels may be disturbing depending on the nature of the noise source. At night-time, outside sound levels about 1 metre from facades of living spaces should not exceed 45 dB LAeq, so that people may sleep with bedroom windows open. This value was obtained by assuming that the noise reduction from outside to inside with the window open is 15 dB. To enable casual conversation indoors during daytime, the sound level of interfering noise should not exceed 35 dB LAeq. The maximum sound pressure level should be measured with the sound pressure meter set at "Fast".

To protect the majority of people from being seriously annoyed during the daytime, the outdoor sound level from steady, continuous noise should not exceed 55 dB LAeq on balconies, terraces and in outdoor living areas. To protect the majority of people from being moderately annoyed during the daytime, the outdoor sound level should not exceed 50 dB LAeq. Where it is practical and feasible, the lower outdoor sound level should be considered the maximum desirable sound level for new development.

In Schools and Preschools. For schools, the critical effects of noise are speech interference, disturbance of information extraction (e.g. comprehension and reading acquisition), message communication and annoyance. To be able to hear and understand spoken messages in class rooms, the background sound level should not exceed 35 dB LAeq during teaching sessions. For hearing impaired children, a still lower sound level may be needed. The reverberation time in the classroom should be about 0.6 s, and preferably lower for hearing impaired children. For assembly halls and cafeterias in school buildings, the reverberation time should be less than 1 s. For outdoor playgrounds the sound level of the noise from external sources should not exceed 55 dB LAeq, the same value given for outdoor residential areas in daytime.

For preschools, the same critical effects and guideline values apply as for schools. In bedrooms in preschools during sleeping hours, the guideline values for bedrooms in dwellings should be used.

In Hospitals. For most spaces in hospitals, the critical effects are sleep disturbance, annoyance, and communication interference, including warning signals. The LAmax of sound events during the night should not exceed 40 dB(A) indoors. For ward rooms in hospitals, the guideline values indoors are 30dB LAeq, together with 40 dB LAmax during night. During the day and evening the guideline value indoors is 30 dB LAeq. The maximum level should be measured with the sound pressure instrument set at "Fast".

Since patients have less ability to cope with stress, the LAeq level should not exceed 35 dB in most rooms in which patients are being treated or observed. Attention should be given to the sound levels in intensive care units and operating theaters. Sound inside incubators may result in health problems for neonates, including sleep disturbance, and may also lead to hearing impairment. Guideline values for sound levels in incubators must await future research.

Ceremonies, Festivals and Entertainment Events. In many countries, there are regular ceremonies, festivals and entertainment events to celebrate life periods. Such events typically

produce loud sounds, including music and impulsive sounds. There is widespread concern about the effect of loud music and impulsive sounds on young people who frequently attend concerts, discotheques, video arcades, cinemas, amusement parks and spectator events. At these events, the sound level typically exceeds 100 dB LAeq. Such noise exposure could lead to significant hearing impairment after frequent attendances.

Noise exposure for employees of these venues should be controlled by established occupational standards; and at the very least, the same standards should apply to the patrons of these premises. Patrons should not be exposed to sound levels greater than 100 dB LAeq during a four-hour period more than four times per year. To avoid acute hearing impairment the LAmax should always be below 110 dB.

Headphones. To avoid hearing impairment from music played back in headphones, in both adults and children, the equivalent sound level over 24 hours should not exceed 70 dB(A). This implies that for a daily one hour exposure the LAeq level should not exceed 85 dB(A). To avoid acute hearing impairment LAmax should always be below 110 dB(A). The exposures are expressed in free-field equivalent sound level.

Toys, Fireworks and Firearms. To avoid acute mechanical damage to the inner ear from impulsive sounds from toys, fireworks and firearms, adults should never be exposed to more than 140 dB(lin) peak sound pressure level. To account for the vulnerability in children when playing, the peak sound pressure produced by toys should not exceed 120 dB(lin), measured close to the ears (100 mm). To avoid acute hearing impairment LAmax should always be below 110 dB(A).

Parkland and Conservation Areas. Existing large quiet outdoor areas should be preserved and the signal-to-noise ratio kept low.

Table 1 presents the WHO guideline values arranged according to specific environments and critical health effects. The guideline values consider all identified adverse health effects for the specific environment. An adverse effect of noise refers to any temporary or long-term impairment of physical, psychological or social functioning that is associated with noise exposure. Specific noise limits have been set for each health effect, using the lowest noise level that produces an adverse health effect (i.e. the critical health effect). Although the guideline values refer to sound levels impacting the most exposed receiver at the listed environments, they are applicable to the general population. The time base for LAeq for "daytime" and "night-time" is 12–16 hours and 8 hours, respectively. No time base is given for evenings, but typically the guideline value should be 5–10 dB lower than in the daytime. Other time bases are recommended for schools, preschools and playgrounds, depending on activity.

It is not enough to characterize the noise environment in terms of noise measures or indices based only on energy summation (e.g., LAeq), because different critical health effects require different descriptions. It is equally important to display the maximum values of the noise fluctuations, preferably combined with a measure of the number of noise events. A separate characterization of night-time noise exposures is also necessary. For indoor environments, reverberation time is also an important factor for things such as speech intelligibility. If the noise includes a large proportion of low-frequency components, still lower guideline values should be applied. Supplementary to the guideline values given in Table 1, precautions should be taken for vulnerable groups and for noise of certain character (e.g. low-frequency components, low background noise).

Table 1: Guideline values for community noise in specific environments.

Specific environment	Critical health effect(s)	L_{Aeq} [dB(A)]	Time base [hours]	L_{Amax} fast [dB]
Outdoor living area	Serious annoyance, daytime and evening Moderate annoyance, daytime and evening	55 50	16 16	- -
Dwelling, indoors Inside bedrooms	Speech intelligibility & moderate annoyance, daytime & evening Sleep disturbance, night-time	35 30	16 8	 45
Outside bedrooms	Sleep disturbance, window open (outdoor values)	45	8	60
School class rooms & pre-schools, indoors	Speech intelligibility, disturbance of information extraction, message communication	35	during class	-
Pre-school bedrooms, indoor	Sleep disturbance	30	sleeping-time	45
School, playground outdoor	Annoyance (external source)	55	during play	-
Hospital, ward rooms, indoors	Sleep disturbance, night-time Sleep disturbance, daytime and evenings	30 30	8 16	40 -
Hospitals, treatment rooms, indoors	Interference with rest and recovery	#1		
Industrial, commercial shopping and traffic areas, indoors and outdoors	Hearing impairment	70	24	110
Ceremonies, festivals and entertainment events	Hearing impairment (patrons:<5 times/year)	100	4	110
Public addresses, indoors and outdoors	Hearing impairment	85	1	110
Music and other sounds through headphones/ earphones	Hearing impairment (free-field value)	85 #4	1	110
Impulse sounds from toys, fireworks and firearms	Hearing impairment (adults) Hearing impairment (children)	- -	- -	140 #2 120 #2
Outdoors in parkland and conservations areas	Disruption of tranquillity	#3		

#1: As low as possible.
#2: Peak sound pressure (not LAF, max) measured 100 mm from the ear.

#3: Existing quiet outdoor areas should be preserved and the ratio of intruding noise to natural background sound should be kept low.
#4: Under headphones, adapted to free-field values.

5. Noise Management

Chapter 5 is devoted to noise management with discussions on: strategies and priorities in managing indoor noise levels; noise policies and legislation; the impact of environmental noise; and on the enforcement of regulatory standards.

The fundamental goals of noise management are to develop criteria for deriving safe noise exposure levels and to promote noise assessment and control as part of environmental health programmes. These basic goals should guide both international and national policies for noise management. The United Nation's Agenda 21 supports a number of environmental management principles on which government policies, including noise management policies, can be based: the principle of precaution; the "polluter pays" principle; and noise prevention. In all cases, noise should be reduced to the lowest level achievable in the particular situation. When there is a reasonable possibility that the public health will be endangered, even though scientific proof may be lacking, action should be taken to protect the public health, without awaiting the full scientific proof. The full costs associated with noise pollution (including monitoring, management, lowering levels and supervision) should be met by those responsible for the source of noise. Action should be taken where possible to reduce noise at the source.

A legal framework is needed to provide a context for noise management. National noise standards can usually be based on a consideration of international guidelines, such as these *Guidelines for Community Noise*, as well as national criteria documents, which consider dose-response relationships for the effects of noise on human health. National standards take into account the technological, social, economic and political factors within the country. A staged program of noise abatement should also be implemented to achieve the optimum health protection levels over the long term.

Other components of a noise management plan include: noise level monitoring; noise exposure mapping; exposure modeling; noise control approaches (such as mitigation and precautionary measures); and evaluation of control options. Many of the problems associated with high noise levels can be prevented at low cost, if governments develop and implement an integrated strategy for the indoor environment, in concert with all social and economic partners. Governments should establish a "National Plan for a Sustainable Noise Indoor Environment" that applies both to new construction as well as to existing buildings.

The actual priorities in rational noise management will differ for each country. Priority setting in noise management refers to prioritizing the health risks to be avoided and concentrating on the most important sources of noise. Different countries have adopted a range of approaches to noise control, using different policies and regulations. A number of these are outlined in chapter 5 and Appendix 2, as examples. It is evident that noise emission standards have proven insufficient and that the trends in noise pollution are unsustainable.

The concept of environmental an environmental noise impact analysis is central to the philosophy of managing environmental noise. Such an analysis should be required before implementing any project that would significantly increase the level of environmental noise in a community (typically, greater than a 5 dB increase). The analysis should include: a baseline description of the existing noise environment; the expected level of noise from the new source; an assessment of the adverse health effects; an estimation of the population at risk; the calculation of exposure-response relationships; an assessment of risks and their acceptability; and a cost-benefit analysis.

Noise management should:

1. Start monitoring human exposures to noise.
2. Have health control require mitigation of noise immissions, and not just of noise source emissions. The following should be taken into consideration:
    - specific environments such as schools, playgrounds, homes, hospitals.
    - environments with multiple noise sources, or which may amplify the effects of noise.
    - sensitive time periods such as evenings, nights and holidays.
    - groups at high risk, such as children and the hearing impaired.
3. Consider the noise consequences when planning transport systems and land use.
4. Introduce surveillance systems for noise-related adverse health effects.
5. Assess the effectiveness of noise policies in reducing adverse health effects and exposure, and in improving supportive "soundscapes".
6. Adopt these *Guidelines for Community Noise* as intermediary targets for improving human health.
7. Adopt precautionary actions for a sustainable development of the acoustical environments.

Conclusions and recommendations

In chapter 6 are discussed: the implementation of the guidelines; further WHO work on noise; and research needs are recommended.

Implementation. For implementation of the guidelines it is recommended that:

- Governments should protection the population from community noise and consider it an integral part of their policy of environmental protection.
- Governments should consider implementing action plans with short-term, medium-term and long-term objectives for reducing noise levels.
- Governments should adopt the *Health Guidelines for Community Noise* values as targets to be achieved in the long-term.
- Governments should include noise as an important public health issue in environmental impact assessments.
- Legislation should be put in place to allow for the reduction of sound levels.
- Existing legislation should be enforced.
- Municipalities should develop low noise implementation plans.

- Cost-effectiveness and cost-benefit analyses should be considered potential instruments for meaningful management decisions.
- Governments should support more policy-relevant research.

Future Work. The Expert Task Force worked out several suggestions for future work for the WHO in the field of community noise. WHO should:

- Provide leadership and technical direction in defining future noise research priorities.
- Organize workshops on how to apply the guidelines.
- Provide leadership and coordinate international efforts to develop techniques for designing supportive sound environments (e.g. "soundscapes").
- Provide leadership for programs to assess the effectiveness of health-related noise policies and regulations.
- Provide leadership and technical direction for the development of sound methodologies for environmental and health impact plans.
- Encourage further investigation into using noise exposure as an indicator of environmental deterioration (e.g. black spots in cities).
- Provide leadership and technical support, and advise developing countries to facilitate development of noise policies and noise management.

Research and Development. A major step forward in raising the awareness of both the public and of decision makers is the recommendation to concentrate more research and development on variables which have monetary consequences. This means that research should consider not only dose-response relationships between sound levels, but also politically relevant variables, such as noise-induced social handicap; reduced productivity; decreased performance in learning; workplace and school absenteeism; increased drug use; and accidents.

In Appendices 1–6 are given: bibliographic references; examples of regional noise situations (African Region, American Region, Eastern Mediterranean Region, South East Asian Region, Western Pacific Region); a glossary; a list of acronyms; and a list of participants.

1. Introduction

Community noise (also called environmental noise, residential noise or domestic noise) is defined as noise emitted from all sources, except noise at the industrial workplace. Main sources of community noise include road, rail and air traffic, industries, construction and public work, and the neighbourhood. Typical neighbourhood noise comes from premises and installations related to the catering trade (restaurant, cafeterias, discotheques, etc.); from live or recorded music; from sporting events including motor sports; from playgrounds and car parks; and from domestic animals such as barking dogs. The main indoor sources are ventilation systems, office machines, home appliances and neighbours. Although many countries have regulations on community noise from road, rail and air traffic, and from construction and industrial plants, few have regulations on neighbourhood noise. This is probably due to the lack of methods to define and measure it, and to the difficulty of controlling it. In developed countries, too, monitoring of compliance with, and enforcement of, noise regulations are weak for lower levels of urban noise that correspond to occupationally controlled levels (>85 dB LAeq,8h; Frank 1998). Recommended guideline values based on the health effects of noise, other than occupationally-induced effects, are often not taken into account.

The extent of the community noise problem is large. In the European Union about 40% of the population is exposed to road traffic noise with an equivalent sound pressure level exceeding 55 dBA daytime; and 20% is exposed to levels exceeding 65 dBA (Lambert & Vallet 19 1994). When all transportation noise is considered, about half of all European Union citizens live in zones that do not ensure acoustical comfort to residents. At night, it is estimated that more than 30% is exposed to equivalent sound pressure levels exceeding 55 dBA, which are disturbing to sleep. The noise pollution problem is also severe in the cities of developing countries and is caused mainly by traffic. Data collected alongside densely traveled roads were found to have equivalent sound pressure levels for 24 hours of 75–80 dBA (e.g. National Environment Board Thailand 19 1990; Mage & Walsh 19 1998).

(a) In contrast to many other environmental problems, noise pollution continues to grow, accompanied by an increasing number of complaints from affected individuals. Most people are typically exposed to several noise sources, with road traffic noise being a dominant source (OECD-ECMT 19 1995). Population growth, urbanization and to a large extent technological development are the main driving forces, and future enlargements of highway systems, international airports and railway systems will only increase the noise problem. Viewed globally, the growth in urban environmental noise pollution is unsustainable, because it involves not simply the direct and cumulative adverse effects on health. It also adversely affects future generations by degrading residential, social and learning environments, with corresponding economical losses (Berglund 1998). Thus, noise is not simply a local problem, but a global issue that affects everyone (Lang 1999; Sandberg 1999) and calls for precautionary action in any environmental planning situation.

The objective of the World Health Organization (WHO) is the attainment by all peoples of the highest possible level of health. As the first principle of the WHO Constitution the definition of

'health' is given as: "A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity". This broad definition of health embraces the concept of well-being and, thereby, renders noise impacts such as population annoyance, interference with communication, and impaired task performance as 'health' issues. In 1992, a WHO Task Force also identified the following specific health effects for the general population that may result from community noise: interference with communication; annoyance responses; effects on sleep, and on the cardiovascular and psychophysiological systems; effects on performance, productivity, and social behavior; and noise-induced hearing impairment (WHO 1993; Berglund & Lindvall 1995; *cf.* WHO 1980). Hearing damage is expected to result from both occupational and environmental noise, especially in developing countries, where compliance with noise regulation is known to be weak (Smith 1998).

Noise is likely to continue as a major issue well into the next century, both in developed and in developing countries. Therefore, strategic action is urgently required, including continued noise control at the source and in local areas. Most importantly, joint efforts among countries are necessary at a system level, in regard to the access and use of land, airspace and seawaters, and in regard to the various modes of transportation. Certainly, mankind would benefit from societal reorganization towards healthy transport. To understand noise we must understand the different types of noise and how we measure it, where noise comes from and the effects of noise on human beings. Furthermore, noise mitigation, including noise management, has to be actively introduced and in each case the policy implications have to be evaluated for efficiency.

This document is organized as follows. In Chapter 2 noise sources and measurement are discussed, including the basic aspects of source characteristics, sound propagation and transmission. In Chapter 3 the adverse health effects of noise are characterized. These include noise-induced hearing impairment, interference with speech communication, sleep disturbance, cardiovascular and physiological effects, mental health effects, performance effects, and annoyance reactions. This chapter is rounded out by a consideration of combined noise sources and their effects, and a discussion of vulnerable groups. In Chapter 4 the Guideline values are presented. Chapter 5 is devoted to noise management. Included are discussions of: strategies and priorities in the management of indoor noise levels; noise policies and legislation; environmental noise impact; and enforcement of regulatory standards. In Chapter 6 implementation of the WHO Guidelines is discussed, as well as future WHO work on noise and its research needs. In Appendices 1–6 are given: bibliographic references; examples of regional noise situations (African Region, American Region, Eastern Mediterranean Region, South East Asian Region, Western Pacific Region); a glossary; a list of acronyms; and a list of participants.

2. Noise sources and their measurement

2.1.Basic Aspects of Acoustical Measurements

Most environmental noises can be approximately described by one of several simple measures. They are all derived from overall sound pressure levels, the variation of these levels with time and the frequency of the sounds. Ford (1987) gives a more extensive review of various environmental noise measures. Technical definitions are found in the glossary in Appendix 3.

2.1.1. Sound pressure level

The sound pressure level is a measure of the air vibrations that make up sound. All measured sound pressures are referenced to a standard pressure that corresponds roughly to the threshold of hearing at 1 000 Hz. Thus, the sound pressure level indicates how much greater the measured sound is than this threshold of hearing. Because the human ear can detect a wide range of sound pressure levels (10–102 Pascal (Pa)), they are measured on a logarithmic scale with units of decibels (dB). A more technical definition of sound pressure level is found in the glossary.

The sound pressure levels of most noises vary with time. Consequently, in calculating some measures of noise, the instantaneous pressure fluctuations must be integrated over some time interval. To approximate the integration time of our hearing system, sound pressure meters have a standard *Fast* response time, which corresponds to a time constant of 0.125 s. Thus, all measurements of sound pressure levels and their variation over time should be made using the *Fast* response time, to provide sound pressure measurements more representative of human hearing. Sound pressure meters may also include a *Slow* response time with a time constant of 1 s, but its sole purpose is that one can more easily estimate the average value of rapidly fluctuating levels. Many modern meters can integrate sound pressures over specified periods and provide average values. It is not recommended that the *Slow* response time be used when integrating sound pressure meters are available.

Because sound pressure levels are measured on a logarithmic scale they cannot be added or averaged arithmetically. For example, adding two sounds of equal pressure levels results in a total pressure level that is only 3 dB greater than each individual sound pressure level. Consequently, when two sounds are combined the resulting sound pressure level will be significantly greater than the individual sound levels only if the two sounds have similar pressure levels. Details for combining sound pressure levels are given in Appendix 2.

2.1.2. Frequency and frequency weighting

The unit of frequency is the Hertz (Hz), and it refers to the number of vibrations per second of the air in which the sound is propagating. For tonal sounds, frequency is associated with the perception of pitch. For example, orchestras often tune to the frequency of 440 Hz. Most environmental sounds, however, are made up of a complex mix of many different frequencies. They may or may not have discrete frequency components superimposed on noise with a broad

frequency spectrum (i.e. sound with a broad range of frequencies). The audible frequency range is normally considered to range from 20–20 000 Hz. Below 20 Hz we hear individual sound pulses rather than recognizable tones. Hearing sensitivity to higher frequencies decreases with age and exposure to noise. Thus, 20 000 Hz represents an upper limit of audibility for younger listeners with unimpaired hearing.

Our hearing systems are not equally sensitive to all sound frequencies (ISO 1987a). Thus, not all frequencies are perceived as being equally loud at the same sound pressure level, and when calculating overall environmental noise ratings it is necessary to consider sounds at some frequencies as more important than those at other frequencies. Detailed frequency analyses are commonly performed with standard sets of octave or 1/3 octave bandwidth filters. Alternatively, Fast Fourier Transform techniques or other types of filters can be used to determine the relative strengths of the various frequency components making up a particular environmental noise.

Frequency weighting networks provide a simpler approach for weighting the importance of different frequency components in one single number rating. The A-weighting is most commonly used and is intended to approximate the frequency response of our hearing system. It weights lower frequencies as less important than mid- and higher-frequency sounds. C-weighting is also quite common and is a nearly flat frequency response with the extreme high and low frequencies attenuated. When no frequency analysis is possible, the difference between A-weighted and C-weighted levels gives an indication of the amount of low frequency content in the measured noise. When the sound has an obvious tonal content, a correction to account for the additional annoyance may be used (ISO 1987b).

2.1.3. Equivalent continuous sound pressure level

According to the equal energy principle, the effect of a combination of noise events is related to the combined sound energy of those events. Thus, measures such as the equivalent continuous sound pressure level (LAeq,T) sum up the total energy over some time period (T) and give a level equivalent to the average sound energy over that period. Such average levels are usually based on integration of A-weighted levels. Thus LAeq,T is the average energy equivalent level of the A-weighted sound over a period T.

2.1.4. Individual noise events

It is often desired to measure the maximum level (LAmax) of individual noise events. For cases such as the noise from a single passing vehicle, LAmax values should be measured using the *Fast* response time because it will give a good correlation with the integration of loudness by our hearing system. However, for very short-duration impulsive sounds it is often desirable to measure the instantaneous peak amplitude to assess potential hearing-damage risk. If actual instantaneous pressure cannot be determined, then a time-integrated 'peak' level with a time constant of no more than 0.05 ms should be used (ISO 1987b). Such peak readings are often made using the C- (or linear) frequency weightings.

Alternatively, discrete sound events can be evaluated in terms of their A-weighted sound exposure level (SEL, for defintion see appendix 5). The total amount of sound energy in a

particular event is assessed by the SEL. One can add up the SEL values of individual events to calculate a LAeq,T over some time period, T, of interest. In some cases the SEL may provide more consistent evaluations of individual noise events because they are derived from the complete history of the event and not just one maximum value. However, A-weighted SEL measurements have been shown to be inadequate for assessing the (perceived) loudness of complex impulsive sounds, such as those from large and small weapons (Berglund et al. 1986). In contrast, C-weighted SEL values have been found useful for rating impulsive sounds such as gun shots (Vos 1996; Buchta 1996; ISO 1987b).

2.1.5. Choice of noise measure

LAeq,T should be used to measure continuing sounds such as road traffic noise, many types of industrial noises and noise from ventilation systems in buildings. When there are distinct events to the noise such as with aircraft or railway noise, measures of the individual events should be obtained (using, for example, LAmax or SEL), in addition to LAeq,T measurements.

In the past, time-varying environmental sound levels have also been described in terms of percentile levels. These are derived from a statistical distribution of measured sound levels over some period. For example, L10 is the A-weighted level exceeded 10% of the time. L10 values have been widely used to measure road-traffic noise, but they are usually found to be highly correlated measures of the individual events, as are LAmax and SEL. L90 or L95 can be used as a measure of the general background sound pressure level that excludes the potentially confounding influence of particular local noise events.

2.1.6. Sound and noise

Physically, there is no distinction between sound and noise: sound is a sensory perception evoked by physiological processes in the auditory brain. The complex pattern of sound waves is perceptually classified as "Gestalts" and are labeled as noise, music, speech, etc. Consequently, it is not possible to define noise exclusively on the basis of the physical parameters of sound. Instead, it is common practice to define noise simply as unwanted sound. However, in some situations noise may adversely affect health in the form of acoustical energy.

2.2. Sources of Noise

This section describes various sources of noise that can affect a community. Namely, noise from industry, transportation, and from residential and leisure areas. It should be noted that equal values of LAeq,T for different sources do not always imply the same expected effect.

2.2.1. Industrial noise

Mechanized industry creates serious noise problems. It is responsible for intense noise indoors as well as outdoors. This noise is due to machinery of all kinds and often increases with the power of the machines. Sound generation mechanisms of machinery are reasonably well understood. The noise may contain predominantly low or high frequencies, tonal components,

be impulsive or have unpleasant and disruptive temporal sound patterns. Rotating and reciprocating machines generate sound that includes tonal components; and air-moving equipment tends also to generate noise with a wide frequency range. The high sound pressure levels are caused by components or gas flows that move at high speed (for example, fans, steam pressure relief valves), or by operations involving mechanical impacts (for example, stamping, riveting, road breaking). Machinery should preferably be silenced at the source.

Noise from fixed installations, such as factories or construction sites, heat pumps and ventilation systems on roofs, typically affect nearby communities. Reductions may be achieved by encouraging quieter equipment or by zoning of land into industrial and residential areas. Requirements for passive (sound insulating enclosures) and active noise control, or restriction of operation time, may also be effective.

2.2.2. Transportation noise

Transportation noise is the main source of environmental noise pollution, including road traffic, rail traffic and air traffic. As a general rule, larger and heavier vehicles emit more noise than smaller and lighter vehicles. Exceptions would include: helicopters and 2- and 3-wheeled road vehicles.

The noise of road vehicles is mainly generated from the engine and from frictional contact between the vehicle and the ground and air. In general, road-contact noise exceeds engine noise at speeds higher than 60 km/h. The physical principle responsible for generating noise from tire-road contact is less well understood. The sound pressure level from traffic can be predicted from the traffic flow rate, the speed of the vehicles, the proportion of heavy vehicles, and the nature of the road surface. Special problems can arise in areas where the traffic movements involve a change in engine speed and power, such as at traffic lights, hills, and intersecting roads; or where topography, meteorological conditions and low background levels are unfavourable (for example, mountain areas).

Railway noise depends primarily on the speed of the train, but variations are present depending upon the type of engine, wagons, and rails and their foundations, as well as the roughness of wheels and rails. Small radius curves in the track, such as may occur for urban trains, can lead to very high levels of high-frequency sound referred to as wheel squeal. Noise can be generated in stations because of running engines, whistles and loudspeakers, and in marshaling yards because of shunting operations. The introduction of high-speed trains has created special noise problems with sudden, but not impulsive, rises in noise. At speeds greater than 250 km/h, the proportion of high-frequency sound energy increases and the sound can be perceived as similar to that of overflying jet aircraft. Special problems can arise in areas close to tunnels, in valleys or in areas where the ground conditions help generate vibrations. The long-distance propagation of noise from high-speed trains will constitute a problem in the future if otherwise environment-friendly railway systems are expanded.

Aircraft operations generate substantial noise in the vicinity of both commercial and military airports. Aircraft takeoffs are known to produce intense noise, including vibration and rattle. The landings produce substantial noise in long low-altitude flight corridors. The noise is

produced by the landing gear and automatic power regulation, and also when reverse thrust is applied, all for safety reasons. In general, larger and heavier aircraft produce more noise than lighter aircraft. The main mechanism of noise generation in the early turbojet-powered aircraft was the turbulence created by the jet exhaust mixing with the surrounding air. This noise source has been significantly reduced in modern high by-pass ratio turbo-fan engines that surround the high-velocity jet exhaust with lower velocity airflow generated by the fan. The fan itself can be a significant noise source, particularly during landing and taxiing operations. Multi-bladed turbo-prop engines can produce relatively high levels of tonal noise. The sound pressure level from aircraft is, typically, predicted from the number of aircraft, the types of airplanes, their flight paths, the proportions of takeoffs and landings and the atmospheric conditions. Severe noise problems may arise at airports hosting many helicopters or smaller aircraft used for private business, flying training and leisure purposes. Special noise problems may also arise inside airplanes because of vibration. The noise emission from future superjets is unknown.

A sonic boom consists of a shock wave in the air, generated by an aircraft when it flies at a speed slightly greater than the local speed of sound. An aircraft in supersonic flight trails a sonic boom that can be heard up to 50 km on either side of its ground track, depending upon the flight altitude and the size of the aircraft (Warren 1972). A sonic boom can be heard as a loud double-boom sound. At high intensity it can damage property.

Noise from military airfields may present particular problems compared to civil airports (von Gierke & Harris 1987). For example, when used for night-time flying, for training interrupted landings and takeoffs (so-called touch-and-go), or for low-altitude flying. In certain instances, including wars, specific military activities introduce other intense noise pollution from heavy vehicles (tanks), helicopters, and small and large fire-arms.

2.2.3. Construction noise and building services noise

Building construction and excavation work can cause considerable noise emissions. A variety of sounds come from cranes, cement mixers, welding, hammering, boring and other work processes. Construction equipment is often poorly silenced and maintained, and building operations are sometimes carried out without considering the environmental noise consequences. Street services such as garbage disposal and street cleaning can also cause considerable disturbance if carried out at sensitive times of day. Ventilation and air conditioning plants and ducts, heat pumps, plumbing systems, and lifts (elevators), for example, can compromise the internal acoustical environment and upset nearby residents.

2.2.4. Domestic noise and noise from leisure activities

In residential areas, noise may stem from mechanical devices (e.g. heat pumps, ventilation systems and traffic), as well as voices, music and other kinds of sounds generated by neighbours (e.g. lawn movers, vacuum cleaners and other household equipment, music reproduction and noisy parties). Aberrant social behavior is a well-recognized noise problem in multifamily dwellings, as well as at sites for entertainment (e.g. sports and music events). Due to predominantly low-frequency components, noise from ventilation systems in residential buildings may also cause considerable concern even at low and moderate sound pressure levels.

The use of powered machines in leisure activities is increasing. For example, motor racing, off-road vehicles, motorboats, water skiing, snowmobiles etc., and these contribute significantly to loud noises in previously quiet areas. Shooting activities not only have considerable potential for disturbing nearby residents, but can also damage the hearing of those taking part. Even tennis playing, church bell ringing and other religious activities can lead to noise complaints.

Some types of indoor concerts and discotheques can produce extremely high sound pressure levels. Associated noise problems outdoors result from customers arriving and leaving. Outdoor concerts, fireworks and various types of festivals can also produce intense noise. The general problem of access to festivals and leisure activity sites often adds to road traffic noise problems. Severe hearing impairment may also arise from intense sound produced as music in headphones or from children's toys.

2.3. The Complexity of Noise and Its Practical Implications

2.3.1. The problem

One must consider many different characteristics to describe environmental noises completely. We can consider the sound pressure level of the noise and how this level varies over a variety of periods, ranging from minutes or seconds to seasonal variations over several months. Where sound pressure levels vary quite substantially and rapidly, such as in the case of low-level jet aircraft, one might also want to consider the rate of change of sound pressure levels (Berry 1995; Kerry et al. 1997). At the same time, the frequency content of each noise will also determine its effect on people, as will the number of events when there are relatively small numbers of discrete noisy events. Combinations of these characteristics determine how each type of environmental noise affects people. These effects may be annoyance, sleep disturbance, speech interference, increased stress, hearing impairment or other health-related effects.

Thus, in total there is a very complex multidimensional relationship between the various characteristics of the environmental noise and the effects it has on people. Unfortunately, we do not completely understand all of the complex links between noise characteristics and the resulting effects on people. Thus, current practice is to reduce the assessment of environmental noise to a small number of quite simple quantities that are known to be reasonably well related to the effects of noise on people (LAeq,T for continuing sounds and LAmax or SEL where there are a small number of distinct noise events). These simple measures have the distinct advantage that they are relatively easy and inexpensive to obtain and hence are more likely to be widely adopted. On the other hand, they may ignore some details of the noise characteristics that relate to particular types of effects on people.

2.3.2. Time variation

There is evidence that the pattern of noise variation with time relates to annoyance (Berglund et al. 1976). It has been suggested that the equal-energy principle is a simple concept for obtaining a measure representative of the annoyance of a number of noise events. For example, the LAeq,T of the noise from a busy road may be a good indicator of the annoyance this noise may

cause for nearby residents. However, such a measure may not be very useful for predicting the disturbance to sleep of a small number of very noisy aircraft fly-overs. The disturbance caused by small numbers of such discrete events is usually better related to maximum sound pressure levels and the number of events.

While using LAeq,T measures is the generally accepted approach, it is still important to appreciate the limitations and errors that may occur. For example, some years ago measures that assessed the variation of sound pressure levels with time were popular. Subsequently, these have been shown not to improve predictions of annoyance with road traffic noise (Bradley 1978). However, it is possible that time variations may contribute to explaining the very different amounts of annoyance caused by equal LAeq,T levels of road-traffic noise, train noise and aircraft noise (*cf.* Miedema & Vos 1998).

More regular variations of sound pressure levels with time have been found to increase the annoying aspects of the noise. For example, noises that vary periodically to create a throbbing or pulsing sensation can be more disturbing than continuous noise (Bradley 1994b). Research suggests that variations at about 4 per second are most disturbing (Zwicker 1989). Noises with very rapid onsets could also be more disturbing than indicated by their LAeq,T (Berry 1995; Kerry et al. 1997).

LAeq,T values can be calculated for various time periods and it is very important to specify this period. It is quite common to calculate LAeq,T values separately for day- and night-time periods. In combining day and night LAeq,T values it is usually assumed that people will be more sensitive to noise during the night-time period. A weighting is thus normally added to night-time LAeq,T values when calculating a combined measure for a 24 hour period. For example, day-night sound pressure measures commonly include a 10 dB night-time weighting. Other night-time weightings have been proposed, but it has been suggested that it is not possible to determine precisely an optimum value for night-time weightings from annoyance survey responses, because of the large variability in responses within groups of people (Fields 1986; see also Berglund & Lindvall 1995). Night-time weightings are intended to indicate the expected increased sensitivity to annoyance at night and do not protect people from sleep disturbance.

2.3.3. Frequency content and loudness

Noise can also be characterized by its frequency content. This can be assessed by various types of frequency analysis to determine the relative contributions of the frequency components to the total noise. The combined effects of the different frequencies on people, perceived as noise, can be approximated by simple frequency weightings. The A-weighting is now widely used to obtain an approximate, single-number rating of the combined effects of the various frequencies. The A-weighting response is a simplification of an equal-loudness contour. There is a family of these equal-loudness contours (ISO 1987a) that describe the frequency response of the hearing system for a wide range of frequencies and sound pressure levels. These equal-loudness contours can be used to determine the perceived loudness of a single frequency sound. More complicated procedures have been derived to estimate the perceived loudness of complex sounds (ISO 1975). These methods involve determining the level of the sound in critical bands and the mutual masking of these bands.

Many studies have compared the accuracy of predictions based on A-weighted levels with those based on other frequency weightings, as well as more complex measures such as loudness levels and perceived noise levels (see also Berglund & Lindvall 1995). The comparisons depend on the particular effect that is being predicted, but generally the correlation between the more complex measures and subjective scales are a little stronger. A-weighted measures have been particularly criticized as not being accurate indicators of the disturbing effects of noises with strong low-frequency components (Kjellberg et al. 1984; Persson & Björkman 1988; Broner & Leventhall 1993; Goldstein 1994). However, these differences in prediction accuracy are usually smaller than the variability of responses among groups of people (Fields 1986; see also Berglund & Lindvall 1995). Thus, in practical situations the limitations of A-weighted measures may not be so important.

In addition to equal-loudness contours, equal-noisiness contours have also been developed for calculating perceived noise levels (PNL) (Kryter 1959; Kryter 1994; see also section 2.7.2). Critics have pointed out that in addition to equal-loudness and equal-noisiness contours, we could have many other families of equal-sensation contours corresponding to other attributes of the noises (Molino 1974). There seems to be no limit to the possible complexity and number of such measures.

2.3.4. Influence of ambient noise level

A number of studies have suggested that the annoyance effect of a particular noise would depend on how much that noise exceeded the level of ambient noise. This has been shown to be true for noises that are relatively constant in level (Bradley 1993), but has not been consistently found for time-varying noises such as aircraft noise (Gjestland et al. 1990; Fields 1998). Because at some time during an aircraft fly-over the noise almost always exceeds the ambient level, responses to this type of noise are less likely to be influenced by the level of the ambient noise.

2.3.5. Types of noise

A number of studies have concluded that equal levels of different noise types lead to different annoyance (Hall et al. 1981; Griffiths 1983; Miedema 1993; Bradley 1994a; Miedema & Vos 1998). For example, equal LAeq,T levels of aircraft noise and road traffic noise will not lead to the same mean annoyance in groups of people exposed to these noises. This may indicate that the LAeq,T measure is not a completely satisfactory description of these noises and perhaps does not completely reflect the characteristics of these noises that lead to annoyance. Alternatively, the differences may be attributed to various other factors that are not part of the noise characteristics (e.g. Flindell & Stallen 1999). For example, it has been said that aircraft noise is more disturbing, because of the associated fear of aircraft crashing on people's homes (cf. Berglund & Lindvall 1995).

2.3.6. Individual differences

Finally, there is the problem of individual response differences. Different people will respond quite differently to the same noise stimulus (Job 1988). These individual differences can be

quite large and it is often most useful to consider the average response of groups of people exposed to the same sound pressure levels. In annoyance studies the percentage of highly annoyed individuals is usually considered, because it correlates better with measured sound pressure levels. Individual differences also exist for susceptibility to hearing impairment (e.g. Katz 1994).

2.3.7. Recommendations

In many cases we do not have specific, accurate measures of how annoying sound will be and must rely on the simpler quantities. As a result, current practice is to assume that the equal energy principle is approximately valid for most types of noise, and that a simple LAeq,T type measure will indicate reasonably well the expected effects of the noise. Where the noise consists of a small number of discrete events, the A-weighted maximum level (LAmax) will be a better indicator of the disturbance to sleep and other activities. However, in most cases the A-weighted sound exposure level (SEL) will provide a more consistent measure of such single-noise events, because it is based on an integration over the complete noise event.

2.4. Measurement Issues

2.4.1. Measurement objectives

The details of noise measurements must be planned to meet some relevant objective or purpose. Some typical objectives would include:

a. Investigating complaints.
b. Assessing the number of persons exposed.
c. Compliance with regulations.
d. Land use planning and environmental impact assessments.
e. Evaluation of remedial measures.
f. Calibration and validation of predictions.
g. Research surveys.
h. Trend monitoring.

The sampling procedure, measurement location, type of measurements and the choice of equipment should be in accord with the objective of the measurements.

2.4.2. Instrumentation

The most critical component of a sound pressure meter is the microphone, because it is difficult to produce microphones with the same precision as the other, electronic components of a pressure meter. In contrast, it is usually not difficult to produce the electronic components of a microphone with the desired sensitivity and frequency-response characteristics. Lower quality microphones will usually be less sensitive and so cannot measure very low sound pressure levels. They may also not be able to accurately measure very high sound pressure levels found closer to loud noise sources. Lower quality microphones will also have less well-defined frequency-response characteristics. Such lower quality microphones may be acceptable for survey type

measurements of overall A-weighted levels, but would not be preferred for more precise measurements, including detailed frequency analysis of the sounds.

Sound pressure meters will usually include both A- and C-weighting frequency-response curves. The uses of these frequency weightings were discussed above. They may also include a linear weighting. Linear weightings are not defined in standards and may in practice be limited by the response of the particular microphone being used. Instead of, or in addition to, frequency-response weightings, more complex sound pressure meters can also include sets of standard bandpass filters, to permit frequency analysis of sounds. For acoustical measurements, octave and one-third octave bandwidth filters are widely used with centre frequencies defined in standards (ISO 1975b).

The instantaneous sound pressures are integrated with some time constant to provide sound pressure levels. As mentioned above most meters will include both *Fast*- and *Slow*-response times. *Fast*-response corresponds to a time constant of 0.125 s and is intended to approximate the time constant of the human hearing system. *Slow*-response corresponds to a time constant of 1 s and is an old concept intended to make it easier to obtain an approximate average value of fluctuating levels from simple meter readings.

Standards (IEC 1979) classify sound pressure meters as type 1 or type 2. Type 2 meters are adequate for broad band A-weighted level measurements, where extreme precision is not required and where very low sound pressure levels are not to be measured. Type 1 meters are usually much more expensive and should be used where more precise results are needed, or in cases where frequency analysis is required.

Many modern sound pressure meters can integrate sound pressure levels over some specified time period, or may include very sophisticated digital processing capabilities. Integrating meters make it possible to directly obtain accurate measures of LAeq,T values over a user-specified time interval, T. By including small computers in some sound pressure meters, quite complex calculations can be performed on the measured levels and many such results can be stored for later read out. For example, some meters can determine the statistical distribution of sound pressure levels over some period, in addition to the simple LAeq,T value. Recently, hand-held meters that perform loudness calculations in real time have become available. Continuing rapid developments in instrumentation capabilities are to be expected.

2.4.3. Measurement locations

Where local regulations do not specify otherwise, measurements of environmental noise are usually best made close to the point of reception of the noise. For example, if there is concern about residents exposed to road traffic noise it is better to measure close to the location of the residents, rather than close to the road. If environmental noises are measured close to the source, one must then estimate the effect of sound propagation to the point of reception. Sound propagation can be quite complicated and estimates of sound pressure levels at some distance from the source will inevitably introduce further errors into the measured sound pressure levels. These errors can be avoided by measuring at locations close to the point of reception.

Measurement locations should normally be selected so that there is a clear view of the sound source and so that the propagation of the sound to the microphone is not shielded or blocked by structures that would reduce the incident sound pressure levels. For example, measurements of aircraft noise should be made on the side of the building directly exposed to the noise. The position of the measuring microphone relative to building façades or other sound-reflective surfaces is also important and will significantly influence measured sound pressure levels (ISO 1978). If the measuring microphone is located more than several meters from reflecting surfaces, it will provide an unbiased indication of the incident sound pressure level. At the other extreme, when a measuring microphone is mounted on a sound-reflecting surface, such as a building façade, sound pressure levels will be increased by 6 dB, because the direct and reflected sound will coincide. Some standards recommend a position 2 m from the façade and an associated 3 dB correction (ISO 1978; ASTM 1992). The effect of façade reflections must be accounted for to represent the true level of the incident sound. Thus, while locating the measuring microphone close to the point of reception is desirable, it leads to some other issues that must be considered to accurately interpret measurement results. Where exposures are measured indoors, it is necessary to measure at several positions to characterize the average sound pressure level in a room. In other situations, it may be necessary to measure at the position of the exposed person.

2.4.4. Sampling

Many environmental noises vary over time, such as for different times of day or from season to season. For example, road traffic noise may be considerably louder during some hours of the day but much quieter at night. Aircraft noise may vary with the season due to different numbers of aircraft operations. Although permanent noise monitoring systems are becoming common around large airports, it is usually not possible to measure sound pressure levels continuously over a long enough period of time to completely define the environmental noise exposure. In practice, measurements usually only sample some part of the total exposure. Such sampling will introduce uncertainties in the estimates of the total noise exposure.

Traffic noise studies have identified various sampling schemes that can introduce errors of 2-3 dB in estimates of daytime LAeq,T values and even larger errors in night-time sound pressure levels (Vaskor et al. 1979). These errors relate to the statistical distributions of sound pressure levels over time (Bradley et al. 1979). Thus, the sampling errors associated with road traffic noise may be quite different from those associated with other noise, because of the quite different variations of sound pressure levels over time. It is also difficult to give general estimates of sampling errors due to seasonal variations. When making environmental noise measurements it is important that the measurement sample is representative of all of the variations in the noise in question, including variations of the source and variations in sound propagation, such as due to varying atmospheric conditions.

2.4.5. Calibration and quality assurance

Sound pressure meters can be calibrated using small calibrated sound sources. These devices are placed on the measurement microphone and produce a known sound pressure level with a specified accuracy. Such calibrations should be made at least daily, and more often if there is

some possibility that handling of the sound pressure meter may have modified its sensitivity. It is also important to have a complete quality assurance plan. This should require annual calibration of all noise measuring equipment to traceable standards and should clearly specify correct measurement and operating procedures (ISO 1994).

2.5. Source Characteristics and Sound Propagation

To make a correct assessment of noise it is important to have some appreciation of the characteristics of environmental noise sources and of how sound propagates from them. One should consider the directionality of noise sources, the variability with time and the frequency content. If these are in some way unusual, the noise may be more disturbing than expected. The most common types of environmental noise sources are directional and include: road-traffic noise, aircraft noise, train noise, industrial noise and outdoor entertainment facilities (*cf.* section 2.2). All of these types of environmental noise are produced by multiple sources, which in many cases are moving. Thus, the characteristics of individual sources, as well as the characteristics of the combined sources, must be considered.

For example, we can consider the radiation of sound from individual vehicles, as well as from a line of vehicles on a particular road. Sound from an ideal point source (i.e. non-directional source) will spread out spherically and sound pressure levels would decrease 6 dB for each doubling of distance from the source. However, for a line of such sources, or for an integration over the complete pass-by of an individual moving source, the combined effect leads to sound that spreads cylindrically and to sound pressure levels that decrease at 3 dB per doubling of distance. Thus, there are distinct differences between the propagation of sound from an ideal point source and from moving sources. In practice one cannot adequately assess the noise from a fixed source with measurements at a single location; it is essential to measure in a number of directions from the source. If the single source is moving, it is necessary to measure over a complete pass-by, to account for sound variation with direction and time.

In most real situations this simple behaviour is considerably modified by reflections from the ground and from other nearby surfaces. One expects that when sound propagates over loose ground, such as grass, that some sound energy will be absorbed and sound pressure levels will actually decrease more rapidly with distance from the source. Although this is approximately true, the propagation of sound between sources and receivers close to the ground is much more complicated than this. The combination of direct and ground-reflected sound can combine in a complex manner which can lead to strong cancellations at some frequencies and not at others (Embleton & Piercy 1976). Even at quite short source-to-receiver distances, these complex interference effects can significantly modify the propagating sound. At larger distances (approximately 100 m or more), the propagation of sound will also be significantly affected by various atmospheric conditions. Temperature and wind gradients as well as atmospheric turbulence can have large effects on more distant sound pressure levels (Daigle et al. 1986). Temperature and wind gradients can cause propagating sound to curve either upwards or downwards, creating either areas of increased or decreased sound pressure levels at points quite distant from the source. Atmospheric turbulence can randomize sound so that the interference effects resulting from combinations of sound paths are reduced. Higher frequency sound is absorbed by air depending on the exact temperature and relative humidity of the air (Crocker &

Price 1975; Ford 1987). Because there are many complex effects, it is not usually possible to accurately predict sound pressure levels at large distances from a source.

Using barriers or screens to block the direct path from the source to the receiver can reduce the propagation of sound. The attenuating effects of the screen are limited by sound energy that diffracts or bends around the screen. Screens are more effective at higher frequencies and when placed either close to the sound source or the receiver; they are less effective when placed far from the receiver. Although higher screens are better, in practice it is difficult to achieve more than about a 10 dB reduction. There should be no gaps in the screen and it must have an adequate mass per unit area. A long building can be an effective screen, but gaps between buildings will reduce the sound attenuation.

In some cases, it may be desirable to estimate environmental sound pressure levels using mathematical models implemented as computer programmes (House 1987). Such computer programmes must first model the characteristics of the source and then estimate the propagation of the sound from the source to some receiver point. Although such prediction schemes have several advantages, there will be some uncertainty as to the accuracy of the predicted sound pressure levels. Such models are particularly useful for road traffic noise and aircraft noise, because it is possible to create data bases of information describing particular sources. For more varied types of noise, such as industrial noise, it would be necessary to first characterize the noise sources. The models then sum up the effects of multiple sources and calculate how the sound will propagate to receiver points. Techniques for estimating sound propagation are improving and the accuracy of these models is also expected to improve. These models can be particularly useful for estimating the combined effect of a large number of sources over an extended period of time. For example, aircraft noise prediction models are typically used to predict average yearly noise exposures, based on the combination of aircraft events over a complete year. Such models can be applied to predict sound pressure level contours around airports for these average yearly conditions. This is of course much less expensive than measuring at many locations over a complete one year-period. However, such models can be quite complex, and require skilled users and accurate data bases. Because environmental noise prediction models are still developing, it is advisable to confirm predictions with measurements.

2.6. Sound transmission Into and Within Buildings

Sources of environmental noise are usually located outdoors; for example, road traffic, aircraft or trains. However, people exposed to these noises are often indoors, inside their home or some other building. It is, therefore, important to understand how environmental noises are transmitted into buildings. Most of the same fundamentals discussed earlier apply to airborne sound propagation between homes in multifamily dwellings, via common walls and floors. However, within buildings we can also consider impact sound sources, such as footsteps, as well as airborne sounds.

The amount of incident sound that is transmitted through a building façade is measured in terms of the sound reduction index. The sound reduction index, or transmission loss, is defined as 10 times the logarithm of the ratio of incident-to-transmitted sound power, and it describes in decibels how much the incident sound is reduced on passing through a particular panel. This

index of constructions usually increases with the frequency of the incident sound and with the mass of the construction (Kremer 1950). Thus, heavier or more massive constructions tend to have higher sound reductions. When it is not possible to achieve the desired transmission loss by increasing the mass of a panel, increased sound reduction can be achieved by a double panel construction. The two layers should be isolated with respect to vibrations and there should be sound absorbing material in the cavity. Such double panel constructions can provide much greater sound reduction than a single panel. Because sound reduction is also greater at higher frequencies most problems occur at lower frequencies, where most environmental noise sources produce relatively high sound pressure levels.

The sound reduction of buildings can be measured in standard laboratory tests, where the test panel is constructed in an opening between two reverberant test chambers (ISO 1995; ASTM 1997). In these tests sound fields are quite diffuse in both test chambers and the sound reduction index is calculated as the difference between the average sound pressure levels in the two rooms, plus a correction involving the area of the test panel and the total sound absorption in the receiving room. The sound reduction of a complete building façade can also be measured in the field using either natural environmental noises or test signals from loudspeakers (ISO 1978; ASTM 1992). In either case the noise, as transmitted through the façade, must be greater in level than other sounds in the receiving room. For this outdoor-to-indoor sound propagation case, the measured sound reduction index will also depend on the angle of incidence of the outdoor sound, as well as the position of the outdoor measuring microphone relative to the building façade. Corrections of up to 6 dB must be made to the sound pressure level measured outdoors, to account for the effect of reflections from the façade (see also section 2.4.3).

The sound reduction of most real building façades is determined by a combination of several different elements. For example, a wall might include windows, doors or some other type of element. If the sound reduction index values of each element are known, the values for the combined construction can be calculated from the area-weighted sums of the sound energy transmitted through each separate element. Although parts of the building façade, such as massive wall constructions, can be very effective barriers to sound, the sound reduction index of the complete façade is often greatly reduced by less effective elements such as windows, doors or ventilation openings. Completely open windows as such would have a sound reduction index of 0 dB. If window openings makes up 10% of the area of a wall, the sound reduction index of the combined wall and open window could not exceed 10 dB. Thus it is not enough to specify effective sound reducing façade constructions, without also solving the problem of adequate ventilation that does not compromise the sound transmission reduction by the building façade.

Sound reduction index values are measured at different frequencies and from these, single number ratings are determined. Most common are the ISO weighted sound reduction index (ISO 1996) and the equivalent ASTM sound transmission class (ASTM 1994a). However, in their original form these single number ratings are only appropriate for typical indoor noises that usually do not have strong low frequency components. Thus, they are usually not appropriate single number ratings of the ability of a building façade to block typical environmental noises. More recent additions to the ISO procedure have included source spectrum corrections intended to correct approximately for other types of sources (ISO 1996). Alternatively, the ASTM-Outdoor-Indoor Transmission Class rating calculates the A-weighted level reduction to a

standard environmental noise source spectrum (ASTM 1994b). Within buildings the impact sound insulation index can be measured with a standard impact source and determined according to ISO and ASTM standards (ISO 1998; ASTM 1994c 1996)

2.7. More Specialized Noise Measures

2.7.1. Loudness and perceived noise levels

There are procedures to accurately rate the loudness of complex sounds (Zwicker 1960; Stevens 1972; ISO 1975a). These usually start from a 1/3 octave spectrum of the noise. The combination of the loudness contributions of each 1/3 octave band with estimates of mutual masking effects, leads to a single overall loudness rating in sones. A similar system for rating the noisiness of sounds has also been developed (Kryter 1994). Again a 1/3 octave spectrum of the noise is required and the 1/3 octave noise levels are compared with a set of equal-noisiness contours. The individual 1/3 octave band noisiness estimates are combined to give an overall perceived noise level (PNL) that is intended to accurately estimate subjective evaluations of the same sound. The PNL metric was initially developed to rate jet aircraft noise.

PNL values will vary with time, for example when an aircraft flies by a measuring point. The effective perceived noise level measure (EPNL) is derived from PNL values and is intended to provide a complete rating of an aircraft fly-over. EPNL values add both a duration correction and a tone correction to PNL values. The duration correction ensures that longer duration events are rated as more disturbing. Similarly, noise spectra that seem to have prominent tonal components are rated as more disturbing by the tone-correction procedure. There is some evidence that these tone corrections are not always successful in improving predictions of adverse responses to noise events (Scharf & Hellman 1980). EPNL values are used in the certification testing of new aircraft. These more precise measures ensure that the noise from new aircraft is rated as accurately as possible.

2.7.2. Aviation noise measures

There are many measures for evaluating the long-term average sound pressure levels from aircraft near airports (Ford 1987; House 1987). They include different frequency weightings, different summations of levels and numbers of events, as well as different time-of-day weightings. Most measures are based on either A-weighted or PNL-weighted sound pressure levels. Because of the many other large uncertainties in predicting community response to aircraft noise, there seems little justification for using the more complex PNL-weighted sound pressure levels and there is a trend to change to A-weighted measures.

Most aviation noise measures are based on an equal energy approach and hence they sum up the total energy of a number of aircraft fly-overs. However, some older measures were based on different combinations of the level of each event and the number of events. These types of measures are gradually being replaced by measures based on the equal energy hypothesis such as LAeq,T values. There is also a range of time-of-day weightings incorporated into current aircraft noise measures. Night-time weightings of 6–12 dB are currently in use. Some countries also include an intermediate evening weighting.

The day-night sound pressure level L_{dn} (von Gierke 1975; Ford 1987) is an LAeq,T based measure with a 10 dB night-time weighting. It is based on A-weighted sound pressure levels and the equal energy principle. The noise exposure forecast (NEF) (Bishop & Horonjeff 1967) is based on the EPNL values of individual aircraft events and includes a 12 dB night-time weighting. It sums multiple events on an equal energy basis. However, the Australian variation of the NEF measure has a 6 dB evening weighting and a 6 dB night-time weighting (Bullen & Hede 1983). The German airport noise equivalent level (LEQ(FLG)) is based on A-weighted levels, but does not follow the equal energy principle.

The weighted equivalent continuous perceived noise level (WECPNL) measure (Ford 1987) proposed by ICAO is based on the equal energy principle and maximum PNL values of aircraft fly-overs. However, in Japan an approximation to this measure is used and is based on maximum A-weighted levels. The noise and number index (NNI), formerly used in the United Kingdom, was derived from maximum PNL values but was not based on the equal energy principle. An approximation to the original version of the NNI has been used in Switzerland and is based on maximum A-weighted levels of aircraft fly-overs, but its use will soon be discontinued. Changes in these measures are slow because their use is often specified in national legislation. However, several countries have changed to measures that are based on the equal energy principle and A-weighted sound pressure levels.

2.7.3. Impulsive noise measures

Impulsive sounds, such as gun shots, hammer blows, explosions of fireworks or other blasts, are sounds that significantly exceed the background sound pressure level for a very short duration. Typically each impulse lasts less than one second. Measurements with the meter set to 'Fast' response (section 2.1.1) do not accurately represent impulsive sounds. Therefore the meter response time must be shorter to measure such impulse type sounds. C-weighted levels have been found useful for ratings of gun shots (ISO 1987). Currently no mathematical description exists which unequivocally defines impulsive sounds, nor is there a universally accepted procedure for rating the additional annoyance of impulsive sounds (HCN 1997). Future versions of ISO Standard 1996 (present standard in ISO 1987b) are planned to improve this situation.

2.7.4. Measures of speech intelligibility

The intelligibility of speech depends primarily on the speech-to-noise ratio. If the level of the speech sounds are 15 dB or more above the level of the ambient noise, the speech intelligibility at 1 m distance will be close to 100% (Houtgast 1981; Bradley 1986b). This can be most simply rated in terms of the speech-to-noise ratio of the A-weighted speech and noise levels. Alternatively, the speech intelligibility index (formerly the articulation index) can be used if octave or 1/3 octave band spectra of the speech and noise are available (ANSI 1997).

When indoors, speech intelligibility also depends on the acoustical properties of the space. The acoustical properties of spaces have for many years been rated in terms of reverberation times. The reverberation time is approximately the time it takes for a sound in a room to decrease to inaudibility after the source has been stopped. Optimum reverberation times for speech have

been specified as a function of the size of the room. In large rooms, such as lecture halls and theaters, a reverberation time for speech of about 1 s is recommended. In smaller rooms such as classrooms, the recommended value for speech is about 0.6 s (Bradley 1986b,c). More modern measures of room acoustics have been found to be better correlates of speech intelligibility, and some combine an assessment of both the speech/noise ratio and room acoustics (Bradley 1986a,c). The most widely known is the speech transmission index (STI) (Houtgast & Steeneken 1983), or the abbreviated version of this measure referred to as RASTI (Houtgast & Steeneken 1985; IEC 1988). In smaller rooms, such as school classrooms, the conventional approach of requiring adequately low ambient noise levels, as well as some optimum reverberation time, is probably adequate to ensure good speech intelligibility (Bradley 1986b). In larger rooms and other more specialized situations, use of the more modern measures may be helpful.

2.7.5. Indoor noise ratings

The simplest procedure for rating levels of indoor noise is to measure them in terms of integrated A-weighted sound pressure levels, as measured by LAeq,T. As discussed earlier, this approach has been criticized as not being the most accurate rating of the negative effects of various types of noises, and is thought to be particularly inadequate when there are strong low-frequency components. Several more complex rating schemes are available based on octave band measurements of indoor noises. In Europe the noise rating system (Burns 1968), and in North America the noise criterion (Beranek 1971), both include sets of equal-disturbance type contours. Measured octave band sound pressure levels are compared with these contours and an overall noise rating is determined. More recently, two new schemes have been proposed: the balanced noise criterion procedure (Beranek 1989) and the room criterion system (Blazier 1998). These schemes are based on a wider range of octave bands extending from 16–8 000 Hz. They provide both a numerical and a letter rating of the noise. The numerical part indicates the level of the central frequencies important for speech communication and the letter indicates whether the quality of the sound is predominantly low-, medium- or high-frequency in nature. Extensive comparisons of these room noise rating procedures have yet to be performed. Because the newer measures include a wider range of frequencies, they can better assess a wider range of noise problems.

2.8. Summary

Where there are no clear reasons for using other measures, it is recommended that LAeq,T be used to evaluate more-or-less continuous environmental noises. LAeq,T should also be used to assess ongoing noises that may be composed of individual events with randomly varying sound pressure levels. Where the noise is principally composed of a small number of discrete events the additional use of LAmax or SEL is recommended. As pointed out in this chapter, there are definite limitations to these simple measures, but there are also many practical advantages, including economy and the benefits of a standardized approach.

The sound pressure level measurements should include all variations over time to provide results that best represent the noise in question. This would include variations in both the source and in propagation of the noise from the source to the receiver. Measurements should normally be

made close to typical points of reception. The accuracy of the measurements and the details of the measurement procedure must be adapted to the type of noise and to other details of the noise exposure. Assessment of speech intelligibility, aviation noise or impulse noise may require the use of more specialized methods. Where the exposed people are indoors and noise measurements are made outdoors, the sound attenuating properties of the building façade must also be measured or estimated.

3. Adverse Health Effects Of Noise

3.1. Introduction

The perception of sounds in day-to-day life is of major importance for human well-being. Communication through speech, sounds from playing children, music, natural sounds in parklands, parks and gardens are all examples of sounds essential for satisfaction in every day life. Conversely, this document is related to the adverse effects of sound (noise). According to the International Programme on Chemical Safety (WHO 1994), an adverse effect of noise is defined as a change in the morphology and physiology of an organism that results in impairment of functional capacity, or an impairment of capacity to compensate for additional stress, or increases the susceptibility of an organism to the harmful effects of other environmental influences. This definition includes any temporary or long-term lowering of the physical, psychological or social functioning of humans or human organs. The health significance of noise pollution is given in this chapter under separate headings, according to the specific effects: noise-induced hearing impairment; interference with speech communication; disturbance of rest and sleep; psychophysiological, mental-health and performance effects; effects on residential behaviour and annoyance; as well as interference with intended activities. This chapter also considers vulnerable groups and the combined effects of sounds from different sources. Conclusions based on the details given in this chapter are given in Chapter 4 as they relate to guideline values.

3.2. Noise-Induced Hearing Impairment

Hearing impairment is typically defined as an increase in the threshold of hearing. It is assessed by threshold audiometry. Hearing handicap is the disadvantage imposed by hearing impairment sufficient to affect one's personal efficiency in the activities of daily living. It is usually expressed in terms of understanding conventional speech in common levels of background noise (ISO 1990). Worldwide, noise-induced hearing impairment is the most prevalent irreversible occupational hazard. In the developing countries, not only occupational noise, but also environmental noise is an increasing risk factor for hearing impairment. In 1995, at the World Health Assembly, it was estimated that there are 120 million persons with disabling hearing difficulties worldwide (Smith 1998). It has been shown that men and women are equally at risk of noise-induced hearing impairment (ISO 1990; Berglund & Lindvall 1995).

Apart from noise-induced hearing impairment, hearing damage in populations is also caused by certain diseases; some industrial chemicals; ototoxic drugs; blows to the head; accidents; and hereditary origins. Deterioration of hearing capability is also associated with the aging process *per se* (presbyacusis). Present knowledge of the physiological effects of noise on the auditory system is based primarily on laboratory studies on animals. After noise exposure, the first morphological changes are usually found in the inner and outer hair cells of the cochlea, where the stereocilia become fused and bent. After more prolonged exposure, the outer and inner hair cells related to transmission of high-frequency sounds are missing. See Berglund & Lindvall (1995) for further discussion.

The ISO Standard 1999 (ISO 1990) gives a method for calculating noise-induced hearing impairment in populations exposed to all types of noise (continuous, intermittent, impulse) during working hours. Noise exposure is characterized by LAeq over 8 hours (LAeq,8h). In the Standard, the relationships between LAeq,8h and noise-induced hearing impairment are given for frequencies of 500–6 000 Hz, and for exposure times of up to 40 years. These relations show that noise-induced hearing impairment occurs predominantly in the high-frequency range of 3 000–6 000 Hz, the effect being largest at 4 000 Hz. With increasing LAeq,8h and increasing exposure time, noise-induced hearing impairment also occurs at 2 000 Hz. But at LAeq,8h levels of 75 dBA and lower, even prolonged occupational noise exposure will not result in noise-induced hearing impairment (ISO 1990). This value is equal to that specified in 1980 by the World Health Organization (WHO 1980a).

The ISO Standard 1999 (ISO 1990) specifies hearing impairment in statistical terms (median values, and percentile fractions between 0.05 and 0.95). The extent of noise-induced hearing impairment in populations exposed to occupational noise depends on the value of LAeq,8h and the number of years of noise exposure. However, for high LAeq,8h values, individual susceptibility seems to have a considerable effect on the rate of progression of hearing impairment. For daily exposures of 8–16 h, noise-induced hearing impairment can be reasonably well estimated from LAeq,8h extrapolated to the longer exposure times (Axelsson et al. 1986). In this adaptation of LAeq,8h for daily exposures other than 8 hours, the equal energy principle is assumed to be applicable. For example, the hearing impairment due to a 16 h daily exposure is equivalent to that at LAeq,8h plus 3 dB (LAeq,16h = LAeq,8h + $10*\log_{10}$ (16/8) = LAeq,8h + 3 dB. For a 24 h exposure, LAeq,24h = LAeq,8h + $10*\log_{10}$ (24/8) = LAeq,8h + 5 dB).

Since the calculation method specified in the ISO Standard 1999 (ISO 1990) is the only universally adopted method for estimating occupational noise-induced hearing impairment, attempts have been made to assess whether the method is also applicable to hearing impairment due to environmental noise, including leisure-time noise. There is ample evidence that shooting noise, with LAeq,24h values of up to 80 dB, induces the same hearing impairment as an equivalent occupational noise exposure (Smoorenburg 1998). Moreover, noise-induced hearing impairment studies from motorbikes are also in agreement with results from ISO Standard 1999 (ISO 1990). Hearing impairment in young adults and children 12 years and older has been assessed by LAeq on a 24 h time basis, for a variety of environmental and leisure-time exposure patterns (e.g. Passchier-Vermeer 1993; HCN 1994). These include pop music in discotheques and concerts (Babisch & Ising 1989; ISO 1990); pop music through headphones (Ising et al. 1994; Struwe et al. 1996; Passchier-Vermeer et al. 1998); music played by brass bands and symphony orchestras (van Hees 1992). The results are in agreement with values predicted by the ISO Standard 1999 method on the basis of adjusted time.

In the publications cited above, exposure to noise with known characteristics, such as duration and level, was related to hearing impairment. In addition to these publications, there is also an extensive literature showing hearing impairment in populations exposed to specific types of non-occupational noise, although these exposures are not well characterized. These noises originate from shooting, motorcycling, snowmobile driving, playing in arcades, listening to music at concerts and through headphones, using noisy toys, and fireworks (e.g. Brookhouser et al. 1992; see also Berglund & Lindvall 1995). Although the characteristics of these exposures are to a

certain extent unknown, the details in the publications suggest that LAeq,24h values of these exposures exceed 70 dB.

In contrast, epidemiological studies failed to show hearing damage in populations exposed to an LAeq,24h of less than 70 dB (Lindemann et al. 1987). The data imply that even a lifetime exposure to environmental and leisure-time noise with an LAeq,24h <70 dBA would not cause hearing impairment in the large majority of people (over 95%). Overall, the results of many studies strongly suggest that the method from ISO Standard 1999 can also be used to estimate hearing impairment due to environmental and leisure-time noise, in addition to estimating the effects of occupational noise exposure.

Although the evidence suggests that the calculation method from ISO Standard 1999 (ISO 1990) should also be accepted for environmental and leisure time noise exposures, large-scale epidemiological studies of the general population do not exist to support this proposition. Taking into account the limitations of the studies, care should be taken with respect to the following aspects:

a. Data from animal experiments indicate that children may be more vulnerable in acquiring noise-induced hearing impairment than adults.

b. At very high instantaneous sound pressure levels, mechanical damage to the ear may occur (Hanner & Axelsson 1988). Occupational limits are set at peak sound pressure levels of 140 dB (EU 1986a). For adults exposed to environmental and leisure-time noise, this same limit is assumed to be valid. In the case of children, however, taking into account their habits while playing with noisy toys, peak sound pressure levels should never exceed 120 dB.

c. For shooting noise with LAeq,24h over 80 dB, studies on temporary threshold shift suggest the possibility of an increased risk for noise-induced hearing impairment (Smoorenburg 1998).

d. Risk for noise-induced hearing impairment may increase when the noise exposure is combined with exposure to vibrations, the use of ototoxic drugs, or some chemicals (Fechter 1999). In these circumstances, long-term exposure to LAeq,24h of 70 dBA may induce small hearing impairments.

e. It is uncertain whether the relationships between hearing impairment and noise exposure given in ISO Standard 1999 (ISO 1990) are applicable for environmental sounds of short rise time. For example, in the case of military low-altitude flying areas (75–300 m above ground) LAmax values of 110–130 dB occur within seconds after the onset of the sound.

Usually noise-induced hearing impairment is accompanied by an abnormal loudness perception which is known as loudness recruitment (*cf.* Berglund & Lindvall 1995). With a considerable loss of auditory sensitivity, some sounds may be perceived as distorted (paracusis). Another sensory effect that results from noise exposure is tinnitus (ringing in the ears). Commonly,

tinnitus is referred to as sounds that are emitted by the inner ear itself (physiological tinnitus). Tinnitus is a common and often disturbing accompaniment of occupational hearing impairment (Vernon and Moller 1995) and has become a risk for teenagers attending pop concerts and discotheques (Hetu & Fortin 1995; Passchier-Vermeer et al. 1998; Axelsson & Prasher 1999). Noise-induced tinnitus may be temporary, lasting up to 24 hours after exposure, or may have a more permanent character, such as after prolonged occupational noise exposure. Sometimes tinnitus is due to the sound produced by the blood flow through structures in the ear.

The main social consequence of hearing impairment is an inability to understand speech in daily living conditions, which is considered a severe social handicap. Even small values of hearing impairment (10 dB averaged over 2 000 and 4 000 Hz, and over both ears) may have an effect on the understanding of speech. When the hearing impairment exceeds 30 dB (again averaged over 2 000 and 4 000 Hz and both ears) a social hearing handicap is noticeable (*cf.* Katz 1994; Berglund & Lindvall 1995).

In the past, hearing protection has mainly emphasized occupational noise exposures at high values of LAeq,8h, or situations with high impulsive sounds. The near-universal adoption of an LAeq,8h value of 85 dB (or lower) as the limit for unprotected occupational noise exposure, together with requirements for personal hearing protection, has made cases of severe unprotected exposures more rare. This is particularly true for developed countries. However, monitoring of compliance and enforcement action for sound pressure levels just over the limits may be weak, especially in non-industrial environments in developed countries (Franks 1998), as well as in occupational and urban environments in developing countries (Smith 1998). Nevertheless, regulations for occupational noise exposure exist almost worldwide and exposures to occupational noise are to a certain extent under control.

On the other hand, environmental noise exposures due to a number of noisy activities, especially those during leisure-time activities of children and young adults, have scarcely been regulated. Given both the increasing number of noisy activities and the increasing exposure duration, such as loud music in cars and the use of Walkmen and Discmen, regulatory activities in this field are to be encouraged. Dose-response data are lacking for the general population. However, judging from the limited data for study groups (teenagers, young adults and women), and the assumption that time of exposure can be equated with sound energy, the risk for hearing impairment would be negligible for LAeq,24h values of 70 dBA over a lifetime. To avoid hearing impairment, impulse noise exposures should never exceed 140 dB peak sound pressure in adults, and 120 dB peak sound pressure in children.

3.3. Interference with Speech Communication

Noise interference with speech comprehension results in a large number of personal disabilities, handicaps and behavioural changes. Problems with concentration, fatigue, uncertainty and lack of self-confidence, irritation, misunderstandings, decreased working capacity, problems in human relations, and a number of stress reactions have all been identified (Lazarus 1998). Particularly vulnerable to these types of effects are the hearing impaired, the elderly, children in the process of language and reading acquisition, and individuals who are not familiar with the spoken language (e.g., Lazarus 1998). Thus, vulnerable persons constitute a substantial

proportion of a country's population.

Most of the acoustical energy of speech is in the frequency range 100–6 000 Hz, with the most important cue-bearing energy being between 300–3 000 Hz. Speech interference is basically a masking process in which simultaneous, interfering noise renders speech incapable of being understood. The higher the level of the masking noise, and the more energy it contains at the most important speech frequencies, the greater will be the percentage of speech sounds that become indiscernible to the listener. Environmental noise may also mask many other acoustical signals important for daily life, such as door bells, telephone signals, alarm clocks, fire alarms and other warning signals, and music (e.g., Edworthy & Adams 1996). The masking effect of interfering noise in speech discrimination is more pronounced for hearing-impaired persons than for persons with normal hearing, particularly if the interfering noise is composed of speech or babble.

As the sound pressure level of an interfering noise increases, people automatically raise their voice to overcome the masking effect upon speech (increase of vocal effort). This imposes an additional strain on the speaker. For example, in quiet surroundings, the speech level at 1 m distance averages 45–50 dBA, but is 30 dBA higher when shouting. However, even if the interfering noise is moderately loud, most of the sentences during ordinary conversation can still be understood fairly well. Nevertheless, the interpretation required for compensating the masking effect of the interfering sounds, and for comprehending what was said, imposes an additional strain on the listener. One contributing factor could be that speech spoken loudly is more difficult to understand than speech spoken softly, when compared at a constant speech-to-noise ratio (*cf.* Berglund & Lindvall 1995).

Speech levels vary between individuals because of factors such as gender and vocal effort. Moreover, outdoor speech levels decrease by about 6 dB for a doubling in the distance between talker and listener. Speech intelligibility in everyday living conditions is influenced by speech level, speech pronunciation, talker-to-listener distance, sound pressure levels, and to some extent other characteristics of interfering noise, as well as room characteristics (e.g. reverberation). Individual capabilities of the listener, such as hearing acuity and the level of attention of the listener, are also important for the intelligibility of speech. Speech communication is affected also by the reverberation characteristics of the room. For example, reverberation times greater than 1 s produce loss in speech discrimination. Longer reverberation times, especially when combined with high background interfering noise, make speech perception more difficult. Even in a quiet environment, a reverberation time below 0.6 s is desirable for adequate speech intelligibility by vulnerable groups. For example, for older hearing-handicapped persons, the optimal reverberation time for speech intelligibility is 0.3–0.5 s (Plomp 1986).

For complete sentence intelligibility in listeners with normal hearing, the signal-to-noise ratio (i.e. the difference between the speech level and the sound pressure level of the interfering noise) should be 15–18 dBA (Lazarus 1990). This implies that in smaller rooms, noise levels above 35 dBA interferes with the intelligibility of speech (Bradley 1985). Earlier recommendations suggested that sound pressure levels as high as 45 dBA would be acceptable (US EPA 1974). With raised voice (increased vocal effort) sentences may be 100% intelligible for noise levels of up to 55 dBA; and sentences spoken with straining vocal effort can be 100% intelligible with

noise levels of about 65 dBA. For speech to be intelligible when listening to complicated messages (at school, listening to foreign languages, telephone conversation), it is recommended that the signal-to-noise ratio should be at least 15 dBA. Thus, with a speech level of 50 dBA, (at 1 m distance this level corresponds to a casual speech level of both women and men), the sound pressure level of interfering noise should not exceed 35 dBA. For vulnerable groups even lower background levels are needed. If it is not possible to meet the strictest criteria for vulnerable persons in sensitive situations (e.g. in classrooms), one should strive for as low background levels as possible.

3.4. Sleep Disturbance

Uninterrupted sleep is known to be a prerequisite for good physiological and mental functioning of healthy persons (Hobson 1989); sleep disturbance, on the other hand, is considered to be a major environmental noise effect. It is estimated that 80-90% of the reported cases of sleep disturbance in noisy environments are for reasons other than noise originating outdoors. For example, sanitary needs; indoor noises from other occupants; worries; illness; and climate (e.g. Reyner & Horne 1995). Our understanding of the impact of noise exposure on sleep stems mainly from experimental research in controlled environments. Field studies conducted with people in their normal living situations are scarce. Most of the more recent field research on sleep disturbance has been conducted for aircraft noise (Fidell et al. 1994 1995a,b 1998; Horne et al. 1994 1995; Maschke et al. 1995 1996; Ollerhead et al. 1992; Passchier-Vermeer 1999). Other field studies have examined the effects of road traffic and railway noise (Griefahn et al. 1996 1998).

The primary sleep disturbance effects are: difficulty in falling asleep (increased sleep latency time); awakenings; and alterations of sleep stages or depth, especially a reduction in the proportion of REM-sleep (REM = rapid eye movement) (Hobson 1989). Other primary physiological effects can also be induced by noise during sleep, including increased blood pressure; increased heart rate; increased finger pulse amplitude; vasoconstriction; changes in respiration; cardiac arrhythmia; and an increase in body movements (cf. Berglund & Lindvall 1995). For each of these physiological effects, both the noise threshold and the noise-response relationships may be different. Different noises may also have different information content and this also could affect physiological threshold and noise-response relationships (Edworthy 1998).

Exposure to night-time noise also induces secondary effects, or so-called after effects. These are effects that can be measured the day following the night-time exposure, while the individual is awake. The secondary effects include reduced perceived sleep quality; increased fatigue; depressed mood or well-being; and decreased performance (Öhrström 1993a; Passchier-Vermeer 1993; Carter 1996; Pearsons et al. 1995; Pearsons 1998).

Long-term effects on psychosocial well-being have also been related to noise exposure during the night (Öhrström 1991). Noise annoyance during the night-time increased the total noise annoyance expressed by people in the following 24 h. Various studies have also shown that people living in areas exposed to night-time noise have an increased use of sedatives or sleeping pills. Other frequently reported behavioural effects of night-time noise include closed bedroom windows and use of personal hearing protection. Sensitive groups include the elderly, shift

workers, persons especially vulnerable to physical or mental disorders and other individuals with sleeping difficulties.

Questionnaire data indicate the importance of night-time noise on the perception of sleep quality. A recent Japanese investigation was conducted for 3 600 women (20–80 years old) living in eight roadside zones with different road traffic noise. The results showed that four measures of perceived sleep quality (difficulty in falling asleep; waking up during sleep; waking up too early; feelings of sleeplessness one or more days a week) correlated significantly with the average traffic volumes during night-time. An in-depth investigation of 19 insomnia cases and their matched controls (age,work) measured outdoor and indoor sound pressure levels during sleep (Kageyama et al. 1997). The study showed that road traffic noise in excess of 30 dB LAeq for nighttime induced sleep disturbance, consistent with the results of Öhrström (1993b).

Meta-analyses of field and laboratory studies have suggested that there is a relationship between the SEL for a single night-time noise event and the percentage of people awakened, or who showed sleep stage changes (e.g. Ollerhead et al. 1992; Passchier-Vermeer 1993; Finegold et al. 1994; Pearsons et al. 1995). All of these studies assumed that the number of awakenings per night for each SEL value is proportional to the number of night-time noise events. However, the results have been criticized for methodological reasons. For example, there were small groups of sleepers; too few original studies; and indoor exposure was estimated from outdoor sound pressure levels (NRC-CNRC 1994; Beersma & Altena 1995; Vallet 1998). The most important result of the meta-analyses is that there is a clear difference in the dose-response curves for laboratory and field studies, and that noise has a lower effect under real-life conditions (Pearsons et al. 1995; Pearsons 1998).

However, this result has been questioned, because the studies were not controlled for such things as the sound insulation of the buildings, and the number of bedrooms with closed windows. Also, only two indicators of sleep disturbance were considered (awakening and sleep stage changes). The meta-analyses thus neglected other important sleep disturbance effects (Öhrström 1993b; Carter et al. 1994a; Carter et al. 1994b; Carter 1996; Kuwano et al. 1998). For example, for road traffic noise, perceived sleep quality is related both to the time needed to fall asleep and the total sleep time (Öhrström & Björkman 1988). Individuals who are more sensitive to noise (as assessed by different questionnaires) report worse sleep quality both in field studies and in laboratory studies.

A further criticism of the meta-analyses is that laboratory experiments have shown that habituation to night-time noise events occurs, and that noise-induced awakening decreases with increasing number of sound exposures per night. This is in contrast to the assumption used in the meta-analyses, that the percentage of awakenings is linearly proportional to the number of night-time noise events. Studies have also shown that the frequency of noise-induced awakenings decreases for at least the first eight consecutive nights. So far, habituation has been shown for awakenings, but not for heart rate and after effects such as perceived sleep quality, mood and performance (Öhrström and Björkman 1988).

Other studies suggest that it is the difference in sound pressure levels between a noise event and background, rather than the absolute sound pressure level of the noise event, that determines the

reaction probability. The time interval between two noise events also has an important influence of the probability of obtaining a response (Griefahn 1977; *cf.* Berglund & Lindvall 1995). Another possible factor is the person's age, with older persons having an increased probability of awakening. However, one field study showed that noise-induced awakenings are independent of age (Reyner & Horne 1995).

For a good sleep, it is believed that indoor sound pressure levels should not exceed approximately 45 dB LAmax more than 10–15 times per night (Vallet & Vernet 1991), and most studies show an increase in the percentage of awakenings at SEL values of 55–60 dBA (Passchier-Vermeer 1993; Finegold et al. 1994; Pearsons et al. 1995). For intermittent events that approximate aircraft noise, with an effective duration of 10–30 s, SEL values of 55–60 dBA correspond to a LAmax value of 45 dB. Ten to 15 of these events during an eight-hour night-time implies an LAeq,8h of 20–25 dB. This is 5–10 dB below the LAeq,8h of 30 dB for continuous night-time noise exposure, and shows that the intermittent character of noise has to be taken into account when setting night-time limits for noise exposure. For example, this can be achieved by considering the number of noise events and the difference between the maximum sound pressure level and the background level of these events.

Special attention should also be given to the following considerations:

a. Noise sources in an environment with a low background noise level. For example, night-traffic in suburban residential areas.

b. Environments where a combination of noise and vibrations are produced. For example, railway noise, heavy duty vehicles.

c. Sources with low-frequency components. Disturbances may occur even though the sound pressure level during exposure is below 30 dBA.

If negative effects on sleep are to be avoided the equivalent sound pressure level should not exceed 30 dBA indoors for continuous noise. If the noise is not continuous, sleep disturbance correlates best with LAmax and effects have been observed at 45 dB or less. This is particularly true if the background level is low. Noise events exceeding 45 dBA should therefore be limited if possible. For sensitive people an even lower limit would be preferred. It should be noted that it should be possible to sleep with a bedroom window slightly open (a reduction from outside to inside of 15 dB). To prevent sleep disturbances, one should thus consider the equivalent sound pressure level and the number and level of sound events. Mitigation targeted to the first part of the night is believed to be effective for the ability to fall asleep.

3.5. Cardiovascular and Physiological Effects

Epidemiological and laboratory studies involving workers exposed to occupational noise, and general populations (including children) living in noisy areas around airports, industries and noisy streets, indicate that noise may have both temporary and permanent impacts on physiological functions in humans. It has been postulated that noise acts as an environmental stressor (for a review see Passchier-Vermeer 1993; Berglund & Lindvall 1995). Acute noise exposures activate the autonomic and hormonal systems, leading to temporary changes such as increased blood pressure, increased heart rate and vasoconstriction. After prolonged exposure, susceptible individuals in the general population may develop permanent effects, such as hypertension and ischaemic heart disease associated with exposures to high sound pressure levels (for a review see Passchier-Vermeer 1993; Berglund & Lindvall 1995). The magnitude and duration of the effects are determined in part by individual characteristics, lifestyle behaviours and environmental conditions. Sounds also evoke reflex responses, particularly when they are unfamiliar and have a sudden onset.

Laboratory experiments and field quasi-experiments show that if noise exposure is temporary, the physiological system usually returns - after the exposure terminates - to a normal (pre-exposure) state within a time in the range of the exposure duration. If the exposure is of sufficient intensity and unpredictability, cardiovascular and hormonal responses may appear, including increases in heart rate and peripheral vascular resistance; changes in blood pressure, blood viscosity and blood lipids; and shifts in electrolyte balance (Mg/Ca) and hormonal levels (epinephrine, norepinephrine, cortisol). The first four effects are of interest because of noise-related coronary heart disease (Ising & Günther 1997). Laboratory and clinical data suggest that noise may significantly elevate gastrointestinal motility in humans.

By far the greatest number of occupational and community noise studies have focused on the possibility that noise may be a risk factor for cardiovascular disease. Many studies in occupational settings have indicated that workers exposed to high levels of industrial noise for 5–30 years have increased blood pressure and statistically significant increases in risk for hypertension, compared to workers in control areas (Passchier-Vermeer 1993). In contrast, only a few studies on environmental noise have shown that populations living in noisy areas around airports and on noisy streets have an increased risk for hypertension. The overall evidence suggests a weak association between long-term environmental noise exposure and hypertension (HCN 1994; Berglund & Lindvall 1995; IEH 1997), and no dose-response relationships could be established.

Recently, an updated summary of available studies for ischaemic heart disease has been presented (Babisch 1998a; Babisch 1998b; Babisch et al. 1999; see also Thompson 1996). The studies reviewed include case-control and cross-sectional designs, as well as three longitudinal studies. However, it has not yet been possible to conduct the most advanced quantitative integrated analysis of the available studies. Relative risks and their confidence intervals could be estimated only for the classes of high noise levels (mostly >65 dBA during daytime) and low levels (mostly <55 dBA during daytime), rather than a range of exposure levels. For methodological reasons identified in the meta-analysis, a cautious interpretation of the results is warranted (Lercher et al. 1998).

Prospective studies that controlled for confounding factors suggest an increase in ischaemic heart disease when the noise levels exceed 65–70 dB for LAeq (6–22). (For road traffic noise, the difference between LAeq (6-22h) and LAeq,24h usually is of the order of 1.5 dB). When orientation of the bedroom, window opening habits and years of exposure are taken into account, the risk of heart disease is slightly higher (Babisch et al. 1998; Babisch et al. 1999). However, disposition, behavioural and environmental factors were not sufficiently accounted for in the analyses carried out to date. In epidemiological studies the lowest level at which traffic noise had an effect on ischaemic heart disease was 70 dB for LAeq,24h (HCN 1994).

The overall conclusion is that cardiovascular effects are associated with long-term exposure to LAeq,24h values in the range of 65–70 dB or more, for both air- and road-traffic noise. However, the associations are weak and the effect is somewhat stronger for ischaemic heart disease than for hypertension. Nevertheless, such small risks are potentially important because a large number of persons are currently exposed to these noise levels, or are likely to be exposed in the future. Furthermore, only the average risk is considered and sensitive subgroups of the populations have not been sufficiently characterized. For example, a 10% increase in risk factors (a relative risk of 1.1) may imply an increase of up to 200 cases per 100 000 people at risk per year. Other observed psychophysiological effects, such as changes in stress hormones, magnesium levels, immunological indicators, and gastrointestinal disturbances are too inconsistent for conclusions to be drawn about the influence of noise pollution.

3.6. Mental Health Effects

Mental health is defined as the absence of identifiable psychiatric disorders according to current norms (Freeman 1984). Environmental noise is not believed to be a direct cause of mental illness, but it is assumed that it accelerates and intensifies the development of latent mental disorder. Studies on the adverse effects of environmental noise on mental health cover a variety of symptoms, including anxiety; emotional stress; nervous complaints; nausea; headaches; instability; argumentativeness; sexual impotency; changes in mood; increase in social conflicts, as well as general psychiatric disorders such as neurosis, psychosis and hysteria. Large-scale population studies have suggested associations between noise exposure and a variety of mental health indicators, such as single rating of well-being; standard psychological symptom profiles; the intake of psychotropic drugs; and consumption of tranquilizers and sleeping pills. Early studies showed a weak association between exposure to aircraft noise and psychiatric hospital admissions in the general population surrounding an airport (see also Berglund & Lindvall 1995). However, the studies have been criticized because of problems in selecting variables and in response bias (Halpern 1995).

Exposure to high levels of occupational noise has been associated with development of neurosis and irritability; and exposure to high levels of environmental noise with deteriorated mental health (Stansfeld 1992). However, the findings on environmental noise and mental health effects are inconclusive (HCN 1994; Berglund & Lindvall 1995; IEH 1997). The only longitudinal study in this field (Stansfeld et al. 1996) showed an association between the initial level of road traffic noise and minor psychiatric disorders, although the association for increased anxiety was weak and non-linear. It turned out that psychiatric disorders are associated with noise sensitivity,

rather than with noise exposure, and the association was found to disappear after adjustment for baseline trait anxiety. These and other results show the importance of taking vulnerable groups into account, because they may not be able to cope sufficiently with unwanted environmental noise (e.g. Stansfeld 1992). This is particularly true of children, the elderly and people with preexisting illnesses, especially depression (IEH 1997). Despite the weaknesses of the various studies, the possibility that community noise has adverse effects on mental health is suggested by studies on the use of medical drugs, such as tranquilizers and sleeping pills, on psychiatric symptoms and on mental hospital admission rates.

3.7. The Effects of Noise on Performance

It has been documented in both laboratory subjects and in workers exposed to occupational noise, that noise adversely affects cognitive task performance. In children, too, environmental noise impairs a number of cognitive and motivational parameters (Cohen et al. 1980; Evans & Lepore 1993; Evans 1998; Hygge et al. 1998; Haines et al. 1998). However, there are no published studies on whether environmental noise at home also impairs cognitive performance in adults. Accidents may also be an indicator of performance deficits. The few field studies on the effects of noise on performance and safety showed that noise may produce some task impairment and increase the number of errors in work, but the effects depend on the type of noise and the task being performed (Smith 1990).

Laboratory and workplace studies showed that noise can act as a distracting stimulus. Also, impulsive noise events (e.g. sonic booms) may produce disruptive effects as a result of startle responses. In the short term, noise-induced arousal may produce better performance of simple tasks, but cognitive performance deteriorates substantially for more complex tasks (i.e. tasks that require sustained attention to details or to multiple cues; or tasks that demand a large capacity of working memory, such as complex analytical processes). Some of the effects are related to loss in auditory comprehension and language acquisition, but others are not (Evans & Maxwell 1997). Among the cognitive effects, reading, attention, problem solving and memory are most strongly affected by noise. The observed effects on motivation, as measured by persistence with a difficult cognitive task, may either be independent or secondary to the aforementioned cognitive impairments.

Two types of memory deficits have been identified under experimental noise exposure: incidental memory and memory for materials that the observer was not explicitly instructed to focus on during a learning phase. For example, when presenting semantic information to subjects in the presence of noise, recall of the information content was unaffected, but the subjects were significantly less able to recall, for example, in which corner of the slide a word had been located. There is also some evidence that the lack of "helping behavior" that was noted under experimental noise exposure may be related to inattention to incidental cues (Berglund & Lindvall 1995). Subjects appear to process information faster in working memory during noisy performance conditions, but at a cost of available memory capacity. For example, in a running memory task, in which subjects were required to recall in sequence letters that they had just heard, subjects recalled recent items better under noisy conditions, but made more errors farther back into the list.

Experimental noise exposure consistently produces negative after-effects on performance (Glass & Singer 1972). Following exposure to aircraft noise, schoolchildren in the vicinity of Los Angeles airport were found to be deficient in proofreading, and in persistence with challenging puzzles (Cohen et al. 1980). The uncontrollability of noise, rather than the intensity of the noise, appears to be the most critical variable. The only prospective study on noise-exposed schoolchildren, designed around the move of the Munich airport (Hygge et al. 1996; Evans et al. 1998), confirmed the results of laboratory and workplace studies in adults, as well the results of the Los Angeles airport study with children (Cohen et al. 1980). An important finding was that some of the adaptation strategies for dealing with aircraft noise, such as tuning out or ignoring the noise, and the effort necessary to maintain task performance, come at a price. There is heightened sympathetic arousal, as indicated by increased levels of stress hormone, and elevation of resting blood pressure (Evans et al. 1995; Evans et al. 1998). Notably, in the airport studies reported above, the adverse effects were larger in children with lower school achievement.

For aircraft noise, it has been shown that chronic exposure during early childhood appears to impair reading acquisition and reduces motivational capabilities. Of recent concern are concomitant psychophysiological changes (blood pressure and stress hormone levels). Evidence indicates that the longer the exposure, the greater the damage. It seems clear that daycare centers and schools should not be located near major sources of noise, such as highways, airports and industrial sites.

3.8. Effects of Noise on Residential Behaviour and Annoyance

Noise annoyance is a global phenomenon. A definition of annoyance is "a feeling of displeasure associated with any agent or condition, known or believed by an individual or group to adversely affect them" (Lindvall & Radford 1973; Koelega 1987). However, apart from "annoyance", people may feel a variety of negative emotions when exposed to community noise, and may report anger, disappointment, dissatisfaction, withdrawal, helplessness, depression, anxiety, distraction, agitation, or exhaustion (Job 1993; Fields et al. 1997 1998). Thus, although the term annoyance does not cover all the negative reactions, it is used for convenience in this document.

Noise can produce a number of social and behavioural effects in residents, besides annoyance (for review see Berglund & Lindvall 1995). The social and behavioural effects are often complex, subtle and indirect. Many of the effects are assumed to be the result of interactions with a number of non-auditory variables. Social and behavioural effects include changes in overt everyday behaviour patterns (e.g. closing windows, not using balconies, turning TV and radio to louder levels, writing petitions, complaining to authorities); adverse changes in social behaviour (e.g. aggression, unfriendliness, disengagement, non-participation); adverse changes in social indicators (e.g. residential mobility, hospital admissions, drug consumption, accident rates); and changes in mood (e.g. less happy, more depressed).

Although changes in social behaviour, such as a reduction in helpfulness and increased aggressiveness, are associated with noise exposure, noise exposure alone is not believed to be sufficient to produce aggression. However, in combination with provocation or pre-existing anger or hostility, it may trigger aggression. It has also been suspected that people are less willing to help, both during exposure and for a period after exposure. Fairly consistent evidence

shows that noise above 80 dBA is associated with reduced helping behaviour and increased aggressive behaviour. Particularly, there is concern that high-level continuous noise exposures may contribute to the susceptibility of schoolchildren to feelings of helplessness (Evans & Lepore 1993)

The effects of community noise can be evaluated by assessing the extent of annoyance (low, moderate, high) among exposed individuals; or by assessing the disturbance of specific activities, such as reading, watching television and communication. The relationship between annoyance and activity disturbances is not necessarily direct and there are examples of situations where the extent of annoyance is low, despite a high level of activity disturbance. For aircraft noise, the most important effects are interference with rest, recreation and watching television. This is in contrast to road traffic noise, where sleep disturbance is the predominant effect (Berglund & Lindvall 1995).

A number of studies have shown that equal levels of traffic and industrial noises result in different magnitudes of annoyance (Hall et al. 1981; Griffiths 1983; Miedema 1993; Bradley 1994a; Miedema & Vos 1998). This has led to criticism (e.g. Kryter 1994; Bradley 1994a) of averaged dose-response curves determined by meta-analysis, which assumed that all traffic noises are the same (Fidell et al. 1991; Fields 1994a; Finegold et al. 1994). Schultz (1978) and Miedema & Vos (1998) have synthesized curves of annoyance associated with three types of traffic noise (road, air, railway). In these curves, the percentage of people highly or moderately annoyed was related to the day and night continuous equivalent sound level, L_{dn}. For each of the three types of traffic noise, the percentage of highly annoyed persons in a population started to increase at an L_{dn} value of 42 dBA, and the percentage of moderately annoyed persons at an L_{dn} value of 37 dBA (Miedema & Vos 1998). Aircraft noise produced a stronger annoyance response than road traffic, for the same L_{dn} exposure, consistent with earlier analyses (Kryter 1994; Bradley 1994a). However, caution should be exercised when interpreting synthesized data from different studies, since five major parameters should be randomly distributed for the analyses to be valid: personal, demographic, and lifestyle factors, as well as the duration of noise exposure and the population experience with noise (Kryter 1994).

Annoyance in populations exposed to environmental noise varies not only with the acoustical characteristics of the noise (source, exposure), but also with many non-acoustical factors of social, psychological, or economic nature (Fields 1993). These factors include fear associated with the noise source, conviction that the noise could be reduced by third parties, individual noise sensitivity, the degree to which an individual feels able to control the noise (coping strategies), and whether the noise originates from an important economic activity. Demographic variables such as age, sex and socioeconomic status, are less strongly associated with annoyance. The correlation between noise exposure and general annoyance is much higher at the group level than at the individual level, as might be expected. Data from 42 surveys showed that at the group level about 70% of the variance in annoyance is explained by noise exposure characteristics, whereas at the individual level it is typically about 20% (Job 1988).

When the type and amount of noise exposure is kept constant in the meta-analyses, differences between communities, regions and countries still exist (Fields 1990; Bradley 1996). This is well demonstrated by a comparison of the dose-response curve determined for road-traffic noise

(Miedema & Vos 1998) and that obtained in a survey along the North-South transportation route through the Austrian Alps (Lercher 1998b). The differences may be explained in terms of the influence of topography and meteorological factors on acoustical measures, as well as the low background noise level on the mountain slopes.

Stronger reactions have been observed when noise is accompanied by vibrations and contains low frequency components (Paulsen & Kastka 1995; Öhrström 1997; for review see Berglund et al. 1996), or when the noise contains impulses, such as shooting noise (Buchta 1996; Vos 1996; Smoorenburg 1998). Stronger, but temporary, reactions also occur when noise exposure is increased over time, in comparison to situations with constant noise exposure (e.g. HCN 1997; Klæboe et al. 1998). Conversely, for road traffic noise, the introduction of noise protection barriers in residential areas resulted in smaller reductions in annoyance than expected for a stationary situation (Kastka et al. 1995).

To obtain an indicator for annoyance, other methods of combining parameters of noise exposure have been extensively tested, in addition to metrics such as LAeq,24h and L_{dn}. When used for a set of community noises, these indicators correlate well both among themselves and with LAeq,24h or L_{dn} values (e.g. HCN 1997). Although LAeq,24h and L_{dn} are in most cases acceptable approximations, there is a growing concern that all the component parameters of the noise should be individually assessed in noise exposure investigations, at least in the complex cases (Berglund & Lindvall 1995).

3.9. The Effects of Combined Noise Sources

Many acoustical environments consist of sounds from more than one source. For these environments, health effects are associated with the total noise exposure, rather than with the noise from a single source (WHO 1980b). When considering hearing impairment, for example, the total noise exposure can be expressed in terms of LAeq,24h for the combined sources. For other adverse health effects, however, such a simple model most likely will not apply. It is possible that some disturbances (e.g. speech interference, sleep disturbance) may more easily be attributed to specific noises. In cases where one noise source clearly dominates, the magnitude of an effect may be assessed by taking into account the dominant source only (HCN 1997). Furthermore, at a policy level, there may be little need to identify the adverse effect of each specific noise, unless the responsibility for these effects is to be shared among several polluters (*cf.* The Polluter Pays Principle in Chapter 5, UNCED 1992).

There is no consensus on a model for assessing the total annoyance due to a combination of environmental noise sources. This is partly due to a lack of research into the temporal patterns of combined noises. The current approach for assessing the effects of "mixed noise sources" is limited to data on "total annoyance" transformed to mathematical principles or rules of thumb (Ronnebaum et al. 1996; Vos 1992; Miedema 1996; Berglund & Nilsson 1997). Models to assess the total annoyance of combinations of environmental noises may not be applicable to those health effects for which the mechanisms of noise interaction are unknown, and for which different cumulative or synergistic effects cannot be ruled out. When noise is combined with different types of environmental agents, such as vibrations, ototoxic chemicals, or chemical odours, again there is insufficient knowledge to accurately assess the combined effects on health

(Berglund & Lindvall 1995; HCN 1994; Miedema 1996; Zeichart 1998; Passchier-Vermeer & Zeichart 1998). Therefore, caution should be exercised when trying to predict the adverse health effects of combined factors in residential populations.

The evidence on low-frequency noise is sufficiently strong to warrant immediate concern. Various industrial sources emit continuous low-frequency noise (compressors, pumps, diesel engines, fans, public works); and large aircraft, heavy-duty vehicles and railway traffic produce intermittent low-frequency noise. Low-frequency noise may also produce vibrations and rattles as secondary effects. Health effects due to low-frequency components in noise are estimated to be more severe than for community noises in general (Berglund et al. 1996). Since A-weighting underestimates the sound pressure level of noise with low-frequency components, a better assessment of health effects would be to use C-weighting.

In residential populations heavy noise pollution will most certainly be associated with a combination of health effects. For example, cardiovascular disease, annoyance, speech interference at work and at home, and sleep disturbance. Therefore, it is important that the total adverse health load over 24 hours be considered and that the precautionary principle for sustainable development is applied in the management of health effects (see Chapter 5).

3.10. Vulnerable Groups

Protective standards are essentially derived from observations on the health effects of noise on "normal" or "average" populations. The participants of these investigations are selected from the general population and are usually adults. Sometimes, samples of participants are selected because of their easy availability. However, vulnerable groups of people are typically underrepresented. This group includes people with decreased personal abilities (old, ill, or depressed people); people with particular diseases or medical problems; people dealing with complex cognitive tasks, such as reading acquisition; people who are blind or who have hearing impairment; fetuses, babies and young children; and the elderly in general (Jansen 1987; AAP 1997). These people may be less able to cope with the impacts of noise exposure and be at greater risk for harmful effects.

Persons with impaired hearing are the most adversely affected with respect to speech intelligibility. Even slight hearing impairments in the high-frequency range may cause problems with speech perception in a noisy environment. From about 40 years of age, people typically demonstrate an impaired ability to understand difficult, spoken messages with low linguistic redundancy. Therefore, based on interference with speech perception, a majority of the population belongs to the vulnerable group.

Children have also been identified as vulnerable to noise exposure (see Agenda 21: UNCED 1992). The evidence on noise pollution and children's health is strong enough to warrant monitoring programmes at schools and preschools to protect children from the effects of noise. Follow up programmes to study the main health effects of noise on children, including effects on speech perception and reading acquisition, are also warranted in heavily noise polluted areas (Cohen et al. 1986; Evans et al. 1998).

The issue of vulnerable subgroups in the general population should thus be considered when developing regulations or recommendations for the management of community noise. This consideration should take into account the types of effects (communication, recreation, annoyance, etc.), specific environments (*in utero*, incubator, home, school, workplace, public institutions, etc.) and specific lifestyles (listening to loud music through headphones, or at discotheques and festivals; motor cycling, etc.).

4. Guideline Values

4.1. Introduction

The human ear and lower auditory system continuously receive stimuli from the world around us. However, this does not mean that all the acoustical inputs are necessarily disturbing or have harmful effects. This is because the auditory nerve provides activating impulses to the brain that enable us to regulate the vigilance and wakefulness necessary for optimal performance. On the other hand, there are scientific reports that a completely silent world can have harmful effects, because of sensory deprivation. Thus, both too little sound and too much sound can be harmful. For this reason, people should have the right to decide for themselves the quality of the acoustical environment they live in.

Exposure to noise from various sources is most commonly expressed as the average sound pressure level over a specific time period, such as 24 hours. This means that identical average sound levels for a given time period could be derived from either a large number of sound events with relatively low, almost inaudible levels, or from a few events with high sound levels. This technical concept does not fully agree with common experience on how environmental noise is experienced, or with the neurophysiological characteristics of the human receptor system.

Human perception of the environment through vision, hearing, touch, smell and taste is characterized by a good discrimination of stimulus intensity differences, and by a decaying response to a continuous stimulus (adaptation or habituation). Single sound events cannot be discriminated if the interval between events drops below a threshold value; if this occurs, the sound is interpreted as continuous. These characteristics are linked to survival, since new and different stimuli with low probability and high information value indicate warnings. Thus, when assessing the effects of environmental noise on people it is relevant to consider the importance of the background noise level, the number of events, and the noise exposure level independently.

Community noise studies have traditionally considered noise annoyance from single specific sources such as aircraft, road traffic or railways. In recent years, efforts have been made to compare the results from road traffic, aircraft and railway surveys. Data from a number of sources show that aircraft noise is more annoying than road traffic noise, which, in turn, is more annoying than railway noise. However, there is not a clear understanding of the mechanisms that create these differences. Some populations may also be at greater risk for the harmful effects of noise. Young children (especially during language acquisition), the blind, and perhaps fetuses are examples of such populations. There are no definite conclusions on this topic, but the reader should be alerted that guidelines in this report are developed for the population at large; guidelines for potentially more vulnerable groups are addressed only to a limited extent.

In the following, guideline values are summarized with regard to specific environments and effects. For each environment and situation, the guideline values take into consideration the identified health effects and are set, based on the lowest levels of noise that affect health (critical health effect). Guideline values typically correspond to the lowest effect level for general populations, such as those for indoor speech intelligibility. By contrast, guideline values for

annoyance have been set at 50 or 55 dBA, representing daytime levels below which a majority of the adult population will be protected from becoming moderately or seriously annoyed, respectively.

In these *Guidelines for Community Noise* only guideline values are presented. These are essentially values for the onset of health effects from noise exposure. It would have been preferred to establish guidelines for exposure-response relationships. Such relationships would indicate the effects to be expected if standards were set above the WHO guideline values and would facilitate the setting of standards for sound pressure levels (noise immission standards). However, exposure-response relationships could not be established as the scientific literature is very limited. The best-studied exposure-response relationship is that between L_{dn} and annoyance (WHO 1995a; Berglund & Lindvall 1995; Miedema & Vos 1998). Even the most recent relationships between integrated noise levels and the percentage of highly or moderately annoyed people are still being scrutinized. The results of a forthcoming meta-analysis are expected to be published in the near future (Miedema, personal communication).

4.2. Specific Effects

4.2.1. Interference with communication

Noise tends to interfere with auditory communication, in which speech is a most important signal. However, it is also vital to be able to hear alarming and informative signals such as door bells, telephone signals, alarm clocks, fire alarms etc., as well as sounds and signals involved in occupational tasks. The effects of noise on speech discrimination have been studied extensively and deal with this problem in lexical terms (mostly words but also sentences). For communication distances beyond a few metres, speech interference starts at sound pressure levels below 50 dB for octave bands centered on the main speech frequencies at 500, 1 000 and 2 000 Hz. It is usually possible to express the relationship between noise levels and speech intelligibility in a single diagram, based on the following assumptions and empirical observations, and for speaker-to-listener distance of about 1 m:

a. Speech in relaxed conversation is 100% intelligible in background noise levels of about 35 dBA, and can be understood fairly well in background levels of 45 dBA.

b. Speech with more vocal effort can be understood when the background sound pressure level is about 65 dBA.

A majority of the population belongs to groups sensitive to interference with speech perception. Most sensitive are the elderly and persons with impaired hearing. Even slight hearing impairments in the high-frequency range may cause problems with speech perception in a noisy environment. From about 40 years of age, people demonstrate impaired ability to interpret difficult, spoken messages with low linguistic redundancy, when compared to people aged 20–30 years. It has also been shown that children, before language acquisition has been completed, have more adverse effects than young adults to high noise levels and long reverberation times.

For speech outdoors and for moderate distances, the sound level drops by approximately 6 dB for

a doubling of the distance between speaker and listener. This relationship is also applicable to indoor conditions, but only up to a distance of about 2 m. Speech communication is affected also by the reverberation characteristics of the room, and reverberation times beyond 1 s can produce a loss in speech discrimination. A longer reverberation time combined with background noise makes speech perception still more difficult.

Speech signal perception is of paramount importance, for example, in classrooms or conference rooms. To ensure any speech communication, the signal-to-noise relationship should exceed zero dB. But when listening to complicated messages (at school, listening to foreign languages, telephone conversation) the signal-to-noise ratio should be at least 15 dB. With a voice level of 50 dBA (at 1 m distance this corresponds on average to a casual voice level in both women and men), the background level should not exceed 35 dBA. This means that in classrooms, for example, one should strive for as low background levels as possible. This is particularly true when listeners with impaired hearing are involved, for example, in homes for the elderly. Reverberation times below 1 s are necessary for good speech intelligibility in smaller rooms; and even in a quiet environment a reverberation time below 0.6 s is desirable for adequate speech intelligibility for sensitive groups.

4.2.2. Noise-induced hearing impairment

The ISO Standard 1999 (ISO 1990) gives a method of calculating noise-induced hearing impairment in populations exposed to all types of occupational noise (continuous, intermittent, impulse). However, noise-induced hearing impairment is by no means restricted to occupational situations alone. High noise levels can also occur in open-air concerts, discotheques, motor sports, shooting ranges, and from loudspeakers or other leisure activities in dwellings. Other loud noise sources, such as music played back in headphones and impulse noise from toys and fireworks, are also important. Evidence strongly suggests that the calculation method from ISO Standard 1999 for occupational noise (ISO 1990) should also be used for environmental and leisure time noise exposures. This implies that long term exposure to LAeq,24h of up to 70 dBA will not result in hearing impairment. However, given the limitations of the various underlying studies, care should be taken with respect to the following:

a. Data from animal experiments indicate that children may be more vulnerable in acquiring noise-induced hearing impairment than adults.

b. At very high instantaneous sound pressure levels mechanical damage to the ear may occur (Hanner & Axelsson 1988). Occupational limits are set at peak sound pressure levels of 140 dBA (EU 1986a). For adults, this same limit is assumed to be in order for exposure to environmental and leisure time noise. In the case of children, however, considering their habits while playing with noisy toys, peak sound pressure levels should never exceed 120 dBA.

c. For shooting noise with LAeq,24h over 80 dB, studies on temporary threshold shift suggest there is the possibility of an increased risk for noise-induced hearing impairment (Smoorenburg 1998).

d. The risk for noise-induced hearing impairment increases when noise exposure is combined with vibrations, ototoxic drugs or chemicals (Fechter 1999). In these circumstances, long-term exposure to LAeq,24h of 70 dB may induce small hearing impairments.

e. It is uncertain whether the relationships in ISO Standard 1999 (ISO 1990) are applicable to environmental sounds having a short rise time. For example, in the case of military low-altitude flying areas (75–300 m above ground) LAmax values of 110–130 dB occur within seconds after onset of the sound.

In conclusion, dose-response data are lacking for the general population. However, judging from the limited data for study groups (teenagers, young adults and women), and on the assumption that time of exposure can be equated with sound energy, the risk for hearing impairment would be negligible for LAeq,24h values of 70 dB over a lifetime. To avoid hearing impairment, impulse noise exposures should never exceed a peak sound pressure of 140 dB peak in adults, and 120 dB in children.

4.2.3. Sleep disturbance effects

Electrophysiological and behavioral methods have demonstrated that both continuous and intermittent noise indoors lead to sleep disturbance. The more intense the background noise, the more disturbing is its effect on sleep. Measurable effects on sleep start at background noise levels of about 30 dB LAeq. Physiological effects include changes in the pattern of sleep stages, especially a reduction in the proportion of REM sleep. Subjective effects have also been identified, such as difficulty in falling asleep, perceived sleep quality, and adverse after-effects such as headache and tiredness. Sensitive groups mainly include elderly persons, shift workers and persons with physical or mental disorders.
Where noise is continuous, the equivalent sound pressure level should not exceed 30 dBA indoors, if negative effects on sleep are to be avoided. When the noise is composed of a large proportion of low-frequency sounds a still lower guideline value is recommended, because low-frequency noise (e.g. from ventilation systems) can disturb rest and sleep even at low sound pressure levels. It should be noted that the adverse effect of noise partly depends on the nature of the source. A special situation is for newborns in incubators, for which the noise can cause sleep disturbance and other health effects.

If the noise is not continuous, LAmax or SEL are used to indicate the probability of noise-induced awakenings. Effects have been observed at individual LAmax exposures of 45 dB or less. Consequently, it is important to limit the number of noise events with a LAmax exceeding 45 dB. Therefore, the guidelines should be based on a combination of values of 30 dB LAeq,8h and 45 dB LAmax. To protect sensitive persons, a still lower guideline value would be preferred when the background level is low. Sleep disturbance from intermittent noise events increases with the maximum noise level. Even if the total equivalent noise level is fairly low, a small

number of noise events with a high maximum sound pressure level will affect sleep.

Therefore, to avoid sleep disturbance, guidelines for community noise should be expressed in terms of equivalent sound pressure levels, as well as LAmax/SEL and the number of noise events. Measures reducing disturbance during the first part of the night are believed to be the most effective for reducing problems in falling asleep.

4.2.4. Cardiovascular and psychophysiological effects

Epidemiologial studies show that cardiovascular effects occur after long-term exposure to noise (aircraft and road traffic) with LAeq,24h values of 65–70 dB. However, the associations are weak. The association is somewhat stronger for ischaemic heart disease than for hypertension. Such small risks are important, however, because a large number of persons are currently exposed to these noise levels, or are likely to be exposed in the future. Other possible effects, such as changes in stress hormone levels and blood magnesium levels, and changes in the immune system and gastro-intestinal tract, are too inconsistent to draw conclusions. Thus, more research is required to estimate the long-term cardiovascular and psychophysiological risks due to noise. In view of the equivocal findings, no guideline values can be given.

4.2.5. Mental health effects

Studies that have examined the effects of noise on mental health are inconclusive and no guideline values can be given. However, in noisy areas, it has been observed that there is an increased use of prescription drugs such as tranquilizers and sleeping pills, and an increased frequency of psychiatric symptoms and mental hospital admissions. This strongly suggests that adverse mental health effects are associated with community noise.

4.2.6. Effects on performance

The effects of noise on task performance have mainly been studied in the laboratory and to some extent in work situations. But there have been few, if any, detailed studies on the effects of noise on human productivity in community situations. It is evident that when a task involves auditory signals of any kind, noise at an intensity sufficient to mask or interfere with the perception of these signals will also interfere with the performance of the task. A novel event, such as the start of an unfamiliar noise, will also cause distraction and interfere with many kinds of tasks. For example, impulsive noises such as sonic booms can produce disruptive effects as the result of startle responses; and these types of responses are more resistant to habituation.

Mental activities involving high load in working memory, such as sustained attention to multiple cues or complex analysis, are all directly sensitive to noise and performance suffers as a result. Some accidents may also be indicators of noise-related effects on performance. In addition to the direct effects on performance, noise also has consistent after-effects on cognitive performance with tasks such as proof-reading, and on persistence with challenging puzzles. In contrast, the performance of tasks involving either motor or monotonous activities is not always degraded by noise.

Chronic exposure to aircraft noise during early childhood appears to damage reading acquisition. Evidence indicates that the longer the exposure, the greater the damage. Although there is insufficient information on these effects to set specific guideline values, it is clear that day-care centres and schools should not be located near major noise sources, such as highways, airports and industrial sites.

4.2.7. Annoyance responses

The capacity of a noise to induce annoyance depends upon many of its physical characteristics, including its sound pressure level and spectral characteristics, as well as the variations of these properties over time. However, annoyance reactions are sensitive to many non-acoustical factors of social, psychological or economic nature, and there are also considerable differences in individual reactions to the same noise. Dose-response relations for different types of traffic noise (air, road and railway) clearly demonstrate that these noises can cause different annoyance effects at equal LAeq,24h values. And the same type of noise, such as that found in residential areas around airports, can also produce different annoyance responses in different countries.

The annoyance response to noise is affected by several factors, including the equivalent sound pressure level and the highest sound pressure level of the noise, the number of such events, and the time of day. Methods for combining these effects have been extensively studied. The results are not inconsistent with the simple, physically based equivalent energy theory, which is represented by the LAeq noise index.

Annoyance to community noise varies with the type of activity producing the noise. Speech communication, relaxation, listening to radio and TV are all examples of noise-producing activities. During the daytime, few people are seriously annoyed by activities with LAeq levels below 55 dB; or moderately annoyed with LAeq levels below 50 dB. Sound pressure levels during the evening and night should be 5–10 dB lower than during the day. Noise with low-frequency components require even lower levels. It is emphasized that for intermittent noise it is necessary to take into account the maximum sound pressure level as well as the number of noise events. Guidelines or noise abatement measures should also take into account residential outdoor activities.

4.2.8. Effects on social behaviour

The effects of environmental noise may be evaluated by assessing the extent to which it interferes with different activities. For many community noises, interference with rest, recreation and watching television seem to be the most important issues. However, there is evidence that noise has other effects on social behaviour: helping behaviour is reduced by noise in excess of 80 dBA; and loud noise increases aggressive behavior in individuals predisposed to aggressiveness. There is concern that schoolchildren exposed to high levels of chronic noise could be more susceptible to helplessness. Guidelines on these issues must await further research.

4.3. Specific Environments

Noise measures based solely on LAeq values do not adequately characterize most noise environments and do not adequately assess the health impacts of noise on human well-being. It is also important to measure the maximum noise level and the number of noise events when deriving guideline values. If the noise includes a large proportion of low-frequency components, values even lower than the guideline values will be needed, because low-frequency components in noise may increase the adverse effects considerably. When prominent low-frequency components are present, measures based on A-weighting are inappropriate. However, the difference between dBC (or dBlin) and dBA will give crude information about the presence of low-frequency components in noise. If the difference is more than 10 dB, it is recommended that a frequency analysis of the noise be performed.

4.3.1. Dwellings

In dwellings, the critical effects of noise are on sleep, annoyance and speech interference. To avoid sleep disturbance, indoor guideline values for bedrooms are 30 dB LAeq for continuous noise and 45 dB LAmax for single sound events. Lower levels may be annoying, depending on the nature of the noise source. The maximum sound pressure level should be measured with the instrument set at "*Fast*".

To protect the majority of people from being seriously annoyed during the daytime, the sound pressure level on balconies, terraces and outdoor living areas should not exceed 55 dB LAeq for a steady, continuous noise. To protect the majority of people from being moderately annoyed during the daytime, the outdoor sound pressure level should not exceed 50 dB LAeq. These values are based on annoyance studies, but most countries in Europe have adopted 40 dB LAeq as the maximum allowable level for new developments (Gottlob 1995). Indeed, the lower value should be considered the maximum allowable sound pressure level for all new developments whenever feasible.

At night, sound pressure levels at the outside façades of the living spaces should not exceed 45 dB LAeq and 60 dB LAmax, so that people may sleep with bedroom windows open. These values have been obtained by assuming that the noise reduction from outside to inside with the window partly open is 15 dB.

4.3.2. Schools and preschools

For schools, the critical effects of noise are on speech interference, disturbance of information extraction (e.g. comprehension and reading acquisition), message communication and annoyance. To be able to hear and understand spoken messages in classrooms, the background sound pressure level should not exceed 35 dB LAeq during teaching sessions. For hearing impaired children, an even lower sound pressure level may be needed. The reverberation time in the classroom should be about 0.6 s, and preferably lower for hearing-impaired children. For assembly halls and cafeterias in school buildings, the reverberation time should be less than 1 s. For outdoor playgrounds, the sound pressure level of the noise from external sources should not

exceed 55 dB LAeq, the same value given for outdoor residential areas in daytime.

For preschools, the same critical effects and guideline values apply as for schools. In bedrooms in preschools during sleeping hours, the guideline values for bedrooms in dwellings should be used.

4.3.3. Hospitals

For most spaces in hospitals, the critical effects of noise are on sleep disturbance, annoyance and communication interference, including interference with warning signals. The LAmax of sound events during the night should not exceed 40 dB indoors. For wardrooms in hospitals, the guideline values indoors are 30 dB LAeq, together with 40 dB LAmax during the night. During the day and evening the guideline value indoors is 30 dB LAeq. The maximum level should be measured with the instrument set at "*Fast*".

Since patients have less ability to cope with stress, the equivalent sound pressure level should not exceed 35 dB LAeq in most rooms in which patients are being treated or observed. Particular attention should be given to the sound pressure levels in intensive care units and operating theatres. Sound inside incubators may result in health problems, including sleep disturbance, and may lead to hearing impairment in neonates. Guideline values for sound pressure levels in incubators must await future research.

4.3.4. Ceremonies, festivals and entertainment events

In many countries, there are regular ceremonies, festivals and other entertainment to celebrate life events. Such events typically produce loud sounds including music and impulsive sounds. There is widespread concern about the effect of loud music and impulse sounds on young people who frequently attend concerts, discotheques, video arcades, cinemas, amusement parks and spectator events, etc. The sound pressure level is typically in excess of 100 dB LAeq. Such a noise exposure could lead to significant hearing impairment after frequent attendance.

Noise exposure for employees of these venues should be controlled by established occupational standards. As a minimum, the same standards should apply to the patrons of these premises. Patrons should not be exposed to sound pressure levels greater than 100 dB LAeq during a 4-h period, for at most four times per year. To avoid acute hearing impairment the LAmax should always be below 110 dB.

4.3.5. Sounds through headphones

To avoid hearing impairment in both adults and children from music and other sounds played back in headphones, the LAeq,24h should not exceed 70 dB. This implies that for a daily one-hour exposure the LAeq should not exceed 85 dB. The exposures are expressed in free-field equivalent sound pressure levels. To avoid acute hearing impairment, the LAmax should always be below 110 dB.

4.3.6. Impulsive sounds from toys, fireworks and firearms

To avoid acute mechanical damage to the inner ear, adults should never be exposed to more than 140 dB peak sound pressure. To account for the vulnerability in children, the peak sound pressure level produced by toys should not surpass 120 dB, measured close to the ears (100 mm). To avoid acute hearing impairment, LAmax should always be below 110 dB.

4.3.7. Parkland and conservation areas

Existing large quiet outdoor areas should be preserved and the signal-to-noise ratio kept low.

4.4. WHO Guideline Values

The WHO guideline values in Table 4.1 are organized according to specific environments. When multiple adverse health effects are identified for a given environment, the guideline values are set at the level of the lowest adverse health effect (the critical health effect). An adverse health effect of noise refers to any temporary or long-term deterioration in physical, psychological or social functioning that is associated with noise exposure. The guideline values represent the sound pressure levels that affect the most exposed receiver in the listed environment.

The time base for LAeq for "daytime" and "night-time" is 16 h and 8 h, respectively. No separate time base is given for evenings alone, but typically, guideline value should be 5 –10 dB lower than for a 12 h daytime period. Other time bases are recommended for schools, preschools and playgrounds, depending on activity.

The available knowledge of the adverse effects of noise on health is sufficient to propose guideline values for community noise for the following:

a. Annoyance.
b. Speech intelligibility and communication interference.
c. Disturbance of information extraction.
d. Sleep disturbance.
e. Hearing impairment.

The different critical health effects are relevant to specific environments, and guideline values for community noise are proposed for each environment. These are:

a. Dwellings, including bedrooms and outdoor living areas.
b. Schools and preschools, including rooms for sleeping and outdoor playgrounds.
c. Hospitals, including ward and treatment rooms.
d. Industrial, commercial shopping and traffic areas, including public addresses, indoors and outdoors.
e. Ceremonies, festivals and entertainment events, indoors and outdoors.
f. Music and other sounds through headphones.
g. Impulse sounds from toys, fireworks and firearms.

h. Outdoors in parkland and conservation areas.

It is not enough to characterize the noise environment in terms of noise measures or indices based only on energy summation (e.g. LAeq), because different critical health effects require different descriptions. Therefore, it is important to display the maximum values of the noise fluctuations, preferably combined with a measure of the number of noise events. A separate characterization of noise exposures during night-time would be required. For indoor environments, reverberation time is also an important factor. If the noise includes a large proportion of low frequency components, still lower guideline values should be applied.

Supplementary to the guideline values given in Table 4.1, precautionary recommendations are given in Section 4.2 and 4.3 for vulnerable groups, and for noise of a certain character (e.g. low-frequency components, low background noise), respectively. In Section 3.10, information is given regarding which critical effects and specific environments are considered relevant for vulnerable groups, and what precautionary noise protection would be needed in comparison to the general population.

Table 4.1: Guideline values for community noise in specific environments.

Specific environment	Critical health effect(s)	LAeq [dB]	Time base [hours]	LAmax, fast [dB]
Outdoor living area	Serious annoyance, daytime and evening Moderate annoyance, daytime and evening	55 50	16 16	- -
Dwelling, indoors Inside bedrooms	Speech intelligibility and moderate annoyance, daytime and evening Sleep disturbance, night-time	35 30	16 8	 45
Outside bedrooms	Sleep disturbance, window open (outdoor values)	45	8	60
School class rooms and pre-schools, indoors	Speech intelligibility, disturbance of information extraction, message communication	35	during class	-
Pre-school bedrooms, indoors	Sleep disturbance	30	sleeping -time	45
School, playground outdoor	Annoyance (external source)	55	during play	-
Hospital, ward rooms, indoors	Sleep disturbance, night-time Sleep disturbance, daytime and evenings	30 30	8 16	40 -
Hospitals, treatment rooms, indoors	Interference with rest and recovery	#1		
Industrial, commercial shopping and traffic areas, indoors and outdoors	Hearing impairment	70	24	110
Ceremonies, festivals and entertainment events	Hearing impairment (patrons:<5 times/year)	100	4	110
Public addresses, indoors and outdoors	Hearing impairment	85	1	110
Music through headphones/ earphones	Hearing impairment (free-field value)	85 #4	1	110
Impulse sounds from toys, fireworks and firearms	Hearing impairment (adults) Hearing impairment (children)	- -	- -	140 #2 120 #2
Outdoors in parkland and conservation areas	Disruption of tranquillity	#3		

#1: as low as possible;
#2: peak sound pressure (not LAmax, fast), measured 100 mm from the ear;
#3: existing quiet outdoor areas should be preserved and the ratio of intruding noise to natural background sound should be kept low;
#4: under headphones, adapted to free-field values

5. Noise Management

The goal of noise management is to maintain low noise exposures, such that human health and well-being are protected. The specific objectives of noise management are to develop criteria for the maximum safe noise exposure levels, and to promote noise assessment and control as part of environmental health programmes. This is not always achieved (Jansen 1998). The United Nations' Agenda 21 (UNCED 1992), as well as the European Charter on Transport, Environment and Health (London Charter 1999), both support a number of environmental management principles on which government policies, including noise management policies, can be based. These include:

a. **The precautionary principle**. In all cases, noise should be reduced to the lowest level achievable in a particular situation. Where there is a reasonable possibility that public health will be damaged, action should be taken to protect public health without awaiting full scientific proof.

b. **The polluter pays principle**. The full costs associated with noise pollution (including monitoring, management, lowering levels and supervision) should be met by those responsible for the source of noise.

c. **The prevention principle**. Action should be taken where possible to reduce noise at the source. Land-use planning should be guided by an environmental health impact assessment that considers noise as well as other pollutants.

The government policy framework is the basis of noise management. Without an adequate policy framework and adequate legislation it is difficult to maintain an active or successful noise management programme. A policy framework refers to transport, energy, planning, development and environmental policies. The goals are more readily achieved if the interconnected government policies are compatible, and if issues which cross different areas of government policy are co-ordinated.

5.1. Stages in Noise Management

A legal framework is needed to provide a context for noise management (Finegold 1998; Hede 1998a). While there are many possible models, an example of one is given in Figure 5.1. This model depicts the six stages in the process for developing and implementing policies for community noise management. For each policy stage, there are groups of 'policy players' who ideally would participate in the process.

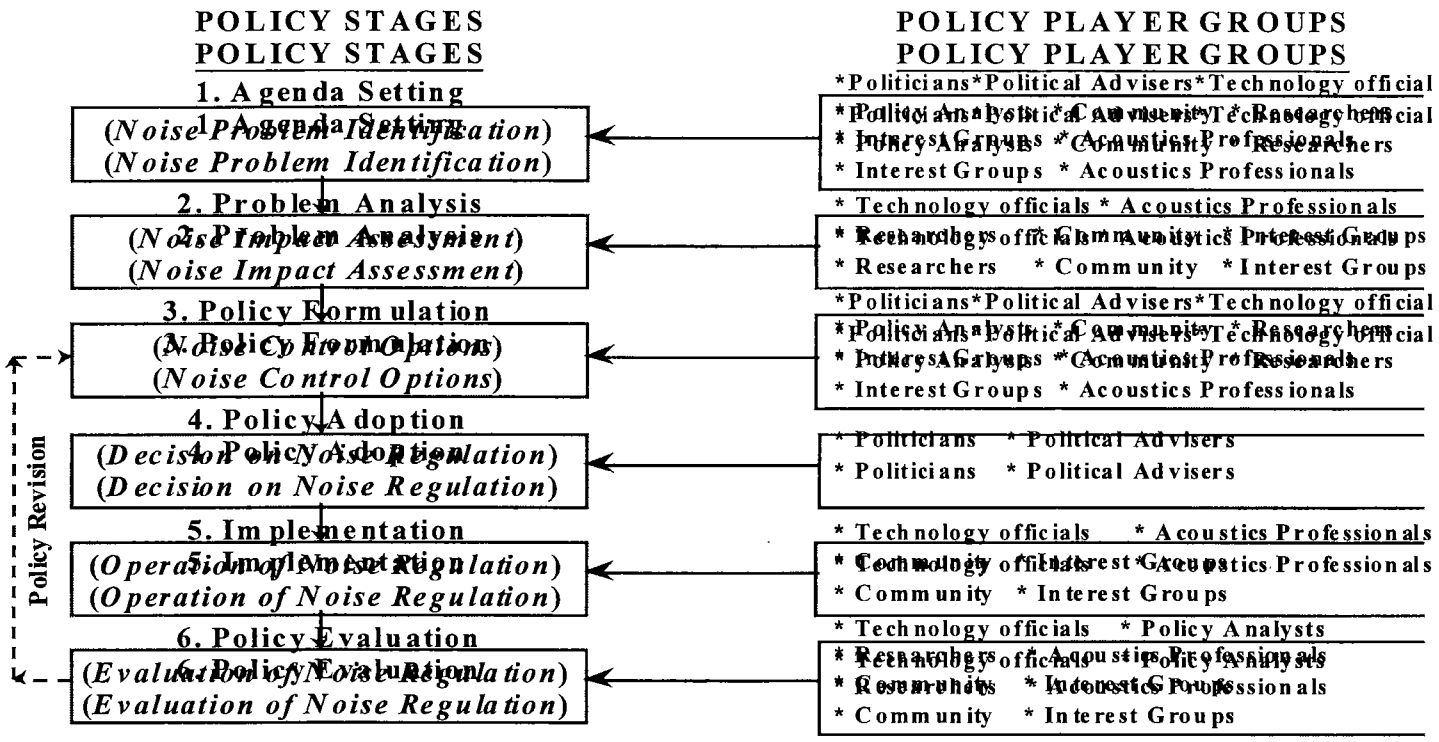

Figure 5.1. A model of the policy process for community noise management (Hede 1998a)

When goals and policies have been developed, the next stage is the development of the strategy or plan. Figure 5.2 summarizes the stages involved in the development of a noise management strategy. Specific abatement measures 19 are listed in Table 5.1.

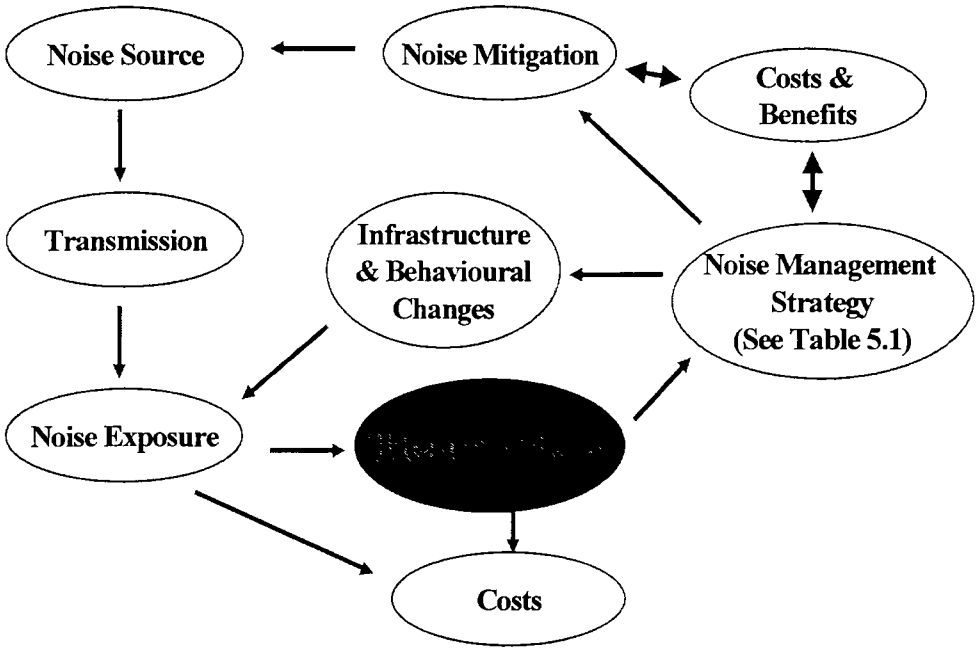

Figure 5.2. Stages involved in the development of a noise abatement strategy.

Table 5.1. Recommended Noise Management Measures (following EEA 1995)

Legal measures	Examples
Control of noise emissions	Emission standards for road and off-road vehicles; emission standards for construction equipment; emission standards for plants; national regulations, EU Directives
Control of noise transmission	Regulations on sound-obstructive measures
Noise mapping and zoning around roads, airports, industries	Initiation of monitoring and modeling programmes
Control of noise immissions	Limits for exposure levels such as national immission standards; noise monitoring and modeling; regulations for complex noise situations; regulations for recreational noise
Speed limits	Residential areas; hospitals
Enforcement of regulations	Low Noise Implementation Plan
Minimum requirements for acoustical properties of buildings	Construction codes for sound insulation of building parts
Engineering Measures	
Emission reduction by source modification	Tyre profiles; low-noise road surfaces; changes in engine properties
New engine technology	Road vehicles; aircraft; construction machines
Transmission reduction	Enclosures around machinery; noise screens
Orientation of buildings	Design and structuring of tranquille uses; using buildings for screening purposes
Traffic management	Speed limits; guidance of traffic flow by electronic means
Passive protection	Ear plugs; ear muffs; insulation of dwellings; façade design
Implementation of land-use planning	Minimum distance between industrial, busy roads and residential areas; location of tranquillity areas; by-pass roads for heavy traffic; separating out incompatible functons
Education and information	
Raising public awareness	Informing the public on the health impacts of noise, enforcement action taken, noise levels, complaints
Monitoring and modeling of soundscapes	Publication of results
Sufficient number of noise experts	University or highschool curricula
Initiation of research and development	Funding of information generation according to scientific research needs
Initiation of behaviour changes	Speed reduction when driving; use of horns; use of loudspeakers for advertisements

The process outlined in Figure 5.2 can start with the development of noise standards or guidelines. Ideally, it should also involve the identification and mapping of noise sources and exposed communities. Meteorological conditions and noise levels would also normally be monitored. These data can be used to validate the output of models that estimate noise levels. Noise standards and model outputs may be considered in devising noise control tactics aimed at achieving the noise standards. Before being enforced, current control tactics need to be revised, and if the standards are achieved they need continued enforcement. If the standards are not achieved after a reasonable period of time, the noise control tactics may need to be revised.

National noise standards can usually be based on a consideration of international guidelines, such as these Guidelines for Community Noise, as well as national criteria documents, which consider dose-response relations for the effects of noise on human health. National standards take into account the technological, social, economic, political and other factors specific for the country.

In many cases monitoring may show that noise levels are considerably higher than established guidelines. This may be particularly true in developing countries, and the question has to be raised as to whether national standards should reflect the optimum levels needed to protect human health, when this objective is unlikely to be achieved in the short- or medium-term with available resources. In some countries noise standards are set at levels that are realistically attainable under prevailing technological, social, economic and political conditions, even though they may not be fully consistent with the levels needed to protect human health. In such cases, a staged programme of noise abatement should be implemented to achieve the optimum health protection levels over the long term. Noise standards periodically change after reviews, as conditions in a country change over time, and with improved scientific understanding of the relationship between noise pollution and the health of the population. Noise level monitoring (Chapter 2) is used to assess whether noise levels at particular locations are in compliance with the standards selected.

5.2. Noise Exposure Mapping

A crucial component of a low-noise implementation plan is a reasonably quantitative knowledge of exposure (see Figure 5.2). Exposure should be mapped for all noise sources impacting a community; for example, road traffic, aircraft, railway, industry, construction, festivals and human activity in general. For some components of a noise exposure map or noise exposure inventory, accurate data may be available. In other cases, exposure can be calculated from the characteristics of the mechanical processes. While estimates of noise emissions are needed to develop exposure maps, measurements should be undertaken to confirm the veracity of the assumptions used in the estimates. Sample surveys may be used to provide an overall picture of the noise exposure. Such surveys would take account of all the relevant characteristics of the noise source. For example motor vehicle emissions may be estimated by calculations involving the types of vehicles, their number, their age and the characteristic properties of the road surface.

In developing countries, there is usually a lack of appropriate statistical information to produce noise exposure estimates. However, where action is needed to lower noise levels, the absence of comprehensive information should not prevent the development of provisional noise exposure estimates. Basic information about the exposed population, transport systems, industry and other

relevant factors can be used to calculate provisional noise exposures. These can then be used to develop and implement interim noise management plans. The preliminary exposure estimates can be revised as more accurate information becomes available.

5.3. Noise Exposure Modeling

As indicated in Chapter 2 modeling is a powerful tool for the interpolation, prediction and optimization of control strategies. However, models need to be validated by monitoring data. A strength of models is that they enable examination and comparison of the consequences for noise exposure of the implementation of the various options for improving noise. However, the accuracy of the various models available depends on many factors, including the accuracy of the source emissions data and details of the topography (for which a geographical information system may be used). For transportation noise parameters such as the number, type and speed of vehicles, aircraft or trains, and the noise characteristics of each individual event must be known. An example of a model is the annoyance prediction model of the Government of the Netherlands (van den Berg 1996).

5.4. Noise Control Approaches

An integrated noise policy should include several control procedures: measures to limit the noise at the source, noise control within the sound transmission path, protection at the receiver's site, land-use planning, education and raising of public awareness. Ideally, countries should give priority to precautionary measures that prevent noise, but they must also implement measures to mitigate existing noise problems.

5.4.1. Mitigation measures

The most effective mitigation measure is to reduce noise emissions at the source. Therefore, regulations with noise level limits for the main noise sources should be introduced.

Road traffic noise. Limits on the noise emission of vehicles have been introduced in many countries (Sandberg 1995). Such limits, together with the relevant measuring methods, should also be introduced in other regions of the world. Besides these limits a special class of "low-noise trucks" has been introduced in Europe. These trucks follow state-of-the-art noise control and are widely used in Austria and Germany (Lang 1995). Their use is encouraged by economic incentives; for example, low-noise trucks are excepted from a night-time ban on certain routes, and their associated taxes are lower than for other trucks. In Europe, the maximum permissible noise levels range from 69 dBA for motor vehicles to 77 dBA for cars, and 83 dBA for heavy two-wheeled vehicles to 84 dBA for trucks. A number of European Directives give permissible sound levels for motor vehicles and motorcycles (EU 1970; EU 1978; EU 1996a; EU 1997). In addition to noise level limits for new vehicles (type test), noise emissions of vehicles already in use should be controlled regularly. Limits on the sound pressure levels for vehicles reduce the noise emission from the engines.

However, the main noise from traffic on highways is rolling noise. This may be reduced by quiet road surfaces (porous asphalt, "drain asphalt") or by selection of quiet tires. Road traffic

noise may also be reduced by speed limits, provided the limits are enforced. For example, reducing the speed of trucks from 90 to 60 km/h on concrete roads would reduce the maximum sound pressure level by 5 dB, and the equivalent sound pressure level by 4 dB. Decreasing the speed of cars from 140 to 100 km/h would result in the same noise reduction (WHO 1995a). In the central parts of cities a speed limit of 30 km/h may be introduced. At 30 km/h cars produce maximum sound pressure levels that are 7 dB lower, and equivalent sound pressure levels that are 5 dB lower, than cars driving at 50 km/h.

Noise emission from road traffic may be further reduced by a night-time ban for all vehicles, or especially for heavy vehicles. Traffic management designed to ensure uniform traffic flow in towns also serves to reduce noise. "Low-noise behaviour" of drivers should be encouraged as well, by advocating defensive driving manners. In some countries, car drivers use their horns frequently, which results in noise with high peak levels. The unnecessary use of horns within cities should be forbidden, especially during night-time, and this rule should be enforced.

Railway noise and noise from trams. The main noise sources are the engine and the wheel-rail contact. Noise at the source can be reduced by well-maintained rails and wheels, and by the use of disc brakes. Sound pressure levels may vary by more than 10 dB, depending on the type of railway material. Replacement of steel wheels by rubber wheels could also reduce noise from railways and trams substantially. Other measures include innovations in engine and track technology (Moehler 1988; Öhrström & Skånberg 1996).

Aircraft noise. The noise emission of aircraft is limited by ICAO Annex 16, Chapter 2 and Chapter 3, which estimates maximum potential sound emissions under certification procedures (ICAO 1993). Aircraft following the norms of Chapter 3 represent the state-of-the-art of noise control of the 1970s. In many countries, non-certified aircraft (i.e. aircraft not fulfilling the ICAO requirements) are not permitted and Chapter 2 aircraft may not be registered again. After the year 2002 only Chapter 3 aircraft will be allowed to operate in many countries.

Similar legislation should be adopted in other countries. The use of low-noise aircraft may also be encouraged by setting noise-related charges (that is, landing charges that are related not only to aircraft weight and capacity, but also to noise emission). Examples of systems for noise-related financial charges are given in OECD 1991 (see also OECD-ECMT 1995). Night-time aircraft movements should be discouraged where they impact residential communities. Particular categories of aircraft (such as helicopters, rotorcraft and supersonic aircraft) pose additional problems that require appropriate controls. For subsonic airplanes two EU Directive give the permissible sound levels (EU 1980; EU 1989).

Machines and Equipment. Noise emission has to be considered a main property of all types of machines and equipment. Control measures include design, insulation, enclosure and maintenance.

Consumers should be encouraged to take noise emission into account when buying a product. Declaring the A-weighted sound power level of a product would assist the consumer in making this decision. The introduction of sound labeling is a major tool for reducing the noise emission of products on the market. For example, within the European Community, "permissible sound

levels" and "sound power levels" have to be stated for several groups of machines; for example, lawn mowers, construction machines and household equipment (EU 1984a-f; EU 1986b,c). For other groups of machines sound level data have been compiled and are state-of-the-art with respect to noise control.

A second step would be the introduction of limits on the sound power levels for certain groups of machines, heating and ventilation systems (e.g. construction machines, household appliances). These limits may be set by law, in recommendations and by consumers, using state-of-the-art measurements. There have also been promising developments in the use of active noise control (involving noise cancellation techniques). These are to be encouraged.

Noise control within the sound transmission path. The installation of noise barriers can protect dwellings close to the traffic source. In several European countries noise barrier regulations have been established (WHO 1995b), but in practice they are often not adequately implemented. These regulations must define:

a. Measuring and calculation methods for deriving the equivalent sound pressure level of road or railway traffic, and schemes for determining the effectiveness of the barrier.

b. The sound pressure limits that are to be achieved by installing barriers.

c. The budgetary provisions.

d. The responsible authority.

Noise protection at the receiver's site. This approach is mainly used for existing situations. However, this approach must also be considered for new and, eventually, for old buildings in noisy areas. Residential buildings near main roads with heavy traffic, or near railway lines, may be provided with sound-proofed windows.

5.4.2. Precautionary measures

With careful planning, noise exposure can be avoided or reduced. A sufficient distance between residential areas and an airport will make noise exposure minimal, although the realization of such a situation is not always possible. Additional insulation of houses can help to reduce noise exposure from railroad and road traffic. For new buildings, standards or building codes should describe the positions of houses, as well as the ground plans of houses with respect to noise sources. The required sound insulation of the façades should also be described. Various countries have set standards for the maximum sound pressure levels in front of buildings and for the minimum sound insulation values required for façades.

Land use planning. Land use planning is one of the main tools for noise control and includes:

a. Calculation methods for predicting the noise impact caused by road traffic, railways,

airports, industries and others.

b. Noise level limits for various zones and building types. The limits should be based on annoyance responses to noise.

c. Noise maps or noise inventories that show the existing noise situation. The construction of noise-sensitive buildings in noisy areas, or the construction of noisy buildings in quiet areas may thus be avoided.

Suggestions on how to use land use planning tools are given in several dedicated books (e.g. Miller & de Roo 1997). Different zones, such as quiet areas, hospitals, residential areas, commercial and industrial districts, can be characterized by the maximum equivalent sound pressure levels permissible in the zones. Examples of this approach can be found in OECD 1991 (also see OECD-ECMT 1995). More emphasis needs to be given to the design or retrofit of urban centres, with noise management as a priority (e.g. "soundscapes").

It is recommended that countries adopt the precautionary principle in their national noise policies. This principle should be applied to all noise situations where adverse noise effects are either expected or possible, even when the noise is below standard values.

Education and public awareness. Noise abatement policies can only be established if basic knowledge and background material is available, and the people and authorities are aware that noise is an environmental hazard that needs to be controlled. It is, therefore, necessary to include noise in school curricula and to establish scientific institutes to study acoustics and noise control. People working in such institutes should have the option of studying in other countries and exchanging information at international conferences. Dissemination of noise control information to the public is an issue for education and public awareness. Ideally, national and local advisory groups should be formed to promote the dissemination of information, to establish uniform methods of noise measurement and impact assessment, and to participate in the development and implementation of educational and public awareness programmes.

5.5. Evaluation of Control Options

Unless legal constraints in a country prescribe a particular option, the evaluation of control options must take into account technical, financial, social, health and environmental factors. The speed with which control options can be implemented, and their enforceability, must also be considered. Although considerable improvements in noise levels have been achieved in some developed countries, the financial costs have been high, and the resource demands of some of these approaches make them unsuitable for the poorer developing countries.

Technical factors. There needs to be confidence that the selected options are technically practical given the resources of the region. It must be possible to bring a selected option into operation, and maintain the expected level of performance in the long term, given the resources available. This may require regular staff training and other programmes, especially in developing countries.

Financial factors. The selected options must be financially viable in the long term. This may require a comparative cost-benefit assessment of different options. These assessments must include not only the capital costs of bringing an option into operation, but also the costs of maintaining the expected level of performance in the long term.

Social factors. The costs and benefits of each option should be assessed for social equity, and the potential impact of an option on people's way of life, community structures and cultural traditions must be considered. Impacts may include disruption or displacement of residents, changes of land-use, and impacts on community, culture and recreation. Some impacts can be managed; in other cases, the impacts of an option can be mitigated by substitution of resources or uses.

Health and environmental factors. The costs and benefits of each option should be assessed for health and environmental factors. This may involve use of dose-response relations, or risk assessment techniques.

Effect-oriented and source-oriented principles. Noise control requirements in European countries are typically determined from the effects of noise on health and the environment (effect oriented) (e.g. Gottlob 1995; ten Wolde 1998). Increased noise emissions may be permitted if there would be no adverse health impacts, or if noise standards would not be exceeded. Action may be taken to reduce noise levels when it is shown that adverse health impacts will occur, or when noise levels exceed limits. Other countries base their noise management policies on the requirement for best available technology, or for best available techniques that do not entail excessive cost (source-oriented) (e.g. for aircraft noise, ICAO 1993; for road traffic noise, Sandberg 1995). Most developed countries apply a combination of both source-oriented and effect-oriented principles (EU 1996b; Jansen 1998; ten Wolde 1998).

5.6. Management of Indoor Noise

In modern societies, human beings spend most of their time in indoor environments. Pollution and degradation of the indoor environment cause illness, increased mortality, loss of productivity, and have major economic and social implications. Indoor noise problems are related to inadequate urban planning, design, operation and maintenance of buildings, and to the materials and equipment in buildings. Problems with indoor noise affect all types of buildings, including homes, schools, offices, health care facilities and other public and commercial buildings. The health effects of indoor noise include an increase in the rates of diseases and disturbances described in chapter 2. World-wide, the medical and social cost associated with these illnesses, and the related reduction in human productivity, can result in substantial economic losses.

Protection against noise generated within a building, or originating from outside the building, is a very complex problem. Soundproofing of ceilings, walls, doors and windows against airborne noise is important. Soundproofing of ceilings has to be sufficient to absorb sounds due to treading. Finally, noise emissions from the technological devices in the house must be sufficiently low. Governments should provide measurement protocols and data for use in reducing noise exposures in buildings. Governments should also be encouraged to support

research on the relationship between noise levels inside buildings and health effects.

5.6.1. Government policy on indoor noise

Many of the problems associated with high noise levels can be prevented at low cost if governments develop and implement an integrated strategy for the indoor environment, in concert with all social and economic partners. Governments should establish a "National Plan for a Sustainable Indoor Noise Environment", that would apply to new construction as well as to existing buildings. Governments should set up a specific structure at an appropriate governmental level to achieve acceptable sound exposure levels within buildings. An example of existing documents that provide guidance and regulations, including strategies and management for the design of buildings, is given by Jansen & Gottlob (1996).

Guidance/education. Because our understanding of indoor noise is still developing, government activity should be focused on raising the awareness of various audiences. This education can take the form of providing general information, as well as providing technical guidance and training on how to minimize indoor noise levels. General information presented in the form of documents, videos, and other media can bring indoor noise issues to the attention of the general public and building professionals, including architects

Research support. Research is needed to develop technology for indoor noise diagnosis, mitigation and control. Efforts are also required to provide economical and practical alternatives for mitigation and control. Better means of measuring the effectiveness of absorption devices are needed; and diagnostic tools that are inexpensive and easy to use also need to be developed to help facility personnel. There is a particular need, too, for improving soundproofing methods, their implementation and for predicting the health effects of soundproofing techniques.

To provide accurate information for use in setting priorities for public health problems, governments should support problem assessment and surveys of indoor noise conditions. Building surveys are also necessary to provide baseline information about building characteristics and noise levels. When combined with occupant health surveys, these studies will help to establish the correlations between noise levels and adverse health effects. Surveys should be conducted to identify building types or vintages in which problems occur more frequently. The results of these studies will support effective risk reduction programmes. Epidemiological studies are also needed to aid in differentiating between noise-related symptoms and those due to other causes. Moreover, epidemiological studies are needed to assist in quantifying the extent of risk for indoor noise levels.

Economic research is needed to measure the costs of indoor noise control strategies to individuals, businesses and society. This includes developing methods for quantifying productivity loss and increased health costs due to noise, and for measuring the costs of various control strategies, including increased soundproofing and source control.

Development of standards and protocols. Efforts should be made to protect public health by setting reasonable noise exposure limits (immission standards) from known dose-response relationships. In cases where dose-response relationships have yet to be determined, but where

health effects are generally recognized, exposure limits should be set conservatively and take into account risk, economic impact and feasibility. Efforts should also be made to incorporate noise-related specifications into building codes. Areas to target with building codes include ventilation design, building envelope design, site preparation, materials selection and commissioning. Standards and other regulations governing the use of sound proofing materials should also be developed.

Individuals involved in the diagnosis and mitigation of indoor noise problems should be trained in the multidisciplinary nature of the noise field. By instituting a series of credentials that recognize and highlight areas of expertise, consumers would be provided with the information to make informed choices when procuring indoor noise services. Companies which provide such services should be officially accredited. Guidelines or standards for sound emissions of air-conditioners, power generators and other building devices, would also provide useful information for manufacturers, architects, design engineers, building managers and others who play a role in selecting products used indoors.

5.6.2. Design considerations

Site investigation. Potential sites should be evaluated to determine whether they are prone to indoor noise problems. This evaluation should be consistent with national and local land use planning guidelines. Sites should be investigated to determine past uses and whether any sources of sound remain as a result. The potential for outdoor noise being carried to the site from adjacent areas, such as busy streets, should also be evaluated.

Building design. Buildings should be designed to be soundproof, to improve control over indoor noise. Soundproofing requires that outside noise be prevented from entering the building, and this should be estimated as part of the architectural and engineering design process. When soundproofing for outdoor noise, the total indoor noise load and the desired quality of the indoor space should be considered. Adequate soundproofing against outdoor noise is important in residential as well as commercial properties, and should be re-evaluated when interior spaces are rebuilt or renovated.

Indoor Spaces. The architectural layout should aim to reduce noise and provide a good sound quality to the space. This would include designing indoor spaces to have sufficiently short reverberation times. Designers and contractors should be encouraged to use sound-absorbing materials that lead to lower indoor noise levels, and materials with the best sound-absorbing properties should be specified. However, use of these materials should not be the only solution (Harris 1991). Possible conflicts with other environmental demands should also be identified; for example, the special demands by allergic people.

5.6.3. Indoor noise level control

Building maintenance personnel should be trained to understand the indoor noise aspects of their work, and be aware of how their work can directly impact the health and comfort of occupants. Many maintenance activities directly affect indoor noise levels, and some may indicate potential problems. Preventive maintenance is essential for the building systems to operate correctly and

to provide suitable comfort conditions and low indoor noise levels. Detailed maintenance logs should be kept for all equipment. A schedule should be developed for routine equipment checks and calibration of control system components. Selection of low-noise domestic products should encouraged as far as is possible.

5.6.4. Resolving indoor noise problems

Addressing occupant complaints and symptoms. When complaints are received from occupants of a building, the cognizant authority should be responsive. The initial investigation into the cause of the complaint may be conducted by the in-house management staff, and they should continue an investigation as far as possible. If necessary, they should be responsible for hiring an outside consultant

Building diagnostic procedures. After receiving complaints related to indoor noise levels, facility personnel or consultants should attempt to identify the cause of the problem through an iterative process of information collection and hypothesis testing. To begin, a walkthrough inspection of the building, including the affected areas and the mechanical systems serving these spaces is required. A walkthrough can provide information on the soundproofing system of the building, the sound pathways and sound sources. Visual indicators of sound sources and soundproofing malfunctions should be evaluated first. Symptom logs and schedules of building activities may provide enough additional information to resolve the problem.

If a walkthrough alone does not provide a solution, measurements of sound pressure levels at various locations should be taken, and indoor and ambient levels of noise pollution should be compared. As part of the investigation, the absorption characteristics of walls and ceilings should be evaluated. Sophisticated sampling methods may be necessary to provide proof of a problem to the building owner or other responsible party. The results may be used to confirm a hypothesis or ascertain the source of the indoor noise problem. Whenever a problem is discovered during the investigation, a remedy to the situation should be attempted and a determination made of whether the complaint has been resolved.

In some cases, it should be recognized that difficulties in interpreting the sampling results may exist. The costs of certain types of testing should also be taken into account. Simple, cost-effective screening methods should be developed to make sampling a more attractive option for both investigators and clients. Finally, it must be remembered that several factors cause symptoms similar to those induced by noise pollution. Examples include air pollutants, ergonomics, lighting, vibration and psychosocial factors. Consequently, any investigation of noise complaints should also evaluate non-noise factors.

5.7. Priority Setting in Noise Management

Priorities in noise management will differ between countries, according to policy objectives, needs and capabilities. Priority setting in noise management refers to prioritizing health risks and concentrating on the most important sources of noise. For effective noise management, the goals, policies and noise control schemes have to be defined. Goals for noise management include eliminating noise, or reducing noise to acceptable levels, and avoiding the adverse health

effects of noise on human health. Policies for noise management encompass laws and regulations for setting noise standards and for ensuring compliance. The amount of information to be included in low-noise implementation plans and the use of cost-benefit comparisons also fall within the purview of noise management policies. Techniques for noise control include source control, barriers in noise pathways and receiver protection. Adequate calculation models for noise propagation, as well as programmes for noise monitoring, are part of an overall noise control scheme.

As emphasized above, a framework for a political, regulatory and administrative approach is required to guarantee the consistent and transparent promulgation of noise standards. This ensures a sound and practical framework for risk-reducing measures and for the selection of abatement strategies.

5.7.1. Noise policy and legislation

Noise is both a local and a global problem. Governments in every country have a responsibility to set up policies and legislation for controlling community noise. There is a direct relationship between the level of development in a country and the degree of noise pollution impacting its people. As a society develops, it increases its level of urbanization and industrialization, and the extent of its transportation system. Each of these developments brings an increase in noise load. Without appropriate intervention the noise impact on communities will escalate (see Figure 5.3). If governments implement only weak noise policies and regulations, they will not be able to prevent a continuous increase in noise pollution and associated adverse health effects. Failure to enforce strong regulations is ineffective in combating noise as well.

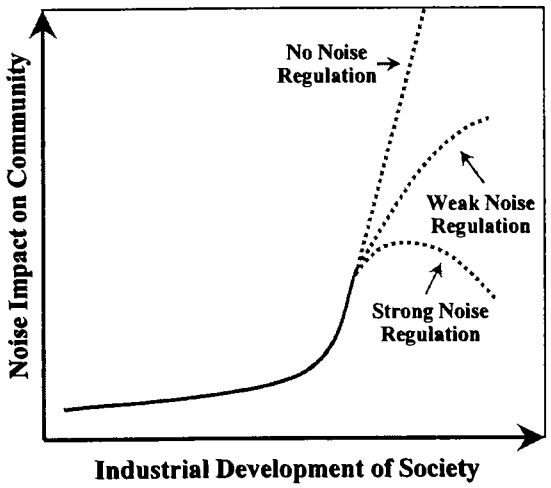

Figure 5.3. Relationship between noise regulation and impact with development (from Hede 1998b)

Policies for noise regulatory standards at the municipal, regional, national and supranational levels are usually determined by the legislatures. The regulatory standards adopted strongly depend on the risk management strategies of the legislatures, and can be influenced by sociopolitical considerations and/or international agreements. Although regulatory standards may be country specific, in general the following issues are taken into consideration:

a. Identification of the adverse public health effects that are to be avoided.

b. Identification of the population to be protected.

c. The type of parameters describing noise and the limit applicable to the parameters.

d. Applicable monitoring methodology and its quality assurance.

e. Enforcement procedures to achieve compliance with noise regulatory standards within a defined time frame.

f. Emission control measures and emission regulatory standards.

g. Immission standards (limits for sound pressure levels).

h. Identification of authorities responsible for enforcement.

i. Resource commitment.

Regulatory standards may be based solely on scientific and technical data showing the adverse effects of noise on public health. But other aspects are usually considered, either when setting standards or when designing appropriate noise abatement measures. These other aspects include the technological feasibility, costs of compliance, prevailing exposure levels, and the social,

economic and cultural conditions. Several standards may be set. For example, effect-oriented regulatory standards may be set as a long-term goal, while less-stringent standards are adopted for the short term. As a consequence, noise regulatory standards differ widely from country to country (WHO 1995a; Gottlob 1995).

Noise regulatory standards can set the reference point for emission control and abatement policies at the national, regional or municipal levels, and can thus strongly influence the implementation of noise control policies. In many countries, exceeding regulatory standards is linked to an obligation to develop abatement action plans at the municipal, regional or national levels (low-noise implementation plans). Such plans have to address all relevant sources of noise pollution.

5.7.2. Examples of noise policies

Different countries have adopted a range of policies and regulations for noise control. A number of these are outlined in this section as examples.

Argentina. In Argentina, a national law recently limited the daily 8-h exposure to industrial noise to 80 dB, and it has had beneficial effects on hearing impairment and other hearing disorders among workers. In general, industry has responded by introducing constant controls on noise sources, combined with hearing tests and medical follow-ups for workers. Factory owners have recruited permanent health and safety engineers who control noise, supply advice on how to make further improvements, and routinely assess excessive noise levels. The engineers also provide education in personal protection and in the correct use of ear plugs, mufflers etc.

At the municipal level two types of noise have been considered. Unnecessary noise, which is forbidden; and excessive noise, which is defined for neighbourhood activities (zones), and for which both day and night-time maximum limits have been introduced. The results have been relatively successful in mitigating unwanted noise effects. At the provincial level, similar results have been accomplished for many cities in Argentina and Latin America.

Australia. In Australia, the responsibility for noise control is shared primarily by state and local governments. There are nationally-agreed regulatory standards for airport planning and new vehicle noise emissions. The Australian Noise Exposure Forecast (ANEF) index is used to describe how much aircraft noise is received at locations around an airport (DoTRS 1999). Around all airports, planning controls restrict the construction of dwellings within the 25 ANEF exposure contour and require sound insulation for those within 20 ANEF. Road traffic noise limits are set by state governments, but vary considerably in both the exposure metric and in maximum allowable levels. New vehicles are required to comply with stringent design rules for noise and air emissions. For example, new regulation in New South Wales adopts LAeq as the metric and sets noise limits of 60 dBA for daytime, and 55 dBA for night-time, along new roads. Local governments set regulations restricting noise emissions for household equipment, such as air conditioners, and the hours of use for noisy machines such as lawn mowers.

Europe. In Europe, noise legislation is not generally enforced. As a result, environmental noise

levels are often higher than the legislated noise limits. Moreover, there is a gap between long-term political goals and what represents a "good acoustical environment". One reason for this gap is that noise pollution is most commonly regulated only for new land use or for the development of transportation systems, whereas enlargements at existing localities may be approved even though noise limits or guideline values are already surpassed (Gottlob 1995). A comprehensive overview of the noise situation in Europe is given in the Green Paper (EU 1996b), which was established to give noise abatement a higher priority in policy making. The Green Paper outlines a new framework for noise policy in Europe with the following options for future action:

a. Harmonizing the methods for assessing noise exposure, and encouraging the exchange of information among member states.

b. Establishing plans to reduce road traffic noise by applying newer technologies and fiscal instruments.

c. Paying more attention to railway noise in view of the future extension of rail networks.

d. Introducing more stringent regulation on air transport and using economic instruments to encourage compliance.

e. Simplifying the existing seven regulations on outdoor equipment by proposing a Framework Directive that covers a wider range of equipment, including construction machines and others.

Pakistan. In Pakistan, the Environmental Protection Agency is responsible for the control of air pollution nationwide. However, only recently have controls been enforced in Sindh in an attempt to raise public awareness and carry out administrative control on road vehicles producing noise (Zaidi, personal communication).

South Africa. In South Africa, noise control is three decades old. It began with codes of practice issued by the South African Bureau of Standards to address noise pollution in various sectors of the country (e.g. see SABS 1994 1996; and the contribution of Grond in Appendix 2). In 1989, the Environment Conservation Act made provision for the Minister of Environmental Affairs and Tourism to make regulations for noise, vibration and shock (DEAT 1989). These regulations were published in 1990 and local authorities could apply to the Minister to make them applicable in their areas. Later, the act was changed to make it obligatory for all authorities to apply the regulations. However, according to the new Constitution of South Africa of 1996, legislative responsibility for noise control rests exclusively with provincial and local authorities. The noise control regulations will apply to local authorities in South Africa as soon as they are published in the provinces. This will not only give local authorities the power to enforce the regulations, but also place an obligation on them to see that the regulations are enforced.

Thailand. In 1996, noise pollution regulations in Thailand stipulated that not more than 70 dBA LAeq,24h should be allowed in residential areas, and the maximum level of noise in industry

should be no more than 85 dBA Leq 8h (Prasansuk 1997).

United States of America. Environmental noise was not addressed as a national policy issue in the USA until the implementation of the Noise Control Act of 1972. This congressional act directed the US Environmental Protection Agency to publish scientific information about noise exposure and its effects, and to identify acceptable levels of noise exposure under various conditions. The Noise Control Act was supposed to protect the public health and well-being with an adequate margin of safety. This was accomplished in 1974 with the publication of the US EPA "Levels Document" (US EPA 1974). It addressed issues such as the use of sound descriptions to describe sound exposure, the identification of the most important human effects resulting from noise exposure, and the specification of noise exposure criteria for various effects. Subsequent to the publication of the US EPA "Levels Document", guidelines for conducting environmental impact analysis were developed (Finegold et al. 1998). The day-night average sound level was thus established as the predominant sound descriptor for most environmental noise exposure.

It is evident from these examples that noise policies and regulations vary considerably across countries and regions. Moves towards global noise policies need to be encouraged to ensure that the world population gains the maximum health benefits from new developments in noise control.

5.7.3. Noise emission standards have proven to be inadequate

Much of the progress towards solving the noise pollution problem has come from advanced technology, which in turn has come about mainly as a result of governmental regulations (e.g. OECD-ECMT 1995). So far, however, the introduction of noise emission standards for vehicles has had limited impact on exposure to transportation noise, especially from aircraft and road traffic noise (Sandberg 1995). In part, this is because changes in human behaviour (of polluters, planners and citizens) have tended to offset some of the gains made. For example, mitigation efforts such as developing quieter vehicles, moving people to less noise-exposed areas, improving traffic systems and direct noise abatement and control (sound insulation, barriers etc.), have been counteracted by increases in the number of roads and highways built, by the number of traffic movements, and by higher driving speeds and the number of kilometers driven (OECD 1991; OECD-ECMT 1995).

Traffic planning and correction policies may diminish the number of people exposed to the very high community noise levels (>70 dB LAeq), but the number exposed to moderately high levels (55-65 dB LAeq) continues to increase in industrialized countries (Stanners & Bordeau 1995). In developing countries, exposure to excessive sound pressure levels (>85 dB LAeq), not only from occupational noise but also from urban, environmental noise, is the major avoidable cause of permanent hearing impairment (Smith 1998). Such sound pressure levels can also be reached by leisure activities at concerts, discotheques, motor sports and shooting ranges; by music played back in headphones; and by impulse noises from toys and fireworks.

A substantial growth in air transport is also expected in the future. Over the next 10 years large international airports may have to accommodate a doubling in passenger movements. General

aviation noise at regional airports is also expected to increase (Large & House 1989). Although jet aircraft are expected to become less noisy due to regulation of noise emissions (ICAO 1993), the number of passengers is expected to increase. Increased air traffic movement between 1980 and 1990 is considered to be the main reason for the average 22% increase in the number of people exposed to noise above 67 dB LAeq at German airports (OECD 1993).

5.7.4. Unsustainable trends in noise pollution future policy planning

A number of trends are expected to increase environmental noise pollution, and are considered to be unsustainable in the long term. The OECD (1991) identified the following factors to be of increasing importance in the future:

a. The expanding use of increasingly powerful sources of noise.

b. The wider geographical dispersion of noise sources, together with greater individual mobility and spread of leisure activities.

c. The increasing invasion of noise, particularly into the early morning, evenings and weekends.

d. The increasing public expectations that are closely linked to increases in incomes and in education levels.

Apart from these, increased noise pollution is also linked to systemic changes in business practices (OECD-ECMT 1995). By accepting a just-in-time concept in transportation, products and components are stored in heavy-duty vehicles on roads, instead of in warehouses; and workers are recruited as temporary consultants just in time for the work, instead of as long-term employees.

In addition, the OECD (1991) report forecasts:

a. A strengthening of present noise abatement policies and their applications.

b. A further sharpening of emission standards.

c. A co-ordination of noise abatement measures and transport planning, to specifically reduce mobility.

d. A co-ordination of noise abatement measures with urban planning.

Planners need to know the likely effects of introducing a new noise source, or of increasing the level of an existing source, on the noise pollution in a community. Policy makers, when considering applications for new developmental projects, must take into account maximum levels, continuous equivalent sound pressure levels of both the background and the new noise source, the frequency of noise occurrence and the operating times of major noise sources.

5.7.5. Analysis of the impact of environmental noise

The concept of an environmental noise impact analysis (ENIA) is central to the philosophy of managing environmental noise. An ENIA should be required before implementing any project that would significantly increase the level of environmental noise in a community (typically, greater than a 5dB increase). The first step in performing an ENIA is to develop a baseline description of the existing noise environment. Next, the expected level of noise from a new source is added to the baseline exposure level to produce the new overall noise level. If the new total noise level is expected to cause an unacceptable impact on human health, trade-off analyses should then be performed to assess the cost, technical feasibility and community acceptance of noise mitigation measures. It is strongly recommended that countries develop standardized procedures for performing ENIAs (Finegold et al. 1998; SABS 1998).

Assessment of adverse health effects. In setting noise standards (for example on the basis of these guidelines), the adverse health effects from which the population is to be protected need to be defined. Health effects range from hearing impairment to sleep disturbance, speech interference to annoyance. The distinction between adverse and non-adverse effects sometimes poses considerable difficulties. Even the elaborate definition of an adverse health effect given in Chapter 3 incorporates significant subjectivity and uncertainty. More serious noise effects, such as hearing impairment or permanent threshold shift, are generally accepted as adverse. Consideration of health effects that are both temporary and reversible, or that involve functional changes with uncertain clinical significance, requires a judgement on whether these less-serious effects should be considered when deriving guideline values. Judgements as to the adversity of health effects may differ between countries, because of factors such as cultural backgrounds and different levels of health status.

Estimation of the population at risk. The population at risk is that part of the population in a given country or community that is exposed to enhanced levels of noise. Each population has sensitive groups or subpopulations that are at higher risk of developing health effects due to noise exposure. Sensitive groups include individuals impaired by concurrent diseases or other physiological limitations and those with specific characteristics that makes them more vulnerable to noise (e.g. premature babies; see the contribution of Zaidi in Appendix 2). The sensitive groups in a population may vary across countries due to differences in medical care, nutritional status, lifestyle and demographic factors, prevailing genetic factors, and whether endemic or debilitating diseases are prevalent.

Calculation of exposure-response relationships. In developing standards, regulators should consider the degree of uncertainty in the exposure-response relationships provided in the noise guidelines. Differences in the population structure (age, health status), climate (temperature, humidity) and geography (altitude, environment) can influence the prevalence and severity of noise-related health effects. In consequence, modified exposure-response relationships may need to be applied when setting noise standards.

Assessment of risks and their acceptability. In the absence of distinct thresholds for the onset of health effects, regulators must determine what constitutes an acceptable health risk for the population and select an appropriate noise standard to protect public health. This is also true in

cases where thresholds are present, but where it would not be feasible to adopt noise guidelines as standards because of economical and/or technical constraints. The acceptability of the risks involved, and hence the standards selected, will depend on several factors. These include the expected incidence and severity of the potential effects, the size of the population at risk, the perception of related risks, and the degree of scientific uncertainty that the effects will occur at any given noise level. For example, if it is suspected that a health effect is severe and the size of the population at risk is large, a more cautious approach would be appropriate than if the effect were less troubling, or if the population were smaller.

Again, the acceptability of risk may vary among countries because of differences in social norms, and the degree of adversity and risk perception by the general population and stakeholders. Risk acceptability is also influenced by how the risks associated with noise compare with risks from other pollution sources or human activities.

5.7.6. Cost-benefit analysis

In the derivation of noise standards from noise guidelines two different approaches for decision making can be applied. Decisions can be based purely on health, cultural and environmental consequences, with little weight to economic efficiency. This approach has the objective of reducing the risk of adverse noise effects to a socially acceptable level. The second approach is based on a formal cost-effectiveness, or cost-benefit analysis (CBA). The objective is to identify control actions that achieve the greatest net economic benefit, or are the most economically efficient. The development of noise standards should account for both extremes, and involve stakeholders and assure social equity to all the parties involved. It should also provide sufficient information to guarantee that stakeholders understand the scientific and economic consequences.

To determine the costs of control action, the abatement measures used to reduce emissions must be known. This is usually the case for direct measures at the source and these measures can be monetarized. Costs of action should include all costs of investment, operation and maintenance. It may not be possible to monetarize indirect measures, such as alternative traffic plans or change in behaviour of individuals.

The steps in a cost-benefit analysis include:

a. The identification and cost analysis of control action (such as emission abatement strategies and tactics).

b. An assessment of noise and population exposure, with and without the control action.

c. The identification of benefit categories, such as improved health and reduced property loss.

d. A comparison of the health effects, with and without control action.

e. A comparison of the estimated costs of control action with the benefits that accrue from such action.

f. A sensitivity and uncertainty analysis.

Action taken to reduce one pollutant may increase or decrease the concentration of other pollutants. These additional effects should be considered, as well as pollutant interactions that may lead to double counting of costs or benefits, or to disregarding some costly but necessary action. Due to different levels of knowledge about the costs of control action and health effects, there is a tendency to overestimate the cost of control action and underestimate the benefits.

CBA is a highly interdisciplinary task. Appropriately applied, it is a legitimate and useful way of providing information for managers who must make decisions that impact health. CBA is also an appropriate tool for drawing the attention of politicians to the benefits of noise control. In any case, however, a CBA should be peer-reviewed and never be used as the sole and overriding determinant of decisions.

5.7.7. Review of standard setting

The setting of standards should involve stakeholders at all levels (industry, local authorities, non-governmental organizations and the general public), and should strive for social equity or fairness to all parties involved. It should also provide sufficient information to guarantee that the scientific and economic consequences of the proposed standards are clearly understood by the stakeholders. The earlier that stakeholders are involved, the more likely is their co-operation. Transparency in moving from noise guidelines to noise standards helps to increase public acceptance of necessary measures. Raising public awareness of noise-induced health effects (changing of risk perception) also leads to a better understanding of the issues involved (risk communication) and serves to obtain public support for necessary control action, such as reducing vehicle emissions. Noise standards should be regularly reviewed, and revised as new scientific evidence emerges.

5.7.8. Enforcement of noise standards: Low-noise implementation plans

The main objective of enforcing noise standards is to achieve compliance with the standards. The instrument used to achieve this goal is a Low-Noise Implementation Plan (LNIP). The outline of such a plan should be defined in the regulatory policies and should use the tactical instruments discussed above. A typical low-noise implementation plan includes:

a. A description of the area to be regulated.

b. An emissions inventory.

c. A monitored or simulated inventory of noise levels.

d. A comparison of the plan with emissions and noise standards or guidelines.

e. An inventory of the health effects.

f. A causal analysis of the health effects and their attribution to individual sources.

g. An analysis of control measures and their costs.

h. An analysis of transportation and land-use planning.

i. Enforcement procedures.

j. An analysis of the effectiveness of the noise management procedures.

k. An analysis of resource commitment.

l. Projections for the future.

As the LNIP also addresses the effectiveness of noise control technologies and policies, it is very much in line with the Noise Control Assessment Programme (NCAP) proposed recently (Finegold et al. 1999).

5.8. Conclusions on Noise Management

Successful noise management should be based on the fundamental principles of precaution, the polluter pays and prevention. The noise abatement strategy typically starts with the development of noise standards or guidelines, and the identification, mapping and monitoring of noise sources and exposed communities. A powerful tool in developing and applying the control strategy is to make use of modeling. These models need to be validated by monitoring data. Noise parameters relevant to the important sources of noise must be known. Indoor noise exposures present specific and complex problems, but the general principles for noise management hold. The main means for noise control in buildings include careful site investigations, adequate building designs and building codes, effective means for addressing occupant complaints and symptoms, and building diagnostic procedures.

Noise control should include measures to limit the noise at the source, to control the sound transmission path, to protect the receiver's site, to plan land use, and to raise public awareness. With careful planning, exposure to noise can be avoided or reduced. Control options should take into account the technical, financial, social, health and environmental factors of concern. Cost-benefit relationships, as well as the cost-effectiveness of the control measures, must be considered in the context of the social and financial situation of each country. A framework for a political, regulatory and administrative approach is required for the consistent and transparent promulgation of noise standards. Examples are given for some countries, which may guide others in their development of noise policies.

Noise management should:

a. Start monitoring human exposures to noise.

b. Have health control require mitigation of noise emissions. The mitigation procedures

should take into consideration specific environments such as schools, playgrounds, homes and hospitals; environments with multiple noise sources, or which may amplify the effects of noise; sensitive time periods, such as evenings, nights and holidays; and groups at high risk, such as children and the hearing impaired.

c. Consider noise consequences when making decisions on transport-system and land-use planning.

d. Introduce surveillance systems for noise-related adverse health effects.

e. Assess the effectiveness of noise policies in reducing noise exposure and related adverse health effects, and in improving supportive "soundscapes."

a. Adopt these Guidelines for Community Noise as long-term targets for improving human health.

g. Adopt precautionary actions for sustainable development of acoustical environments.

6. Conclusions And Recommendations

6.1. Implementation of the Guidelines

The potential health effects of community noise include hearing impairment; startle and defense reactions; aural pain; ear discomfort speech interference; sleep disturbance; cardiovascular effects; performance reduction; and annoyance responses. These health effects, in turn, can lead to social handicap; reduced productivity; decreased performance in learning; absenteeism in the workplace and school; increased drug use; and accidents. In addition to health effects of community noise, other impacts are important such as loss of property value. In these guidelines the international literature on the health effects of community noise was reviewed and used to derive guideline values for community noise. Besides the health effects of noise, the issues of noise assessment and noise management were also addressed. Other issues considered were priority setting in noise management; quality assurance plans; and the cost-efficiency of control actions. The aim of the guidelines is to protect populations from the adverse health impacts of noise.

The following recommendations were considered appropriate:

a. Governments should consider the protection of populations from community noise as an integral part of their policy for environmental protection.

b. Governments should consider implementing action plans with short-term, medium-term and long-term objectives for reducing noise levels.

c. Governments should adopt the health guidelines for community noise as targets to be achieved in the long-term.

h. Governments should include noise as an important issue when assessing public health matters and support more research related to the health effects of noise exposure.

f. Legislation should be enacted to reduce sound pressure levels, and existing legislation should be enforced.

g. Municipalities should develop low-noise implementation plans.

h. Cost-effectiveness and cost-benefit analyses should be considered as potential instruments when making management decisions.

i. Governments should support more policy-relevant research into noise pollution (see section 6.3).

6.2. Further WHO Work on Noise

The WHO Expert Task Force proposed several issues for future work in the field of community noise. These are:

a. The WHO should consider updating the guidelines on a regular basis.

b. The WHO should provide leadership and technical direction in defining future research priorities into noise.

c. The WHO should organize workshops on the application of the guidelines.

d. The WHO should provide leadership and co-ordinate international efforts to develop techniques for the design of supportive sound environments (e.g. 'soundscapes").

e. The WHO should provide leadership for programmes to assess the effectiveness of health-related noise policies and regulations.

f. The WHO should provide leadership and technical direction for the development of sound methodologies for EIAP and EHIAP.

g. The WHO should encourage further investigation into using noise exposure as an indicator of environmental deterioration, such as found in black spots in cities.

a. The WHO should provide leadership, technical support and advice to developing countries, to facilitate the development of noise policies and noise management.

6.3. Research Needs

In the publication entitled "Community Noise", examples of essential research and development needs were given (Berglund & Lindvall 1995). In part, the scientific community has already addressed these issues.

A major step forward in raising public awareness and that of decision makers is the recommendation of the present Expert Task Force to concentrate more **on variables which have monetary consequences. This means that research should consider the dose-response relationships between sound pressure levels and politically relevant variables, such as noise-induced social handicap, reduced productivity, decreased performance in learning, workplace and school absenteeism, increased drug use and accidents.**

There is also a need for continued efforts to understand community noise and its effects on the health of the world population. Below is a list of essential research needs in non-prioritized order. Research priorities may vary over time and by place and capabilities. The main goal in suggesting these research activities is to improve the scientific basis for policy-making and noise

management. This will protect and improve the public health with regard to the effects of community noise pollution.

Research related to measurement and monitoring systems for health effects

- Development of a global noise impact monitoring study. The study should be designed to obtain longitudinal data across countries on the health effects on communities of various types of environmental noise. A baseline survey could be undertaken in both developed and developing countries and monitoring surveys conducted every 3-5 years. Since a national map of noise exposure from all sources would be prohibitively expensive, periodic surveys of a representative sample of about 1000 people (using standard probability techniques) could be reliably generalized to the whole population of a country with an accuracy of plus-or-minus 3%. A small number of standard questions could be used across countries to obtain comparative data on the impact of all the main types of noise pollution.

- Development of continuous monitoring systems for direct health effects in critical locations.
- Development of standardized methods for low-cost assessment of local sound levels by measurement or model calculations.
- Development of instruments appropriate for local/regional surveys of people's perceptions of their noise/sound environments.

- Protocols for reliable measurements of high-frequency hearing (8000 Hz and above) and for evaluation of such measures as early biomarkers for hearing impairment/deficits.

Research related to combined noise sources and combined health effects

- Research into the combined health effects of traffic noise, with emphasis on the distribution of sound levels over time and over population sub-environments (time-activity pattern).
- Comprehensive studies on combined noise sources and their combinations of health effects in the 3 large areas of transport (road, rail and aircraft).
- Procedures for evaluating the various health effects of complex combined noise exposures over 24 hours on vulnerable groups and on the general population.
- Methods for assessing the total health effect from noise immission (and also other pollution) in sensitive areas (for example, airports, city centers and heavily-trafficked highways)

Research related to direct and/or long-term health effects (sensitive risk groups, sensitive areas and combined exposures)

- Identification of potential risk groups, including identification of sensitive individuals (such as people with particular health problems; people dealing with complex cognitive tasks; the blind; the hearing impaired; young children and the elderly), differences between sexes, discrimination of risk among age groups, and influence of transportation noise on pregnancy course and on fetal development.
- Studies of dose-response relationships for various effects, and for continuous transportation noise at relatively low levels of exposure and low number of noise events per unit time (including traffic flow composition).
- Studies on the perception of control of noise exposure, genetic traits, coping strategies and noise annoyance as modifiers of the effects of noise on the cardiovascular system, and as causes of variability in individual responses to noise.
- Prospective longitudinal studies of transportation noise that examine physiological measures of health, including standardized health status inventory, blood pressure, neuro-endocrine and immune function.
- Knowledge on the health effects of low-frequency components in noise and vibration.
-

Research related to indirect or after-effects of noise exposure

- Field studies on the effects of exposure to specific sounds such as aircraft noise and loud music, including effects such as noise-induced temporary and permanent threshold shifts, speech perception and misperception, tinnitus and information retrieval.
- Studies on the influence of noise-induced sleep disturbance on health, work performance, accident risk and social life.
- Assessment of dose-response relationships between sound levels and politically relevant variables such as noise-induced social handicap, reduced productivity, decreased performance in learning, workplace and school absenteeism, increased drug use and accidents.
- Determination of the causal connection between noise and mental health effects, annoyance and (spontaneous) complaints in areas such as around large airports, heavy-trafficked highways, high-speed rail tracks and heavy vehicles transit routes. The connections could be examined by longitudinal studies, for example.
- Studies on the impact of traffic noise on recovery from noise-related stress, or from nervous system hyperactivity due to work and other noise exposures.

Research on the efficiency of noise abatement policies which are health based

- Determination of the accuracy and effectiveness of modern sound insulation (active noise absorption), especially in residential buildings, in reducing the long-term effects of noise on annoyance/sleep disturbance/speech intelligibility. This can be accomplished by studying sites that provide data on remedial activities and changes in behavioral patterns among occupants.
- Evaluation of environmental (area layout, architecture) and traffic planning (e.g. rerouting) interventions on annoyance, speech interference and sleep disturbance.
- Comparative studies to determine whether children and the hearing impaired have equitable access to healthier lives when compared with normal adults in noise-exposed areas.
- Development of a methodology for the environmental health impact assessment of noise that is applicable in developing as well as developed countries.

Research into positive acoustical needs of the general population and vulnerable groups

- Development of techniques/protocols for the design of supportive acoustical environments for the general population and for vulnerable groups. The protocols should take into account time periods that are sensitive from physiological, psychological and socio-cultural perspectives.
- Studies to characterize good "restoration areas" which provide the possibility for rest without adverse noise load.
- Studies to assess the effectiveness of noise policies in maintaining and improving soundscapes and reducing human exposures.

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Appendix 2 : Examples Of Regional Noise Situations

REGION OF THE AMERICAS

Latin America (Guillermo Fuchs, Argentina).

As more and more cities in Latin America surpass the 20 million inhabitants mark, the noise pollution situation will continue to deteriorate. Most noise pollution in Latin American cities comes from traffic, industry, domestic situations and from the community. Traffic is the main source of outdoor noise in most big cities. The increase in automobile engine power and lack of adequate silencing results in LAeq street levels >70 dB, above acceptable limits. Vehicle noise has strong low-frequency peaks at ~13 Hz, and at driving speeds of 100 Km/h noise levels can exceed 100 dB. The low-frequency (LF) noise is aerodynamic in origin produced, for example, by driving with the car windows open. Little can be done to mitigate these low-frequency noises, except to drive with all the windows closed. Noise exposure due to leisure activities such as carting, motor racing and Walkman use is also growing at a fast rate. Walkman use in the street not only contributes to temporary threshold shifts (TTS) in hearing, but also endangers the user because they may not hear warning signals Construction sites, pavement repairs and advertisements also contribute to street noise, and noise levels of 85–100 dB are common.

The Centro de Investigaciones Acústicas y Luminotécnicas (CIAL) in Córdoba, Argentina has investigated noise pollution in both the field and in the laboratory. The most noticeable effect of excessive urban noise is hearing impairment, but other psychophysiological effects also result. For example, tinnitus resulting from sudden or continuous noise bursts, can produce a TTS of 20–30 dB, and prolonged exposures can result in permanent threshold shifts (PTS). By analyzing sound spectra down to a few Hertz, and at levels of up to 120 dB, discrete frequencies and bands of infrasound were found which damage hearing. With LF sounds at levels of 120 dB, TTS resulted after brief exposure, and PTS after only 30 min of exposure. The effects of noise on hearing can be especially detrimental to children in schools located downtown. Field studies in Córdoba city schools located near streets with high traffic density showed that speech intelligibility was dramatically degraded in classrooms that did not meet international acoustical standards. This is a particularly worrying problem for the younger students, who are in the process of language acquisition, and interferes with their learning process.

In general, community noise in Latin America remains above accepted limits. Particularly at night, sleep and rest are affected by transient noise signals from electronically amplified sounds, music and propaganda. Field research was carried out in four zones of Buenos Aires, to determine the effects of urban noise on the well-being, health and activities of the inhabitants. The effects of confounding variables were taken into consideration. It was concluded that night-time noise levels in downtown Buenos Aires were barely lower than daytime levels. The results showed that sleep, concentration, communication and well-being were affected in most people when noise levels exceeded those permitted by international laws. The reactions of the inhabitants to protect themselves from the effects of noise varied, and included changing rooms, closing windows and complaining to authorities.

Individual responses to noise also vary, and depend on factors such as social, educational and economic levels, individual sensibility, attitudes towards noise, satisfaction with home or neighborhood, and cognitive and affective parameters. For example, at CIAL, two pilot studies were carried out with a group of adolescents to determine the influence of environmental conditions on the perception of noise. When music was played at very high sound levels (with sound peaks of 119 dBA) in a discotheque, judged to be a pleasant environment, the subjects showed less TTS than when exposed to the same music in the laboratory, which was considered to be an unpleasant environment.

At the municipal level Argentinean Ordinances consider two types of noises: unnecessary and excessive. Unnecessary noises are forbidden. Excessive noises are classified according to neighboring activities and are limited by maximum levels allowed for daytime (7 am to 10 pm) and night-time (10 pm to 7 am). This regulation has been relatively successful, but control has to be continuous. Similar actions have been prescribed at the provincial level in many cities of Argentina and Latin America. Control efforts aimed at reducing noise levels from individual vehicles are showing reasonably good improvements. However, many efforts of municipal authorities to mitigate noise pollution have failed because of economic, political and other pressures. For example, although noise control for automobiles has shown some improvement, efforts have been counteracted by the growth in the number and power of automobiles.

CIAL has designed both static and dynamic tests that can be used to set annual noise control limits. For roads and freeways where permitted speeds are above 80 Km/h, CIAL has also designed barriers which protect buildings lining the freeways. Considerable improvements have been obtained using these barriers with noise reductions of over 20 dB at buildings fronts. The most common types of barrier are concrete slabs or wooden structures, made translucent or covered with vegetation. Planted vegetation does not act as an efficient noise shield for freeway noise, except in cases of thick forest strips. In several cities, CIAL also designed ring roads to avoid heavy traffic along sensitive areas such as hospitals, schools and laboratories.

Efforts have not been successful in reducing the noise pollution from popular sports such as carting, motorboating and motocross, where noise levels can exceed 100 dB. In part, this is because individuals do not believe these activities can result in hearing impairment or have other detrimental effects, in spite of the scientific evidence. Argentinean and other Latin American authorities also have not been successful in reducing the sound levels from music centres, such as discotheques, where sound levels can exceed 100 dB between 11 pm and 6 am. However, public protest is increasing and municipal authorities have been applying some control. For instance, in big cities, discotheque owners and others are beginning to seek advice on how to isolate their businesses from apartment buildings and residential areas. Some improvements have been observed, but accepted limits have not yet been generally attained.

United States of America (Larry Finegold)

Noise Exposure.

In the United States, there have only been a few major attempts to describe broad environmental noise exposures. Early estimates for the average daily exposure of various population groups were reported in the U.S. Environmental Protection Agency's *Levels Document* (US EPA 1974), but these were only partially verified by subsequent large-scale measurements. Another EPA publication the same year provided estimates of the national population distribution as a function of outdoor noise level, and established population density as the primary predictor of a community's noise exposure (Galloway et al. 1974). Methodological issues that need be considered when measuring community noise, including both temporal and geographic sampling techniques, have been addressed by Eldred (1975). This paper also provided early quantitative estimates of noise exposure at a variety of sites, from an isolated spot on the North rim of the Grand Canyon to a spot in downtown Harlem in New York City. Another nationwide survey focused on exposure to everyday urban noises, rather than the more traditional approach of measuring exposure to high-level transportation noise from aircraft, traffic and rail (Fidell 1978). This study included noise exposure and human response data from over 2 000 participants at 24 sites.

A comprehensive report, *Noise In America: The Extent of the Problem,* included estimates of occupational noise exposure in the US in standard industrial classification categories (Bolt, Beranek & Newman, Inc. 1981). A more recent paper reviewed the long-term trends of noise exposure in the US and its impact over a 30-year time span, starting in the early 1970's. The focus was primarily on motor vehicle and aircraft noise, and the prediction was for steadily decreasing population-weighted day-night sound exposure (Eldred 1988). However, it remains to be seen whether the technological improvements in noise emission, such as changing from Chapter 2 to Chapter 3 aircraft, will be offset in the long run by the larger carriers and increased operations levels that are forecast for all transportation modes. Although never implemented in its entirety, a comprehensive plan for measuring community environmental noise and associated human responses was proposed over 25 years ago in the US (Sutherland et al. 1973).

Environmental Noise Policy in the United States

One of the first major breakthroughs in developing an environmental noise policy in the United States occurred in 1969 with the adoption of the National Environmental Policy Act (NEPA). This Congressional Act mandated that the environmental effects of any major development project be assessed if federal funds were involved in the project. Through the Noise Control Act (NCA) of 1972, the U.S. Congress directed the US Environmental Protection Agency (EPA) to publish scientific information about the kind and extent of all identifiable effects of different qualities and quantities of noise. The US EPA was also requested to define acceptable noise levels under various conditions that would protect the public health and welfare with an adequate margin of safety. To accomplish this objective, the 1974 US EPA *Levels Document* formally introduced prescribed noise descriptors and prescribed levels of environmental noise exposure. Along with its companion document, *Guidelines for Preparing Environmental Impact Statements on Noise*, which was published by the U.S. National Research Council in 1977, the

Levels Document has been the mainstay of U.S. environmental noise policy for nearly a quarter of a century. These documents were supplemented by additional Public Laws, Presidential Executive Orders, and many-tiered noise exposure guidelines, regulations, and Standards. Important examples include *Guidelines for Considering Noise in Land Use Planning and Control*, published in 1980 by the US Federal Interagency Committee on Urban Noise; and *Guidelines for Noise Impact Analysis*, published in 1982 by the US EPA.

One of the distinctive features of the US EPA *Levels Document* is that it does not establish regulatory goals. This is because the noise exposure levels identified in this document were determined by a negotiated scientific consensus and were chosen without concern for their economic and technological feasibility; they also included an additional margin of safety. For these reasons, an A-weighted Day-Night Average Sound Level (DNL) of 55 dB was selected in the *Levels Document* as that required to totally protect against outdoor activity interference and annoyance. Land use planning guidelines developed since its publication allow for an outdoor DNL exposure in non-sensitive areas of up to 65 dB before sound insulation or other noise mitigation measures must be implemented. Thus, separation of short-, medium- and long-term goals allow noise-exposure goals to be established that are based on human effects research data, yet still allow for the financial and technological constraints within which all countries must work.

The US EPA's Office of Noise Abatement and Control (ONAC) provided a considerable amount of impetus to the development of environmental noise policies for about a decade in the US. During this time, several major US federal agencies, including the US EPA, the Department of Transportation, the Federal Aviation Administration, the Department of Housing and Urban Development, the National Aeronautics and Space Administration, the Department of Defense, and the Federal Interagency Committee on Noise have all published important documents addressing environmental noise and its effects on people. Lack of funding, however, has made the EPA ONAC largely ineffective in the past decade. A new bill, the *Quiet Communities Act* has recently been introduced in the U.S. Congress to re-enact and fund this office (House of Representatives Bill, H.R. 536). However, the passage of this bill is uncertain, because noise in the US, as in Europe, has not received the attention that other environmental issues have, such as air and water quality.

In the USA there is growing debate over whether to continue to rely on the use of DNL (and the A-Weighted Equivalent Continuous Sound Pressure Level upon which DNL is based) as the primary environmental noise exposure metric, or whether to supplement it with other noise descriptors. Because a growing number of researchers believe that "Sound Exposure" is more understandable to the public, the American National Standards Institute has prepared a new Standard, which allows the equivalent use of either DNL or Sound Exposure (ANSI 1996). The primary purpose of this new standard, however, is to provide a methodology for modeling the Combined or Total Noise Environment, by making numerical adjustments to the exposure levels from various noise sources before assessing their predicted impacts on people. A companion standard (ANSI 1998) links DNL and Sound Exposure with the current USA land use planning table. The latter is currently being updated by a team of people from various federal government agencies and when completed should improve the capabilities of environmental and community land-use planners. These documents will complement the newly revised ANSI standard on

acoustical terminology (ANSI 1994).

To summarize progress in noise control made in the USA in the nearly 25 years since the initial national environmental noise policy documents were written, the Acoustical Society of America held a special session in Washington, D.C. in 1995. The papers presented in this special session were then published as a collaborative effort between the Acoustical Society of America and the Institute of Noise Control Engineering (von Gierke & Johnson 1996). This document is available from the Acoustical Society of America, as are a wide range of standards related to various environmental noise and bioacoustics topics from the ANSI.

A document from the European Union is now also available, which includes guidelines for addressing noise in environmental assessments (EU 1996). Policy documents from organizations such as ISO, CEN, and ICAO have shown that international cooperation is quite possible in the environmental noise arena. The ISO document, entitled *Acoustics - Description and Measurement of Environmental Noise* (ISO 1996), and other international standards have already proven themselves to be invaluable in moving towards the development of a harmonized environmental noise policy. The best way to move forward in developing a harmonized environmental noise policy is to take a look at the various national policies that have already been adopted in many countries, including those both from the European member states and from the USA, and to decide what improvements need to be made to the existing policy documents. A solid understanding of the progress that has already been achieved around the world would obviously provide the foundation for the development of future noise policies.

Implementation Concepts and Tools

Development of appropriate policies, regulations, and standards, particularly in the noise measurement and impact assessment areas, is a necessary foundation for implementing effective noise abatement policies and noise control programs. A well-trained cadre of environmental planners will be needed in the future to perform land-use planning and environmental impact analysis. These professionals will require both a new generation of standardized noise propagation models to deal with the Total Noise Environment, as well as sophisticated computer-based impact analysis and land-use planning tools.

A more thorough description of the current noise environment in major cities, suburbs, and rural areas is needed to support the noise policy development process. A new generation of noise measurement and monitoring systems, along with standards related to their use, are already providing considerable improvement in our ability to accurately describe complex noise environments. Finally, both active and passive noise control technologies, and other noise mitigation techniques, are rapidly becoming available for addressing local noise problems. Combined with a strong public awareness and education program, land-use planning and noise abatement efforts certainly have the potential to provide us with an environment with acceptable levels of noise exposure.

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AFRICAN REGION

South Africa (Etienne Grond, South Africa)

Introduction

Cultural and developmental levels diverge greatly in South Africa, and the country can be divided into a first world sector, a developing sector and a third world sector. This contributes to huge variations in both the awareness of noise pollution and in population exposure to noise pollution. Noise-related health problems will in all probability show the same large variations.

Legal requirements

Noise control in South Africa has a history dating back about three decades. Noise control began with codes of practice issued by the South African Bureau of Standards (SABS) to address noise pollution in different sectors. Since then, Section 25 of the Environment Conservation Act (Act 73 of 1989) made provision for the Minister of Environmental Affairs and Tourism to regulate noise, vibration and shock at the national level. These regulations were published in 1990 and local authorities could apply to the Minister to make them applicable in their areas of jurisdiction. However, a number of the bigger local authorities did not apply for the regulations since they already had by-laws in place, which they felt were sufficient. By the middle of 1992 only 29 local authorities had applied the regulations and so the act was changed to make it obligatory for all authorities to apply the regulations. However, by the time the regulations were ready to be published, the new Constitution of South Africa came into effect and this listed noise control as an exclusive legislative competence of provincial and local authorities. This meant that the national government could not publish the regulations. However, provincial governments have agreed to publish the regulations in their respective areas. The regulations will apply to all local authorities as soon as they are published in the provinces, and will give local authorities both the power and the obligation to enforce the regulations.

The Department of Environmental Affairs and Tourism also published regulations during 1997 to make Environmental Impact Assessments mandatory for most new developments, as well as for changes in existing developments. This means that any impact that a development might have on its surrounding environment must be evaluated and, where necessary, the impact must be mitigated to acceptable levels. The noise control regulations also state that a local authority may declare a "controlled area," which is an area where the average noise level exceeds 65 dBA over a period of 24 h period. This means that educational and residential buildings, hospitals and churches may not be situated within such areas.

Occupational noise exposure is regulated by the Department of Manpower, under the Occupational Health and Safety Act (Act 85 of 1993). These regulations states that workers may not be exposed to noise levels of higher than 85 dBA and that those exposed to such levels must make use of equipment to protect their hearing. The problem, however, is that most workers tend not to make use of the provided equipment, either because the equipment is not comfortable, or because they are not aware of the risks high noise levels pose to their hearing. A further problem is that small industries often do not supply the workers with the necessary

equipment, or supply inferior equipment that is less costly.

Codes of practice

The codes of practice issued by the SABS were for the most part replaced by IEC (International Electrotechnical Commission) standards and adopted as SABS ISO codes of practice. They are still being used in South Africa and are regularly updated. A relevant list can be found in the references. The SABS has also published a number of recommended practices (ARP). These include the ARP 020: "Sound impact investigations for integrated environmental management" that is currently being upgraded to a code of practice. Such codes of practice can be referred to as requirements in legislation and will be known as SABS 0328: "Methods for environmental noise impact assessments." The codes of practice published in South Africa cover hearing protection; measurement of noise; occupational noise; environmental noise; airplane noise; and building acoustics, etc.

Courses

Local authorities responsible for applying regulations published by the Department of Environmental Affairs and Tourism must employ a noise control officer who has at least three years tertiary education in engineering, physical sciences or health sciences, and who is registered with a professional council. Alternatively, a consultant with similar training may be employed. Most of the universities in South Africa provide the relevant training, with at least part of the training in acoustics. Universities and technical colleges also provide a number of special acoustics courses. Over the last couple of years awareness of environmental conservation has expanded dramatically within the academic community, and most universities and colleges now have degree courses in environmental management. At the very least, these courses include a six-month module in acoustics, and usually also include training in basic mathematics; the physics of sound; sound measuring methodologies; and noise pollution.

Community awareness and exposure to noise pollution

This topic should be discussed with respect to three separate population sectors: the first-world sector (developed), the developing sector and the third-world sector (rural).

Developed sector

This sector of the population is more-or-less as developed as their European and American counterparts. They have been exposed to noise pollution for a considerable time and, for the most part, are aware of the health consequences of high noise levels. People in this group are also aware of the existence of legal measures by which noise pollution can be addressed. Not surprisingly, most of the complaints and legal action regarding noise pollution are received from this group. Information about noise-related health problems is very limited, but because this group is highly aware of the risks posed by high noise levels, future studies will probably show that people in this category have the fewest health problems. The majority of people in this group are less exposed to high noise levels at work, and they live in more affluent neighborhoods with large plots and separating walls. Their houses tend to be built with materials that are noise

reducing. They also live further away from major noise-producing activities, such as highways, airports and large industries.

Developing sector

This sector of the population has the greatest exposure to high noise levels, both at home and in the workplace. Overall, they are relatively poor and cannot afford to live in quiet areas, or afford large plots or solid building materials. A large component of this sector resides in squatter communities where building are made of any material available, from plastic to corrugated sheets and wood. The buildings are right next to each other and there is almost no noise attenuation between residencies.

People in this category usually live close to major access routes into the cities, because they make use of public transportation and taxis to get to their places of work. Often, too, they live close to their places of work, which are usually big industries with relatively high levels of noise pollution. These people usually work in high noise areas, and because of their lack of awareness of the effects of high noise levels, often do not make use of available hearing protection equipment. Because of a lack of funds, these people also cannot get out of high noise areas and go to recreational areas for relaxation and lower noise levels. Not much information is available on the adverse health problems in this sector. However, workers in this sector should undergo regular medical examinations and the results can be obtained from the industries involved.

Rural sector

As the name suggests, people in this sector live in rural surroundings and for the most part are not subjected to noise levels that could be detrimental to their health. However, they are almost totally unaware of the risks posed by high noise levels. Some of these people work on farms and work with machinery that emits relatively high noise levels, but because of their lack of awareness they do not make use of hearing protection equipment. One advantage they do have is that they return to homes in quiet surroundings and their hearing has a chance to recover. To date, no studies have been carried out to determine the state of their hearing and it would be impossible to state that they have no health problems related to high noise levels.

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EASTERN MEDITERRANEAN REGION (Shabih H. Zaidi)

Scope

In the Eastern Mediterranean region some countries have highly developed industries, while others have none. In other cases, the agricultural economy is inseparably mixed with high-technology industries, such as the oil industry, which can be seen in nearly the whole of the Arabian Peninsula. Other examples of where agriculture and industry are intertwined can be seen in Pakistan, Jordan and Egypt. The main focus of this paper is community noise, but because industry is so widely distributed, some discussion of industrial noise is inevitable. The scope of this paper is to document the available scientific data on community noise in the WHO Regional Office of the Eastern Mediterranean (EMRO) region, including preventive strategies, legislation, compensation and future trends.

Sources of Noise Pollution

Sources of noise pollution in the Eastern Mediterranean region include noise from transportation, social and religious activities, building and civil works, roadside workshops, mechanical floor shops and others. During civil works and building booms, noise levels in all countries of the Eastern Mediterranean region could easily reach 85dBA during the daytime over an 8 h work period. In Pakistan, unprotected construction work goes on at all times of the day and night and uses outdated machinery; and the noise is compounded by workers shouting. On a typical building site noise levels reach 90–100 dBA.

In Karachi, the main artery for daily commuters is a long road that terminates at the harbor. In the densest area of this road there are a hundred small and large mechanical workshops, garages, metal sheet workers, dent removers, painters, welders and repair shops, all of which create a variety of noises. In the middle of this area at the Tibet Centre the LAeq,8h is 90dBA (Zaidi 1989). A similar picture is seen elsewhere in cities like Lahore, Peshawar, etc. Fortunately, the same is not true for other newly built cities in the EMRO region, such as Dubai, or Tripoli, where strict rules separate industrial zones from residential areas.

A special noise problem is Karachi harbour. This port serves the whole of Pakistan as well as Afghanistan and several Asian states, such as Kyrgyzstan, Kazakhstan and Uzbekistan. The noise level at the main wharf of Karachi Port ranges between 90–110 dBA on any given day. Other special sources of noise are the Eastern Mediterranean airports, and indeed most of the airports in the Middle East. Most northbound air traffic originates in Pakistan, Dubai, Sharjah etc. and flights usually depart after midnight so as to arrive in Europe during the daytime. A study is currently underway in Karachi to identify the damage caused by these nocturnal flights to those living under the flight path (SH Zaidi, GH Shaikh & AN Zaidi, personal communication).

Sadly, violence has become part of Eastern culture and is a significant source of noise pollution. Wars generate a lot of noise, and although noise-induced hearing loss is a secondary issue compared with the killing, after the wars many people are hearing impaired. This has been seen following conflicts in Balochistan, Peshawar and Afghanistan, where perforated ear drums,

profound hearing loss and stress-related psychosomatic illnesses are common in the refugee camps. The noise levels during a recent mass demonstration in Karachi, which included the firing of automatic weapons, reached 120 dBA at a distance of 50 m from the scene.

The Effects of Noise on Health

There is good evidence that environmental noise causes a range of health effects, including hearing loss, annoyance, cardiovascular changes, sleep disturbance and psychological effects. Although the health effects of noise pollution have not been documented for the entire EMRO region, data are available for Pakistan and can be used to illustrate the general problem. In this report, noise exposure is mainly expressed as LAeq,24h values.

Noise-induced hearing loss (NIHL).

It is believed that exposure to environmental noise in the EMRO countries is directly related to the living habits, economic prosperity and outdoor habits of people. It has been estimated that no more than 5% of the people are exposed to environmental sound levels in excess of 65dBA over a 24-h period. Similarly, for indoor noise, it is believed that the average family is not exposed to sound levels in excess of 70 dBA over a 24-h period. However, it is difficult to generalize for all countries in the EMRO region, because of ancient living styles and different cultural practices, such as taking siestas between 13:00–16:00 and stopping work at 20:00.

Exposure to noise while travelling to schools, offices or workplaces may vary tremendously between cities in the region. In Karachi, for example, traffic flow is undisciplined, erratic and irrational, with LAeq,8h values of 80–85 dBA. In Riyadh, by contrast, traffic flow is orderly with LAeq levels of 70 dBA during a normal working day. In Karachi, noise levels show significant diurnal variation, reaching levels in excess of 140 dB during the peak rush hour at around 5.00 p.m. (Zaidi 1989). At the Tibet Centre, located at a busy downtown junction, noise levels were 60–70 dB at 9 am, but reached levels in excess of 140 dB between 5-7 p.m. A study conducted on a day that transportation workers went on strike established that road traffic is the most significant source of noise pollution in this city: in the absence of buses, rickshaws, trucks and other public vehicles the LAeq level declined from 90dB to 75dB (Zaidi 1990). Motor engines, horns, loud music on public buses and rickshaws generate at least 65% of the noise in Karachi (Zaidi 1997; Shams 1997). Rickshaws can produce noise levels of 100–110 dBA and do not have silencers. On festive occasions, such as national holidays or political rallies, motorbikes running at high speeds along the Clifton beach in Karachi easily make noise exceeding 120 dBA. (Zaidi 1996).

Another study conducted at 14 different sites in Karachi showed that, in 11 of the sites, the average noise level ranged between 79–80 dB (Bosan & Zaidi 1995). The maximum noise levels at all these sites exceeded 100 dB. Speech interference, measured by the Preferred Speech Interference Level and the Articulation Index, was significant (Shaikh & Rizvi 1990). The study results indicated that two people facing each other at a distance of 1.2 m would have to shout to be intelligible; and the Articulation Indexes demonstrated that communication was unsatisfactory. Of perhaps greater concern are the results of a survey of 587 males between the ages of 17 and 45 years old, who worked as shopkeepers, vehicle drivers, builders and office

assistants. Audiograms showed that 14.6% of the subjects had significant hearing impairment at 3 000–4 000 Hertz (Hasan et al., 2000).

Noise pollution from leisure activities can vary from country to country in the EMRO region. The Panthans in northern Pakistan, for example, like to shoot in the air on festive occasions, such as weddings, without using any noise protection devices. A minimum of 1 000 shots are fired on such occasions; and at a traditional tribal dance called the 'Khattak" the noise level recorded during a particularly enthralling performance in a sports arena was 120dBA. The hunting of wild boar is a common sport in the hinterlands of Sindh. With the rifle shots and the noise made by the beaters, noise levels can easily reach 110 –120 dBA. In some EMRO countries, the younger crowd has taken up the Western habit of listening to Pop music for many hours. Discos and floorshows are confined to a few countries, such as Egypt. Open-air concerts are usually held in stadiums. The noise level recorded at a particularly popular concert was 130 dBA at a distance of 20 m from the stage and 35 m from the amplifiers.

In a study of road traffic at 25 different sites in Peshawar, the third most populous city in Pakistan, 90 traffic constables were taken as cohorts to investigate the extent of NIHL. Of these, 50 did not have any previous history of noise exposure and were taken as controls. Detailed evaluation and audiological investigations established that constables exposed to a noise level of 90 dBA for 8 hours every day suffered from NIHL. Compared to the control subjects, the constables had significant hearing impairment at 3 000 Hz, measured by Pure Tone Audiometry (Akhter 1996).

A similar study of traffic constables in Karachi showed that 82.8% of the constables suffered from NIHL (Itrat & Zaidi 1999). The study also showed that 33.3% of rickshaw drivers, and 56.9% of shopkeepers who worked in noisy bazaars, had hearing impairment. If these findings can be extrapolated to the total populations, there are 1 566 traffic constables (out of a total of 1 890 constables), and 4 067 rickshaw drivers (out of a total of 12 202 drivers) who suffer from NIHL. As has been reported by other researchers, the study also found evidence of acclimatization in the subjects: following an initial, rapid decline, hearing loss stabilized after prolonged noise exposure.

Annoyance.

The citizens of Karachi commonly complain that noise causes irritability and stress. The main sources have been identified as traffic noise, industrial noise and noise generated by human activity. Unfortunately no data are available for the level of annoyance caused by noise exposure in the EMRO region. From limited research around the world, it can be estimated that 35–40% of employees in office buildings are seriously annoyed by noise at sound levels in excess of 55–60 dBA. In countries such as Pakistan, Iran, Jordan and Egypt that level is often seen in most offices. Annoyance is a non-tangible entity and cannot be quantified scientifically. It is a human reaction and perhaps its parameters could include irritability, apprehension, fear, anger, frustration, uneasiness, apathy, chaos and confusion. If such are the parameters, then on a scale of 0–10, with 10 being the greatest annoyance, many EMRO countries could easily score 6 or higher.

Effects of noise on sleep and the cardiovascular system.

In the Eastern Mediterranean region no specific data are available on the effects of noise on sleep or the cardiovascular system. However, factory workers, traffic constables, rickshaw drivers and shopkeepers frequently complain about fatigue, irritability and headaches; and one of the most common causes of poor performance in offices is sleep disturbance. The rising incidence of tinnitus in cities like Karachi is also related to noise exposure, and tinnitus itself can lead to sleep deprivation. Although the effects of noise on the cardiovascular system have been well documented for other countries (Berglund & Lindvall 1995), data are lacking for the EMRO region. However, the prevalence of cardiovascular diseases are on the rise in the EMRO countries, particularly hypertension. While most of the increase in these diseases is due to a rich diet and lack of exercise, the relationship between noise and cardiovascular changes is worth investigating.

The risk to unborn babies and newborns.

Although evidence from other countries indicates that noise may damage the hearing of a fetus, there are no data from the EMRO countries to confirm this. With newborn babies, however, noise from incubators is a major cause of hearing loss in the EMRO region, particularly as 20–27% of them are born underweight (Razi et al. 1995). Once exposed to noise in an incubator, the chances of hearing impairment rapidly rises compared with cohorts in developed countries. Several other factors have also been identified as causing deafness and hearing impairment in newborns in the Eastern Mediterranean region (Zaidi 1998; Zakzouk et al. 1994). They are:

a. Discharge from the ears.

b. Communicable infections.

c. Ototoxicity.

d. Noise.

e. Consanguinity.

f. Iodine deficiency.

Noise Control

Although noise control legislation exists in several EMRO countries, it is seldom enforced, particularly in Pakistan and some neighboring countries. Noise control begins with education, public awareness and the appropriate use of media in highlighting the effects of noise. In Calcutta, for instance, public orientation and mass media mobilization have produced tangible results, and this can easily be done in other countries. Three strategies have been devised for noise control, all of which are practicable in EMRO region countries. They are control at the source, control along the path and control at the receiving end.

There are many ways noise can be controlled at the source. For example, most of the equipment and machinery used in EMRO countries is imported from the West. Noise control could begin by importing quieter machinery, built with newer materials like ceramics or frictionless parts. And at the local level, the timely replacement of parts and proper maintenance of the machines should be carried out. Vehicles like the rickshaw should be banned, or at least be compelled to maintain their silencers, and all vehicles must be put to a road worthiness test periodically. This already occurs in some EMRO countries, but not all. Horns, hooters, music players and other noise making factors must also be controlled. The use of amplifiers and public address systems should also be banned, and social, leisure and religious activities should be restricted to specific places and times.

Along the sound path, barriers can be used to control noise. There are three kinds of barriers available, namely, space absorbers made out of porous material, resonant absorbers and panel absorbers. Architects, for example, use hollow blocks of porous material. The air gaps between building walls not only keep the buildings cool in hot weather, but also reduce the effects of noise. Ceilings and roofs are often treated with absorbent material. In large factories, architects use corrugated sheets and prefabricated material, which are helpful in reducing noise levels. In Pakistan, some people use clay pots in closely ranked positions on rooftops to reduce the effect of heat as well as noise. For civic works and buildings, special enclosures, barriers and vibration controlling devices should be used. Public halls, such as cinemas, mosques and meeting places should have their walls and floors carpeted, and covered with hangings, mats etc. An effective material is jute, which is grown in many countries, mainly Bangladesh, and it is quite economical. Some of the old highways and most of the busy expressways need natural noise barriers, such as earth banks, trees and plants.

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SOUTH-EAST ASIAN REGION. (Sudhakar B. Ogale)

Introduction

The ability to hear sound is a sensory function vital for human survival and communication. However, not all sounds are wanted. Unwanted sounds, for which the term "noise" is normally used, often originate from human activities such as road traffic, rail traffic, aircraft, discos, electric power generators, festivals, firecrackers and toys. In general, however, data on noise pollution in South east Asian countries are not available. For example, there are no comprehensive statistical data regarding the incidence and etiology of hearing impairment. Consequently, it is difficult to estimate the exact percentage of the population affected by community noise.

Excessive noise is the major contributor to many stress conditions. It reduces resistance to illness by decreasing the efficiency of the immune system, and is the direct cause of some gastrointestinal problems. Noise also increases the use of drugs, disturbs sleep and increases proneness to accidents. An increased incidence of mental illness and hospital admissions, increases in absenteeism from work and lethargy from sleep disturbance all result from noise pollution and cause considerable loss of industrial production.

Noise Exposure in India

India is rapidly becoming industrialized and more mechanized, which directly affects noise levels. However, no general population study regarding the magnitude of the noise problem in India has been performed.

Road Traffic Noise

Exposure. A study by the Indian Institute of Road Traffic (IRT) reported that Delhi was the noisiest city in India, followed by Calcutta and Bombay (IRT 1996; Santra & Chakrabarty 1996). The survey examined whether road-traffic noise affected people with respect to annoyance, sleep disturbance, interference with communication and hearing impairment. It showed that 35% of the population in four major cities have bilateral sensory neural hearing loss at noise emission levels above 82 dBA. This is of particular concern in light of a second study, showing that LAeq,24h levels at 24 kerbside locations in Calcutta were 80–92 dBA (Chakrabarty et al. 1997) The mean noise emission levels of four different vehicle categories are presented in Table A2.1.

Table A2.1: Mean noise emission levels of vehicles

Type of vehicle	Mean sound pressure level
2 wheelers (motor cycle)	82 dBA
3 wheelers (auto rickshaw)	87 dBA
Motor car (taxi, private cars)	85 dBA
Heavy vehicles (trucks)	92 dBA

Control Measures. Only recently has noise pollution been considered an offence in India, under the Environmental (Protection) Act 1986. Several measures are being taken to reduce traffic-noise exposure. These include:

a. Planting trees, shrubs and hedges along roadsides.

b. Mandatory, periodic vehicle inspections by road traffic control.

c. Reintroduction of silent zones, such as around schools, nursing homes and hospitals that face main roads.

d. Regulation of traffic discipline, and a ban on the use of pressure horns.

e. Enforcement of exhaust noise standards.

f. Mandating that silencers be effective in three-wheeled vehicles.

g. The use and construction of bypass roads for heavy vehicles.

h. Limiting night-time access of heavy vehicles to roads in residential neighbourhoods

i. Installation of sound-proof windows.

j. Proper planning of new towns and buildings.

Air Traffic Noise

Many airports were originally built at some distance from the towns they served. But due to growing populations and the lack of space, buildings are now commonly constructed alongside airports in India.

Exposure. A survey revealed that aircraft produced a high level of noise during take-off, with sound pressure levels of 97–109 dBA for the Airbus, and 109 dBA for Boeing aircraft (SB Ogale, unpublished observations). During landing, the aircraft produced a sound pressure level of 108 dBA. Although exposure to aircraft noise is considered to be less of a problem than exposure to traffic noise, the effects of air-traffic noise are similar to those of road traffic, and include palpitations and frequent awakenings at night.

Control measures. The use of ear muffs must be made obligatory at the airport. This can reduce noise exposure to a safe level. An air-traffic control act should also enforce the use and introduction of low-noise aircraft, and mandate fewer night-time flights.

Rail Traffic Noise

Very little attention has been paid to the problems of railway noise.

Exposure. In Bombay, where the majority of residential buildings are situated on either side of railway tracks, residents are more prone to suffer from acoustic trauma. More than 14% of the population in Bombay suffer from sleep disturbances during night, due to high-speed trains and their whistling. A study on surface railways (SB Ogale, unpublished observations) revealed that platform noise was 71–73 dBA in the morning and 78–83 dBA in the evening. The noise from loudspeakers mounted in the platform was 87–90 dBA. At a distance of 1 m from the engine, the whistle noise was 105–108 dBA for a train with an electric engine, up to 110 dBA for a train with diesel engine and 118 dBA for steam engine trains. Vacuum brakes produced noise levels as high as 95 dBA. This suggests that unprotected railway staff on platforms are at risk of permanent noise induced hearing loss.

Festival noise

Festival noise in India was first surveyed in Bombay in late 1970, during the Ganpati festival period. A similar study (Santra et al. 1996) was conducted soon after in Calcutta at the Durga Pooja festival during evening hours (18:00–22:00). The music from loudspeakers produces sound pressure levels of more than 112 dBA. During the festival period the residents experienced a noisy environment for 8–10 h at a stretch, with noise level of 85–95 dBA. This level is above the 80 dBA limit set by WHO for industrial workers exposed to noise for a maximum period of 8 hours.

Control measures. In a religious country, it is politically difficult to restrict religious music, even in the interests of public health. A ban on all music from loudspeakers after 22:00 would decrease the sound pressure levels to below the permissible legal limit. A preventive programme is advocated to measure noise levels with sound level metres.

Fire crackers and toy weapons noise

Exposure. A study conducted by Gupta & Vishvakarma (1989) at the time of Deepawali, an Indian festival of fireworks, determined the auditory status of 600 volunteers from various age groups, before and after exposure to firecrackers. The study also measured the acoustical output of representative samples of toy weapons and firecrackers, and the noise intensity level at critical spectator points. The average sound level at a distance of 3 m from the noise source was 150 dBA, exceeding the 130 dBA level at which adults are at risk for hearing damage. On average, 2.5% of the people surveyed during Deepawali had persistent sensory neural hearing loss of 30 dBA, with those in the 9–15 year old age group being most affected.

Control Measures. A judicious approach in the manufacture and use of toy weapons and firecrackers is encouraged, in addition to legal restraints. Fireworks should be more a display of light, rather than sound.

Generator Noise

Diesel generators are often used in India to produce electric power. Big generators produce sound pressure levels exceeding 96 dBA (SB Ogale, unpublished observations).

Conclusions

No comprehensive statistical data are available for community noise in India, however, the main sources of environmental noise are road traffic, air traffic, rail traffic, festivals, firecrackers and diesel generators. The adverse effects of noise are difficult to quantify, since tolerance to noise levels and to different types of noise varies considerably between people. Noise intensity also varies significantly from place to place. It should also be noted that noise data from different countries are often not obtained by the same method, and in general models have been used which are based on data from a limited number of locations. Noise control measures could be taken at several levels, including building design, legal measures, and educating the people on the health dangers of community noise. In India, what is needed now is noise control legislation and its strict enforcement, if a friendly, low-noise environment is to be maintained.

Noise Exposure in Indonesia

According to a report by the WHO, the noise exposure and control situation in Indonesia is as follows (Dickinson 1993).

Exposure. No nationwide data are available for Indonesia. However, during the last three decades there has been rapid growth in transportation, industry and tourism in Indonesia.

Control Measures. With the large majority of people having little income, protection of the physical environment has not been a first-order priority. The following recommendations have been made with respect to community noise (Dickinson 1993):

a. The cities of Indonesia have relatively large populations and each provincial government will need the staff and equipment to monitor and manage the environment.

b. Sound level meters with noise analysis computer programmes should be purchased.

c. Training courses and adequate equipment should be provided.

d. Noise management planning for airports should be promoted.

e. Reduction measures should be taken for road-traffic noise.

Noise Exposure in Bangladesh

Exposure. In Bangladesh no authentic statistical data on the effects of community noise on deafness or hearing impairment are available (Amin 1995).

Control Measures. Governments have meager resources, a vast population to contend with and high illiteracy rates; consequently, priorities are with fighting hunger, malnutrition, diseases and various man-made and natural calamities. The governments are unable to give the necessary attention towards the prevention, early detection and management of noise disabilities in the country. Close cooperation is needed between the national and international organizations, to exchange ideas, skills and knowledge (Amin 1995).

Noise Exposure in Thailand

Exposure. Noise from traffic, construction, and from factories and industry has become a big problem in the Bangkok area. The National Environmental Board of Thailand was set up two decades ago and has been active in studying the pollution problems in Thailand. Indeed, a committee on noise pollution control was set up to study the noise pollution in Bangkok area and its surroundings. Although regulations and recommendations were made for controlling various sources of noise, the problem was not solved due to a lack of public awareness, the difficulty of proving that noise had adverse effects on health and hearing, and the difficulty of getting access to control noise. A general survey revealed that 21.4% of the Bangkok population is suffering from sensory neural hearing loss (Prasanchuk 1997). Noise sources included street noise, traffic noise, industrial noise and leisure noise.

Control Measures. In 1996, regulations for noise pollution control set LAeq,24h levels at 70 dBA for residential areas, and less than 50 dBA to avoid annoyance. The National Committee on Noise Pollution Control has been asked to study the health effects of noise in the Bangkok area and its surroundings, and determine whether these regulations are realistic and feasible.

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WESTERN PACIFIC REGION.

In this section, information on noise pollution and control will be given for three countries in the Western Pacific Region, namely Australia, the People's Republic of China and Japan. From a noise pollution point of view China may be viewed as a developing country, whereas Japan and Australia, with their high level of industrialization, represent developed countries.

Australia (Andrew Hede & Michinori Kabuto)

Exposure. Australia has a population of 18 million with the majority living in cities that have experienced increasing noise pollution from a number of sources. The single most serious source of noise is road traffic, although in major cities such as Sydney, Melbourne and Perth, large communities are exposed to aircraft noise as well. Other important sources of noise pollution are railway noise and neighbourhood noise (including barking dogs, lawn mowers and garbage collection). A particular problem in Australia is that the climate encourages most residents to live with open windows, and few houses have effective noise insulation.

A study of road-traffic noise was conducted at 264 sites in 11 urban centres with populations in excess of 100 000 people (Brown et al. 1994). Noise was measured one metre from the façade of the most exposed windows and at window height. From the results, it was estimated that over 9% of the Australian population is exposed to LA10,18h levels of 68 dB or greater, and 19% of the population is exposed to noise levels of 63 dB or greater. In terms of LAeq values for daytimes, noise exposure in Australia is worse than in the Netherlands, but better than in Germany, France, Switzerland or Japan.

Control. In the mid-1990's, when a third runway was built at Sydney Airport, the government funded noise insulation of high-exposed dwellings. Increasingly, too, major cities are using noise barriers along freeways adjacent to residential communities. In most states barriers are mandatory for new freeways and for new residential developments along existing freeways and major motorways. There has been considerable testing of noise barriers by state agencies, to develop designs and materials that are cost effective.

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China (Chen Ming)

Introduction

Urban noise pollution has become a contemporary world problem. Urban noise influences people's living, learning and working. People exposed to noise feel disagreeable and cannot concentrate on work. Rest and sleep are also disturbed. People exposed to high-intensity noise

do not hear alarm signals and cannot communicate with each other. This can result in injury and, indeed, with the modernization of China, construction accidents related to noise are increasing. According to statistics for several cities in China, including Beijing, Shanghai, Tientsin and Fuzhou, the proportion of total accidents that were noise related was 29.7% in 1979, 34.6% in 1980, 44.8% in 1981 and 50% in 1990. It is therefore very important to control noise pollution in China.

Long-term exposure to urban environmental noise can lead to temporary hearing loss (assessed by temporary threshold shift), permanent hearing loss (assessed by permanent threshold shift) or deafness. Microscopy studies have shown that in people exposed to noise for long periods, hair cells, nerve fibers and ganglion cells were absent in the cochleae, especially in the basal turns. The primary lesion is in the 8–10 mm region of the cochlea, which is responsible for detecting sound at a frequency of 4 000 Hz. People chronically exposed to noise may first complain about tinnitus and, later on, about hearing loss. This is especially true for patients who have bilateral hearing loss at 4 000 Hz, but who have relatively good hearing other frequencies. Non-auditory symptoms of noise include effects on the nervous system, cardiovascular system and blood system. These symptoms were rarely observed in China in the past, but today more and more people complain about hearing damage and non-auditory physiological effects.

Urban environmental noise has thus become a common concern of all members of society. A key to resolving the complex noise issue lies in the effective control of urban noise sources. Control measures include reducing noise at its source, changing noise transmission pathways, building design, community planning and the use of personal hearing protection.

Urban environmental noise sources can be divided into industrial noise, traffic noise, building architecture noise and community district noise sources. Only the last three types are of concern here.

Traffic Noise

There are four sources of traffic noise: road traffic, railway transport, civil aviation and water transport; of these, road traffic is the main source of urban noise. The sound emission levels of heavy-duty trucks are 82–92 dBA and 90–100 dBA for electric horns; air horns are even worse, with sound emission levels of 105–110 dBA. Most urban noise from automobiles is in the 70–75 dB range, and it has been estimated that 27% of all complaints are about traffic noise. When a commercial jet takes off, speech communication is interrupted for up to 1 km on both sides of the runway, but people as far away as 4 km are disturbed in their sleep and rest. If a supersonic passenger plane flies at an altitude of 1 500 m, its sound pressure waves can be heard on the ground in a 30–50 km radius.

Building Noise

As a result of urban development in China, construction noise has become an increasingly serious problem. It is estimated that 80% of the houses in Fuzhou were built in the past 20 years. According to statistics, the noise from ramming in posts and supports is about 88 dB and the noise from bulldozers and excavators is about 91 dB, 10 m from the equipment. About 98% of

industrial noise is in the 80–105 dB range, and it is estimated that 20% of all noise complaints is about industrial noise.

Community Noise

The main sources of community noise include street noise, noise from electronic equipment (air conditioners, refrigerators, washing machines, televisions), music, clocks, gongs and drums. Trumpets, gongs, drums and firecrackers, in particular, seriously disturb normal life and lead to annoyance complaints.

In conclusion, urban noise pollution in China is serious and is getting worse. To control noise pollution, China has promulgated standard sound values for environmental noise. These are summarized in table A2.2.

Table A2.2: LAeq standard values in dB for environmental noise in urban areas.

Applied area	day	night
Special residential quarters[1]	45	35
Residential and cultural education area[2]	50	40
Type 1 mixed area[3]	55	45
Type 2 mixed area[4] or commercial area	60	50
Industrial area	65	55
Arterial roads[5]	70	55

1 Special residential quarters: quiet residential area
2 Residential and cultural education area: residential quarters, cultural, educational offices
3 Type 1 mixed area: mixture of commercial area and residential quarters
4 Type 2 mixed area: mixture of industrial area, commercial area, residential quarters and others
5 Roads with traffic volume of more than 100 cars per hour

The peak sound levels for frequent noises emitted during the night-time are not allowed to exceed standard values by more than 10 dBA. Single, sudden noises during the night-time are not allowed to exceed standard values by more than 15dBA.

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Japan (Michinori Kabuto)

Environmental Quality Standards

Noise standards for both general and roadside areas were set in Japan in 1967, through the "Basic Law for Environmental Pollution." This law was updated in September 1999. Each standard is classified according to the type of land use and the time of day. In ordinary residential areas, the night-time standard is 45 dB LAeq, but in areas that require even lower noise exposure, such as hospitals, this is lowered to 40 dB LAeq. In contrast, the daytime levels for commercial and industrial areas is as high as 60 dBA. Standards for roadside areas are 70 dB LAeq for daytime and 65 dB LAeq for nighttime. Between 1973–1997 noise standards for aircraft noise, super-express train noise and conventional railway train noise were also implemented. Standards for aircraft noise were set in terms of the weighted equivalent continuous perceived noise level (WECPNL). For residential areas, the WECPNL standard is 70 dBA, and is 75 dBA for areas where it is necessary to maintain a normal daily life.

For super-express trains, the Environmental Agency required noise levels to be below 75 dBA in densely populated residential areas, such as along the Tokaido and Sanyo Shinkansen lines, as well as in increasingly populated areas, such as along the Tohoku and Joetsu Shinkansen lines. The standards were to be met by 1990, but by 1991 this level had been achieved at only 76% of the measuring sites on average. Noise countermeasures included the installation of new types of sound-proof walls, and laying ballast mats along densely populated stretches of the four Shinkansen lines. Noise and vibration problems can also result from conventional trains, such as occurred with the opening of the Tsugaru Strait and Seto Ohashi railway lines in 1988. Various measures have since been taken to address the problems.

Complaints About Community Noise.

In Japan, complaints to local governments about environmental problems have been summarized annually and reported by Japan Environmental Agency. Thirty-seven percent of all complaints was due to factory (machinery) noise; 22% to construction noise; 3% to road traffic noise; 4% to air traffic noise; 0.8% to rail traffic noise; 9% to night-time business; 6% to other commercial activities; 2.5% to loudspeaker announcements; 9% to domestic noise; and 8% was due to miscellaneous complaints.

Sources of Noise Exposure and their Effects

Road-traffic noise. The number of automobiles in Japan has increased from 20 million in 1971 to 70 million in 1994, a 3.5-fold increase. One-third of this increase was due to heavy-duty vehicles. Since 1994, out of a total of 1 150 000 km of roads in Japan, only 29 930 km have been designed according to noise regulations. According to 1998 estimates by the Environmental Agency, 58% of all roads passed through residential areas. Daytime noise limits were exceeded in 92% of all cases, and night-time limits were exceeded in 87% of all cases. The study also estimated that 0.5 million houses within 10 m of the roads were exposed to excessive traffic noise. In a recent lawsuit, the Japanese Supreme Court ruled that people should be compensated when exposed to night-time noise levels exceeding 65 dB Laeq. This would apply to people living alongside 2 000 km of roads in Japan.

A recent epidemiological study examined insomnia in 3 600 women living in eight different roadside areas exposed to night-time traffic. Insomnia was defined as one or more of the following symptoms: difficulty in falling asleep; waking up during sleep; waking up too early; and feelings of sleeplessness one or more days a week over a period of at least a month. The data were adjusted for confounding variables, such as age, medical care, whether the subjects had young children to care for, and sleep apnea symptoms. The results showed that the odds ratio for insomnia was significantly correlated with the average night-time traffic volume for each of the eight areas and suggested that insomnia could be attributed solely to night-time road traffic.

From the most noisy areas in the above study 19 insomnia cases were selected for a further in-depth examination. The insomnia cases were matched in age and work with 19 control subjects. Indoor and outdoor sound levels during sleep were measured simultaneously at 0.6 s intervals. For residences facing roads with average night-time traffic volume of 6 000 vehicles per hour, the highest sound levels observed were 78–93 dBA. The odds ratios for insomnia in each of the quartiles for LAmax,1min; L50,1min; L10,1min and LAeq,1min generally showed a linear trend and ranged between 1 (lowest quartile) and 6–7 (highest quartile). It was concluded that insomnia was likely to result when night-time indoor LAeq, 1min sound levels exceeded 30 dBA.

Air-traffic noise At the larger Japanese airports (Osaka, Tokyo, Fukuoka), jet airplanes have rapidly increased in number and have caused serious complaints and lawsuits from those living nearby. Complaints about jet-fighter noise are also common from residents living in the vicinity of several U.S. airbases located in Japan. In the case of Kadena and Futemma airbases on Okinawa, a recent study by the Okinawa Prefecture Government suggested that hearing loss, child misbehaviour and low birth-weight babies were possible health effects of the noise associated with these bases (RSCANIH 1997). Using measurements taken in 1968 during the Vietnam War, it was estimated that the WECPNL was 99–108 dBA at the Kadena village fire station. Similar WECPNL estimates of 105 dBA were also obtained for Yara (Kadena-cho) and Sunabe (Chatan-cho) bases. These levels correspond to a LAeq,24h value of 83 dB, and are of serious concern in light of recommendations by the Japan Association of Industrial Health that occupational noise exposure levels should not exceed 85 dB for an 8-h work day if hearing loss is to be avoided.

Audiogrammes of subjects living in areas surrounding Kadena airport indicated that they had progressive hearing loss at higher frequencies. Eight subjects had hearing impairment in the 3–6 kHz range, which strongly suggested that the hearing loss was due to excessive noise exposure. Since the examiners confirmed the subjects had not been exposed to repeated intense noise at their residences or workplaces, the most likely cause of their hearing loss was the intense aircraft noise during take-offs, landings and tune-ups at Kadena airport.

The effects of noise were examined in children from nursery schools and kindergartens in towns surrounding Kadena airport. The children were scored with respect to seven variables: cold symptoms, emotional instability, discontentment-anxiety, headache-stomachache, passivity, eating problems and urination problems. Confounding factors, such as sex, age, birth order, the number of parents living together, the mother's age when the child was born, reaction to noise and the extent of noise exposure, were taken into account. The results showed that children exposed to noise had significantly more problems with respect to their behaviour, physical condition, character and reaction to noise, when compared to a control group of children that had not been exposed to airport noise. This was especially true of for children exposed to a WECPNL of 75 or more. Thus, small children acquire both physical and mental disorders from chronic exposure to aircraft noise.

Chronic exposure to aircraft noise also affects the birth-weight of children. The birth-weights of infants were analyzed using records from 1974 to 1993 in the Okinawa Prefecture. Confounding factors such as the mother's age, whether there were single or multiple embryos, the child's sex, and the legitimacy of the child were considered. The results showed that 9.1 % of all infants born in Kadena-cho, located closest to Kadena airport, had low birth-weights. This was significantly higher than the 7.6 % rate seen in other municipalities around Kadena and Futemma airfields, and much higher than the 7 % rate in cities, towns and villages on other parts of Okinawa Island.

Rail-traffic noise. Commuter trains and subway cars expose Tokyo office workers to much higher noise levels than do other daily activities (Kabuto & Suzuki 1976). Exposure to indoor noise may vary according to railway line or season (there are more open windows in good weather), but the levels range from 65–85 dBA. In general, these values exceeded the LAeq,24h level of 70 dBA for auditory protection (US EPA 1974).

Neighbourhood noise. Neighbourhood noise, including noise from late-night business operations, noise caused by loudspeaker announcements, and noise from everyday activities, have accounted for approximately 39% of all complaints about noise in recent years. At present, noise controls for late-night business operations have been enforced by ordinances in 39 cities and prefectures, and in 42 cities for loudspeaker announcements.

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Appendix 3 : Glossary

Acoustic	Pertaning to sound or to the sense of hearing (CMD 1997)
Acoustic dispersion	Change of speed of sound with frequency (ANSI 1994)
Acoustic trauma	Injury to hearing by noise, especially loud noise (CMD 1997)
Adverse effect	(of noise:) A change in morphology and physiology of an organism which results in impairment of functional capacity or impairment of capacity to compensate for additional stress or increase in susceptibility to the harmful effects of other environmental influences. This definition includes any temporary or long term lowering of physical, psychological or social functioning of humans or human organs (WHO 1994)
Annoyance	A feeling of displeasure associated with any agent or condition known or believed by an individual or a group to be adversely affecting them" (Lindvall and Radford 1973; Koelega 1987). Any sound that is perceived as irritating or a nuisance (ANSI 1995)
Anxiety	A feeling of apprehension, uncertainty, and fear without apparent stimulus, and associated with physiological changes (tachycardia, sweating, tremor, etc.) (DIMD 1985). A vaguer feeling of apprehension, worry, uneasiness, or dread, the source of which is often nonspecific or unknown to the individual (CMD 1997).
Audiometry	Testing of the hearing sense (CMD 1997). Measurement of hearing, including aspects other than hearing sensitivity (ANSI 1995)
Auditory	Pertaining to the sense of hearing (CMD 1997)
Auditory threshold	Minimum audible sound perceived (CMD 1997)
A-weighting	A frequency dependent correction that is applied to a measured or calculated sound of moderate intensity to mimick the varying sensitivity of the ear to sound for different frequencies

Ambient noise	All-encompassing sound at a given place, usually a composite of sounds from many sources near and far (ANSI 1994)
Articulation index	Numerical value indicating the proportion of an average speech signal that is understandable to an individual (ANSI 1995)
Bel	Unit of level when the base of the logarithm is ten, and the quantities concerned are proportional to power; unit symbol B (ANSI 1994)
Cardiovascular	Pertaining to the heart and blood vessels (DIMD 1985)
Cochlea	A winding cone-shaped tube forming a portion of the inner ear. It contains the receptor for hearing (CMD 1997)
Cognitive	Being aware with perception, reasoning, judgement, intuition, and memory (CMD 1997)
Community noise	Noise emitted from all noise sources except noise at the industrial workplace (WHO 1995a)
Cortisol	A glucocortical hormone of the outer layer of the adrenal gland (CMD 1997)
Critical health effect	Health effect with lowest effect level
C-weighting	A frequency dependent correction that is applied to a measured or calculated sound of high intensity to mimick the varying sensitivity of the ear to sound for different frequencies
dB	Decibel, one-tenth of a bel
dBA	A-weighted frequency spectrum in dB, see A-weighting
dBC	C-weighted frequency spectrum in dB, see C-weighting
dBlin	Unweighted frequency spectrum in dB
Decibel	Unit of level when the base of the logarithm is the tenth root of ten, and the quantities concerned are proportional to power; unit symbol dB (ANSI 1994)

Ear plug	Hearing protector that is inserted into the ear canal (ANSI 1994)
Ear muff	Hearing protector worn over the pinna (external part) of an ear (ANSI 1994)
Effective perceived noise level	Level of the time integral of the antilogarithm of one tenth of tone-corrected perceived noise level over the duration of an aircraft fly-over, the reference duration being 10 s (ANSI 1994)
Emission	(of sounds). Sounds generated from all types of sources
Epinephrine	A hormone secreted by the adrenal medulla (inner or central portion of an organ) in response to stimulation of the sympathetic nervous system (CMD 1997)
Equal energy principle	Hypothesis that states that the total effect of sound is proportional to the total amount of sound energy received by the ear, irrespective of the distribution of that energy in time
Equivalent sound pressure level	Ten times the logarithm to the base ten of the ratio of the time-mean-square instantaneous sound pressure, during a stated time interval T, to the square of the standard reference sound pressure (ANSI 1994)
Exposure-response curve	Graphical representation of exposure-response relationship
Exposure-response relationship	(With respect to noise:) Relationship between specified sound levels and health impacts
Frequency	For a function periodic in time, the reciprocal of the period (ANSI 1994)
Frequency-weighting	A frequency dependent correction that is applied to a measured or calculated sound (ANSI 1994)
Gastro-intestinal	Pertaining to the stomach and intestines (CMD 1997)
Hearing impairment, hearing loss	A decreased ability to perceive sounds as compared which what the individual or examiner would regard as normal (CMD 1997)
Hearing threshold	For a given listener and specified signal, the minimum (a) sound pressure level or (b) force level that is capable of

	evoking an auditory sensation in a specified function of trials (ANSI 1994)
Hertz	Unit of frequency, the number of times a phenomenon repeats itself in a unit of time; abbreviated to Hz
Hysteria	A mental disorder, usually temporary, presenting somatic (pertaining to the body) symptoms, stimulating almost any type of physical disease. Symptoms include emotional instability, various sensory disturbations, and a marked craving for sympathy (CMD 1997)
Immission	Sounds impacting on the human ear.
Impulsive sound	Sound consisting of one or more very brief and rapid increases in sound pressure
Incubator	An enclosed crib, in which the temperature and humidity may be regulated, for care of premature babies (CMD 1997)
Isolation, insulation	(With respect to sound:) Between two rooms in a specified frequency band, difference between the space-time average sound presssure levels in the two enclosed spaces when one or more sound sources operates in one of the rooms (ANSI 1994). (With respect to vibrations:) Reduction in the capacity of a system to respond to excitation, attained by use of resilient support (ANSI 1994).
Ischaemic Heart Disease	Heart disease due to a local and temporary deficiency of blood supply due to obstruction of the circulation to a part (CMD 1997)
Loudness level	Of a sound, the median sound pressure level in a specified number of trials of a free progressive wave having a frequency of 1000 Hz that is judged equally loud as the unknown sound when presented to listeners with normal hearing who are facing the source; unit phon (ANSI 1994)
Level	Logarithm of the ratio of a quantity to a reference quantity of the same kind; unit Bel (ANSI 1994)
Maximum sound level	Greatest fast (125 milliseconds) A-weighted sound level, within a stated time interval (ANSI 1994)

Mental Health	The absence of identifiable psychiatric disorder according to current norms (Freeman 1984). In noise research, mental health covers a variety of symptoms, ranging from anxiety, emotional stress, nervous complaints, nausea, headaches, instability, argumentativeness, sexual impotency, changes in general mood and anxiety, and social conflicts, to more general psychiatric categories like neurosis, phychosis and hysteria (Berglund and Lindvall 1995).
Morphological	Pertaining to the science of structure and form of organisms without regard to function (CMD 1997)
Nausea	An unpleasant sensation usually preceding vomiting (CMD 1997)
Neurosis	An emotional disorder due to unresolved conflicts, anxiety being its chief characteristic (DIMD 1985)
Noise	Undesired sound. By extension, noise is any unwarranted disturbance within a useful frequency band, such as undesired electric waves in a transmission channel or device (ANSI 1994).
Noise induced temporary threshold shift	Temporary hearing impairment occurring as a result of noise exposure, often phrased temporary threshold shift (adapted from ANSI 1994)
Noise induced permanent threshold shift	Permanent hearing impairment occurring as a result of noise exposure, often phrased permanent threshold shift (adapted from ANSI 1994)
Noise level	Level of undesired sound
Norepinephrine	A hormone produced by the adrenal medulla (inner or central portion of an organ), similar in chemical and pharmacological properties to epinephrine, but chiefly a vasoconstrictor with little effect on cardiac output (CMD 1997)
Oscillation	Variation, usually with time, of the magnitude of a quantity with respect to a specified reference when the magnitude is alternately greater and smaller than the reference (ANSI 1994)

Ototoxic	Having a detrimental effect on the organs of hearing (CMD 1997)
Paracusis	Any abnormality or disorder of the sense of hearing (CMD 1997)
Pascal	Unit of pressure, equal to one newton per square meter, abbreviated to Pa
Peak sound pressure	Greatest absolute instantaneous sound pressure within a specified time interval (ANSI 1994)
Peak sound pressure level	Level of peak sound pressure with stated frequency weighting, within a specified time interval (ANSI 1994)
Perceived noise level	Frequency-weighted sound pressure level obtained by a stated procedure that combines the sound pressure levels in the 24 one-third octave bands with midband frequencies from 50 Hz to 10 kHz (ANSI 1994)
Permanent threshold shift, permanent hearing loss	Permanent increase in the auditory threshold for an ear (adapted from ANSI 1995) (see also: noise induced permanent threshold shift)
Presbyacusia, presbycusis	The progressive loss of hearing ability due to the normal aging process (CMD 1997)
Psychiatric disorders	Mental disorders
Psychosis	Mental disturbance of a magnitude that there is a personality disintegration and loss of contact with reality (CMD 1997)
Psychotropic drug	A drug that affects psychic function, behaviour or experience (CMD 1997)
Reverberation time	Of an enclosure, for a stated frequency or frequency band, time that would be required for the level of time-mean-square sound pressure in the enclosure to decrease by 60 dB, after the source has been stopped (ANSI 1994)
Sensorineural	Of or pertaining to a sensory nerve; pertaining to or affecting a sensory mechanism and/or a sensory nerve (DIMD 1985)

Signal	Information to be conveyed over a communication system (ANSI 1994)
Signal-to-noise ratio	Ratio of a measure of a signal to the same measure of the noise (ANSI 1995) (see also: noise –in its extended meaning)
Silencer	Duct designed to reduce the level of sound; the sound-reducing mechanisms may be either absorptive or reactive, or a combination (ANSI 1994)
Sound absorption	Change in sound energy into some other form, usually heat, in passing through a medium or on striking a surface (ANSI 1994)
Sound energy	Total energy in a given part of a medium minus the energy that would exist at that same part with no sound waves present (ANSI 1994)
Sound exposure	Time integral of squared, instantaneous frequency-weighted sound pressure over a stated time interval or event (ANSI 1994)
Sound exposure level	Ten times the logarithm to the base ten of the ratio of a given time integral of squared, instantaneous A-weighted sound pressure, over a stated time interval or event, to the product of the squared reference sound pressure of 20 micropascals and reference duration of one second (ANSI 1994)
Sound intensity	Average rate of sound energy transmitted in a specified direction at a point through a unit area normal to this direction at the point considered (ANSI 1994)
Sound level meter	Device to be used to measure sound pressure level with a standardized frequency weighting and indicated exponential time weighting for measurements of sound level, or without time weighting for measurement of time-average sound pressure level or sound exposure level (ANSI 1994)
Sound pressure	Root-mean-square instantaneous sound pressure at a point, during a given time interval (ANSI 1994), where the *instantaneous* sound pressure is the total instantaneous pressure in that point minus the static pressure (ANSI 1994)

Sound pressure level	Ten times the logarithm to the base ten of the ratio of the time-mean-square pressure of a sound, in a stated frequency band, to the square of the reference sound pressure in gases of 20 μPa (ANSI 1994)
Sound reduction index	Single-number rating of airborne sound insulation of a partition (ANSI 1994)
Sound transmission class	Single-number rating of airborne sound insulation of a building partition (ANSI 1994)
Speech interference level	One-fourth of the the sum of the band sound pressure levels for octave-bands with nominal midband frequencies of 500, 100, 2000 and 4000 Hz (ANSI 1994)
Speech intelligibility	That property which allows units of speech to be identified (ANSI 1995)
Speech perception	Psychological process that relates a sensation caused by a spoken message to a listener's knowledge of speech and language (ANSI 1995)
Speech comprehension	(a) Highest level of speech perception. (b) Knowledge or understanding of a verbal statement (ANSI 1995)
Speech transmission index	Physical methgod for measuring the quality of speech-transmission channels accounting for nonlinear distortions as well as distortions of time (ANSI 1995)
Stereocilia	Nonmotile protoplasmic projections from free surfaces on the hair cells of the receptors of the inner ear (CMD 1997)
Stress	The sum of the biological reactions to any adverse stimulus, physical, mental or emotional, internal or external, that tends to disturb the organism's homeostasis (DIMD 1985)
Temporary threshold shift, temporary hearing loss	Temporary increase in the auditory threshold for an ear caused by exposure to high-intensity acoustic stimuli (adapted from ANSI 1995) (see also: noise induced temporary threshold shift).
Tinnitus	A subjective ringing or tinkling sound in the ear (CMD 1997). Otological condition in which sound is perceived by

	a person without an external auditory stimulation. The sound may be a whistling, ringing, buzzing, or cricket type sounds, but auditory hallucinations of voices are excluded (ANSI 1995).
Vibration	Oscillation of a parameter that defines the motion of a mechanical system (ANSI 1994)

For references see Appendix A.

Appendix 4 : Acronyms

AAP	American Academy of Pediatrics
AI	Articulation Index
AMIS	Air Management Information System (WHO, Healthy Cities)
ANEF	Australian Noise Exposure Forecast
ANSI	American National Standard Institute, Washington DC, USA
ASCII	American Standard Code for Information Interchange
ASHA	American Speech-Language-Hearing Association, Rockville, MD, USA
ASTM	American Society for Testing and Materials, West Conshohocken, PA, USA
CEN	Comité Européen de Normalisation, Brussels, Belgium (European Committee for Standardization)
CFR	Code of Federal Regulations (United States)
CIAL	Centro de Investigaciones Acústicas y Luminotécnicas, Córdoba, Argentina (Centre of acoustical and light-technical investigations)
CMD	Cyclopedic Medical Dictionary
CNRC	Conseil National de Recherches du Canada (National Research Council)
COPD	Chronic Obstructive Pulmonary Disease
CSD	Commission for Sustainable Development
CSIRO	Commonwealth Scientific and Industrial Research Organization
CVS	Cardiovascular System
DNL	Day-Night Average Sound Level (United States)
EC DG	European Commission Directorate General
ECE	Economic Commission for Europe
ECMT	European Conference of Ministers of Transport
EHIAP	Environmental Health Impact Assessment Plan
EIAP	Environmental Impact Assessment Plan
EMRO	WHO Regional Office of the Eastern Mediterranean
ENIA	Environmental Noise Impact Analysis
EPNL	Effective Perceived Noise Level measure
EU	European Union
FAA	Federal Aviation Administration (United States)
FFT	Fast Fourier Transform technique
GIS	Geographic Information System
Hz	Hertz, the unit of frequency
ICAO	International Civil Aviation Organization
ICBEN	International Commission on the Biological Effects of Noise
IEC	International Electrotechnical Commission
ILO	International Labour Office, Geneva, Switzerland
INCE	Institute of Noise Control Engineering of the United States of America
INRETS	Institut National de REcherche sur les Transports et leur Sécurité, Arcueil, France (National Research Institute for Transport and their Safety)
ISO	International Standards Organization
I-INCE	International Institute of Noise Control Engineering
L10	10 percentile of sound pressure level

L50	Median sound pressure level
L90	90-percentile of sound pressure level
LA	Latin America
LAeq,T	A-weighted equivalent sound pressure level for period T
LAmax	Maximum A-weighted sound pressure level in a stated interval
L_{dn}	Day and night continuous equivalent sound pressure level
Leq,T	Equivalent sound pressure level for period T
LEQ(FLG)	Descriptor used for aircraft noise (Germany)
LNIP	Low Noise Implementation Plan
Lp	Sound pressure level
MTF	Modulation Transfer Function
NASA	National Aeronautics and Space Administration (United States)
NC	Noise Criterion
NCA	Noise Control Act (United States)
NCB	Balanced Noise Criterion procedure system
NEF	Noise Exposure Forecast
NEPA	National Environmental Policy Act (United States)
NGO	Non Governmental Organization
NIHL	Noise Induced Hearing Loss
NIPTS	Noise Induced Permanent Threshold Shift
NITTS	Noise Induced Temporary Threshold Shift
NNI	Noise and Number Index
NR	Noise Rating
NRC	National Research Council (United States, Canada)
OECD	Organisation for Economic Co-operation and Development, Paris, France.
ONAC	Office of Noise Abatement and Control of the US EPA
OSHA	Occupational Safety and Health Administration
Pa	Pascal, the unit of pressure
PAHO	Pan American Health Organization
PHE	Department for Protection of the Human Environment, WHO, Geneva
PNL	Perceived Noise Level
PSIL	Preferred Speech Interference Level
PTS	Permanent Threshold Shift
RASTI	Rapid Speech Transmission Index
RC	Room Criterion
SABS	South African Bureau of Standards
SEL	Sound Exposure Level
STC	Sound Transmission Class
STI	Speech Transmission Index
TTS	Temporary Threshold Shift
UK	United Kingdom
UN	United Nations
UNCED	United Nations Conference on Environment and Development (Rio de Janeiro, June 1992)
UNDP	United Nations Development Programme
UNECE	United Nations Economic Commission for Europe

UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
US EPA	United States Environmental Protection Agency
USA	United States of America
WCED	World Commission on Environment and Development (Brundtland Commission)
WECPNL	Weighted Equivalent Continuous Perceived Noise Level
WHO	World Health Organization
WWF	World Wildlife Fund

Appendix 5 : Equations and other technical information

Basic acoustical measures

Sound Pressure Level

The time-varying sound pressure will completely define a sound in a given location. The sound pressure range is wide within which human listeners can receive (10^{-5} - 10^{2} N/m^{2}). Therefore, it is practical to measure sound pressure level on a logarithmic scale. Sound intensity level is defined as 10 times the logarithm (to the base 10) of the ratio of the sound intensity of a target sound to the sound intensity of another (reference) sound. Sound intensity is proportional to the squared sound pressure because the static mass density of the sound medium as well as the speed of sound in this medium are invariant. The sound pressure level (L_p) of a sound may be expressed as a function of sound pressure (p) and is, thus, possible to measure:

$$L_p = 10 \log_{10} (p/p_{ref})^2$$

For the purpose of measuring sound pressure level in a comparative way, the reference pressure, p_{ref}, has an internationally agreed value of $2 \cdot 10^{-5}$ N/m^{2} (earlier 20 μPa). Sound pressure level is then expressed in decibel (dB) relative to this reference sound.

Sound Pressure Level of Combined Sounds

Whereas sound intensities or energies or pressures are additive, non-correlated time-varying sound pressure levels have first to be expressed as mean square pressure, then added, and then transferred to a sound pressure value again. For example, if two sound sources are combined, each of a sound pressure level of 80 dB, then the sound pressure level of the resulting combined sound will become 83 dB:

$$L_p = 10 * \log_{10} (10^8 + 10^8) = 10 * \log_{10} (2 * 10^8) = 10 * (\log_{10} 2 + \log_{10} 10^8) =$$
$$10 * (0.3 + 8) = 83$$

It is only sounds with similar sound pressure levels that when combined will result in a significant increase in sound pressure level relative to the louder sound. In the example given above, a doubling of the sound energy from two sources will only result in a 3-dB increase in sound pressure level. For two sound sources that emit non-correlated time-varying sound pressures, this represents the maximum increase possible. The sound pressure level outcome, resulting from combining two sound pressure levels in dB, is displayed in Figure A.5.1.

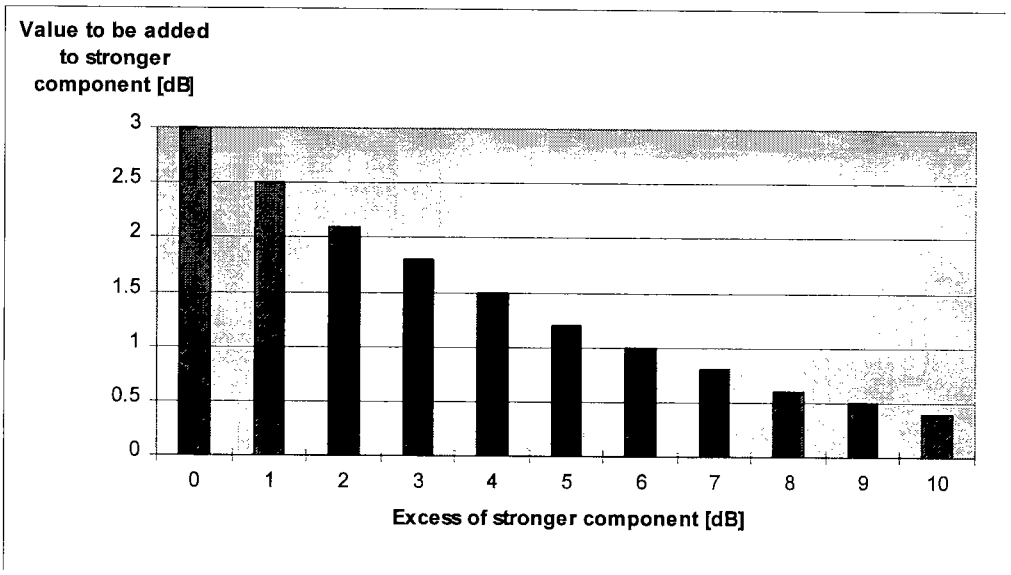

Figure A.5.1: Estimate of combined sound levels

Equivalent Continuous Sound Pressure Level

Average sound pressure level is determined for a time period of interest, T, which may be an interval in seconds, minutes, or hours. This gives a dB-value in Leq that stands for equivalent continuous sound pressure level or simply sound level. It is derived from the following mathematical expression in which A-weighting has been applied:

.

$$LAeq,T = 10 \log_{10}\{(1/T) \int_0^T 10^{Lp(t)/10} dt\} \text{ [dBA]}$$

Because the integral is a measure of the total sound energy during the period T, this process is often called "energy averaging". For similar reasons, the integral term representing the total sound energy may be interpreted as a measure of the total noise dose. Thus, Leq is the level of that steady sound which, over the same interval of time as the fluctuating sound of interest, has the same mean square sound pressure, usually applied as an A-frequency weighting. The interval of time must be stated.

Sound exposure level

Individual noise events can be described in terms of their sound exposure level (SEL). SEL is defined as the constant sound level over a period of 1 s that would have the same amount of energy as the complete noise event (Ford 1987). For a single noise event occurring over a time interval T, the relationship between SEL and LAeq,T is,

$$SEL = LAeq,T + 10 \log_{10} (T/T_0)$$

In this equation T_0 is 1 s.

Day and night continuous sound pressure level

There are different definition in different countries. One definition is (von Gierke 1975; Ford 1987):

L_{dn} = LAeq,16h + LAeq,8h – 10 dBA

Where LAeq,16h is the day equivalent sound pressure level and LAeq,8h is the night equivalent sound pressure level.

Sound Transmission into and within buildings

An approximate relationship between sound reduction index (R), the frequency (f), the mass per unit area of the panel (m) in kg/m^2, and the angle of incidence (θ) is given by

$$R(\theta) = 20 \log\{f\, m\, \mathrm{COS}(\theta)\} - 42.4, \text{ (dB)}$$

This relationship indicates that the sound reduction index will increase with the mass of a panel and with the frequency of the sound as well as varying with the angle of incidence of the sound. It is valid for limp materials but is a good approximation to the behaviour of many real building materials at lower frequencies.

The sound reduction index versus frequency characteristics are usually complicated by a coincidence dip which occurs around the frequency where the wavelength of the incident sound is the same as the wavelength of bending waves in the building façade material. The frequency at which the coincidence dip occurs is influenced by the stiffness of the panel material. Thicker, and hence stiffer materials, will have coincidence dips that are lower in frequency than less stiff materials. Figure A.5.2 plots measured sound reduction index values versus frequency for 4 mm thick glass and illustrates the coincidence dip for this glass at a frequency centered just above 3 kHz.

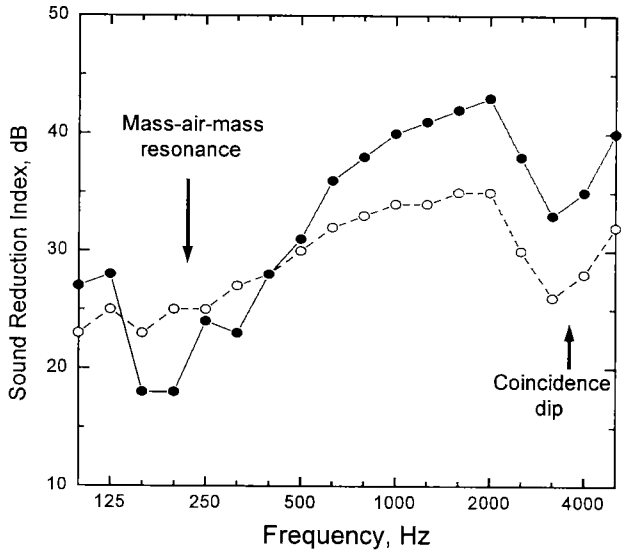

Figure A.5.2: Sound reduction index versus frequency for single and double layers of 4 mm glass (air separation 13 mm).

As also illustrated in Figure A.5.2 for two layers of 4 mm glass, the low frequency sound reduction can be severely limited by the mass-air-mass resonance. This resonance is due to the combination of the masses of the two layers and the stiffness of the enclosed air space. As the Figure A.5.2 example shows, this resonance can often dramatically reduce the low frequency sound reduction of common double window constructions.

The sound reduction of various building constructions can be calculated as the difference between the average sound levels in the two rooms ($L_1 - L_2$) plus a correction involving the area of the test panel (S) in m^2 and the total sound absorption (A) in m^2 in the receiving room,

$$R = L_1 - L_2 + 10 \log\{S/A\} \text{ [dB]}.$$

For outdoor-to-indoor sound propagation, the measured sound reduction index will also depend on the angle of incidence of the outdoor sound as well as the position of the outdoor measuring microphone relative to the building façade,

$$R = L_1 - L_2 + 10 \log\{4S\, COS(\theta)/A\} + k \text{ [dB]}.$$

When the outdoor incident sound level L_1 is measured with the outdoor microphone positioned against the external façade surface, measured incident sound pressures will be 6 dB higher due to pressure doubling. This occurs because the incident sound and reflected sound arrive at the microphone at the same time. If the external microphone is located 2 m from the façade, there will not be exact pressure doubling but an approximate doubling of the measured sound energy corresponding to a 3 dB increase in sound level. The table below indicates the appropriate values of k to be used in the above equation, depending on the location of the outdoor microphone, to account for sound reflected from the façade.

$k = 0$, dB	L_1 does not include reflected sound.
$k = -3$, dB	L_1 measured 2 m from façade and includes reflected energy.
$k = -6$, dB	L_1 measured at the façade surface and includes pressure doubling effect.

Appendix 6 : Participant list of THE WHO Expert Task Force meeting on Guidelines For Community Noise, 26-30 April 1999, MARC, London, UK

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Exhibit F

SAFER Appeal

Application and Justification

DIR-2020-7846-DB-SPR-HCA-1A

APPLICATIONS:

APPEAL APPLICATION

Instructions and Checklist

Related Code Section: Refer to the City Planning case determination to identify the Zone Code section for the entitlement and the appeal procedure.

Purpose: This application is for the appeal of Department of City Planning determinations authorized by the Los Angeles Municipal Code (LAMC).

A. APPELLATE BODY/CASE INFORMATION

1. APPELLATE BODY

☑ Area Planning Commission ☐ City Planning Commission ☐ City Council ☐ Director of Planning
☐ Zoning Administrator

Regarding Case Number: DIR-2020-7846-DB-SPR-HCA

Project Address: 212-220 S. Spring Street

Final Date to Appeal: 10/06/2022

2. APPELLANT

Appellant Identity:
(check all that apply)

❒ Representative ❒ Property Owner
❒ Applicant ❒ Operator of the Use/Site

☑ Person, other than the Applicant, Owner or Operator claiming to be aggrieved
Supporters Alliance for Environmental Responsibility

☐ Person affected by the determination made by the **Department of Building and Safety**

❒ Representative ❒ Owner ❒ Aggrieved Party
❒ Applicant ❒ Operator

3. APPELLANT INFORMATION

Appellant's Name: Supporters Alliance for Environmental Responsibility

Company/Organization:

Mailing Address: 4399 Santa Anita Ave, Suite 2005

City: El Monte State: CA Zip: 91731

Telephone: (510) 836-4200 E-mail: richard@lozeaudrury.com

a. Is the appeal being filed on your behalf or on behalf of another party, organization or company?

☑ Self ☐ Other:

b. Is the appeal being filed to support the original applicant's position? ☐ Yes ☑ No

4. REPRESENTATIVE/AGENT INFORMATION

Representative/Agent name (if applicable): Brian Flynn

Company: Lozeau Drury LLP

Mailing Address: 1939 Harrison Street, Suite 150

City: Oakland State: CA . Zip: 91731

Telephone: (510) 836-4200 E-mail: brian@lozeaudrury.com

5. JUSTIFICATION/REASON FOR APPEAL

a. Is the entire decision, or only parts of it being appealed? ☐ Entire ☑ Part

b. Are specific conditions of approval being appealed? ☑ Yes ☐ No

If Yes, list the condition number(s) here: All Site Plan Review conditions

Attach a separate sheet providing your reasons for the appeal. Your reason must state:

- ☑ The reason for the appeal
- ☑ How you are aggrieved by the decision
- ☑ Specifically the points at issue
- ☑ Why you believe the decision-maker erred or abused their discretion

6. APPLICANT'S AFFIDAVIT

I certify that the statements contained in this application are complete and true:

Appellant Signature: Brian B Flynn Date: 10/6/2022

GENERAL APPEAL FILING REQUIREMENTS

B. ***ALL CASES REQUIRE THE FOLLOWING ITEMS - SEE THE ADDITIONAL INSTRUCTIONS FOR SPECIFIC CASE TYPES***

1. Appeal Documents

a. Three (3) sets - The following documents are required for each appeal filed (1 original and 2 duplicates) Each case being appealed is required to provide three (3) sets of the listed documents.

- ☐ Appeal Application (form CP-7769)
- ☐ Justification/Reason for Appeal
- ☐ Copies of Original Determination Letter

b. Electronic Copy

☐ Provide an electronic copy of your appeal documents on a flash drive (planning staff will upload materials during filing and return the flash drive to you) or a CD (which will remain in the file). The following items must be saved as individual PDFs and labeled accordingly (e.g. "Appeal Form.pdf", "Justification/Reason Statement.pdf", or "Original Determination Letter.pdf" etc.). No file should exceed 9.8 MB in size.

c. Appeal Fee

- ☐ Original Applicant - A fee equal to 85% of the original application fee, provide a copy of the original application receipt(s) to calculate the fee per LAMC Section 19.01B 1.
- ☐ Aggrieved Party - The fee charged shall be in accordance with the LAMC Section 19.01B 1.

d. Notice Requirement

- ☐ Mailing List - All appeals require noticing per the applicable LAMC section(s). Original Applicants must provide noticing per the LAMC
- ☐ Mailing Fee - The appeal notice mailing fee is paid by the project applicant, payment is made to the City Planning's mailing contractor (BTC), a copy of the receipt must be submitted as proof of payment.

SPECIFIC CASE TYPES - APPEAL FILING INFORMATION

C. DENSITY BONUS / TRANSIT ORIENTED COMMUNITES (TOC)

1. Density Bonus/TOC
Appeal procedures for Density Bonus/TOC per LAMC Section 12.22.A 25 (g) f.

NOTE:
- Density Bonus/TOC cases, only the *on menu or additional incentives* items can be appealed.

- Appeals of Density Bonus/TOC cases can only be filed by adjacent owners or tenants (must have documentation), and always only appealable to the Citywide Planning Commission.

☐ Provide documentation to confirm adjacent owner or tenant status, i.e., a lease agreement, rent receipt, utility bill, property tax bill, ZIMAS, drivers license, bill statement etc.

D. WAIVER OF DEDICATION AND OR IMPROVEMENT

Appeal procedure for Waiver of Dedication or Improvement per LAMC Section 12.37 I.

NOTE:
- Waivers for By-Right Projects, can only be appealed by the owner.

- When a Waiver is on appeal and is part of a master land use application request or subdivider's statement for a project, the applicant may appeal pursuant to the procedures that governs the entitlement.

E. TENTATIVE TRACT/VESTING

1. Tentative Tract/Vesting - Appeal procedure for Tentative Tract / Vesting application per LAMC Section 17.54 A.

NOTE: Appeals to the City Council from a determination on a Tentative Tract (TT or VTT) by the Area or City Planning Commission must be filed within 10 days of the date of the written determination of said Commission.

☐ Provide a copy of the written determination letter from Commission.

F. BUILDING AND SAFETY DETERMINATION

☐ **1.** Appeal of the *Department of Building and Safety* determination, per LAMC 12.26 K 1, an appellant is considered the **Original Applicant** and must provide noticing and pay mailing fees.

a. Appeal Fee
☐ Original Applicant - The fee charged shall be in accordance with LAMC Section 19.01B 2, as stated in the Building and Safety determination letter, plus all surcharges. (the fee specified in Table 4-A, Section 98.0403.2 of the City of Los Angeles Building Code)

b. Notice Requirement
☐ Mailing Fee - The applicant must pay mailing fees to City Planning's mailing contractor (BTC) and submit a copy of receipt as proof of payment.

☐ **2.** Appeal of the *Director of City Planning* determination per LAMC Section 12.26 K 6, an applicant or any other aggrieved person may file an appeal, and is appealable to the Area Planning Commission or Citywide Planning Commission as noted in the determination.

a. Appeal Fee
☐ Original Applicant - The fee charged shall be in accordance with the LAMC Section 19.01 B 1 a.

b. Notice Requirement
☐ Mailing List - The appeal notification requirements per LAMC Section 12.26 K 7 apply.
☐ Mailing Fees - The appeal notice mailing fee is made to City Planning's mailing contractor (BTC), a copy of receipt must be submitted as proof of payment.

G. NUISANCE ABATEMENT

1. Nuisance Abatement - Appeal procedure for Nuisance Abatement per LAMC Section 12.27.1 C 4

NOTE:
- Nuisance Abatement is only appealable to the City Council.

a. Appeal Fee

☐ Aggrieved Party the fee charged shall be in accordance with the LAMC Section 19.01 B 1.

2. Plan Approval/Compliance Review

Appeal procedure for Nuisance Abatement Plan Approval/Compliance Review per LAMC Section 12.27.1 C 4.

a. Appeal Fee

☐ Compliance Review - The fee charged shall be in accordance with the LAMC Section 19.01 B.

☐ Modification - The fee shall be in accordance with the LAMC Section 19.01 B.

NOTES

A Certified Neighborhood Council (CNC) or a person identified as a member of a CNC or as representing the CNC may not file an appeal on behalf of the Neighborhood Council; persons affiliated with a CNC may only file as an individual on behalf of self.

***Please note** that the appellate body must act on your appeal within a time period specified in the Section(s) of the Los Angeles Municipal Code (LAMC) pertaining to the type of appeal being filed. The Department of City Planning will make its best efforts to have appeals scheduled prior to the appellate body's last day to act in order to provide due process to the appellant. If the appellate body is unable to come to a consensus or is unable to hear and consider the appeal prior to the last day to act, the appeal is automatically deemed denied, and the original decision will stand. The last day to act as defined in the LAMC may only be extended if formally agreed upon by the applicant.*

This Section for City Planning Staff Use Only		
Base Fee:	Reviewed & Accepted by (DSC Planner):	Date:
Receipt No:	Deemed Complete by (Project Planner):	Date:
☐ Determination authority notified	☐ Original receipt and BTC receipt (if original applicant)	

Justification/Reason for Appeal

216 Spring Street Project

DIR-2020-7846-DB-SPR-HCA

I. REASON FOR THE APPEAL

SAFER appeals the City Planning Director's approval of a Site Plan Review for 216 Spring Street Project DIR-2020-7846-DB-SPR-HCA ("Project"). The Site Plan Review approval was in error because the Categorical Exemption ("CE") prepared for the Project (ENV-2020-7847-CE) fails to comply with the California Environmental Quality Act ("CEQA"). The City of Los Angeles ("City") must fully comply with CEQA prior to *any approvals* in furtherance of the Project. Therefore, the City of Los Angeles ("City") must set aside the Site Plan Review entitlements and prepare an initial study to determine the appropriate level of environmental review to undertake pursuant to CEQA.

II. SPECIFICALLY THE POINTS AT ISSUE

SAFER specifically appeals all findings related to the Project's Site Plan Review (DIR-2020-7846-DB-SPR-HCA). The Project does not qualify for a categorical exemption pursuant to Section 15332 of the CEQA Guidelines ("Infill Exemption") because the Project does not meet the terms of the exemption. Because proper CEQA review must be complete *before* the City approves the Project's entitlements (*Orinda Ass'n. v. Bd. of Supervisors* (1986) 182 Cal.App.3d 1145, 1171 ["No agency may approve a project subject to CEQA until the entire CEQA process is completed and the overall project is lawfully approved."].), the approval of the Project's Site Plan Review entitlements was in error. Additionally, by failing to properly conduct environmental review under CEQA, the City lacks substantial evidence to support its findings for the Site Plan Review entitlements.

III. HOW YOU ARE AGGRIEVED BY THE DECISION

Members of appellant Supporters Alliance for Environmental Responsibility ("SAFER") live and/or work in the vicinity of the proposed Project. They breathe the air, suffer traffic congestion, and will suffer other environmental impacts of the Project unless it is properly mitigated.

IV. WHY YOU BELIEVE THE DECISION-MAKER ERRED OR ABUSED THEIR DISCRETION

The Director of City Planning approved the Site Plan Review and approved a Categorical Exemption for the project pursuant to Section 15332 of the CEQA Guidelines, despite a lack of substantial evidence in the record that the Project met the requirements for the Infill Exemption. Rather than exempt the Project from CEQA, the City should have prepared an initial study followed by an EIR or negative declaration in accordance with CEQA prior to consideration of approvals for the Project. The City is not permitted to approve the Project's entitlements until proper CEQA review has been completed.

Exhibit G

Environmental Consultant's Response to Appeal Letters

DIR-2020-7846-DB-SPR-HCA-1A

November 21, 2022
[vial email: nuri.cho@lacity.org]

Ms. Nuri Cho, City Planner
City of Los Angeles
Department of City Planning
200 North Spring Street, Room 620
Los Angeles, CA 90012

Re: RESPONSES TO APPEAL LETTERS FOR THE 216 SPRING STREET PROJECT [DIR-2020-7846-DB-SPR-HCA; ENV-2020-7847-CE]

Dear Ms. Cho,

On behalf of 216 Spring St, LLC (Applicant), Parker Environmental Consultants has reviewed the two appeals that have been submitted by Adams Broadwell Joseph & Cardozo, on behalf of Coalition for Responsible Equitable Economic Development Los Angeles ("CREED LA"), dated October 5, 2022; and Lozeau Drury, LLP, on behalf of Supporters Alliance for Environmental Responsibility ("SAFER"), dated October 6, 2022, challenging the environmental clearance for the 216 Spring Street Project. The following includes our detailed responses to the comments and issues raised in the appeal letters and exhibits. As noted in the responses below, the comments and arguments raised by the appellants are based on false information and speculation and do not provide any substantial evidence (or raise a fair argument supported by substantial evidence) that would require the preparation of a Mitigated Negative Declaration (MND) or an Environmental Impact Report (EIR) pursuant to the California Environmental Quality Act (CEQA).

Pursuant to Public Resource Code (PRC) Section 21082.2 (b), "[t]he existence of public controversy over the environmental effects of a project shall not require preparation of an environmental impact report if there is no substantial evidence in light of the whole record before the lead agency that the project may have a significant effect on the environment." Section 21082.2(c) also provides that "[a]rgument, speculation, unsubstantiated opinion or narrative, evidence which is clearly inaccurate or erroneous, or evidence of social or economic impacts which do not contribute to, or are not caused by, physical impacts on the environment, is not substantial evidence. Substantial evidence shall include facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts."

Further, the appellants' comments do not identify any deficiencies, inadequacies, or significant environmental impacts in the Categorical Exemption's analysis that would warrant the implementation of project mitigation measures. Thus, the Categorical Exemption satisfies the

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Valencia, CA 91355
(661) 257-2282 (tel)
www.parkerenvironmental.com

environmental review requirements pursuant to CEQA, the State CEQA Guidelines, and the City of Los Angeles' policies for implementing CEQA, and no further analysis is required.

Should you have any questions regarding any of the responses please contact me at (661) 257-2282 or by email at shane@parkerenvironmental.com.

Sincerely,

Shane E. Parker, Principal

Attachments:

A. Outdoor Courtyard Noise Level Worksheets, November 15, 2022.
B. Bracketed Appellant Justification Letters

APPEAL LETTERS

APPEAL LETTER NO. 1

Coalition for Responsible Equitable Economic Development Los Angeles (CREED LA)
Adams Broadwell Joseph & Cardozo
Aidan P. Marshall
601 Gateway Boulevard, Suite 1000
South San Francisco, CA 94080-7037
October 5, 2022

ATTACHMENT 1A

Clark & Associates Environmental Consulting, Inc.
12405 Venice Boulevard, Suite 331
Los Angeles, CA 90066
James J. J. Clark, Ph.D.
October 4, 2022

ATTACHMENT 1B

Wilson Ihrig Acoustics, Noise & Vibration
5900 Hollis Street, Suite T1
Emeryville, CA 94608
Jack Meighan
October 4, 2022

APPEAL LETTER NO. 2

Supporters Alliance for Environmental Responsibility (SAFER)
Lozeau Drury, LLP
Richard Drury
1939 Harrison Street, Suite 150
Oakland, CA 94612
October 6, 2022

APPEAL LETTER NO. 1

Coalition for Responsible Equitable Economic Development Los Angeles (CREED LA)
Adams Broadwell Joseph & Cardozo
Aidan P. Marshall
601 Gateway Boulevard, Suite 1000
South San Francisco, CA 94080-7037
October 5, 2022

COMMENT 1.1

Dear President Gold, Commission Members, Mr. Bertoni, and Ms. Lu:

On behalf of the Coalition for Responsible Equitable Economic Development Los Angeles ("CREED LA"), we submit this appeal of the Director's approval of the 216 S. Spring Street Project (Case No. DIR-2020-7846-DB-SPR-HCA, ENV-2020-7847-CE) ("Project"), including approval of Site Plan Review and Density Bonus pursuant to LAMC Sections 12.22 and 16.05, adoption of Findings and Conditions of Approval, and determination that the Project is exempt from the California Environmental Quality Act ("CEQA") pursuant to a Class 32 categorical exemption.[1]

On September 21, 2022, the City of Los Angeles ("City") Director of Planning ("Director") issued a Letter of Determination ("LOD") approving the Project. The LOD approves a Density Bonus and Site Plan Review, adopts Findings and Conditions of Approval, and determines that the Project is exempt from the CEQA pursuant to a Class 32 categorical exemption.[2] The LOD indicates that the appeal period for the determination ends on October 6, 2022. This appeal is timely filed in compliance with the Los Angeles Municipal Code ("LAMC").

CREED LA hereby appeals the Director's approval of the Site Plan Review, Density Bonus, Findings and Conditions of Approval, and categorical exemption, as described in the LOD dated September 21, 2022. This letter supplements CREED LA's Appeal Application, filed concurrently herewith, and is accompanied by the required appeal fee.

The reasons for this appeal are set forth herein. Our appeal is supported by technical comments provided by air quality and hazards expert James Clark, Ph.D,[3] and noise expert Jack Meighan.[4]

As explained herein and in the attached comments, the Director abused its discretion and failed to proceed in the manner required by law by approving the Project in reliance on a categorical

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1 *CEQA Guidelines, Section 15332.*
2 *A copy of the LOD is attached to this Appeal.*
3 *Dr. Clark's technical comments and curriculum vitae are attached hereto as Exhibit A ("Clark Comments").*
4 *Mr. Meighan's technical comments and curriculum vitae are attached hereto as Exhibit B ("Meighan Comments").*

exemption and without substantial evidence to support the approval findings.[5] To qualify for a categorical exemption, a lead agency must provide substantial evidence that the Project will not have a significant effect.[6] But as is explained below, the Project may result in potentially significant public health and noise impacts. Specifically, the Project's construction and operation may result in emissions of toxic air contaminants ("TACs") that would increase health risks to significant levels. And the Project's construction and operation includes noise-generating activities that may result in significant noise impacts on nearby receptors. These impacts are especially severe due to the proximity of residential receptors – four residential buildings are located within 500 feet of the Project site, including one diagonally adjacent to the Project site.[7] As a result, an EIR is the correct form of environmental review for the Project, not a categorical exemption. Due to these significant environmental and public health impacts, and the related failure to prepare the correct form environmental review, the Director also abused its discretion in approving the Site Plan Review and Density Bonus.

Because the Director abused its discretion and failed to proceed in the manner required by law, CREED LA respectfully requests that the City set a hearing on this appeal, and that the Area Planning Commission uphold this appeal, vacate the Director's approval of the Project, and direct staff to prepare an EIR for the Project.

RESPONSE TO COMMENT 1.1

The comment introduces the commenter and presents an understanding of the Proposed Project. The commenter states their objection against the preparation of a Class 32 Categorical Exemption prepared for the Proposed Project and requests that the Lead Agency (City of Los Angeles) prepare an EIR. This comment also identifies the preparers of this comment letter and summarizes their conclusions (attached as Exhibit A and Exhibit B). The commenter's assertion that the Categorical Exemption is not supported by substantial evidence is incorrect and completely disregards the environmental analysis that was contained in the Justification to Support a Categorical Exemption, prepared by Parker Environmental Consultants, dated August 2022, and as referenced in the CEQA findings for the City's Determination letter dated September 21, 2022 (DIR-2020-7846-DB-SPR-HCA). Thus, the City's determination was supported by substantial evidence in the form of a detailed environmental analysis that supported the determination that the Proposed Project is exempt from CEQA as a Class 32 Infill Development Project. The Appellant's assertion that the City's determination was not supported by substantial evidence is incorrect.

The Appellant's assertion that the Proposed Project's construction and operation may result in emissions of TACs that would increase health risks to significant levels is addressed in further

[5] *Code Civ. Proc § 1094.5(b); Topanga Assn. for a Scenic Community v. County of Los Angeles (1974) 11 Cal.3d 506, 515.*

[6] *Banker's Hill, Hillcrest, Park West Community Preservation Group v. City of San Diego (2006) 139 Cal.App.4th 249, 269.*

[7] *Higgins Building, 108 W 2nd St, Los Angeles, CA 90012.*

detail below. In summary, however, the purported expert analysis prepared by the Appellant's consultant Clark & Associates is not representative of the 216 Spring Street Project and thus does not present substantial evidence of a significant impact.

COMMENT 1.2

I. STANDING TO APPEAL AND STATEMENT OF INTEREST

The Project's Site Plan Review can be appealed by "[t]he applicant, any officer, board, department, or bureau of the City, or any interested person aggrieved by the decision of the Director."[8] The Project's Density Bonus may also be appealed.[9]

CREED LA is an unincorporated association of individuals and labor organizations that may be adversely affected by the potential public and worker health and safety hazards, and the environmental and public service impacts of the Project. The coalition includes City of Los Angeles residents Gerry Kennon, Chris Macias, and John Bustos, the Sheet Metal Workers Local 105, International Brotherhood of Electrical Workers Local 11, Southern California Pipe Trades District Council 16, and District Council of Iron Workers of the State of California, along with their members, their families, and other individuals who live and work in the City of Los Angeles.

Individual members of CREED LA and its member organizations live, work, recreate and raise their families in the City of Los Angeles and surrounding communities. Accordingly, they would be directly affected by the Project's environmental and health and safety impacts. Individual members may also work on the Project itself. They will be first in line to be exposed to any health and safety hazards that exist onsite.

In addition, CREED LA has an interest in enforcing environmental laws that encourage sustainable development and ensure a safe working environment for its members. Environmentally detrimental projects can jeopardize future jobs by making it more difficult and more expensive for business and industry to expand in the region, and by making the area less desirable for new businesses and new residents. Indeed, continued environmental degradation can, and has, caused construction moratoriums and other restrictions on growth that, in turn, reduce future employment opportunities.

CREED LA and its members are aggrieved by the Director's decision to approve the Project and adopt unsupported approval findings in reliance on a CEQA exemption, without analyzing and mitigating the Project's potentially significant impacts in an EIR.

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[8] *LAMC Section 16.05(H); see LAMC 12.22 A.25 (g)(2)(f); Section 12.36(c)(4) (collectively providing that the Central Area Planning Commission is the proper appellate body).*

[9] *LAMC Section 12.22 A.25 (g)(2)(f).*

RESPONSE TO COMMENT 1.2

This comment provides the commenter's statement of interest with respect to representing several individuals who live, work, recreate, and raise their families in the City of Los Angeles and surrounding communities. No information as to the location of these individuals' residences or places of employment are provided, which would provide the context for how these individuals would be impacted by the Proposed Project. Impacts associated with localized air emissions and noise, for example, are limited to the immediate project area, generally within a 500 foot radius or less. Thus, these individuals would not be impacted by the Proposed Project's localized impacts if they live, work or recreate in areas that are outside the area of potential impacts. In addition, any workers who are employed on the construction of the Proposed Project would be protected by existing Occupational Safety and Health Administration (OSHA) laws and regulations.

COMMENT 1.3

II. THE PROJECT DOES NOT QUALIFY FOR A CLASS 32 CATEGORICAL EXEMPTION FOR INFILL DEVELOPMENT PROJECTS

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an EIR, except in certain limited circumstances.[10] The EIR is the very heart of CEQA.[11] "The foremost principle in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language."[12]

CEQA has two primary purposes. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a project.[13] "Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. Thus, the EIR 'protects not only the environment but also informed self-government.'"[14] The EIR has been described as "an environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return."[15]

Second, CEQA requires public agencies to avoid or reduce environmental damage when "feasible" by requiring "environmentally superior" alternatives and all feasible mitigation measures.[16] The EIR serves to provide agencies and the public with information about the environmental impacts of a proposed project and to "identify ways that environmental damage

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[10] *See, e.g., PRC § 21100.*
[11] *Dunn-Edwards v. BAAQMD (1992) 9 Cal.App.4th 644, 652.*
[12] *Communities. for a Better Env. v. Cal. Res. Agency (2002) 103 Cal. App.4th 98, 109 ("CBE v. CRA").*
[13] *14 Cal. Code Regs. § 15002(a)(1).*
[14] *Citizens of Goleta Valley v. Board of Supervisors (1990) 52 Cal. 3d 553, 564.*
[15] *Berkeley Keep Jets Over the Bay v. Bd. of Port Comm'rs. (2001) 91 Cal. App. 4th 1344, 1354 ("Berkeley Jets"); County of Inyo v. Yorty (1973) 32 Cal.App.3d 795, 810.*
[16] *14 CCR § 15002(a)(2) and (3); see also Berkeley Jets, 91 Cal.App.4th at 1354; Citizens of Goleta Valley, 52 Cal.3d at p. 564.*

can be avoided or significantly reduced."[17] If the project will have a significant effect on the environment, the agency may approve the project only if it finds that it has "eliminated or substantially lessened all significant effects on the environment where feasible" and that any unavoidable significant effects on the environment are "acceptable due to overriding concerns."[18]

Under CEQA, mitigation measures must be fully enforceable through permit conditions, agreements or other legally binding instruments.[19] A CEQA lead agency is precluded from making the required CEQA findings to approve a project unless the record shows that all uncertainties regarding the mitigation of impacts have been resolved. For this reason, an agency may not rely on mitigation measures of uncertain efficacy or feasibility.[20] This approach helps "ensure the integrity of the process of decision by precluding stubborn problems or serious criticism from being swept under the rug."[21]

CEQA identifies certain classes of projects which are exempt from the provisions of CEQA, called categorical exemptions.[22] Categorical exemptions apply to certain narrow classes of activities that generally do not have a significant effect on the environment.[23] "Thus an agency's finding that a particular proposed project comes within one of the exempt classes necessarily includes an implied finding that the project has no significant effect on the environment."[24] "It follows that where there is any reasonable possibility that a project or activity may have a significant effect on the environment, an exemption would be improper."[25]

CEQA exemptions must be narrowly construed and are not to be expanded beyond the scope of their plain language.[26] They should not be construed so broadly as to include classes of projects that do not normally satisfy the requirements for a categorical exemption.[27] Erroneous reliance by a lead agency on a categorical exemption constitutes a prejudicial abuse of discretion and a violation of CEQA.[28] "[I]f the court perceives there was substantial evidence that the project might have an adverse impact, but the agency failed to secure preparation of an EIR, the agency's action must be set aside because the agency abused its discretion by failing to follow the law."[29]

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17 *14 Cal. Code Regs. §15002(a)(2).*
18 *PRC § 21081; 14 CCR § 15092(b)(2)(A) & (B).*
19 *CEQA Guidelines, § 15126.4, subd. (a)(2).*
20 *Kings County Farm Bureau v. County of Hanford (1990) 221 Cal.App.3d 692, 727-28 (a groundwater purchase agreement found to be inadequate mitigation because there was no record evidence that replacement water was available).*
21 *Concerned Citizens of Costa Mesa, Inc. v. 32nd Dist. Agricultural Assn. (1986) 42 Cal.3d 929, 935.*
22 *PRC § 21084(a); 14 CCR §§ 15300, 15354.*
23 *PRC § 21084(a); 14 CCR §§ 15300, 15354; Muzzy Ranch Co. v. Solano County Airport Land Use Com. (2007) 41 Cal.4th 372, 380.*
24 *Davidon Homes v. City of San Jose (1997) 54 Cal.App.4th 106, 115.*
25 *Azusa Land Reclamation Co. v. Main San Gabriel Basin Watermaster (1997) 52 Cal.App.4th 1165, 1191 ("Azusa Land Reclamation"), quoting Wildlife Alive v. Chickering (1976) 18 Cal.3d 190, 205–206.*
26 *Castaic Lake Water Agency v. City of Santa Clarita (1995) 41 Cal.App.4th 1257.*
27 *Azusa Land Reclamation (1997) 52 Cal.App.4th 1165, 1192.*
28 *Azusa, 52 Cal.App.4th at 1192.*
29 *Dunn-Edwards Corp. v. Bay Area Air Quality Mgmt. Dist. (1992) 9 Cal.App.4th 644, 656).*

To qualify for a categorical exemption, a lead agency must provide "substantial evidence to support [its] finding that the Project will not have a significant effect."[30] "Substantial evidence" means enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached. Whether a fair argument can be made that the project may have a significant effect on the environment is to be determined by examining the whole record before the lead agency.[31] If a court locates substantial evidence in the record to support the agency's conclusion, the agency's decision will be upheld.[32] If, however, the record lacks substantial evidence, as here, a reviewing court will not uphold an exemption determination.

Section 15332 of the CEQA Guidelines provides an exemption from CEQA for projects characterized as in-fill development meeting the conditions:

(a) The project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations.

(b) The proposed development occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses.

(c) The project site has no value as habitat for endangered, rare or threatened species.

(d) Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality.

(e) The site can be adequately served by all required utilities and public services.

CEQA also contains several exceptions to categorical exemptions. In particular, a categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to "unusual circumstances,"[33] or where there is a reasonable possibility that the activity will have a significant effect on the environment, including (1) when "the cumulative impact of successive projects of the same type in the same place, over time is significant."[34] An agency may not rely on a categorical exemption if to do so would require the imposition of mitigation measures to reduce potentially significant effects.[35]

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[30] *Banker's Hill, Hillcrest, Park West Community Preservation Group v. City of San Diego (2006) 139 Cal.App.4th 249, 269.*
[31] *CEQA Guidelines § 15384.*
[32] *Bankers Hill Hillcrest, 139 Cal.App.4th at 269.*
[33] *14 CCR § 15300.2(c).*
[34] *14 CCR § 15300.2(b).*
[35] *Salmon Pro. & Watershed Network v. County of Marin ("SPAWN") (2004) 125 Cal.App.4th 1098,1198-1201.*

Here, the Class 32 Exemption and any other CEQA exemption are inapplicable to the Project due to its significant effects on air quality, health risk and noise.[36]

RESPONSE TO COMMENT 1.3

The above comment provides information from the State CEQA Guidelines regarding the legal standard of review for EIRs and Class 32 Categorical Exemptions. As correctly noted by the Appellant, the lead agency's determination that the Proposed Project is exempt from CEQA must be supported by substantial evidence in the record. Here, the lead agency's determination was supported by the detailed environmental analysis contained in the Justification to Support a Categorical Exemption, prepared by Parker Environmental Consultants, dated August 2022. This analysis appropriately addressed the five criteria required to qualify as a Class 32 Infill Development, which included: "(a) a finding that the project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations; (b) confirmation that the Project occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses; (c) a finding that the Project Site has no value, as habitat for endangered, rare or threatened species; (d) and supporting analysis demonstrating that the Project would not result in any significant effects relating to traffic, noise, air quality, or water quality, and that the Project can be adequately served by all required utilities and public services. The Justification to Support a Categorical Exemption also included substantial evidence to support the finding that none of the exceptions to the exemptions identified in Section 15300.2 of the CEQA Guidelines apply in this case.

Further, it should be noted that under CEQA case law, it is well established that a public agency's determination that when a project falls within the classifications of Projects that have been determined to be exempt from CEQA and the lead agency's determination is supported by substantial evidence, the courts will apply the substantial evidence standard in reviewing the agency's finding. (See *Protect Tustin Ranch v. City of Tustin (Costco Wholesale Corporation, Real Party in Interest) (2021) ___ Cal.App.5th ___* and *Holden, supra*, 43 Cal.App.5th at p. 410.)

COMMENT 1.4

A. A CEQA Exemption is Inapplicable Because the Project May Result in Significant Effects Related to Air Quality and Health Risk

1. The City Lacks Substantial Evidence to Conclude that the Project's Health Risk Impacts from Air Emissions are Less Than Significant

The City lacks substantial evidence to support its reliance on an exemption because the City failed to analyze the health risk impacts of Project construction and operation to workers and nearby sensitive receptors.

[36] *The Project's significant effects also create exceptions to an exemption under 14 CCR § 15300.2(b),(c).*

The Project would increase health risks in the surrounding community by contributing TACs such as Diesel Particulate Matter ("DPM") during construction.[37] During the Project's construction, heavy equipment and diesel trucks would emit DPM, and during operations, the Project's backup generator would emit DPM. DPM has been linked to a range of serious health problems including an increase in respiratory disease, lung damage, cancer, and premature death.[38] The Project's emissions of DPM would impact numerous sensitive receptors, including residents in four residential buildings located within 500 feet of the Project site.[39]

CEQA requires analysis of human health impacts. As the LOD acknowledges, CEQA Guidelines Section 15065(a)(4) provides that the City is required to find a project will have a significant impact on the environment and require an EIR if the environmental effects of a project will cause a substantial adverse effect on human beings.[40] The Supreme Court has also explained that CEQA requires the lead agency to disclose the health consequences that result from exposure to a project's air emissions.[41]

RESPONSE TO COMMENT 1.4

The Appellant's assertion that the City failed to analyze the health risk impacts of Project construction and operation to workers and nearby sensitive receptors is incorrect and ignores the air quality that was contained in the Justification to Support a Categorical Exemption, prepared by Parker Environmental Consultants, dated August 2022. The environmental analysis in the record included a detailed air quality analysis that follows the guidance and established thresholds set forth by the South Coast Air Quality Management District. The Categorical Exemption analysis included a quantification of the Project's construction and air quality emissions using the California Emissions Estimator Model (CalEEMod) *(CalEEMod Version 2020.4.0),* which were included in Attachments 4 and 5 of the CE Analysis.

As shown in Table 11, Estimated Peak Daily Construction Emissions, and Table 14, Proposed Project Estimated Daily Operational Emissions, of the Categorical Exemption, the Proposed Project's construction and operational emissions would not exceed any regional thresholds of significance for any of the criteria pollutants. Specifically, the CalEEMod emissions analysis found that the Proposed Project's peak daily construction emissions for PM_{10} (particulate matter equal to or less than 10 microns in diameter) and $PM_{2.5}$ (particulate matter equal to or less than 2.5 microns in diameter) would be 4.21 lbs/day in total and 2.19 lbs/day in total, respectively. Comparably, the threshold of significance for PM_{10} and $PM_{2.5}$ emissions is 150 lbs/day and 55 lbs/day, respectively. Thus, the Proposed Project's PM_{10} and $PM_{2.5}$ emissions are substantially below the thresholds of significance.

[37] *Clark Comments, pg. 5.*
[38] *Clark Comments, pg. 3-5.*
[39] *Categorical Exemption, pg. 65.*
[40] *LOD, p. 12, citing 14 CCR § 15065(a)(4); PRC § 21083(b)(3), (d).*
[41] *Sierra Club v. County of Fresno (2018) 6 Cal.5th 502, 516, 523.*

Furthermore, DPM is a subset of both PM_{10} and $PM_{2.5}$. Approximately 94 percent of all DPM particles are less than 2.5 microns in diameter and the remaining 6 percent are between 2.5 microns in diameter and 10 microns in diameter.[42] Thus, DPM is accounted for within the PM_{10} and $PM_{2.5}$ emissions thresholds. Since PM_{10} and $PM_{2.5}$ would be substantially below the thresholds of significance, and DPM represents a fraction of the total PM_{10} and $PM_{2.5}$ emissions generated during construction, the emissions of DPM within PM_{10} and $PM_{2.5}$ would not rise to the level of significance for PM_{10} and $PM_{2.5}$, and thus would not warrant the preparation of an HRA. As discussed further in Response to Comment 1.5 below, the requirement to prepare a construction or operational HRA pursuant to OEHHA Guidelines is not required under CEQA or any required permits or approvals. Based on the relatively low emissions associated with PM_{10} and $PM_{2.5}$ during both construction and operation, there is no credible evidence to suggest that the Proposed Project would generate diesel emissions that are excessive or above acceptable levels that already occur in the environment.

As shown in the CalEEMod worksheets (see Attachment 4 of the Categorical Exemption), the highest number of haul trips would occur during the grading/excavation phase to haul soil export from the Project Site. Therefore, the greatest potential for DPM emissions to occur would be during the grading/excavation phase (approximately 3 months) and the remaining construction activities during another 21 months would result in reduced heavy-duty construction equipment in comparison to this grading/excavation phase. Thus, the Proposed Project would not result in a long-term source of TAC emissions. No residual TAC emissions or corresponding individual cancer risk are anticipated after construction. Because there is such a short-term exposure period (24 out of 840 months equal to a 70-year lifetime), health risks associated with DPM emissions during construction would be less than significant. Moreover, the Proposed Project would be required to comply with the CARB Air Toxics Control Measure that limits diesel powered equipment and vehicle idling to no more than 5 minutes at a location. In addition, as discussed above, the Proposed Project would not result in a significant localized air quality impact. Therefore, the Proposed Project would result in a less than significant impact related to construction TACs.

COMMENT 1.5

For development projects like this one, the Office of Environmental Health Hazard Assessment's ("OEHHA") risk assessment guidelines recommend a formal health risk analysis ("HRA") for short-term construction exposures to TACs lasting longer than 2 months and exposures from projects lasting more than 6 months should be evaluated for the duration of the project.[43] In an HRA, lead agencies must first quantify the concentration released into the environment at each of the

[42] *Scientific Review Panel Findings for the Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant Report, May 27, 1998, website: https://www.arb.ca.gov/srp/findings/4-22-98.pdf, accessed November 2022.*

[43] *Office of Environmental Health Hazard Assessment (OEHHA), Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments, February 2015 (OEHHA 2015), Section 8.2.10: Cancer Risk Evaluation of Short Term Projects, pp. 8-17/18; https://oehha.ca.gov/air/crnr/notice-adoption-air-toxics-hot-spots-program-guidance-manualpreparation-health-risk-0.*

sensitive receptor locations through air dispersion modeling, calculate the dose of each TAC at that location, and quantify the cancer risk and hazard index for each of the chemicals of concern.[44] Following that analysis, then the City can make a determination of the relative significance of the emissions.

The City did not conduct this analysis. Here, the City concludes that the Project would not result in significant health risk impacts without conducting any of the above analytical steps. The City fails to disclose or analyze that the Project's construction and operation would result in emissions of TACs. And the City fails to disclose or analyze the health impacts of exposure to certain concentrations of TACs. And the City fails to quantify the magnitude of TACs emitted by the Project, and fails to model the concentration of TACs at sensitive receptors.[45] In sum, there is no evidence in the Justification to Support a Categorical Exemption ("Categorical Exemption")[46] that the City considered health risks from TACs when determining that the Project qualifies for a categorical exemption.

RESPONSE TO COMMENT 1.5

The Appellant's assertion that a health risk assessment under the Office of Environmental Health Hazard Assessment's ("OEHHA") risk assessment guidelines should have been prepared for the Proposed Project is incorrect. The law and regulatory guidance do not require the preparation of a Health Risk Assessment (HRA) for the Proposed Project, as the Proposed Project is not a facility that is subject to a toxic air emissions permit.

The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (Hot Spots Act) regulates stationary sources. The Hot Spots Act is designed to provide information to state and local agencies and to the general public on the extent of airborne emissions from stationary sources and the potential public health impacts of those emissions.[47] The Office of Environmental Health Hazard Assessment (OEHHA), in conjunction with the California Air Resources Board (CARB) and the California Air Pollution Control Officers Association (CAPCOA), has adopted guidance manuals for use in implementing the Air Toxics "Hot Spots" Program (Hot Spots Program) as part of the Hot Spots Act (Health and Safety Code Section 44360 et. seq.). In 2003, OEHHA adopted the *Air Toxics Hot Spots Program Risk Assessment Guidelines – The Air Toxics Program Guidance Manual for Preparation of Health Risk Assessments* (2003 Guidance Manual). OEHHA

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[44] *Id.*

[45] *The City's failure to analyze the magnitude and concentration of the Project's TACs also conflicts with the OEHHA recommendations for HRAs. The OEHHA guidelines recommend an HRA be prepared for this Project's construction and operation because its 24-month construction schedule exceeds 2 months, and its operations would last over 6 months.*

[46] *City of Los Angeles Planning Department, Justification to Support a Categorical Exemption (September 21, 2022).*

[47] *"Air Toxics Hot Spots Program Risk Assessment Guidelines – The Air Toxics Program Guidance Manual for Preparation of Health Risk Assessments."* OEHHA, August 2003, Section 1.1, page. 1-1. See also, *Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments". OEHHA, February 2015. Available at: https://oehha.ca.gov/air/crnr/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0, Section 1.1,* page. 1-1 (accessed October 2022).

adopted a new version of the manual in March 2015, called the *Hot Spots Program Guidance Manual for the Preparation of Risk Assessments* (2015 Guidance Manual). The guidance manuals are intended to address health risks from airborne contaminants released by stationary sources.[48] The intent of developing the guidance manuals is to provide HRA procedures for use in the Hot Spots Program or for the permitting of new or modified stationary sources.[49] Stationary sources are typically industrial-type uses that emit TACs[50] and are regulated by and/or require permits from the Air Districts. Examples of stationary sources include: metal finishing/manufacturing, chrome plating facilities, various product manufacturing (e.g., food, chemical, material, etc.), stationary diesel engines (e.g., emergency backup generators), and refineries.[51] The guidance manuals are not meant to be used for a health risk evaluation of typical non-stationary source land use projects such as residential and commercial development projects.

OEHHA did not opine on or include CEQA significance thresholds applicable to construction activities or the operation of non-stationary source projects in the guidance manuals.[52] Additionally, in the *Risk Management Guidance for Stationary Sources of Air Toxics* (2015), CARB and CAPCOA recognized that the guidance manuals do not include guidance for CEQA and that this would be handled by individual Air Districts.[53]

For these reasons, the Proposed Project is not subject to regulation under the Hots Spots Act, the 2003 Guidance Manual, or 2015 Guidance Manual.

The following provides further analysis demonstrating why an HRA is not required by law to be prepared.

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[48] *2003 Guidance Manual and 2015 Guidance Manual at Section 1.1, page. 1-2.*

[49] *Ibid.*

[50] *"Toxic air contaminant" means an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health. See Health and Safety Code Section 39655.*

[51] *"Risk Management Guidance for Stationary Sources." CARB and CAPCOA, July 2015, Section I.D, page 5 and Appendix A, Table A-1: Statewide ARB Air Toxics Regulations for Stationary Sources. Available at: https://ww2.arb.ca.gov/sites/default/files/classic/toxics/rma/rmgssat.pdf (accessed November 2022).*

[52] *"Final Environmental Assessment for: Proposed Amended Rule 307.1 – Alternative Fees for Air Toxics Emissions Inventory; Proposed Amended Rule 1401 – New Source Review of Toxic Air Contaminants; Proposed Amended Rule 1402 – Control of Toxic Air Contaminants from Existing Sources; SCAQMD Public Notification Procedures for Facilities Under the Air Toxics 'Hot Spots' Information and Assessment Act (AB 2588) and Rule 1402; and, SCAQMD Guidelines for Participating in the Rule 1402 Voluntary Risk." (SCAQMD Final EA) SCAQMD, September 2016, pages 1-2 and 2-23, September 2016. Affected facilities are those in identified for the AB 2588 Air Toxics Hot Spots program, which does not include the proposed Project nor mixed-use projects like the proposed Project that are not stationary sources. Further, the SCAQMD states it "does not have guidance on construction Health Risk Assessments."*

[53] *"Risk Management Guidance for Stationary Sources." CARB and CAPCOA, July 2015, Section III.J, page 16.*

CAPCOA HRA Guidance

The CAPCOA guidance document *Health Risk Assessments for Proposed Land Use Projects* (2009) (CAPCOA HRA Guidance) provides lead agencies with guidance regarding when and how an HRA should be prepared. It bases the risk assessment methodology on the procedures developed by the OEHHA to meet the mandates of the Hot Spots Act. CAPCOA recognized that "[w]hile local air districts have ample experience evaluating and mitigating toxic emissions from permitted stationary sources, most have limited experience preparing or reviewing risk assessments associated with multiple toxic sources or assessments for exhaust from mobile sources that are typically found when evaluating health risks to proposed land use projects." To bridge the gap between stationary sources subject to regulation by the Air Districts under the Hot Spots Act and health risk impacts from and to land use projects, CAPCOA prepared the CAPCOA HRA Guidance.[54] The CAPCOA HRA Guidance only recommends assessment of health risks related to two types of land use projects, as described below.

Type A – Land use projects with toxic emissions that impact receptors, including:

- Combustion related power plants;
- Gasoline dispensing facilities;
- Asphalt batch plants;
- Warehouse distribution centers;
- Quarry operations; and
- Other stationary sources that emit toxic substances.

Type B – Land use projects that will place receptors in the vicinity of existing toxics sources, including residential, commercial, and institutional developments proposed to be located in the vicinity of existing toxic emission sources, such as:

- Stationary sources;
- High traffic roads;
- Freeways;
- Rail yards; and
- Ports

The Proposed Project is not a Type A or Type B land use project under the CAPCOA HRA Guidance. The operation of the Proposed Project does not include any of the industrial uses

[54] *"While local air districts have ample experience evaluating and mitigating toxic emissions from permitted statutory sources, most have limited experience preparing or reviewing risk assessment associated with multiple toxic sources or assessment for exhaust from mobile sources that are typically found when evaluating health risks to proposed land use projects. In order to provide consistency to lead agencies, project proponents and the general public throughout the state, the [CAPCOA] formed a subcommittee … to develop guidance on assessing the health risk impacts from and to proposed land use projects." "Health Risk Assessment for Proposed Land Use Projects." CAPCOA, July 2009, page. 1. Available at http://www.capcoa.org/wp-content/uploads/2020/12/with-stamp_CAPCOA_HRA_LU_Guidelines_8-6-09-min.pdf (accessed October 2022).*

listed, nor does it include a stationary source that emits TACs. Nor is the Proposed Project a warehouse or distribution facility that generates more than 100 trucks per day or more than 40 trucks with operating transport refrigeration units.[55] The Proposed Project also does not involve siting sensitive receptors near an existing stationary source or industrial use. For these reasons, the preparation of an HRA (or AERSCREEN screening-level analysis) to assess the health risks due to the operation of the Proposed Project is not required.

The CAPCOA HRA Guidance does not consider construction-related health risks. Additional guidance was "expected to be included" in the CAPCOA HRA Guidance once the toxic emissions from construction can be better quantified with updated science. This has not yet occurred, and was not available when the City prepared the notice of preparation for the Proposed Project and its environmental analysis. As such, preparation of an HRA to assess health risks due to construction of the Proposed Project is not required.

SCAQMD Guidance

The South Coast Air Quality Management District (SCAQMD) is the Air District in charge of implementing, regulating, and enforcing the Hot Spots Program in the South Coast Air Basin. The SCAQMD has promulgated rules in furtherance of the Hot Spots Act,[56] and prepared supplemental guidelines for preparing HRAs as a supplement to OEHHA's guidance manuals.[57] These SCAQMD rules and supplemental guidelines provide guidance for the preparation of HRAs for stationary and certain mobile sources, as described below.[58] The SCAQMD has developed limited guidelines and documents relevant to HRAs and CEQA analyses for non-stationary source land use projects. Specifically, these rules and guidelines do not require HRAs to be prepared as part of CEQA documents that evaluate the construction and operational impacts of residential and/or commercial projects.[59] These documents are discussed in more detail, below.

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[55] *"Air Quality and Land Use Handbook: A Community Health Perspective."* CARB, April 2005, available at: https://www.arb.ca.gov/ch/handbook.pdf "*Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis." SCAQMD, August 2003.*

[56] *See SCAQMD Rules and Regulations XIV – Toxics and Other Non-Criteria Pollutants, Rules 1401 and 1402.*

[57] *"AB 2588 and Rule 1402 Supplemental Guidelines for Preparing Risk Assessment for the Air Toxics 'Hot Spots' Information and Assessment Act." SCAQMD, October 2020, Available at: http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab-2588-supplemental-guidelines.pdf?sfvrsn=19 (accessed November 2022).*

[58] *"Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis." SCAQMD, August 2003.*

[59] *SCAQMD Final EA, pages 1-2 and 2-23, September 2016. Affected facilities are those in identified for the AB 2588 Air Toxics Hot Spots program, which does not include the proposed Project nor mixed-use projects like the proposed Project that are not stationary sources. Further, the SCAQMD states it "does not have guidance on construction Health Risk Assessments."*

To start with, SCAQMD does not have recommended guidance on HRAs for operational impacts related to non-stationary source land use projects, except for the following guidance documents, neither of which requires preparation of an HRA for the Project:

- *Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis* (2003) (Mobile Source Guidance)
- *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning* (2005) (Local Planning Guidance)

The Mobile Source Guidance provides interim guidance and recommended procedures for preparing HRAs for projects with the potential for DPM impacts, including the following limited activities: (1) truck idling and movement (such as, but not limited to, truck stops, warehouse/distribution centers or transit centers); (2) ship hoteling at ports; and (3) train idling. The Project does not include any of these industrial-related activities. Since the Proposed Project would consist of multi-family residential uses and only 3,013 square feet of commercial space, it is anticipated the only truck activity on the Project Site would be refuse trucks that would serve the Proposed Project a few times a week. This is significantly fewer trucks than the anticipated volume of trucks associated with a truck stop, warehouse/distribution center, or transit center. The Proposed Project's operational trucks would also be considerably fewer than the 100 trucks per day or more than 40 trucks with operating transport refrigeration units, the thresholds used by CAPCOA, SCAQMD, and CARB for siting new sensitive land uses near these types of sources.[60] As such, the Proposed Project is not expected to be a substantial source of DPMs and the preparation of an HRA is therefore not required.

The Local Planning Guidance referenced above also does not require preparation of a quantitative HRA within the vicinity of the Project Site as the Proposed Project is consistent with the recommendations regarding the siting of new sensitive land uses near potential sources of TACs. Specifically, the Project is not considered to be a substantial source of DPM emissions warranting an HRA since daily truck trips to the Project Site would not exceed 100 trucks per day or more than 40 trucks with operating transport refrigeration units, which are the applicable screening thresholds in the Local Planning Guidance.

With regard to construction impacts, the SCAQMD does not recommend preparing HRAs to determine the human health risk associated with the construction of land use projects. Specifically, the SCAQMD's CEQA Air Quality Handbook (1993) (Air Quality Handbook) does not recommend analysis of TACs from short-term construction activities associated with land use development projects due to the limited duration of exposure related to construction impacts. According to SCAQMD methodology, health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. Specifically, "Individual Cancer Risk" is the likelihood that a person continuously exposed to concentrations of TACs over a 70-year lifetime will contract

[60] *"Air Quality and Land Use Handbook: A Community Health Perspective." CARB, April 2005. Available at: https://www.arb.ca.gov/ch/handbook.pdf (accessed November 2022).*

cancer based on the use of standard risk assessment methodology.[61] Because the construction schedule for the Proposed Project is based on estimates that the phases which require the most heavy-duty diesel vehicle usage, such as demolition and grading/excavation, would last for a much shorter duration (e.g., approximately 4 months), and the overall construction schedule would be limited to approximately 24 months, construction of the Proposed Project would not result in a substantial, long-term (i.e., 70-year) source of TAC emissions. No residual emissions and corresponding individual cancer risk are anticipated after construction. Because there is such a short-term exposure period (48 out of 840 months of a 70-year lifetime), further evaluation of construction TAC emissions within the Categorical Exemption was not warranted.

In addition, the SCAQMD has not provided any guidance on how to apply the 2015 Guidance Manual to construction activities.[62] According to the SCAQMD CEQA Program Supervisor, the SCAQMD continues to evaluate the 2015 Guidance Manual, but has not developed any recommendations on its use in evaluating the human health risk associated with a project's potential construction impacts. Additionally, any SCAQMD guidance that may be provided in the future would be included on SCAQMD's CEQA Air Quality Analysis Handbook webpage. At this time, the SCAQMD has not provided any additional guidance to the CEQA Air Quality Analysis Handbook webpage.

Moreover, SCAQMD recommends consulting with the lead agency for projects subject to CEQA. Here, in preparing CEQA documents, the City relies in part on the L.A. City CEQA Thresholds Guide (Thresholds Guide). Note also, that the Categorical Exemption considers factors from Thresholds Guide, but does not use it to establish threshold of significance. The Thresholds Guide recognizes that new sources of TACs are regulated by the SCAQMD. It also states that TACs can occur from certain construction activities during site remediation activities, or during building demolition, and that TACs may be released during industrial or manufacturing processes, or other activities that involve the use, storage, processing, or disposal of toxic materials. The Thresholds Guide does not specifically state that the preparation of a HRA is required to evaluate short-term construction impacts related to DPM emissions. Rather, the Thresholds Guide does set forth the following factors for consideration on a case-by-case basis in making a determination of significance with regard to toxic air contaminants: the regulatory framework for the toxic material(s) and process(es) involved; the proximity of the toxic air contaminants to sensitive receptors; the quantity, volume, and toxicity of the contaminants expected to be emitted; the likelihood and potential level of exposure; and the degree to which project design will reduce the risk of exposure. Based on this information, the methodology utilized in the Categorical Exemption remains consistent with City guidance for preparation of HRAs. An HRA assessing construction impacts was not required to be prepared.

[61] *South Coast Air Quality Management District (SCAQMD) CEQA Handbook, 1993. Chapters 5, 9 and 10.*

[62] *SCAQMD Final EA, page. 2-23, September 2016.*

California Supreme Court Guidance

The Categorical Exemption's analysis of air quality impacts is consistent with the California Supreme Court's decision in *Sierra Club v. County of Fresno*, 6 Cal.5th 502 (2018) (*County of Fresno*). *County of Fresno* only requires preparation of an HRA if there is a significant air quality impact from criteria air pollutants. The City has prepared a document titled *Air Quality and Health Effects (Sierra Club v. County of Fresno)*, which takes the same position. Applying the principles *County of Fresno*, it provides lead agency guidance on how to implement the case in future CEQA documents.

Therefore, an HRA correlating air quality with specific human health impacts is only required for projects that have a significant impact with respect to criteria air pollutants. The comment requests that an HRA be prepared to assess health risk impacts from DPM. However, the Categorical Exemption concluded that impacts from TACs and criteria pollutants would be less than significant without mitigation measures. As such, the *County of Fresno* analysis is not required, and an HRA did not have to be prepared for the Proposed Project.

COMMENT 1.6

The City reasons that because the Project's emissions would not exceed Localized Significance Thresholds ("LSTs"), there would not be a significant health risk. LSTs are based on the number of pounds of emissions per day that can be generated by a project that would cause or contribute to adverse localized air quality impacts.[63] But LSTs only apply to four pollutants: NOx, CO, PM10, and PM2.5. Dr. Clark explains that LSTs do not apply to DPM and other TACs.[64] Therefore, the City completely failed to analyze health risk impacts from exposure to TACs during Project construction, and thus fails to support its finding of a less-than-significant health risk impact.

RESPONSE TO COMMENT 1.6

The commenter claims that because the Categorical Exemption only analyzed localized significance thresholds provided by the SCAQMD, it was limited to four pollutants and excludes DPM and other TACs. However, this assumption is incorrect. CARB has listed over 200 toxic substances, including those identified by the U.S. EPA, which are identified on the California Air Toxics Program's TAC List. TACs are also not classified as "criteria" air pollutants. Additionally, there is no threshold determination for a majority of these pollutants.[65] Therefore, the Categorical Exemption is not required to analyze impacts from the 200+ pollutants on the TAC list. The greatest potential for TAC emissions during construction is related to DPM emissions associated with heavy-duty equipment. As stated previously in Response to Comment 1.4 above, DPM is a subset of both PM_{10} and $PM_{2.5}$. Approximately 94 percent of all DPM particles are less than 2.5

[63] *Categorical Exemption, pg. 66.*
[64] *Clark Comments, pg. 3.*
[65] *California Air Resources Board, CARB Identified Toxic Air Contaminants, website: https://ww2.arb.ca.gov/resources/documents/carb-identified-toxic-air-contaminants, accessed November 2022.*

microns in diameter and the remaining 6 percent are between 2.5 microns in diameter and 10 microns in diameter.[66] Thus, DPM is accounted for within the PM_{10} and $PM_{2.5}$ emissions thresholds. As shown in Table 12, Localized On-Site Peak Daily Construction Emissions, the Proposed Project's peak localized construction emissions for PM_{10} and $PM_{2.5}$ would be 3.15 lbs/day in total and 1.86 lbs/day in total, respectively. Comparably, the localized threshold of significance for PM_{10} and $PM_{2.5}$ emissions is 5 lbs/day and 3 lbs/day, respectively. Therefore, since PM_{10} and $PM_{2.5}$ would be substantially below the applicable construction LSTs, and DPM represents a fraction of the total PM_{10} and $PM_{2.5}$ emissions generated during construction, the emissions of DPM within PM_{10} and $PM_{2.5}$ would not rise to the level of significance for PM_{10} and $PM_{2.5}$. Thus, the Proposed Project's PM_{10} and $PM_{2.5}$ emissions, including DPM, are substantially below the localized thresholds of significance.

COMMENT 1.7

2. The Project Has Potentially Significant Health Risk Impacts

Dr. Clark calculates that the Project's emissions of DPM would exceed applicable significance thresholds for health risk.

Using OEHHA's HARP 2 Standalone Risk software, Dr. Clark calculated the cancer risk to the most sensitive population – infants less than 2 years old.[67] The cumulative risk for exposure during the 2 years of construction is 814 in 1,000,000, much greater than the 10 in 1,000,000 threshold set forth by the South Coast Air Quality Management District ("SCAQMD"). For adults, the risk from exposure to DPM from the construction phase of the project is 17.5 in 1,000,0000, which also exceeds the threshold.[68]

As a result of these significant effects, the Project does not qualify for any CEQA exemption, including a Class 32 exemption. The Project's significant impacts must be disclosed and mitigated in an EIR.

RESPONSE TO COMMENT 1.7

As mentioned above in Response in to Comment 1.5, OEHHA's guidance manuals for assessing health risks and hot spots are intended to address health risks from airborne contaminants released by stationary sources, which include metal finishing/manufacturing, chrome plating facilities, various product manufacturing (e.g., food, chemical, material, etc.), stationary diesel engines (e.g., emergency backup generators), and refineries. The guidance manuals are not

[66] *Scientific Review Panel Findings for the Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant Report, May 27, 1998, website: https://www.arb.ca.gov/srp/findings/4-22-98.pdf, accessed November 2022.*

[67] *Clark Comments, pg. 7.*

[68] *Clark Comments, pg. 7-8.*

meant for a health risk evaluation of typical non-stationary source land use projects, such as residential and commercial development projects.

Additionally, as noted in further detail below in Response to Comment 1A.4 and 1A.5, the analysis provided by Clark & Associates is not representative of the Proposed Project or any real-life scenario. Moreover, Clark & Associates does not provide any appendix or worksheet calculations to support their estimated health risks. Therefore, the commenter lacks any credible evidence to support their claim that the Proposed Project would result in significant health risks from construction emissions.

COMMENT 1.8

3. Project Impacts Associated with Operational Diesel Exhaust from the Backup Generator May be Significant

The City lacks substantial evidence to support its reliance on a categorical exemption because the City failed to adequately analyze the health risk impacts associated with use of the Project's backup generator during Project operation.

Dr. Clark explains that diesel-powered backup generators emit DPM, which poses a public health risk. The City's air quality analysis assumes that the backup generator will only be operated for 12 hours a year for testing and maintenance.[69] But according to SCAQMD Rules 1110.2 and 1470, backup generators are allowed to operate for up to 200 hours per year and maintenance cannot exceed more than 50 hours per year. Thus, the Project's back-up generator is permitted to operate up to 250 hours per year. As a result, the City's assumption that the backup generator would be operated for 12 hours a year likely underestimates the Project's emissions.[70]

Dr. Clark further explains that the City's analysis underestimates emissions because use of emergency generators is expected to rise due to climate change and increased instances of Public Safety Power Shutoff ("PSPS") events and extreme heat events.[71] For every PSPS or Extreme Heat Event triggered during the operational phase of the project, significant concentrations of DPM will be released that are not accounted for in the City's analysis, which only assumes the backup generator will be used 12 hours a year for testing and maintenance.

In sum, the City's operational health risk conclusions are not supported by substantial evidence because the City's analysis does not reflect reasonable hours of use of backup generators.

RESPONSE TO COMMENT 1.8

The commenter also raises concerns with respect to the estimated number of hours the emergency generator would operate per year. The Categorical Exemption estimated the

[69] *Clark Comments, pg. 11.*
[70] *Clark Comments, pg. 8.*
[71] *Clark Comments, pg. 9.*

Proposed Project would operate a total of 30 minutes per day for routine monthly testing, resulting in a total of 12 hours per year. The commenter suggests that the emergency generator can operate up to 250 hours per year. However, electricity blackouts, public safety power shut-off events, and extreme heat events represent emergency situations and are difficult to predict. The estimated peak daily operational emissions in the Categorical Exemption represent realistic daily activities, and it would not be reasonable to assume an emergency event as the future Project condition. The estimated future operational conditions are supported by reliable projections based on the Proposed Project's design rather than hypothetical conditions.

As shown in Table 14, Proposed Project Estimated Daily Regional Operational Emissions, on page 69 of the Categorical Exemption, emergency generator emissions are calculated under "stationary sources." Because the SCAQMD thresholds are expressed in daily emissions rates, the emissions ran by CalEEMod and shown in Table 14, account for 30 minutes of operational use for the emergency generator. As stated previously in Response to Comment 1.4 above, DPM is a subset of both PM_{10} and $PM_{2.5}$.[72] Because the Proposed Project's emissions for PM_{10} and $PM_{2.5}$ are well below the thresholds of significance, temporarily operating a diesel-powered emergency generator during blackouts, public safety power shut-off events, and extreme heat events is anticipated not to significantly increase PM_{10} and $PM_{2.5}$ emissions, including DPM, that would result in a significant impact.

COMMENT 1.9

Dr. Clark generated a site-specific screening level HRA for emissions from the back-up generator to assess the health risk impacts on nearby receptors.[73] Assuming the backup generator is limited to maintenance and testing for 12 hours per year or less, the model calculates emissions of DPM of approximately 1.07 lbs per year. This magnitude of emissions results in health risk impacts of 17.3 in 1,000,000 for residents living within 25 meters of the Project site (the nearest residential receptors for this Project are located diagonally adjacent to the Project site.[74] This impact exceeds the 10 in 1,000,000 threshold set forth by SCAQMD, resulting in a significant impact.

Because the Project has a potentially significant health risk impact, the City cannot rely on a categorical exemption. An EIR must be prepared to analyze impacts on sensitive receptors.

RESPONSE TO COMMENT 1.9

As explained in further detail below in Response to Comment 1A.4 and 1A.5, the analysis provided by Clark & Associates is not representative of the Proposed Project or any real-life scenario. Moreover, Clark & Associates does not provide any appendix or worksheet calculations to support their estimated health risks. Therefore, the commenter lacks any credible evidence to

[72] *Scientific Review Panel Findings for the Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant Report, May 27, 1998, website: https://www.arb.ca.gov/srp/findings/4-22-98.pdf, accessed November 2022.*

[73] *Clark Comments, pg. 10.*

[74] *Higgins Building, 108 W 2nd St, Los Angeles, CA 90012.*

support their claim that the Proposed Project would result in significant health risks from construction emissions.

COMMENT 1.10

B. An Exemption is Inapplicable Because the Project May Result in Significant Noise Impacts Which Require Mitigation

1. The Class 32 Exemption is Inapplicable Because the City Improperly Relies on Noise Mitigation Measures

The Notice of Exemption states that the Project would result in less-than-significant construction noise impacts. According to the Categorical Exemption, the Project's construction noise impacts are significant if they exceed 75 dBA at a distance of 50 feet from the Project site,[75] and would not exceed ambient noise levels by more than 5 dBA at nearby sensitive receptors.[76] In Table 10, the City presents the estimated construction noise impact at the nearest sensitive receptors, and concludes that neither of these significance thresholds are met.[77] But the City incorrectly incorporates noise reductions from mitigation measures – labeled "project design features"[78] – into this significance determination. The City's noise reductions include (1) avoiding conducting demolition and construction activities concurrently, (2) using noise-muffled equipment, (3) implementing a sound barrier at least 8 feet tall that achieves a minimum 15 dBA noise reduction, and (4) using portable barriers during jackhammering and structural framing.[79] These measures are intended to reduce the Project's construction noise levels to less than significant, and are therefore mitigation within the meaning of CEQA.

An agency may not rely on a categorical exemption if to do so would require the imposition of mitigation measures to reduce potentially significant effects.[80] In Salmon Pro. & Watershed Network v. County of Marin ("SPAWN"), the court held that a single-family residence was improperly approved pursuant to a categorical exemption because the project included mitigation of the project's impacts on a stream.[81] The lead agency concluded that the project was categorically exempt from CEQA because it entailed construction of a single-family residence with no potentially significant impacts on the environment. The agency's conclusion that the project would not result in adverse effects was founded on "dozens of conditions that have been applied to enhance mitigations and reduce to a minimum the possibility of any adverse environmental impacts."[82] The conditions included detailed construction limitations and incorporation of a riparian

[75] *See LAMC Section 112.05.*
[76] *See LAMC Section 112.04; Categorical Exemption, pg. 61.*
[77] *Categorical Exemption, pg. 61.*
[78] *Categorical Exemption, pg. 57.*
[79] *Categorical Exemption, pg. 57-58.*
[80] *Salmon Pro. & Watershed Network v. County of Marin ("SPAWN") (2004) 125 Cal.App.4th 1098, 1198-1201.*
[81] *Id. at 1103.*
[82] *Id. at 1107.*

protection plan. The riparian protection plan acknowledged that runoff from new rooftops and driveways can erode stream banks, and proposed drainage features for erosion and sediment control. The court held that these conditions were mitigation measures, and that eligibility for a categorical exemption must be determined without reference to mitigation measures. Thus, the categorical exemption was inapplicable.

In Lotus v. Department of Transportation,[83] the court addressed the adequacy of an EIR analyzing proposed highway construction adjacent to old-growth redwood trees, as opposed to the approval of a categorical exemption as was the case in SPAWN.[84] Like the project in SPAWN, however, the Lotus construction was found by the reviewing agency not to involve any significant effect on the environment, but only after mitigation measures were made a condition of project approval.[85] The court held that actions such as restorative planting, removal of invasive plants, and the use of an arborist and specialized equipment were "plainly mitigation measures and not part of the project itself," resulting in the improper compression of environmental impacts and mitigation measures into a single issue in the EIR.[86]

Here, the instant Project is ineligible for a categorical exemption for the same reason the project in SPAWN was ineligible. In both cases, the lead agency's conclusion that the project would not result in adverse effects was founded on "conditions that have been applied to enhance mitigations and reduce to a minimum the possibility of any adverse environmental impacts."[87] Just as the project in SPAWN "detailed construction limitations and incorporation of a riparian protection plan" designed to mitigate impacts from runoff, the instant Project includes noise-reducing construction techniques and devices to mitigate construction noise impacts. Per the court's ruling in SPAWN, the Project's noise-reducing measures must be considered mitigation measures. Eligibility for a categorical exemption must be determined without reference to mitigation measures. Thus, the Project's categorical exemption is inapplicable.

And per the Lotus decision, the Project is ineligible for a categorical exemption because its mitigation measures are not part of the project design. The Project's measures to reduce construction noise are similar to the plant techniques in Lotus because they are designed to mitigate the Project's adverse impacts, and are not part of the Project itself. Mitigation of construction noise is not part of the Project design because the Project proposes a mixed-use building – noise-reducing devices and techniques merely reduce noise caused by construction of that building. Thus, the categorical exemption is inapplicable.

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[83] *223 Cal.App.4th 645,*
[84] *Id. at 647–648.*
[85] *Id. at 648–649.*
[86] *Id. at 656, fn. 8.*
[87] *SPAWN, 125 Cal.App.4th 1098, 1107.*

RESPONSE TO COMMENT 1.10

The commenter claims the Categorical Exemption incorporates noise-reducing project design features in an effort to avoid a significant noise impact. The project design features described on page 57 of the Categorical Exemption, which would effectively reduce construction noise, are not considered mitigation measures as they are required by the City's Noise Ordinance and applicable requirements under the LAMC and will be enforced during construction as conditions of approval. Furthermore, these project design features are standard practice for projects typical in the surrounding urban area and would be implemented regardless of the noise impact to sensitive receptors as a means to reduce overall construction noise for the safety of construction workers, pedestrians, and bystanders. Thus, the implementation of these project design features do not aim to reduce noise to avoid a significant impact.

The commenter cites the Proposed Project's ineligibility for a categorical exemption is similar to the project's ineligibility in the *Salmon Protection and Watershed Network v. County of Marin* ("SPAWN v. County of Marin") case. A primary difference for the *SPAWN v. County of Marin* is that the proposed residence was located along the San Geronimo Creek, a riparian area identified as a resource of critical concern, which precludes the use of a categorical exemption. The proposed residence's location in an area of critical concern may have a significant impact to biological resources and establishes an unusual circumstance that the project will have a significant environmental effect. The County didn't make express findings regarding the applicability of the exceptions under Guidelines Section 15300.2(c), which preclude the use of a categorical exemption with respect to unusual circumstances, but did find that any adverse effects of the project on the habitat or threatened or endangered species and possible disharmonies with the creek would be eliminated by the mitigation measures made conditions of project approval.[88] For these reasons, this particular project failed to analyze the applicability of the exceptions to CEQA Exemptions based on the project's location within a creek and a riparian area of critical concern for biological resources. With respect to the Proposed Project, as summarized on page 94 of the Categorical Exemption, there are no unusual circumstances that exist in connection with the Proposed Project or surrounding environmental conditions. As such, there are no unique or unusual circumstances that exist in connection with the Proposed Project or surrounding environmental conditions that have the potential to result in a significant environmental impact upon the environment. Therefore, the ineligibility of an exemption determined in the *SPAWN v. County of Marin* case does not apply for the Proposed Project.

The commenter also cites the Proposed Project's ineligibility for a categorical exemption is similar to the project's ineligibility in the *Lotus v. Department of Transportation* case. The *Lotus v. Department of Transportation* case involved the secondary impacts related to project mitigation

[88] *CEQA Portal, Salmon Protection and Watershed Network v. County of Marin, website: https://ceqaportal.org/summaries/1744/Salmon%20Protection%20and%20Watershed%20Network%20v.%20County%20of%20Marin%20(2005)%20125%20Cal.App.4th%201098.pdf, accessed November 2022.*

measures on old growth redwood trees in an EIR.[89] The findings in the *Lotus v. Department of Transportation* case do not apply to the Proposed Project.

Furthermore, the project design features described on page 57 of the Categorical Exemption are not considered mitigation measures as they will be enforced during construction as conditions of approval. These project design features are standard practice for projects typical in the surrounding urban area and would be implemented regardless of the noise impact to sensitive receptors as a means to reduce overall construction noise for the safety of construction workers, pedestrians, and bystanders. Therefore, contrary to the commenter claims, the implementation of these project design features do not aim to reduce noise to avoid a significant impact.

COMMENT 1.11

The City may attempt to rely on cases such as Citizens for Environmental Responsibility v. State ex rel. 14th District Agricultural Association ("CER v. State"),[90] Berkeley Hills Watershed Coalition v. City of Berkeley ("Berkeley Hills Watershed"),[91] or Berkeley Hillside Preservation v. City of Berkeley ("Berkeley Hillside Preservation")[92] to assert that the Project's noise mitigation does not preclude reliance on an exemption. However, as discussed below, these cases are distinguishable from the instant Project.

In CER v. State,[93] the court held that a rodeo project was not precluded from a categorical exemption by its reliance on a manure mitigation plan ("MMP") to prevent riparian impacts. The court distinguished the MMP from the mitigation in SPAWN because the MMP was not a new measure proposed for or necessitated by the rodeo project.[94] Rather, it was a preexisting measure previously implemented to address a preexisting concern, which was formalized in writing before the rodeo project was proposed. Thus, the MMP was actually part of the ongoing "normal operations" of the fairground at which the rodeo project was located. The court concludes that use of this measure did not disqualify the rodeo project from a categorical exemption.[95]

In Berkeley Hills Watershed,[96] the court held that a housing project was not precluded from an exemption by its reliance on project design measures to address State requirements for investigation and mitigation within a seismic zone.[97] The geotechnical report prepared for the project stated "[a]ll owners or occupants of homes on hillsides should realize that landslide movements are always a possibility, although generally the likelihood is very low that such an

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89 *CEQA Portal, Lotus v. Department of Transportation, website: https://ceqaportal.org/summaries/1245/Lotus%20v.%20Department%20of%20Transportation%20(Jan.%2030,%202014)%20223%20Cal.App.4th%20645.pdf, accessed November 2022.*
90 *(2015) 242 Cal.App.4th 555.*
91 *(2019) 31 Cal.App.5th 880*
92 *(2015) 241 Cal.App.4th 943.*
93 *(2015) 242 Cal.App.4th 555*
94 *Id. at 569.*
95 *Id.*
96 *(2019) 31 Cal.App.5th 880*
97 *Id. at 246, fn 9.*

event will occur," and recommended suggestions for removing and controlling the landslide.[98] The court explained these measures were not "mitigation measures" because they were developed as part of the project design to meet building code requirements for properties located in seismic zones and address preexisting conditions on the site as opposed to being "proposed subsequent actions by the project's proponent to mitigate or offset the alleged adverse environmental impacts" of the project.

In Berkeley Hillside Preservation,[99] the court rejected an argument that implementation of a traffic-management plan for project construction precluded a categorical exemption. When the lead agency approved the use permit for the project, it included various conditions under Berkeley Municipal Code, including a construction traffic management plan.[100] The court stressed that the conditions of approval for this project were standard conditions imposed on residential development which are not intended to address any specific environmental impacts resulting from construction of this project.[101] This point was supported by the fact that no unique conditions of approval were proposed for the project (aside from one that had no relation to any potential environmental impact).[102] The court held that because "the plan […] is not proposed subsequent action taken to mitigate any significant effect of the project, [it is] therefore is not a mitigation measure that precludes the application of a categorical exemption."[103]

This Project is distinguishable from CER v. State because the Project's construction noise measures do not preexist the Project. Whereas the mitigation plan in CER v. State was part of the ongoing "normal operations" of the fairground at which the rodeo project was located "for decades,"[104] the noise measures in this case were first proposed in the Categorical Exemption. This fact completely distinguishes this project, as the court italicized the word "proposed" throughout the opinion to emphasize the importance of that factor. Indeed, the Project's construction noise measures are proposed – they are not specifically described or required by any preexisting policy. For example, although LAMC Sections 112.04 and 112.05 set out the applicable construction noise thresholds, they do not call for the specific combination of noise reducing techniques and devices proposed to mitigate the Project's particular construction activities.

This Project is also distinguishable from Berkeley Hills Watershed because the measures in Berkeley Hills Watershed addressed preexisting conditions on the site – the seismic conditions of the project site – whereas the instant Project's noise measures address impacts generated by the Project. And whereas the Berkeley Hills Watershed measures were integrated into the design of the building, this Project's construction noise mitigation is not integrated into the design of the apartment building. Instead, the Project's mitigation is designed to resolve its adverse

[98] *Id. at 246*
[99] *(2015) 241 Cal.App.4th 943.*
[100] *Id. at 959.*
[101] *Id.*
[102] *Id.*
[103] *Id. at 961.*
[104] *242 Cal.App.4th 555, 566.*

construction noise impacts. Thus, although both projects involve measures designed to meet regulatory requirements – the project in Berkeley Hills Watershed aimed to comply with the building code, and here, the Project aims to comply with LAMC noise thresholds – the instant Project is ineligible for a categorical exemption because it mitigates impacts generated by the Project itself.

Finally, this Project is distinguishable from Berkeley Hillside Preservation.[105] Whereas the conditions of approval in that case were of standard language, general applicability, and were not designed to mitigate specific adverse impacts, the measures for this Project are bespoke measures designed to mitigate specific construction noise impacts. For instance, the proposed 8-foot-tall sound barrier that reduces noise by 15 dBA is not a preexisting condition of general applicability – it is a unique measure tailored to address the Project's acknowledged noise impacts – the Categorical Exemption acknowledges the Project would require use of heavy equipment that would generate noise of up to 90 dBA at 50 feet.[106] The Project subsequently identifies a combination of mitigation measures to reduce these impacts below LAMC thresholds. Therefore, the Project is precluded from a categorical exemption.

RESPONSE TO COMMENT 1.11

The commenter references cases wherein the implementations of conditions of approval did not disqualify a project's applicability for a CEQA exemption. The commenter asserts these cases are distinguishable from the Proposed Project because the Proposed Project relies on the project design features to reduce significant noise impacts to a less than significant level. As mentioned previously in Response to Comment 1.10, the project design features described on page 57 of the Categorical Exemption, are standard practice for projects citywide and would be implemented regardless of the noise impact to sensitive receptors as a means to reduce overall construction noise for the safety of construction workers, pedestrians, and bystanders. Compared to the conditions of approval described in the *Berkeley Hillside Preservation v. City of Berkeley* case, the Proposed Project's project design features are also of standard language imposed by the City of Los Angeles and are applicable to projects in urban settings. Thus, the application of these project design features does not aim to reduce noise to avoid a significant impact and would be enforced during construction as conditions of approval. Therefore, these project design features are not considered mitigation measures, and the Proposed Project qualifies for a CEQA Categorical Exemption.

[105] *(2015) 241 Cal.App.4th 943.*
[106] *Categorical Exemption, pg. 59, Table 9.*

COMMENT 1.12

2. The Project's Noise Mitigation Measures Do Not Effectively Mitigate Potentially Significant Construction Noise Impacts

As explained above, the Categorical Exemption states that the Project would not exceed LAMC thresholds[107] due to implementing measures including a sound barrier at least 8 feet tall that achieves a minimum 15 dBA noise reduction, and using portable barriers during jackhammering and structural framing.[108] Mr. Meighan notes that the City's noise calculations incorporate a 15 dBA noise reduction on account of the sound barrier.[109] But Mr. Meighan explains that this barrier would not provide line of sight shielding for sensitive receptors on the second floors and above of neighboring buildings.[110] He states that "assuming the barrier is 8 feet high, receivers on the second floor or above would be able to look directly over the barrier onto the property and receive no benefit from the shielding effects."[111]

Mr. Meighan conducted a calculation of the Project's potential construction noise impacts on 3rd floor receptors using the Roadway Construction Noise Model ("RCNM"), finding that the Project's construction noise impacts exceed the City's 5 dBA threshold.

Table 1: Impact Analysis for Worst-case Construction Scenario on the 3rd Floor of the Higgins Building[112]

Calculated Noise Level (dBA)	Ambient Noise Level (dBA)	Level Above Ambient (dBA)	Impact Threshold (dBA)	Impact?
79.1	61.3	17.8	>5	YES

Mr. Meighan's analysis constitutes substantial evidence demonstrating that the Project may cause a significant construction noise impact. Therefore, the Project does not qualify for a categorical exemption.[113] The Project's significant impacts must be disclosed and mitigated in an EIR.

RESPONSE TO COMMENT 1.12

The commenter claims the proposed sound barriers would not reduce noise for sensitive receptors above the ground floor. As stated on page 57 of the Categorical Exemption, the Proposed Project would include a minimum 8-foot sound barrier along the perimeter of the Project Site. As shown in the Echo Barrier information sheet provided in Attachment 3 of the Categorical

[107] *See LAMC Section 112.04; Categorical Exemption, pg. 61.*
[108] *Categorical Exemption, pg. 57-58.*
[109] *Meighan Comments, pg. 5.*
[110] *Id.*
[111] *Id.*
[112] *Meighan Comments, pg. 5, Table 2.*
[113] *See Banker's Hill, Hillcrest, Park West Community Preservation Group v. City of San Diego (2006) 139 Cal.App.4th 249, 269.*

Exemption, the acoustic performance of Echo Barriers results in a reduction of 10 to 20 dB and greater if barrier is doubled up. Therefore, Echo Barriers would efficiently reduce construction noise levels by a minimum of 15 dBA during construction.

The Echo Barriers would reduce noise levels at sensitive receptors by breaking the direct line-of-site between the heavy duty construction equipment and sensitive receptors. Sound energy reaches the receiver only by bending (diffracting) over of the top of the barrier. This diffraction over the barrier reduces the sound level that reaches a sensitive receptor.[114] Therefore, with the presence of the barrier, noise at the ground level would be absorbed by the ground and then diffused with height. Thus, noise levels for the residences above the ground floor would experience attenuated and diffused noise levels compared to noise levels received at the ground level. Sensitive receptors in upper floor levels are located at the farther distance from the Project Site's ground level activities; thus, construction noise would further attenuate before reaching sensitive receptors in the upper floors. Furthermore, the use of heavy construction equipment would only be utilized on the ground level. Smaller equipment and handheld tools would be utilized in the upper floor levels of the Proposed Project. Moreover, as the constructed building finishes the exterior facades, construction noise would be further attenuated and insulated within the walls of the building. Therefore, construction noise would be considered less than significant for nearby sensitive receptors located above grade.

COMMENT 1.13

3. The City's Analysis of Operational and Construction Noise Impacts Are Not Supported by Substantial Evidence

To qualify for a categorical exemption, a lead agency must provide "substantial evidence to support [its] finding that the Project will not have a significant effect."[115] The City bases its noise analysis on a flawed and unsupported analysis. As a result, its conclusions that the Project's noise impacts are less than significant are not supported by substantial evidence.

First, the City fails to adequately establish the baseline noise level. As numerous courts have held, an agency's failure to adequately describe the existing setting contravenes the fundamental purpose of the environmental review process, which is to determine whether there is a potentially substantial, adverse change compared to the existing setting.[116] Here, the noise analysis relies on a short-term measurement of 15-minute duration during the day to describe existing conditions. Mr. Meighan explains that, in order to conduct a proper noise analysis, the baseline must also be

[114] *Federal Transit Administration, Noise and Vibration Impact Assessment Manual, September 2018, page 177; website: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf, accessed November 2022.*

[115] *Banker's Hill, Hillcrest, Park West Community Preservation Group v. City of San Diego (2006) 139 Cal.App.4th 249, 269.*

[116] *Save Our Peninsula Com. v. Monterey Bd. of Supervisors (2001) 87 Cal.App.4th 99, 121-22; City of Carmel-by-the Sea v. Bd. of Supervisors (1986) 183 Cal.App.3d 229, 246.*

established for evening, and possibly nighttime conditions.[117] Social events in the roof deck terrace with pool and lounge spaces could occur during evening hours, and rooftop equipment could also operate during evening and nighttime conditions. Without this data, it is not possible to evaluate the significance of noise sources operating during non-daytime hours.

RESPONSE TO COMMENT 1.13

The Appellant's claim that the Categorical Exemption failed to provide accurate existing ambient noise levels is incorrect. Based on the LAMC Section 111.01, "ambient noise" is defined as:

> *"composite of noise from all sources near and far in a given environment, exclusive of occasional and transient intrusive noise sources and of the particular noise source or sources to be measured. Ambient noise shall be averaged over a period* ***of at least 15 minutes*** *at a location and time of day comparable to that during which the measurement is taken of the particular noise source being measured." [emphasis added in* ***bold****]*

Existing ambient daytime noise levels are provided in Attachment 3 of the Categorical Exemption. As detailed in the noise monitoring data sheets in Attachment 3, and as shown in Figure 1, Noise Monitoring and Sensitive Receptor Location Map, three 15-minute noise measurements were taken, adjacent to the surrounding multi-family residential sensitive receptors, during the daytime on a weekday, when all construction activities and a majority of operation would occur. Since the Proposed Project would provide a mix of multi-family residential and commercial land uses in an area with residential and commercial land uses, it is anticipated that the Proposed Project would not result in excessively loud nighttime noise. Thus, the noise data obtained for monitoring existing ambient noise is more represented during the daytime and is consistent with the LAMC.

The commenter also assumes the Proposed Project would host social events on the rooftop area, which is a hypothetical claim. Occupancy and use of these rooftop areas would be consistent with other residential uses in the Project Site vicinity. The Proposed Project would be subject to LAMC Section 116.01 (Loud, Unnecessary and Unusual Noise), which prohibits all future users of the Proposed Project to willfully make or continue, or cause to be made or continued, any loud, unnecessary, and unusual noise which disturbs the peace or quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area. It is anticipated that the Proposed Project will be subject to conditions of approval to ensure that the project operator complies with the prescriptive and performance-based requirements of the LAMC. Since the Proposed Project's open space would be provided to the future residents and guests, it is anticipated that the rooftop deck would emit low-level passive noise. The commenter does not provide any evidence to support their claim that the rooftop area would result in a significant noise impact. Therefore, the commenter's assertion that an accurate noise analysis cannot be conducted without the existing nighttime baseline measurements is speculative.

[117] *Meighan Comments, pg. 1.*

See Response to Comment 1.21 below for a more detailed response with respect to noise from the rooftop open space.

COMMENT 1.14

Another flaw Mr. Meighan detected is that the City's analysis assumes only the two loudest pieces of equipment is used per stage of construction, measured at the center of the project site.[118] He explains that this approach may underestimate the Project's noise impacts, which are greater than disclosed by the City when construction equipment is used closer to the borders of the Project site.

RESPONSE TO COMMENT 1.14

The commenter states the use of two loudest pieces of equipment underestimates the Proposed Project's noise impacts. The Categorical Exemption utilizes the approach provided in the Federal Transit Administration's Transit Noise and Vibration Impact Assessment Manual (September 2018). Section 7 of this manual provides guidance on quantitatively estimating construction noise from typical construction equipment for a general assessment. The manual states "only determine $L_{eq\ equip}$ for the two noisiest pieces of equipment expected to be used in each phase of construction. Then, sum the levels for each phase of construction using decibel addition.[119] Additionally, this approach also states that the distance value (D) assumes all equipment operates at the center of the project.[120] Using this manual's approach, as shown in Table 10 and summarized on page 61 of the Categorical Exemption, the Proposed Project's construction-related noise would be less than significant in accordance with City requirements and standards. Additionally, as stated on page 59 of the Categorical Exemption, not all construction noise equipment would be utilized concurrently during each phase, and the location and spacing of heavy construction equipment and machinery would vary over the course of construction. It would be overly conservative to assume all construction equipment would be operating at the same time for eight hours a day. Therefore, the noise analysis in the Categorical Exemption relies on guidance provided by the Federal Transit Administration. The commenter does not provide any alternative technical approach to quantifying construction noise. Therefore, the assertion that construction noise would produce significant impacts that exceed the threshold is speculative and unsubstantiated.

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[118] *Meighan Comments, pg. 5.*

[119] *Federal Transit Administration, Noise and Vibration Impact Assessment Manual, September 2018, page 178; website: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf, accessed November 2022.*

[120] *Federal Transit Administration, Noise and Vibration Impact Assessment Manual, September 2018, page 177; website: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf, accessed November 2022.*

COMMENT 1.15

Mr. Meighan also explains that the Categorical Exemption erroneously cites an expectation that the Project's HVAC equipment would not cause significant impacts because the HVAC equipment would be similar to equipment on the currently existing building.[121] Mr. Meighan shows that the mechanical units required for a 17-story mixed-use building will likely be larger and louder than a two-story commercial building.

RESPONSE TO COMMENT 1.15

The commenter asserts that the Proposed Project's HVAC equipment would result in noise levels higher than 5 dBA above ambient noise levels. The commenter names two examples of equipment and their respective sound power level, but with no evidence or references to whether these types of equipment may actually be used for the Proposed Project. As stated on page 63 of the Categorical Exemption, the design and placement of HVAC units and exhaust fans would be required to comply with the regulations under Section 112.02 of the LAMC, which prohibits noise from air conditioning, refrigeration, heating, pumping, and filtering equipment from exceeding the ambient noise level on the premises of other occupied properties by more than five decibels. It is anticipated that the Proposed Project will be subject to conditions of approval to ensure that the project operator complies with the prescriptive and performance-based requirements of the LAMC. Additionally, because this roof level is well above the surrounding sensitive receptor locations, there is acoustic shielding provided by the edge of the roof, which would attenuate noise from the HVAC equipment. Thus, the on-site equipment would be designed and located such that they would be appropriately shielded and fitted with noise muffling devices to reduce operational noise levels. Therefore, the commenter does not provide any resources or evidence to support their reasoning why the Proposed Project's HVAC equipment would result in significant noise levels, and this assertion is strictly speculative and unsubstantiated.

COMMENT 1.16

Mr. Meighan states that the Categorical Exemption does not mention whether the Project would use pile driving during construction.[122] He explains that pile driving is a preferred construction technique for large buildings like this, and has the potential for damage to neighboring buildings. A categorical exemption cannot be relied upon if the Project can elect to use pile driving.

RESPONSE TO COMMENT 1.16

The commenter states the Categorical Exemption failed to analyze the use of pile driving during construction. The types of equipment anticipated for each phase of construction is provided on Table 9 on page 59 of the Categorical Exemption. As shown, a pile driver was not listed as anticipated construction equipment due to the fact that high noise and vibration impacts are

[121] *Categorical Exemption, pg. 63; Meighan Comments, pg. 6.*
[122] *Meighan Comments, pg. 6.*

associated with pile driving. Therefore, the commenter's assertion that the Proposed Project may use a pile driver is strictly hypothetical and speculative.

COMMENT 1.17

Finally, as explained in the preceding section, the Project's proposed sound barriers would not achieve the City's claimed 15 dBA reduction on neighboring residences above the ground floor. The City's reliance on the 15 dBA construction noise reduction violates CEQA's principle against relying on mitigation measures of uncertain efficacy or feasibility.[123] As a result, the City's finding of a less-than-significant construction noise impact is not supported by substantial evidence.

RESPONSE TO COMMENT 1.17

The commenter claims the proposed sound barriers would not reduce noise for sensitive receptors above the ground floor. As stated on page 57 of the Categorical Exemption, the Proposed Project would include a minimum 8-foot sound barrier along the perimeter of the Project Site. The noise barrier would reduce noise levels at sensitive receptors by breaking the direct line-of-site between the construction equipment and sensitive receptors. Sound energy reaches the receiver only by bending (diffracting) over of the top of the barrier. This diffraction over the barrier reduces the sound level that reaches a sensitive receptor.[124] Therefore, with the presence of the barrier, noise at the ground level would be absorbed by the ground and then diffused with height. Therefore, noise levels for the residences above the ground floor would experience attenuated and diffused noise levels compared to noise levels at the ground level.

The commenter further states that the Proposed Project relies on mitigation measures of uncertain efficacy or feasibility. The project design features described on page 57 of the Categorical Exemption are not considered mitigation measures as they will be voluntarily incorporated and enforced during construction as conditions of approval. Additionally, as shown in the Echo Barrier information sheet provided in Attachment 3 of the Categorical Exemption, the acoustic performance of Echo Barriers results in a reduction of 10 to 20 dB and greater if barrier is doubled up. Therefore, Echo Barriers would efficiently reduce by noise by 15 dBA and would effectively reduce noise levels during construction.

COMMENT 1.18

Due to these analytical flaws, the City's noise findings are not supported by substantial evidence. Without substantial evidence, the City cannot rely on a categorical exemption.

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[123] *Kings County Farm Bureau v. County of Hanford (1990) 221 Cal.App.3d 692, 727-28 (a groundwater purchase agreement found to be inadequate mitigation because there was no record evidence that replacement water was available).*

[124] *Federal Transit Administration, Noise and Vibration Impact Assessment Manual, September 2018, page 177; website: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf, accessed November 2022.*

RESPONSE TO COMMENT 1.18

The commenter concludes that based on the aforementioned findings, the Proposed Project would result in a significant noise impact. As discussed above in Response to Comment 1.10 to Response to Comment 1.17, the commenter fails to provide any substantial evidence to their claims and assertions that the Proposed Project would result in any significant noise impacts. As the claims and assertions presented by the commenter are erroneous and supported by speculative, misleading, and unsubstantiated assumptions, a significant noise impact would not occur, and mitigation measures are not required.

COMMENT 1.19

4. The City's Noise Significance Thresholds Are Not Supported by Substantial Evidence

The Project's operational noise significance thresholds are not supported by substantial evidence because they do not reflect sleep disturbance impacts. The Project includes several sources of potential sleep-disturbing operational noise impacts: the balconies and rooftop area; mechanical equipment including an HVAC; and roadway traffic noise. Compliance with the significance thresholds for these noise impacts does not constitute substantial evidence that sleep disturbance impacts are less-than-significant.

RESPONSE TO COMMENT 1.19

The commenter states the Categorical Exemption failed to analyze the Proposed Project's impacts to sleep disturbance. Based on the proposed residential land uses, it is not expected that sleep disturbance would occur. Because the Proposed Project would consist of multi-family residential and neighborhood-serving commercial land uses that are anticipated to operate during the daytime hours, there is no evidence to suggest that the Proposed Project would result in excessively loud operational noise levels. As further stated in Response to Comment 1.15 above and Response to Comment 1.21, below, the Proposed Project would not result in a significant impact from the operation of mechanical HVAC equipment and outdoor open space, respectively.

COMMENT 1.20

Courts have held that compliance with noise regulations alone is not substantial evidence of a less-than-significant impact.[125] In Oro Fino Gold Mining Corp. v. County of El Dorado ("Oro Fino"),[126] a mining company applied for a special use permit for drilling holes to explore for minerals.[127] The mining company argued the proposed mitigated negative declaration prohibited

[125] *King & Gardiner Farms, LLC v. Cnty. of Kern (2020) 45 Cal.App.5th 814, 865.*
[126] *(1990) 225 Cal.App.3d 872.*
[127] *Id. at pg. 876; see also Keep our Mountains Quiet v. County of Santa Clara (2015) 236 Cal.App.4th 714; Citizens for Responsible & Open Government v. City of Grand Terrace (2008) 160 Cal.App.4th 1323, 1338; Gentry v. City of Murrieta (1995) 36 Cal.App.4th 1359, 1416 (project's effects can be significant*

noise levels above the applicable county general plan noise standard maximum of 50 dBA and, therefore, there could be no significant noise impact. The court rejected this argument: "we note that conformity with a general plan does not insulate a project from EIR review where it can be fairly argued that the project will generate significant environmental effects."[128] Thus, the court concluded an EIR was required.

In Citizens for Responsible & Open Government v. City of Grand Terrace ("Grand Terrace"),[129] the city approved a 120-unit senior housing facility based on a mitigated negative declaration.[130] The noise element of the city's general plan stated exterior noise levels in residential areas should be limited to 65 dB CNEL.[131] The initial study concluded the facility's air conditioner units would cause noise impacts, but with mitigating measures the project would operate within the general plan's noise standard. But the court cited Oro Fino for the principle that "'conformity with a general plan does not insulate a project from EIR review where it can be fairly argued that the project will generate significant environmental effects.'"[132] A citizen's group provided substantial evidence supporting such a fair argument. This evidence included testimony from an individual in the HVAC industry that the type of air conditioning units proposed by the project "sound like airplanes."[133] And at a city council public hearing, community and city council members expressed concern that the air conditioners would be noisy.[134] The court considered the testimony about the noise generated by the proposed air conditioners, took into account the mitigation measures, and concluded "there is substantial evidence that it can be fairly argued that the Project may have a significant environmental noise impact."[135]

RESPONSE TO COMMENT 1.20

The Appellant's comparison of the Proposed Project to the *Oro Fino Gold Mining Corp. v. County of El Dorado* case is misplaced. The Proposed Project's noise impacts were quantified and analyzed in comparison to the noise thresholds. In *Oro Fino Gold Mining Corp. v. County of El Dorado* the lead agency deferred to the county's general plan noise standard without conducting any analysis. As such, this case bears no relationship to the Proposed Project as the Proposed Project's construction and operational noise impacts were addressed in the Justification to Support a Categorical Exemption.

As previously stated in Response to Comment 1.15 above, the design and placement of HVAC units and exhaust fans would be required to comply with the regulations under Section 112.02 of

even if "they are not greater than those deemed acceptable in a general plan"); Environmental Planning & Information Council v. County of El Dorado (1982) 131 Cal.App.3d 350, 354, ("CEQA nowhere calls for evaluation of the impacts of a proposed project on an existing general plan").

128 *Id. at pp. 881–882.*
129 *(2008) 160 Cal.App.4th 1323*
130 *Id. at 1327.*
131 *Grand Terrace, 160 Cal.App.4th at 1338.*
132 *Grand Terrace, supra, at pg. 1338.*
133 *Id. at 1338-1339.*
134 *Id. at 1338.*
135 *Id. at p. 1341.*

the LAMC, which prohibits noise from air conditioning, refrigeration, heating, pumping, and filtering equipment from exceeding the ambient noise level on the premises of other occupied properties by more than five decibels. It is anticipated that the Proposed Project will be subject to conditions of approval to ensure that the project operator complies with the prescriptive and performance-based requirements of the LAMC.

The commenter cites the *Citizens for Responsible & Open Government v. City of Grand Terrace* case as an example that HVAC equipment can create a significant noise impact. In this case, the appellant provided substantial evidence of HVAC equipment supporting a fair argument. Here, the commenter fails to provide any evidence supporting their claims that the Proposed Project would result in significant noise impacts from the operation of the rooftop deck, HVAC mechanical equipment, or roadway noise. The commenter's claims are all hypothetical speculation and lack any credible evidence. The Proposed Project would consist of a mixed-use residential and commercial project that is typical for buildings in the urban Los Angeles area. There is no evidence to suggest that the Proposed Project's mechanical HVAC equipment would result in excessively loud noise, which are usually associated with large industrial projects. Additionally, because this roof level is well above the surrounding sensitive receptor locations, there is acoustic shielding provided by the edge of the roof, which would attenuate noise from the HVAC equipment. Thus, the on-site equipment would be designed and located such that it would be appropriately shielded and fitted with noise muffling devices to reduce operational noise levels.

COMMENT 1.21

Here, the significance threshold for the Project's mechanical equipment noise impacts is contained in LAMC Section 112.02, which prohibits noise from mechanical equipment, including HVACs, from exceeding 5 decibels at receptors. The Categorical Exemption states that operational traffic noise would be less-than-significant if it would be less than 3 dBA.[136] The City states that adherence to LAMC Section 116.01 is the only applicable criterion for assessing noise impacts from the Project's open space. LAMC Section 116.01 provides: "it shall be unlawful for any person to willfully make or continue, or cause to be made or continued, any loud, unnecessary, and unusual noise which disturbs the peace or quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area."

These significance thresholds do not address the Project's potential for sleep disturbance at nearby residential receptors. The World Health Organization ("WHO") identifies a guidance of 45 dBA Leq (outdoors) to avoid sleep disturbance from a continuous source, and a limit of 60 dBA Lmax for intermittent sources.[137] The significance thresholds summarized above do not necessarily consider noise impacts at WHO levels significant, nor otherwise address potential sleep disturbance impacts. Further, the City's significance thresholds do not identify the unique impacts of speakers on sleep: low frequency bass notes can cause significant impacts even when

[136] *Categorical Exemption, pg. 64.*
[137] *Meighan Comments, pg. 4.*

the A-weighted level complies with applicable code. This occurs because low frequency bass notes pass through exterior walls and closed windows with little reduction.[138] Accordingly, other agencies, such as the City of San Francisco, limit low frequency noise increase from this type of use on a C-weighted basis.[139]

The Project has potentially significant sleep disturbance impacts on nearby residential receptors. The Project includes 12,692 sf of open space, a majority of which would be concentrated on the 4,237 sf roof deck.[140] Noise would potentially be generated by the up to 60 people that are accommodated on the roof deck. Noise would also potentially be generated by speakers on the roof deck or other open spaces. The Categorical Exemption states that while speakers on the roof deck are not anticipated, there is no condition precluding their use. Thus, there is the potential for low-frequency bass notes to disturb sleep. Accordingly, the Categorical Exemption acknowledges that occupancy of the Project's open spaces may increase ambient noise near the Project site.[141] Mr. Meighan also states that excessive noise from these rooftop activities occurring between 10 PM and 7 AM could cause sleep disturbance and would be potentially significant.[142]

RESPONSE TO COMMENT 1.21

The commenter asserts that the Proposed Project's rooftop deck/terraces could result in a significant noise impact with respect to sleep disturbance. However, the commenter's assertion is strictly speculative and unsubstantiated. The Proposed Project would consist of a mixed-use building with multi-family residential and neighborhood-serving commercial. The commenter assumes the Proposed Project would host social events and parties on the rooftop area, which is a speculative claim. The estimated future operational conditions are supported by reliable projections based on the Proposed Project's design and capacity rather than hypothetical conditions, such as social events and parties. It is anticipated there would not be any amplified music or speakers on the rooftop deck; however, occupancy and use of these areas may increase ambient noise levels in the Project Site vicinity.

Utilizing the reference noise levels of 65 dBA and 62 dBA (L_{eq} at a distance of 3.3 feet) for a male and a female speaking in a raised voice, respectively[143] and the formulas for adding sound pressure levels,[144] noise levels from this rooftop deck were quantified and shown in the worksheets in Attachment A to these responses. Based on the size of the outdoor open space area (4,327 square feet) and the available seating, this area could accommodate up to 60 people for casual outdoor gatherings. As a conservative estimate, assuming up to 60 individuals occupy

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138 *Id.*
139 *Meighan Comments, pg. 4.*
140 *Categorical Exemption, pg. 63.*
141 *Id.*
142 *Meighan Comments, pg. 4.*
143 *Cyril M. Harris, Handbook of Acoustical Measurements and Noise Control, Third Edition, 1991. See Noise calculation worksheets in Appendix G.*
144 *Adding Sound Pressure Level formulas provided by Caltrans Technical Noise Supplement (September 2013). See Attachment A to these Responses.*

the 17th level rooftop space at one time, and up to 50 percent of the people (half of which would be male and the other half female) would be talking at the same time, the noise levels from rooftop activities would be approximately 78.5 dBA L_{eq} within the 17th level roof deck. When factoring in the distance to nearby sensitive receptors, the noise levels would be 54.1 dBA L_{eq} at a reference distance of 50 feet. The 17th level roof deck would be surrounded with glass railing and planters that would help to further attenuate noise in the surrounding area. Furthermore, this noise level estimate is conservative because this roof level is well above the surrounding sensitive receptor locations, and there is acoustic shielding provided by the edge of the roof. Based on the ambient noise level (L_{eq} 61.3 dB) recorded at the nearest sensitive receptor, Higgins Building Apartments (Attachment 3, Figure 1), the Proposed Project would not increase ambient noise levels by more than 5 dBA from the open space operating at full capacity. Additionally, due to the nature of the use, it is unlikely that the Proposed Project would operate at such full capacity often or for a prolonged period of time.

Moreover, as stated on page 63 of the Categorical Exemption, the Proposed Project would be subject to LAMC Section 116.01, which prohibits all future users of the Proposed Project to willfully make or continue, or cause to be made or continued, any loud, unnecessary, and unusual noise which disturbs the peace or quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area. It is not expected that the intended use (i.e., only up to a few people having a conversation, relaxing, or enjoying the outdoors) would violate the prohibition of “loud, unnecessary and unusual noise” criteria. Therefore, the commenter does not provide any evidence to support their claim that the rooftop area would result in a significant noise impact. As such, noise from the outdoor common open space would be less than significant.

COMMENT 1.22

In sum, the City’s operational noise thresholds do not account for the Project’s potential sleep disturbance impacts. Thus, the City lacks the substantial evidence necessary to rely on a categorical exemption.

RESPONSE TO COMMENT 1.22

The commenter restates the Categorical Exemption failed to analyze the Proposed Project’s impacts to sleep disturbance. Because the Proposed Project would consist of multi-family residential and neighborhood-serving commercial land uses that are anticipated to operate during the daytime hours, there is no evidence to suggest that the Proposed Project would result in excessively loud operational noise levels that would cause sleep disturbance impacts. As further stated in Response to Comment 1.15 and Response to Comment 1.21, above, the Proposed Project would not result in a significant impact from the operation of mechanical HVAC equipment and outdoor open space, respectively. Therefore, based on the proposed land uses, it is not anticipated impacts to sleep disturbance would occur.

COMMENT 1.23

III. The Director's Approval of the Project's Site Plan Review Was Contrary to Law and Unsupported by Substantial Evidence

The Director erroneously approved a Site Plan Review for the Project pursuant to LAMC Section 16.05 without substantial evidence to support the required findings. This approval requires making certain environmental findings. LAMC Sec. 16.05(A) provides that:

> The purposes of site plan review are to promote orderly development, evaluate and mitigate significant environmental impacts, and promote public safety and the general welfare by ensuring that development projects are properly related to their sites, surrounding properties, traffic circulation, sewers, other infrastructure and environmental setting; and to control or mitigate the development of projects which are likely to have a significant adverse effect on the environment as identified in the City's environmental review process, or on surrounding properties by reason of inadequate site planning or improvements. [emphasis added]

LAMC Sec. 16.05(E) further provides that:

a. In granting site plan approval, the Director may condition and/or modify the project, or select an alternative project, as he or she deems necessary to implement the general or specific plan and to mitigate significant adverse effects of the development project on the environment and surrounding areas.

b. The Director shall not approve or conditionally approve a site plan review for a development project unless an appropriate environmental review clearance has been prepared in accordance with the requirements of CEQA. [emphasis added]

Here, the purposes of site plan review set forth by LAMC Sec. 16.05(A) have not been fulfilled, as the Project's environmental document failed to adequately evaluate and mitigate significant environmental impacts. Further, the appropriate environmental review clearance has not been prepared in accordance with the requirements of CEQA, in violation of LAMC Sec. 16.05(E). As explained above, the appropriate environmental clearance is an EIR, not a categorical exemption. Further, the analysis conducted in the categorical exemption contained flaws in violation of CEQA, as shown in these comments. The findings adopted by the Director in support of the Project's Site Plan Review approval were not supported by substantial evidence, and were therefore contrary to law.[145] The Commission must vacate the Director's approval of the Project's site plan review.

[145] *Code Civ. Proc § 1094.5(b); Topanga Assn. for a Scenic Community v. County of Los Angeles (1974) 11 Cal.3d 506, 515.*

RESPONSE TO COMMENT 1.23

The commenter states the site plan review was erroneously approved since the Proposed Project would result in significant environmental impacts and fails to quality for a categorical exemption. As discussed above in the previous responses, the commenter and preparers of this letter failed to provide any substantial evidence to their claims and assertions that the Proposed Project would result in any significant impacts

COMMENT 1.24

IV. The Director's Approval of the Density Bonus Was Contrary to Law and Unsupported by Substantial Evidence

The Director erroneously approved a Density Bonus for the Project pursuant to LAMC Section 12.22 A.25 without substantial evidence to support the required findings. The LAMC provides that the Director is prohibited from approving a Density Bonus if there is substantial evidence demonstrating that:[146]

(i) The Incentive is not required in order to provide for affordable housing costs as defined in California Health and Safety Code Section 50052.5, or Section 50053 for rents for the affordable units; or

(ii) The Incentive will have a Specific Adverse Impact upon public health and safety or the physical environment or on any real property that is listed in the California Register of Historical Resources and for which there is no feasible method to satisfactorily mitigate or avoid the Specific Adverse Impact without rendering the development unaffordable to Very Low, Low and Moderate Income households. Inconsistency with the zoning ordinance or general plan land use designation shall not constitute a specific, adverse impact upon the public health or safety.

The Findings state that there is no evidence that the density bonus incentive would have a specific adverse impact. This conclusion is unsupported because the City failed to quantify the health risk from the Project's air emissions on nearby sensitive receptors, and failed to accurately analyze noise impacts. The Director's conclusion is also erroneous, as the analysis presented in this letter shows that, when calculated, the Project will cause potentially significant and unmitigated health risk and noise impacts. These impacts are heightened due to the Project's density bonus: the requested increase in FAR allows the Applicant to expand the building envelope so that additional units can be constructed.[147] The FAR increase allows the Project to construct an additional 26,856 sf.[148] The increased size of the Project results in a longer construction period, which extends the duration of the Project's construction noise and emissions. Since this letter demonstrates that

[146] *Section 12.22 A.25(g)(2)(i)(c).*
[147] *City of Los Angeles Planning Department, Director's Letter of Determination (September 21, 2022), pg. 11.*
[148] *Id.*

these emissions are potentially significant, this Finding was contrary to law and lacks the support of substantial evidence.

RESPONSE TO COMMENT 1.24

With respect to the density bonus, the Proposed Project would reserve 14 units for Very Low Income residents (11 percent of the total units excluding density bonus units), which qualifies the Proposed Project for a 35 percent density bonus by right. The Proposed Project would be consistent with the use, type, and density of projects that are permitted by right and otherwise anticipated by the zoning code and General Plan. Therefore, the Proposed Project would be entitled to the density bonus.

Furthermore, a proposed project that results in significant and unavoidable impacts does not disqualify a development project from providing affordable housing units or requesting a density bonus. Nevertheless, as discussed above in the previous responses, the commenter and preparers of this letter failed to provide any substantial evidence to their claims and assertions that the Proposed Project would result in any significant environmental impacts.

COMMENT 1.25

V. CONCLUSION

CREED LA respectfully requests that the City set a hearing on this appeal, and that the Area Planning Commission uphold this appeal, vacate the Director's approval of the Project, and direct staff to prepare an EIR for the Project.

RESPONSE TO COMMENT 1.25

As discussed in Response to Comments 1.1 through 1.23, above, and in the responses to Comment Letter No. 1A and 1B, below, the commenter does not provide credible evidence to support their assertions that the Proposed Project would result in significant impacts, or that the Proposed Project requires the preparation of an EIR.

APPEAL LETTER NO. 1A

Clark & Associates Environmental Consulting, Inc.
12405 Venice Boulevard, Suite 331
Los Angeles, CA 90066
James J. J. Clark, Ph.D.
October 4, 2022

COMMENT 1A.1

Dear Mr. Marshall,

At the request of Adams Broadwell Joseph & Cardozo (ABJC), Clark and Associates (Clark) has reviewed materials related to the 2022 City of Los Angeles (the City) Categorical Exemption of the above referenced project.

Clark's review of the materials in no way constitutes a validation of the conclusions or materials contained within the plan. If we do not comment on a specific item this does not constitute acceptance of the item.

The Project Site occupies approximately 12,784 square feet of lot area (0.29 acres) and is currently developed with a one-story commercial building. The Applicant proposes the demolition of the existing structure for the construction of a 17- story mixed-use building with 120 multi-family dwelling units, 1,032 square feet of retail, and a 1,981 square-foot restaurant. The proposed development would reach a maximum height of 223 feet and 4 inches above grade. The unit mix would include 16 studio units, 89 one-bedroom units, 13 two-bedroom units, and two three-bedroom units. Of the 120 dwelling units, 11 percent of the units (14 units) would be reserved at the "very low income" level. The building would include approximately 12,692 square feet of open space, including an outdoor rooftop deck, common recreation areas, and private balconies. The Proposed Project would include a total of 103,550 square feet of floor area, resulting in an approximate 8.1:1 FAR. The Proposed Project would provide 69 vehicle parking spaces on-site, pursuant to AB 744, in a three-level subterranean parking garage and 102 bicycle parking spaces. There are two non-protective street trees in the public right-of-way which would be removed. The street tree removal is subject to a 2:1 replacement ratio to the satisfaction of the Board of Public Works. There are no existing trees on the Project Site. The Project also proposes to plant 30 24-inch box trees on-site, pursuant to the Los Angeles Municipal Code (LAMC).

Source: Google Earth, Aerial View, 2020.

Figure 3
Aerial Photograph of the Project Site and Surrounding Land Uses

Figure 1: 216 South Spring Street Project Location

According to the Notice of Exemption (NOE), the Proposed Project meets all of the criteria necessary to qualify for a CEQA Exemption as a Class 32 (Infill Development Project) pursuant to CEQA Guideline Sections 15332. A Class 32 Exemption would not be applicable if it can be demonstrated that the project will have significant air quality impacts.

The failure of the City to analyze the health risks from stationary emissions associated with the project require the City to withdraw the NOE and have the Proponent prepare an environmental impact report (EIR) [sic]

RESPONSE TO COMMENT 1A.1

This comment introduces the commenter and presents an understanding of the Proposed Project. The commenter also asserts that a Class 32 Categorical Exemption does not apply for the Proposed Project, because the Proposed Project would result in health risk impacts, which are further detailed below.

COMMENT 1A.2

Specific Comments:

1. The City's Air Quality Analysis Fails To Include A Quantitative Health Risk Analysis Of The Impacts Of Toxic Air Contaminants From The Construction Phase And Operational Phase Of The Project For The Nearest Sensitive Receptor(s)

The City has failed to conduct a numerical health risk analysis (HRA) for Project. The NOE states that, for the purposes of assessing pollution concentrations upon sensitive receptors, the SCAQMD has developed LSTs that are based on the number of pounds of emissions per day that can be generated by a project that would cause or contribute to adverse localized air quality impacts.[149] The nearest sensitive receptors that could potentially be subject to localized air quality impacts associated with construction of the Proposed Project include the residential buildings to the west of the Project Site. For the Criteria Pollutants assessed under CEQA, this is correct. For toxic air contaminants (TACs), there are no LSTs, nor levels of significance based on the pounds per day. Instead, the determination of a significance threshold is based on a quantitative risk analysis that requires the City to perform a multistep, quantitative health risk analysis.

TACs, including diesel particulate matter (DPM)[150], contribute to a host of respiratory impacts and may lead to the development of various cancers. Failing to quantify those impacts places the community at risk for unwanted adverse health impacts. Even brief exposures to the TACs could lead to the development of adverse health impacts over the life of an individual.

Diesel exhaust contains nearly 40 toxic substances, including TACs and may pose a serious public health risk for residents in the vicinity of the facility. TACs are airborne substances that are capable of causing short-term (acute) and/or long-term (chronic or carcinogenic, i.e., cancer causing) adverse human health effects (i.e., injury or illness). TACs include both organic and inorganic chemical substances. The current California list of TACs includes approximately 200 compounds, including particulate emissions from diesel-fueled engines.

[149] *City of Los Angeles. 2022. NOE 216 South Spring Street. Pg 66*

[150] *Because DPM is a TAC, it is a different air pollutant than criteria particulate matter (PM) emissions such as PM10, PM2.5, and fugitive dust. DPM exposure causes acute health effects that are different from the effects of exposure to PM alone.*

Diesel exhaust has been linked to a range of serious health problems including an increase in respiratory disease, lung damage, cancer, and premature death.[151, 152, 153] Fine DPM is deposited deep in the lungs in the smallest airways and can result in increased respiratory symptoms and disease; decreased lung function, particularly in children and individuals with asthma; alterations in lung tissue and respiratory tract defense mechanisms; and premature death.[154] Exposure to DPM increases the risk of lung cancer. It also causes non-cancer effects including chronic bronchitis, inflammation of lung tissue, thickening of the alveolar walls, immunological allergic reactions, and airway constriction.[155] DPM is a TAC that is recognized by state and federal agencies as causing severe health risk because it contains toxic materials, unlike PM2.5 and PM10.[156]

The inherent toxicity of the TACs requires the City to first quantify the concentration released into the environment at each of the sensitive receptor locations through air dispersion modeling, calculate the dose of each TAC at that location, and quantify the cancer risk and hazard index for each of the chemicals of concern. Following that analysis, then the City can make a determination of the relative significance of the emissions.

According to the NOE, the nearest sensitive receptors to the Project site include a mixed-use residential building located at 108 West 2nd Street. Along with 3 other mixed use sites, they represent the closest sensitive receptors to the Project.

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[151] *California Air Resources Board, Initial Statement of Reasons for Rulemaking, Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant, Staff Report, June 1998; see also California Air Resources Board, Overview: Diesel Exhaust & Health, https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-andhealth#:~:text=Diesel%20Particulate%20Matter%20and%20Health&text=In%201998%2C%20CARB%20identified%20DPM,and%20other%20adverse%20health%20effects.*

[152] *U.S. EPA, Health Assessment Document for Diesel Engine Exhaust, Report EPA/600/8-90/057F, May 2002.*

[153] *Environmental Defense Fund, Cleaner Diesel Handbook, Bring Cleaner Fuel and Diesel Retrofits into Your Neighborhood, April 2005; http://www.edf.org/documents/4941_cleanerdieselhandbook.pdf, accessed July 5, 2020.*

[154] *California Air Resources Board, Initial Statement of Reasons for Rulemaking, Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant, Staff Report, June 1998.*

[155] *Findings of the Scientific Review Panel on The Report on Diesel Exhaust as adopted at the Panel's April 22, 1998 Meeting.*

[156] *Health & Safety Code § 39655(a) (defining "toxic air contaminant" as air pollutants "which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health. A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the federal act (42 U.S.C. Sec. 7412 (b)) is a toxic air contaminant.")*

Sensitive receptors identified within 500 feet of the Project Site include:

1) Mixed-use residential building immediately northeast of the Project Site, located at 108 W. 2nd Street;
2) Multi-family residences further east of the Project Site, located at 222 S. Main Street;
3) Multi-family residences further southwest of the Project Site, located at 242 S. Broadway and 257 S. Spring Street; and
4) Future mixed-use residential building west of the Project Site, located at 222 W. 2nd Street (currently under construction).

Figure 2: page 60 of NOE Indicating Closest Sensitive Receptors

These receptors would be exposed to TACs released during Project construction and operation, including DPM. No effort is made in the NOE to quantify the potential health impacts from DPM generated by construction activities or operational activities from the Project on these sensitive receptors. The City's failure to perform such an analysis is clearly a major flaw in the NOE and may be placing the residents of the adjacent structures at risk from the construction and operational phases of the Project.

RESPONSE TO COMMENT 1A.2

The commenter states the Categorical Exemption failed to provide a health risk assessment to analyze the Proposed Project's impacts from TACs and DPM emissions to nearby sensitive receptors. However, as detailed in Response in to Comment 1.5 above, OEHHA's guidance manuals for assessing health risks and hot spots are intended to address health risks from airborne contaminants released by stationary sources, which include metal finishing/manufacturing, chrome plating facilities, various product manufacturing (e.g., food, chemical, material, etc.), stationary diesel engines (e.g., emergency backup generators), and refineries. The guidance manuals are not meant to be used for a health risk evaluation of typical non-stationary source land use projects, such as residential and commercial development projects.

With respect to the assessment of TACs and DPM emissions, see Response to Comment 1.6 above. As mentioned, CARB has listed over 200 toxic substances, including those identified by the U.S. EPA, which are identified on the California Air Toxics Program's TAC List. TACs are also not classified as "criteria" air pollutants. Additionally, there is no threshold determination for a majority of these pollutants.[157] Therefore, the Categorical Exemption is not required to analyze impacts from the 200+ pollutants on the TAC list. The greatest potential for TAC emissions during construction is related to DPM emissions associated with heavy-duty equipment. DPM emissions are accounted for within the PM_{10} and $PM_{2.5}$ emissions thresholds, since DPM is a subset of both

[157] *California Air Resources Board, CARB Identified Toxic Air Contaminants, website: https://ww2.arb.ca.gov/resources/documents/carb-identified-toxic-air-contaminants, accessed November 2022.*

PM_{10} and $PM_{2.5}$. As shown in Table 11 and Table 12 of the Categorical Exemption, the Proposed Project would not exceed the regional and localized thresholds for PM_{10} and $PM_{2.5}$. Therefore, the Proposed Project's PM_{10} and $PM_{2.5}$ emissions, including DPM, are substantially below the thresholds of significance, and Proposed Project would not result in significant health risk impacts from construction emissions.

COMMENT 1A.3

2. Using The Data From The CalEEMOD Analysis Of The Construction Phase Of The Project, An Air Dispersion Model Of Potential Releases of DPM Show The Annual Average Concentration Of DPM At The Nearest Receptor Would Exceed 2 ug/m3 During The Construction Phase

Using the CalEEMOD analysis supplied in Attachment 4 of the NOE it is possible to calculate potential emissions of DPM at the nearest receptor to the Project site during the construction phase of the Project.

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.8177	23.9920	19.8870	0.0534	3.3988	0.8105	4.2093	1.4295	0.7900	2.1695	0.0000	5,538.879 8	5,538.879 8	0.7348	0.5088	5,708.875 3
2023	1.6744	13.8198	19.4852	0.0389	1.2219	0.6479	1.8698	0.3267	0.6076	0.9343	0.0000	3,811.841 6	3,811.841 6	0.6523	0.0735	3,850.039 2
2024	0.5960	12.9803	19.2150	0.0386	1.2219	0.5773	1.7991	0.3267	0.5412	0.8679	0.0000	3,778.482 9	3,778.482 9	0.6480	0.0713	3,815.615 8
Maximum	**0.5960**	**23.9920**	**19.8870**	**0.0534**	**3.3988**	**0.8105**	**4.2093**	**1.4295**	**0.7900**	**2.1695**	**0.0000**	**5,538.879 8**	**5,538.879 8**	**0.7348**	**0.5088**	**5,708.875 3**

Figure 3: CalEEMOD Analysis Of Construction Phase

Assuming that the emissions are limited to just the on-site emissions of PM10 exhaust, the total amount of emissions over the site is calculated to be approximately 305 lbs of DPM over the construction period.

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/1/2022	8/1/2022	5	22	
2	Grading	Grading	8/2/2022	11/1/2022	5	66	
3	Building Construction	Building Construction	11/2/2022	3/28/2024	5	346	
4	Architectural Coating	Architectural Coating	3/1/2024	7/2/2024	5	88	

Figure 4: Time Line Of Construction Phase

Using the only values for the on-site emissions, the emission rate for the site was calculated below.

Phase	Year	Emissions	Duration	Total Emissions For Phase	Emissions Per Day	Emission Rate Per Hour	Site Wide Annual Emission Rate
		lbs/day	days	lbs	lbs/day	lbs-hour	lbs-hr/ft2
Demolition	2022	0.3375	22	7.425	0.014224138	0.001778017	
Grading	2022	0.7463	66	49.2558	0.09435977	0.011794971	
Building Construction	2022	0.73	40	29.2	0.055938697	0.006992337	
	2023	0.6379	250	159.475	0.305507663	0.038188458	

Phase	Year	Emissions	Duration	Total Emissions For Phase	Emissions Per Day	Emission Rate Per Hour	Site Wide Annual Emission Rate
		lbs/day	days	lbs	lbs/day	lbs-hour	lbs-hr/ft2
	2024	0.5675	56	31.78	0.060881226	0.007610153	
Architectural Coating	2024	0.3227	88	28.3976	0.054401533	0.006800192	
Total			522	305.5334	0.585313027	0.073164128	6.97503E-06

Assuming that emissions will be limited to an eight-hour period during weekdays it is possible to calculate averaged emissions over the whole construction site. Using AERMOD, the US EPA's preferred air dispersion model, it is possible to calculate the concentrations of DPM from the construction area at the closest receptors located at 108 West 2nd Street. AERMOD is an acronym for the American Meteorological Society/Environmental Protection Agency Regulatory Model Improvement Committee's Dispersion Model. AERMOD contains the necessary algorithms to model air concentrations from a wide range of emission source types, including stack-based point sources, fugitive area sources, and volume sources.

Using the meteorological data from SCAQMD for the USC/Downton monitoring station (closest met station to the Project site), limiting the emissions to an 8-hour period on weekdays, the concentrations at the 108 West 2nd Street building were calculated and are summarized below.

X	Y	2012	2013	2014	2015	2016	Average
m	m	ug/m³	ug/m³	ug/m³	ug/m³	ug/m³	ug/m³
385055	3768512	2.485695	2.575368	2.161039	2.255038	2.439032	2.383234
385072.5	3768497	0.453255	0.4852313	0.3613367	0.4266863	0.4590648	0.437115
385090.8	3768481	0.139004	0.1558533	0.09672991	0.1260649	0.1403288	0.131596
385098.9	3768528	0.353684	0.3685095	0.3430974	0.3342747	0.3823079	0.356375

Using the OEHHA's HARP 2 Standalone Risk software, the cancer risk to the most sensitive population, infants less than 2 years old was calculated. The cumulative risk for exposure during the 2 years of construction is 814 in 1,000,000, much greater than the 10 in 1,000,000 threshold outlined by SCAQMD. For adults, the risk from exposure to DPM from the construction phase of the project is 17.5 in 1,000,0000. The results of the air model and the health risk analysis are attached as an appendix to this letter.

RESPONSE TO COMMENT 1A.3

The commenter utilizes the OEHHA HARP software to estimate the health risks of construction emissions. However, as mentioned above in Response in to Comment 1.5, OEHHA's guidance manuals for assessing health risks and hot spots are intended to address health risks from airborne contaminants released by stationary sources. The guidance manuals are not meant to be used for a health risk evaluation of typical non-stationary source land use projects, such as residential and commercial development projects.

The screening level assessment provided by the commenter fails to follow any established methodology or protocol for analyzing the concentrations of Diesel Particulate Matter (DPM) as a toxic air contaminant. For one, the commenter provides no justification or scientific evidence to correlate the emissions of PM_{10}, as a surrogate of DPM. Approximately 94 percent of all DPM particles are less than 2.5 microns in diameter and the remaining 6 percent are between 2.5 microns in diameter and 10 microns in diameter.[158] While this establishes that all DPM is entertained within PM_{10} and $PM_{2.5}$, it does not follow that 100 precent of PM_{10} is comprised of DPM. PM_{10} also includes dust, pollen and fragments of bacteria. The calculation estimates provided by the commenter are purportedly based on the Project's total PM_{10} emissions without any adjustment to factor for DPM as a percentage of PM_{10} emissions. Thus, the analysis is not reprehensive of DPM exposure. Additionally, this comment states that the results of the air model and the health risk analysis are attached as an appendix to this letter. However, no supporting appendix or calculation worksheets were appended to the commenter's letter. Therefore, the

[158] *Scientific Review Panel Findings for the Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant Report, May 27, 1998, website: https://www.arb.ca.gov/srp/findings/4-22-98.pdf, accessed November 2022.*

commenter lacks any credible evidence to support their claim that the Proposed Project would result in significant health risks from construction emissions.

COMMENT 1A.4

3. The Air Quality Analysis For The Project Fails To Accurately Assess The Impacts From The Emergency Generator That Will Be Installed Onsite.

In Attachment 4 to the NOE of Project, the air quality analysis assumes that the back up generator (BUG) on site will only be operated for 12 hours a year (testing and maintenance). According to SCAQMD Rules 1110.2, 1470, back-up generators (BUGs) are allowed to operate for up to 200 hours per year and maintenance cannot exceed more than 50 hours per year. The City must revise its air quality analysis to include the use of BUGs onsite in an EIR.

In addition to the testing emissions the air quality analysis must include the substantial increase in operational emissions from BUGs in the Air Basin due to unscheduled events, including but not limited to Public Safety Power Shutoff (PSPS) events and extreme heat events. Extreme heat events are defined as periods where in the temperatures throughout California exceed 100 degrees Fahrenheit.[159] From January, 2019 through December, 2019, Southern California Edison reported 158 of their circuits underwent a PSP event[160]. In Los Angeles County two circuits had 4 PSPS events during that period lasting an average of 35 to 38 hours. The total duration of the PSPS events in Los Angeles lasted between 141 hours to 154 hours in 2019. In 2021, the Governor of California declared that during extreme heat events the use of stationary generators shall be deemed an emergency use under California Code of Regulations (CCR), title 17, section 93115.4 sub. (a) (30) (A)(2). The number of Extreme Heat Events is likely to increase in California with the continuing change in climate the State is currently undergoing.

Power produced during PSPS or extreme heat events is expected to come from engines regulated by CARB and California's 35 air pollution control and air quality management districts (air districts).[161] Of particular concern are health effects related to emissions from diesel back-up engines.

DPM has been identified as a toxic air contaminant, composed of carbon particles and numerous organic compounds, including over forty known cancer-causing organic substances. The majority of DPM is small enough to be inhaled deep into the lungs and make people more susceptible to further injury.

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[159] *Governor of California. 2021. Proclamation of a state of emergency. June 17, 2021.*

[160] *SCAQMD. 2020. Proposed Amendement To Rules (PARS) 1110.2, 1470, and 1472. Dated December 10, 2020. http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1110.2/1110-2_1470_1472/par1110-2_1470_wgm_121020.pdf?sfvrsn=6.*

[161] *CARB. 2019. Use of Back-up Engines For Electricity Generation During Public Safety Power Shutoff Events. October 25, 2019.*

According to the California Public Utilities Commission (CPUC) de-energization report[162] in October 2019, there were almost 806 PSPS events (emphasis added) that impacted almost 973,000 customers (~7.5% of households in California) of which ~854,000 of them were residential customers. CARB's data also indicated that on average each of these customers had about 43 hours of power outage in October 2019.[163] Using the actual emission factors for each diesel BUG engines in the air district's stationary BUGs database, CARB staff calculated that the 1,810 additional stationary generators (like those proposed for the Project) running during a PSPS in October 2019 generated 126 tons of NOx, 8.3 tons or particulate matter, and 8.3 tons of DPM.

For every PSPS or Extreme Heat Event (EHE) triggered during the operational phase of the project, significant concentrations of DPM will be released that are not accounted for in the City's analysis. In 2021, two EHEs were declared. For the June 17, 2021 EHE, stationary generator owners were allowed to use their BUGs for 48 hours. For the July 9, 2021 EHE, the stationary generator owners were allowed to use their BUGs for 72 hours. These two events would have increased 10 fold the calculated DPM emissions from the Project if only the 12 hours of testing claimed in the Categorical Exemption were to be true. An EIR must be written for the Project that includes an analysis of the additional operation of the BUG that will occur at the project site that is not accounted for in the current air quality analysis.

RESPONSE TO COMMENT 1A.4

See Response to Comment 1.8 above, for a more detailed response regarding the emergency generator. The commenter claims the Categorical Exemption fails to analyze the health risk impacts associated with the operational use of the Proposed Project's emergency generator. However, electricity blackouts, public safety power shut-off events, and extreme heat events represent emergency situations and are difficult to predict. The estimated peak daily operational emissions represent realistic daily activities, and it would not be reasonable to assume an emergency event as the future Project condition. The estimated future operational conditions are supported by reliable projections based on the Proposed Project's design rather than hypothetical conditions.

As shown in Table 14, Proposed Project Estimated Daily Regional Operational Emissions, on page 69 of the Categorical Exemption, emergency generator emissions are calculated under "stationary sources." Emissions of DPM, specifically from the emergency generator, would not rise to the level of significance for PM_{10} and $PM_{2.5}$. Because the Proposed Project's emissions for PM_{10} and $PM_{2.5}$ are well below the thresholds of significance, temporarily operating a diesel-powered emergency generator during blackouts, public safety power shut-off events, and extreme

[162] *https://www.cpuc.ca.gov/deenergization/ as cited in CARB, 2020. Potential Emission Impact of Public Safety Power Shutoff (PSPS), Emission Impact: Additional Generator Usage associated With Power Outage..[sic]*

[163] *CARB, 2020. Potential Emission Impact of Public Safety Power Shutoff (PSPS), Emission Impact: Additional Generator Usage associated With Power Outage.*

heat events is anticipated not to significantly increase PM_{10} and $PM_{2.5}$ emissions that would result in a significant impact.

COMMENT 1A.5

4. Given The Proximity Of Sensitive Receptors To The Site And The Nature of The Toxic Air Contaminants Emitted, The Operational Emissions From The Back Up Generator Will Cause A Significant Health Risk To Residents Near The Project Site.

No attempt is made by the City to assess how the routine testing and maintenance of the diesel emergency generator would affect the identified sensitive receptors. Using the SCAQMD's Rule 1401 Risk Assessment Programs Risk Tool V1.103 software, it is possible to generate a site-specific screening level HRA for emissions from the back-up generator (BUG). Assuming the system is restricted to maintenance and testing for 12 hours per year or less, the model calculates emissions of DPM of approximately 1.07 lbs per year. This value is the same as the amount reported in the NOE for the operational analysis of the site.

Assuming the generator's emissions will be vented at the ground level, the vent to the generator would be approximately 14 feet above grade level. For the Risk Tool inputs, the stack height (exit point of the generator) was set to 14 feet above grade.

Based on the emission of 1.2 lbs per year of DPM, the SCAQMD Risk Tool calculates a risk of 17.3 in 1,000,000 for residents living within 25 meters of the Project Site. Commercial workers located within 25 meters of the site face a potential health risk of 5.99 in 1,000,000. The model was set to assume T-BACT controls were in place for the generator (control efficiency of 99%).

All of the results for this analysis are presented in Exhibit B to this letter. The City must address this significant error in their air quality analysis and prepare an EIR for the Project.

RESPONSE TO COMMENT 1A.5

Contrary to the commenter's claim, no calculations, references, or evidence to support the commenter's health risk estimate was included or attached to their comment letter. Therefore, the commenter provides no credible evidence to support their assertion that the Proposed Project would result in significant health risk impacts. Furthermore, as discussed above in Response to Comment 1A.4, blackouts, public safety power shut-off events, and extreme heat events represent emergency situations and are difficult to predict. The estimated future operational conditions are based on the Proposed Project's daily operation rather than hypothetical conditions. The estimated peak daily operational emissions shown in Table 14 of the Categorical Exemption represents realistic daily activities, and it would be unreasonable to assume an emergency event as the future Project condition. Therefore, it is not required to analyze the operation of an emergency generator during emergency situations.

COMMENT 1A.6

Conclusion

The facts identified and referenced in this comment letter lead me to reasonably conclude that the Project could result in significant unmitigated impacts if the Categorical Exemption is approved. The City must re-evaluate the significant impacts identified in this letter by requiring the preparation of a revised environmental impact report.

RESPONSE TO COMMENT 1A.6

As discussed in Response to Comments 1A.1 through 1A.5 above, the assertions and claims raised by Clark & Associates Environmental Consulting do not present a fair argument that the Proposed Project would result in a significant health risk impacts from air quality. The State CEQA Guidelines mandates that the lead agency's decision to prepare an EIR must be based on substantial evidence in the record. As the claims and assertions presented by the commenter provide no credible evidence and supported by speculative assertions, they do not present evidence that an EIR is warranted.

APPEAL LETTER NO. 1B

Wilson Ihrig Acoustics, Noise & Vibration
5900 Hollis Street, Suite T1
Emeryville, CA 94608
Jack Meighan
October 4, 2022

COMMENT 1B.1

Dear Mr. Marshall,

Per your request, I have reviewed the subject matter document for the 216 South Spring Project Categorical Exemption (CatEx) in Los Angeles, California. The proposed Project involves demolition of one existing commercial building and the construction, use and maintenance of a 17-story mixed-use building. The Noise Impact Analysis is contained in Section 4.0, subheading d of the CatEx, with supplemental calculations in Attachment 3.

The Project is surrounded by noise sensitive uses – residences within one block on the northeast, southwest, and east, as well as a church to the east, a (closed) movie theatre to the southeast, and offices to the north. The closest residence is the Higgins Building at 108 W 2nd St, roughly 20 feet across an alley at the closest point [sic]

RESPONSE TO COMMENT 1B.1

This introductory comment acknowledges that Wilson Ihrig Acoustics has reviewed the Categorical Exemption for the Proposed Project. This introductory comment identifies the sensitive receptors surrounding the Project Site to the northeast, southwest, and east. No further response is required.

COMMENT 1B.2

Baseline Noise Level characterizations are Incomplete

The noise analysis relies on short-term measurements of 15-minute duration. In order to conduct the CEQA analysis, the baseline must be established for evening, and possibly nighttime conditions. Social events in the roof deck terrace with pool and lounge spaces could occur during evening hours, and rooftop equipment could also operate during evening and nighttime conditions. Without this data, it is not possible to evaluate the significance of noise sources operating during non-daytime hours.

Furthermore, the noise analysis relies on these short-term measurements without any discussion of how typical these data were for daytime conditions or how they would apply to evening or nighttime conditions. Environmental noise can vary widely throughout the day (perhaps +/-10 dBA or more for areas with intermittent local traffic), and relying on measurements that represent only 2% of the daytime hours (7 AM to 7 PM) leaves quite a lot for interpretation [sic]

RESPONSE TO COMMENT 1B.2

The commenter claims the Categorical Exemption failed to provide accurate existing ambient noise levels as the existing conditions baseline by failing to obtain ambient nighttime noise. As discussed in Response to Comment 1.13, above, based on the LAMC Section 111.01, "ambient noise" is defined as:

> *"composite of noise from all sources near and far in a given environment, exclusive of occasional and transient intrusive noise sources and of the particular noise source or sources to be measured. Ambient noise shall be averaged over a period of at least 15 minutes at a location and time of day comparable to that during which the measurement is taken of the particular noise source being measured."*

Existing ambient daytime noise levels are provided in Attachment 3 of the Categorical Exemption. As detailed in the noise monitoring data sheets in Attachment 3, and as shown in Figure 1, Noise Monitoring and Sensitive Receptor Location Map, three 15-minute noise measurements were taken, adjacent to the surrounding multi-family residential sensitive receptors, during the daytime on a weekday, when all construction activities and a majority of operation would occur. No construction activity would occur prior to 7 a.m. or after 6 p.m. so there is no reason to conduct ambient noise measurements for the nighttime hours.

With respect to Proposed Project operations, the Proposed Project would provide a mix of multi-family residential and commercial land uses in an area with similar residential and commercial land uses. Thus, it is reasonably anticipated that the Proposed Project would not result in excessively loud nighttime noise that is inconsistent with nearby land uses. Thus, the noise data obtained for monitoring existing ambient noise is more represented during the daytime and is consistent with the LAMC.

COMMENT 1B.3

Thresholds of Significance are Not Properly Developed

Per CEQA[164], the CE can only be applied to projects which have no significant effects:

[164] *https://opr.ca.gov/ceqa/*

14 CCR § 15300

§ 15300. Categorical Exemptions.

Section 21084 of the Public Resources Code requires these guidelines to include a list of classes of projects which have been determined not to have a significant effect on the environment and which shall, therefore, be exempt from the provisions of CEQA.
In response to that mandate, the Secretary for Resources has found that the following classes of projects listed in this article do not have a significant effect on the environment, and they are declared to be categorically exempt from the requirement for the preparation of environmental documents.

Note: Authority cited: Section 21083, Public Resources Code. Reference: Section 21084, Public Resources Code.

Figure 1 CEQA Section 15300

Thus, a project that has significant, or potentially significant, effects cannot qualify for a categorical exemption. The City of Los Angeles Planning website[165] confirms that infill development projects (Class 32) that have significant noise impacts do not qualify for exemption from CEQA. (See Figure 2 and 3)

WHAT IS A CATEGORICAL EXEMPTION?
Every discretionary action requires environmental review pursuant to CEQA. However, the CEQA Guidelines include a list of classes of projects which have been determined to not have a significant effect on the environment, also known as Categorical Exemptions. If your project falls within one of these classes, it is exempt from the provisions of CEQA and no environmental review is required unless one of the exceptions in CEQA Guideline Section 15300.2 applies (discussed below).

WHAT IS THE CLASS 32 CATEGORICAL EXEMPTION?
The Class 32 "Infill" Categorical Exemption (CEQA Guideline Section 15332), hereafter referred to as the Class 32 Exemption, exempts infill development within urbanized areas if it meets certain criteria. The class consists of environmentally benign infill projects that are consistent with the General Plan and Zoning requirements. This class is not intended for projects that would result in any significant traffic, noise, air quality, or water quality impacts. This exemption is not limited to any use type and may apply to residential, commercial, industrial, public facility, and/or mixed-use projects.

Figure 2 City of LA Planning Document Regarding Class 32 Exemptions[166]

RESPONSE TO COMMENT 1B.3

The commenter states their objection against the preparation of a Class 32 Categorical Exemption prepared for the Proposed Project and claims the Proposed Project would have a significant noise impact. Specific issues related to noise are further discussed below.

COMMENT 1B.4

Incomplete CNELs

Based on a recent CEQA document published by the City of Los Angeles[167], these standard Los Angeles CEQA thresholds were omitted from the CE document:

[165] *https://planning.lacity.org/development-services/environmental-review#*
[166] *https://planning.lacity.org/odocument/ad70d15e-11b8-49ef-aba3-b168f670a576/Class%2032%20Categorical%20Exemption.pdf*
[167] *In March 2022, City of Los Angeles Department of City Planning issued an Initial Study/Mitigated Negative Declaration (ISMND) for the Melrose and Seward project citing tiered noise increase*

Significance Criteria

Noise impacts shall be considered significant if any of the following occur as a direct result of the Project.

Off-Site Operational Traffic Noise

- When the noise levels at existing and future noise-sensitive land uses (e.g., residential, etc.):

- are less than 60 dBA CNEL and the Project creates a readily perceptible 5 dBA CNEL or greater Project-related noise level increase; or
- range from 60 to 65 dBA CNEL and the Project creates a barely perceptible 3 dBA CNEL or greater Project-related noise level increase; or
- already exceed 65 dBA CNEL, and the Project creates a community noise level impact of greater than 1.5 dBA CNEL (FICON, 1992).

In order to conduct the CEQA analysis, the baseline L_{dn} or CNEL must be established, and Table 8 (page 58) must provide the L_{dn} or CNEL.

RESPONSE TO COMMENT 1B.4

In 2006, the City published the L.A. CEQA Thresholds Guide (Thresholds Guide) as a guidance document for preparing CEQA analyses for projects within the City. The Thresholds Guide includes two sets of criteria to evaluate project impacts: screening criteria, which provide direction in determining the appropriate environmental document required for a project; and significance thresholds, which assist in determining whether a project's impacts generally would be significant under normal circumstances and would therefore require mitigation. Although intended as a voluntary tool, the Thresholds Guide offers a consistent set of evaluation criteria applicable to most discretionary projects in the City, and the Los Angeles Department of City Planning (DCP) has typically used both the screening criteria and significance thresholds as a basis for project analyses in its CEQA documents. However, the Thresholds Guide clearly indicates the Lead Agency – in this case, the DCP – retains the authority to determine significance thresholds on a case-by-case basis, dependent upon unique environments, evolving regulatory requirements, and the nature of each project. The Thresholds Guide also states it is not intended as substitute for the use of independent judgment to determine significance or the evaluation of the evidence in the record. Moreover, if states "because evaluation practices continue to evolve due to changing regulations, scientific methods, and court decisions, the project evaluator and lead City

thresholds for off-site operational traffic noise, and a 3 dB increase limit in the CNEL for stationary noise. https://planning.lacity.org/odocument/662769bf-8702-4acd-9c2b-d96b9845e464/ENV-2021-2909-MND.pdf

agency should always use the best information and evaluation methods available, including those from sources other than the Thresholds Guide. As supported by the analysis in the Categorical Exemption, the Proposed Project is exempt from CEQA and there is no obligation for the City to apply the thresholds or analysis recommended by the commenter.

COMMENT 1B.5

Sleep Disturbance Threshold is Missing

Any nighttime activities should also be evaluated for potential sleep disturbance which could be caused by social events at the rooftop terrace areas. Sleep disturbance being noises which may not cause a person to become fully awake, but instead change a person's sleep from one deeper level of sleep to a less restful level of sleep. Although the health effects of noise are not taken as seriously in the United States as they are in other countries, they are real and, in many parts of the country, pervasive. Noise can disturb sleep by making it more difficult to fall asleep, by waking someone after they are asleep, or by altering their sleep stage, e.g., reducing the amount of rapid eye movement (REM) sleep. Noise exposure for people who are sleeping has also been linked to increased blood pressure, increased heart rate, increase in body movements, and other physiological effects. Not surprisingly, people whose sleep is disturbed by noise often experience secondary effects such as increased fatigue, depressed mood, and decreased work performance.

Thus, excessive noise from rooftop activities occurring between 10 PM and 7 AM could cause sleep disturbance and would be potentially significant. The World Health Organization[168] identifies a guidance of 45 dBA Leq (outdoors) to avoid sleep disturbance from a continuous source, and a limit of 60 dBA Lmax for intermittent sources[169]. However, it has been our experience that low frequency bass notes, commonly found in music played at lounges, can problematic even when the A-weighted level complies with applicable code. This is partly because the low frequencies pass through the exterior walls and closed windows with little reduction. The City of San Francisco[170] limits low frequency noise increase from this type of use to 8 dB on a C-weighted basis. To illustrate this issue, Figure 1 shows noise measurement taken when music was playing at a hotel rooftop/poolside lounge. The nearby plaza was at ground level about 150 to 250 ft from the nearest subwoofers. Even several blocks away the low frequency pulse of the music was 6 decibels higher than the non-music ambient.

[168] *https://www.who.int/docstore/peh/noise/Comnoise-1.pdf*

[169] *These outdoor levels assume that the residence reduces noise by 15 dBA with windows open, which is typical for conventional construction.*

[170] *https://codelibrary.amlegal.com/codes/san_francisco/latest/sf_police/0-0-0-6511*

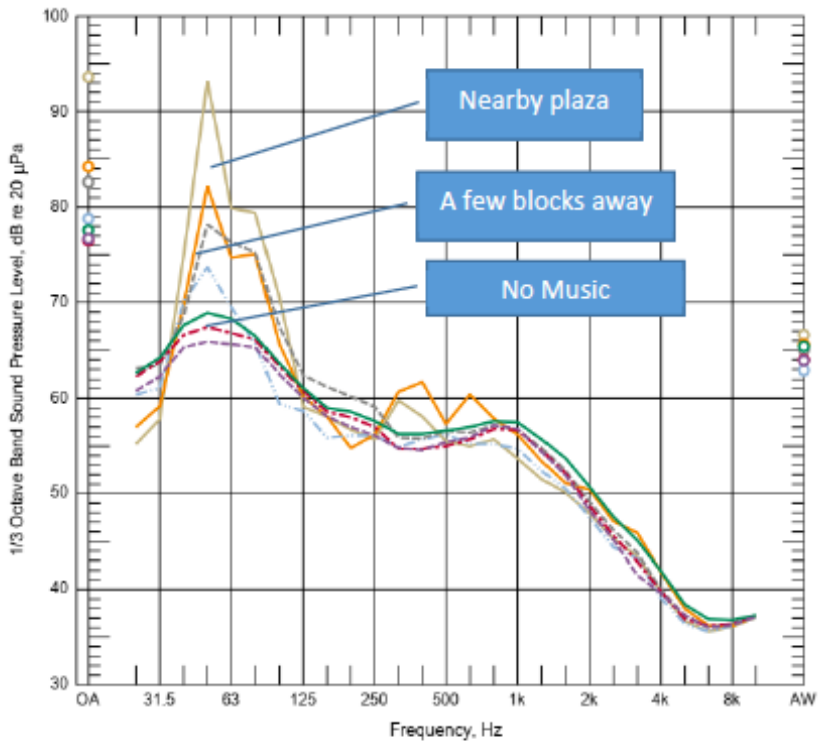

Figure 3 Sample Exterior Noise Near an Urban Hotel Lounge (L_{25})

The document cites no objective criterion to evaluate rooftop noise, and no criteria to evaluate potential sleep disturbance have been presented. A noise increase threshold, for the Project and the cumulative evaluations of nearby noise levels, compounds one on top of another and would potentially lead to a substantial and significant noise impact.

RESPONSE TO COMMENT 1B.5

The commenter claims that the rooftop open space would host social events and parties on the rooftop area, which is a speculative claim. The estimated future operational conditions are supported by reliable projections based on the Proposed Project's design and capacity rather than hypothetical conditions, such as social events and parties. on the use of the rooftop deck is anticipated to be similar to and compatible with outdoor amenity areas within a residential development and would not provide a source of noise that is excessive or non-compliant with the applicable LAMC regulations.

See Response to Comment 1.21, above for a detailed analysis of the outdoor rooftop noise. As discussed in Response to Comment 1.21, the noise level at the 17th level roof deck was estimated to be 54.1 dBA L_{eq} at a reference distance of 50 feet operating at full capacity. This noise level estimate is conservative because this roof level is well above the surrounding sensitive receptor locations, and there is acoustic shielding provided by the edge of the roof. Based on the ambient noise level (L_{eq} 61.3 dB) recorded at the nearest sensitive receptor, Higgins Building Apartments (Attachment 3, Figure 1), the Proposed Project would not increase ambient noise levels by more

than 5 dBA from the open space with full capacities. Therefore, due to the nature of the use, it is unlikely that the Proposed Project would operate at such full capacity often or for a prolonged period of time. As such, the rooftop area would not result in excessively loud nighttime noise levels.

COMMENT 1B.6

Impact Analyses are Incomplete

Construction Noise

There are a few errors with the construction noise analysis. The first is the aforementioned problem that the sound levels are based on a fifteen-minute sample. This amount of time may not be representative of the loudest times of day, and thus the most sensitive limits.

RESPONSE TO COMMENT 1B.6

The commenter restates that the 15-minute ambient noise recordings as an error in the construction noise analysis. As stated previously in Response to Comment 1B.4 above, The Proposed Project obtained three 15-minute noise recordings during the daytime on a weekday to establish the ambient noise baseline, consistent with LAMC Section 111.01. Daytime measurements were also taken during off-peak hours which represent lower noise levels. Therefore, the estimated construction noise levels in the Categorical Exemption were compared to lower off-peak daytime ambient noise levels as a conservative estimate. Thus, the noise data obtained for monitoring existing ambient noise is more represented during the daytime and is consistent with the LAMC. Therefore, nighttime or peak daytime noise measurements for this project type are not required.

COMMENT 1B.7

Another is the assumption of 15 dBA of shielding in the noise calculations. The document explicitly states that this is a “noise barrier” and thus could already be considered mitigation since it is relied upon to reduce construction noise levels. Additionally, even if implemented, this barrier would not provide line of sight shielding for receivers on the top floor of the Higgins Building. Assuming the barrier is 8 feet high, receivers on the second floor or above would be able to look directly over the barrier onto the property and receive no benefit from the shielding effects. A sample calculation, taken from the Roadway Construction Noise Model (RCNM) is presented below. Calculations were performed on the 3rd floor, as a conservative estimate to avoid any barrier effects.

Table 1: RCNM Results for Worst-case Construction Scenario on the 3rd Floor of the Higgins Building

Description	Usage (%)	Spec Max (dBA)	Actual Max (dBA)	Receptor Distance to Project Site (Feet)	Receptor Height Above Project (Feet)	Receptor Distance to Centerline of Project Site (Feet)	Calculated LEQ (dBA)
Concrete / Industrial Saw	20	90	90	20	30	86	77.9
Dozer	40	85	82	20	30	86	73.0

Table 2: Impact Analysis for Worst-case Construction Scenario on the 3rd Floor of the Higgins Building

Calculated Noise Level (dBA)	Ambient Noise Level (dBA)	Level Above Ambient (dBA)	Impact Threshold (dBA)	Impact?
79.1	61.3	17.8	>5	YES

Based on the worst-case scenario, more mitigation would be needed.

RESPONSE TO COMMENT 1B.7

See Response to Comment 1.12, above, with respect to the construction noise impacts to above-grade sensitive receptors. Calculating construction noise impacts at ground level is standard practice as the loudest source of construction noise generally occurs during earthwork and excavation, where heavy duty earthmoving equipment is utilized. The commenter's noise calculations for receptors located on the second floor or above in the Higgins building are incorrect as these receptors would be more than 20 feet in distance from the Project's construction activities. Furthermore, the commenter's assumptions ignore the fact that these receptors would be interior to a structure that provides up to 20 dBA of attenuation with closed windows.

COMMENT 1B.8

Another problem is that the analysis follows the Construction Noise Quantitative General Assessment Guidelines of the FTA Transit Noise and Vibration Impact Manual. As part of this analysis, only the two loudest pieces of equipment are used per stage of construction, measured at the center of the project site. Using all equipment that is planned to be used during each construction stage and assuming the equipment will be moving around the site in different locations, both reasonable and common assumptions based on how construction sites can work, produces significant impacts that exceed the threshold.

RESPONSE TO COMMENT 1B.8

See Response to Comment 1.14, above, with respect to the construction noise equipment. The Categorical Exemption utilizes the approach provided in the Federal Transit Administration's Transit Noise and Vibration Impact Assessment Manual (September 2018). Section 7 of this manual provides guidance on quantitatively estimating construction noise from typical construction equipment for a general assessment. The manual states "only determine $L_{eq\ equip}$ for the two noisiest pieces of equipment expected to be used in each phase of construction. Then, sum the levels for each phase of construction using decibel addition.[171] Additionally, this approach also states that the distance value (D) assumes all equipment operates at the center of the project.[172] Using this manual's approach, as shown in Table 10 and summarized on page 61 of the Categorical Exemption, the Proposed Project's construction-related noise would be less than significant in accordance with City requirements and standards. Additionally, as stated on page 59 of the Categorical Exemption, not all construction noise equipment would be utilized concurrently during each phase, and the location and spacing of heavy construction equipment and machinery would vary over the course of construction. It would be overly conservative to assume all construction equipment would be operating at the same time for eight hours a day. Therefore, the noise analysis in the Categorical Exemption relies on guidance provided by the Federal Transit Administration. The commenter does not provide any alternative technical approach to quantifying construction noise. Therefore, the assertion that construction noise would produce significant impacts that exceed the threshold is speculative and unsubstantiated.

COMMENT 1B.9

Rooftop Deck/Terrace

Similarly, the noise analysis from the rooftop deck/terrace must be reconsidered. The document states that "it is unlikely that the Proposed Project would operate at such full capacity often or for a prolonged period of time that it would result in excessive crowd noise" and states that this area could accommodate "up to 60 people". But the document fails to include analysis quantifying or otherwise characterizing the noise levels generated by use of the rooftop deck.

These noise levels could easily be much more than 5 dBA higher than the daytime noise levels shown in Table 8 (page 58), and in the absence of ambient data during evening (or nighttime) conditions, these could also be much more than 5 dBA higher than the existing evening (or

[171] *Federal Transit Administration, Noise and Vibration Impact Assessment Manual, September 2018, page 178; website: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf, accessed November 2022.*

[172] *Federal Transit Administration, Noise and Vibration Impact Assessment Manual, September 2018, page 177; website: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf, accessed November 2022.*

nighttime) ambient. Thus, noise from the rooftop deck/terrace could be potentially significant based on information provided.

RESPONSE TO COMMENT 1B.9

See Response to Comment 1.21, above, with respect to the noise impacts from the rooftop open space.

COMMENT 1B.10

Rooftop Equipment

The CatEx cites an expectation that the project HVAC equipment would be similar to what is on site, since the existing site is a two-story commercial building this is not a fair comparison. The existing equipment are very different in size and character from what would be required for a 17-story residential structure. For instance the Project equipment would operate during the nighttime hours, whereas HVAC for commercial office buildings can be shutdown at night.

In our experience, there would be several mechanical units on the rooftop. Such equipment could include air cooled condenser fans with a typical sound rating of 85 sound power level (PWL), and several make up air fans as large as 40,000 cubic feet per minute (CFM) (90 dBA PWL). A combination of two or more fans would generate a noise level on the order of 65 dBA at a distance of 20 ft. In the absence of ambient data during evening (or nighttime) conditions, these could also be much more than 5 dBA higher than the existing evening (or nighttime) ambient. Noise from rooftop equipment would be potentially significant and should be evaluated with more specific information.

Additionally, the document states that “the on-site equipment would be designed and located such that they would be appropriately shielded and fitted with noise muffling devices to reduce operational noise levels” This implies mitigation, which means the project cannot be covered by a categorical exemption.

RESPONSE TO COMMENT 1B.10

See Response to Comment 1.15, above, with respect to HVAC equipment.

COMMENT 1B.11

Structural Groundborune [sic] Vibration

This project shares a property line with two adjacent buildings, and as such construction vibration could trigger and impact and should be studied. There is no mention of pile driving, which is a preferred construction technique for large buildings like this. Pile driving would have the potential to cross damage thresholds for nearby buildings, and mitigation methods and possibly measurements would very likely be required.

RESPONSE TO COMMENT 1B.11

The commenter's assumption that pile driving would occur as a result of the Project's approval is unsupported by the evidence in the record. Pile driving is not proposed as part of this project. See Response to Comment 1.16, above.

COMMENT 1B.12

Conclusions

There are several errors and omissions in the CatEx noise analysis. Correcting these would potentially identify several significant impacts which require mitigation.

RESPONSE TO COMMENT 1B.12

As discussed in Response to comment 1B.1 to 1B.11, above, the commenter does not provide any credible evidence or resources to show that the Proposed Project would result in a significant noise impact. The commenter relies on speculative and unsubstantiated claims. Therefore, mitigation measures are not required for the Proposed Project, and a Class 32 Categorical Exemption applies for the Proposed Project.

APPEAL LETTER NO. 2

Supporters Alliance for Environmental Responsibility (SAFER)
Lozeau Drury, LLP
Richard Drury
1939 Harrison Street, Suite 150
Oakland, CA 94612
October 6, 2022

COMMENT 2.1

I. REASON FOR THE APPEAL

SAFER appeals the City Planning Director's approval of a Site Plan Review for 216 Spring Street Project DIR-2020-7846-DB-SPR-HCA ("Project"). The Site Plan Review approval was in error because the Categorical Exemption ("CE") prepared for the Project (ENV-2020-7847-CE) fails to comply with the California Environmental Quality Act ("CEQA"). The City of Los Angeles ("City") must fully comply with CEQA prior to any approvals in furtherance of the Project. Therefore, the City of Los Angeles ("City") must set aside the Site Plan Review entitlements and prepare an initial study to determine the appropriate level of environmental review to undertake pursuant to CEQA.

II. SPECIFICALLY THE POINTS AT ISSUE

SAFER specifically appeals all findings related to the Project's Site Plan Review (DIR-2020-7846-DB-SPRHCA). The Project does not qualify for a categorical exemption pursuant to Section 15332 of the CEQA Guidelines ("Infill Exemption") because the Project does not meet the terms of the exemption. Because proper CEQA review must be complete before the City approves the Project's entitlements (Orinda Ass'n. v. Bd. of Supervisors (1986) 182 Cal.App.3d 1145, 1171 ["No agency may approve a project subject to CEQA until the entire CEQA process is completed and the overall project is lawfully approved."].), the approval of the Project's Site Plan Review entitlements was in error. Additionally, by failing to properly conduct environmental review under CEQA, the City lacks substantial evidence to support its findings for the Site Plan Review entitlements.

RESPONSE TO COMMENT 2.1

The commenter states their position to appeal the Proposed Project and states the Proposed Project does not qualify for a categorical exemption. However, the commenter fails to provide any reasoning or credible evidence as to why the Proposed Project would not qualify for an exemption. Therefore, the commenter's assertion is speculative and unsubstantiated.

COMMENT 2.2

III. HOW YOU ARE AGGRIEVED BY THE DECISION

Members of appellant Supporters Alliance for Environmental Responsibility ("SAFER") live and/or work in the vicinity of the proposed Project. They breathe the air, suffer traffic congestion, and will suffer other environmental impacts of the Project unless it is properly mitigated.

RESPONSE TO COMMENT 2.2

This comment introduces the appellant with respect to representing several individuals who live and work within the vicinity of the Proposed Project. However, no information as to the location of these individuals' residences or places of employment are provided, which would provide the context for how these individuals would be impacted by the Proposed Project. The commenter does not provide any information or analysis that supports their claim that the Proposed Project would result in any significant air quality or traffic impacts. To the contrary, the lead agency has provided substantial evidence to support the determination that the Proposed Project is exempt from CEQA and no further environmental analysis is required.

COMMENT 2.1

IV. WHY YOU BELIEVE THE DECISION-MAKER ERRED OR ABUSED THEIR DISCRETION

The Director of City Planning approved the Site Plan Review and approved a Categorical Exemption for the project pursuant to Section 15332 of the CEQA Guidelines, despite a lack of substantial evidence in the record that the Project met the requirements for the Infill Exemption. Rather than exempt the Project from CEQA, the City should have prepared an initial study followed by an EIR or negative declaration in accordance with CEQA prior to consideration of approvals for the Project. The City is not permitted to approve the Project's entitlements until proper CEQA review has been completed.

RESPONSE TO COMMENT 2.3

The commenter restates that the Proposed Project does not qualify for a categorical exemption due to "a lack of substantial evidence in the record that the Project met the requirements for the Infill Exemption." However, the commenter fails to provide any reasoning or credible evidence as to why the Proposed Project would not qualify for an exemption. The comment also fails to acknowledge the Categorical Exemption that was prepared by Parker Environmental Consultants, dated September 2022, and relied on in the lead agency's determination that the project qualifies as a Class 32 Infill Development Project as is thus exempt from CEQA as a matter of law.

ATTACHMENT A

Outdoor Courtyard Noise Levels

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Project: 216 Spring Street
Date: November 15, 2022
Re: Crowd Noise Estimates

Full Capacity Noise Levels @ 3 feet

	50% Male	50% Female	50% of people	Total people
N1: 17th Level Roof Deck	15	15	30	60

SPL(Total) = SPL(1) + 10*log(N)	**Male**	**Female**	**Noise Level @ 3.3 ft**	**Noise Level @ 50 ft**
SPL(1)	**65**	**62**		
SPL(N1): 17th Level	76.76	73.76	78.53	54.09

Adding Sound Pressure Levels of Male and Female

SPL(N1) =10log10 (10^SPL(N2male)/10 + 10^SPL(N2female)/10)
SPL(N2): Avg 78.52526121

Note: formulas provided by Caltrans Technical Noise Supplement (September 2013)
SPL = sound pressure level

ATTACHMENT B

Bracketed Appellant Justification Letters

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APPEAL LETTER NO. 1

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October 5, 2022

VIA ONLINE SUBMISSION
Commission President Ilissa Gold and Commission Members
Central Area Planning Commission
Email: apccentral@lacity.org
Online Portal: https://plncts.lacity.org/oas

VIA EMAIL
Vince Bertoni, Director of Planning
Email: vince.bertoni@lacity.org

Yi Lu, City Planner
Email: yi.lu@lacity.org

Re: **Appeal of 216 S. Spring Street Project, Case No. DIR-2020-7846-DB-SPR-HCA, CEQA No. ENV-2020-7847-CE**

Dear President Gold, Commission Members, Mr. Bertoni, and Ms. Lu:

On behalf of the Coalition for Responsible Equitable Economic Development Los Angeles ("CREED LA"), we submit this appeal of the Director's approval of the 216 S. Spring Street Project (Case No. DIR-2020-7846-DB-SPR-HCA, ENV-2020-7847-CE) ("Project"), including approval of Site Plan Review and Density Bonus pursuant to LAMC Sections 12.22 and 16.05, adoption of Findings and Conditions of Approval, and determination that the Project is exempt from the California Environmental Quality Act ("CEQA") pursuant to a Class 32 categorical exemption.[1] 1.1

On September 21, 2022, the City of Los Angeles ("City") Director of Planning ("Director") issued a Letter of Determination ("LOD") approving the Project. The LOD approves a Density Bonus and Site Plan Review, adopts Findings and Conditions of Approval, and determines that the Project is exempt from the CEQA pursuant to a Class 32 categorical exemption.[2] The LOD indicates that the appeal period for the determination ends on October 6, 2022. This appeal is timely filed in compliance with the Los Angeles Municipal Code ("LAMC").

[1] CEQA Guidelines, Section 15332.
[2] A copy of the LOD is attached to this Appeal.

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CREED LA hereby appeals the Director's approval of the Site Plan Review, Density Bonus, Findings and Conditions of Approval, and categorical exemption, as described in the LOD dated September 21, 2022. This letter supplements CREED LA's Appeal Application, filed concurrently herewith, and is accompanied by the required appeal fee.

The reasons for this appeal are set forth herein. Our appeal is supported by technical comments provided by air quality and hazards expert James Clark, Ph.D,[3] and noise expert Jack Meighan.[4]

As explained herein and in the attached comments, the Director abused its discretion and failed to proceed in the manner required by law by approving the Project in reliance on a categorical exemption and without substantial evidence to support the approval findings.[5] To qualify for a categorical exemption, a lead agency must provide substantial evidence that the Project will not have a significant effect.[6] But as is explained below, the Project may result in potentially significant public health and noise impacts. Specifically, the Project's construction and operation may result in emissions of toxic air contaminants ("TACs") that would increase health risks to significant levels. And the Project's construction and operation includes noise-generating activities that may result in significant noise impacts on nearby receptors. These impacts are especially severe due to the proximity of residential receptors – four residential buildings are located within 500 feet of the Project site, including one diagonally adjacent to the Project site.[7] As a result, an EIR is the correct form of environmental review for the Project, not a categorical exemption. Due to these significant environmental and public health impacts, and the related failure to prepare the correct form environmental review, the Director also abused its discretion in approving the Site Plan Review and Density Bonus.

1.1 cont.

Because the Director abused its discretion and failed to proceed in the manner required by law, CREED LA respectfully requests that the City set a hearing on this appeal, and that the Area Planning Commission uphold this appeal,

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[3] Dr. Clark's technical comments and curriculum vitae are attached hereto as Exhibit A ("Clark Comments").
[4] Mr. Meighan's technical comments and curriculum vitae are attached hereto as Exhibit B ("Meighan Comments").
[5] Code Civ. Proc § 1094.5(b); *Topanga Assn. for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 515.
[6] *Banker's Hill, Hillcrest, Park West Community Preservation Group v. City of San Diego* (2006) 139 Cal.App.4th 249, 269.
[7] Higgins Building, 108 W 2nd St, Los Angeles, CA 90012.

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vacate the Director's approval of the Project, and direct staff to prepare an EIR for the Project. 1.1 cont.

I. STANDING TO APPEAL AND STATEMENT OF INTEREST

The Project's Site Plan Review can be appealed by "[t]he applicant, any officer, board, department, or bureau of the City, **or any interested person** aggrieved by the decision of the Director."[8] The Project's Density Bonus may also be appealed.[9]

CREED LA is an unincorporated association of individuals and labor organizations that may be adversely affected by the potential public and worker health and safety hazards, and the environmental and public service impacts of the Project. The coalition includes City of Los Angeles residents Gerry Kennon, Chris Macias, and John Bustos, the Sheet Metal Workers Local 105, International Brotherhood of Electrical Workers Local 11, Southern California Pipe Trades District Council 16, and District Council of Iron Workers of the State of California, along with their members, their families, and other individuals who live and work in the City of Los Angeles. 1.2

Individual members of CREED LA and its member organizations live, work, recreate and raise their families in the City of Los Angeles and surrounding communities. Accordingly, they would be directly affected by the Project's environmental and health and safety impacts. Individual members may also work on the Project itself. They will be first in line to be exposed to any health and safety hazards that exist onsite.

In addition, CREED LA has an interest in enforcing environmental laws that encourage sustainable development and ensure a safe working environment for its members. Environmentally detrimental projects can jeopardize future jobs by making it more difficult and more expensive for business and industry to expand in the region, and by making the area less desirable for new businesses and new residents. Indeed, continued environmental degradation can, and has, caused construction moratoriums and other restrictions on growth that, in turn, reduce future employment opportunities.

CREED LA and its members are aggrieved by the Director's decision to approve the Project and adopt unsupported approval findings in reliance on a CEQA

[8] LAMC Section 16.05(H); *see* LAMC 12.22 A.25 (g)(2)(f); Section 12.36(c)(4) (collectively providing that the Central Area Planning Commission is the proper appellate body).
[9] LAMC Section 12.22 A.25 (g)(2)(f).

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exemption, without analyzing and mitigating the Project's potentially significant impacts in an EIR. 1.2 cont.

II. THE PROJECT DOES NOT QUALIFY FOR A CLASS 32 CATEGORICAL EXEMPTION FOR INFILL DEVELOPMENT PROJECTS

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an EIR, except in certain limited circumstances.[10] The EIR is the very heart of CEQA.[11] "The foremost principle in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language."[12]

CEQA has two primary purposes. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a project.[13] "Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. Thus, the EIR 'protects not only the environment but also informed self-government.'"[14] The EIR has been described as "an environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return."[15] 1.3

Second, CEQA requires public agencies to avoid or reduce environmental damage when "feasible" by requiring "environmentally superior" alternatives and all feasible mitigation measures.[16] The EIR serves to provide agencies and the public with information about the environmental impacts of a proposed project and to "identify ways that environmental damage can be avoided or significantly reduced."[17] If the project will have a significant effect on the environment, the agency may approve the project only if it finds that it has "eliminated or substantially lessened all significant effects on the environment where feasible" and

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[10] *See, e.g.,* PRC § 21100.
[11] *Dunn-Edwards v. BAAQMD* (1992) 9 Cal.App.4th 644, 652.
[12] *Communities. for a Better Env. v. Cal. Res. Agency* (2002) 103 Cal. App.4th 98, 109 ("*CBE v. CRA*").
[13] 14 Cal. Code Regs. § 15002(a)(1).
[14] *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal. 3d 553, 564.
[15] *Berkeley Keep Jets Over the Bay v. Bd. of Port Comm'rs.* (2001) 91 Cal. App. 4th 1344, 1354 ("*Berkeley Jets*"); *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810.
[16] 14 CCR § 15002(a)(2) and (3); *see also Berkeley Jets*, 91 Cal.App.4th at 1354; *Citizens of Goleta Valley*, 52 Cal.3d at p. 564.
[17] 14 Cal. Code Regs. §15002(a)(2).

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that any unavoidable significant effects on the environment are "acceptable due to overriding concerns."[18]

Under CEQA, mitigation measures must be fully enforceable through permit conditions, agreements or other legally binding instruments.[19] A CEQA lead agency is precluded from making the required CEQA findings to approve a project unless the record shows that all uncertainties regarding the mitigation of impacts have been resolved. For this reason, an agency may not rely on mitigation measures of uncertain efficacy or feasibility.[20] This approach helps "ensure the integrity of the process of decision by precluding stubborn problems or serious criticism from being swept under the rug."[21] **1.3 cont.**

CEQA identifies certain classes of projects which are exempt from the provisions of CEQA, called categorical exemptions.[22] Categorical exemptions apply to certain narrow classes of activities that generally do not have a significant effect on the environment.[23] "Thus an agency's finding that a particular proposed project comes within one of the exempt classes necessarily includes an implied finding that the project has no significant effect on the environment."[24] "It follows that where there is any reasonable possibility that a project or activity may have a significant effect on the environment, an exemption would be improper."[25]

CEQA exemptions must be narrowly construed and are not to be expanded beyond the scope of their plain language.[26] They should not be construed so broadly as to include classes of projects that do not normally satisfy the requirements for a categorical exemption.[27] Erroneous reliance by a lead agency on a categorical exemption constitutes a prejudicial abuse of discretion and a violation of CEQA.[28] "[I]f the court perceives there was substantial evidence that the project might have

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[18] PRC § 21081; 14 CCR § 15092(b)(2)(A) & (B).
[19] CEQA Guidelines, § 15126.4, subd. (a)(2).
[20] *Kings County Farm Bureau v. County of Hanford* (1990) 221 Cal.App.3d 692, 727-28 (a groundwater purchase agreement found to be inadequate mitigation because there was no record evidence that replacement water was available).
[21] *Concerned Citizens of Costa Mesa, Inc. v. 32nd Dist. Agricultural Assn.* (1986) 42 Cal.3d 929, 935.
[22] PRC § 21084(a); 14 CCR §§ 15300, 15354.
[23] PRC § 21084(a); 14 CCR §§ 15300, 15354; *Muzzy Ranch Co. v. Solano County Airport Land Use Com.* (2007) 41 Cal.4th 372, 380.
[24] *Davidon Homes v. City of San Jose* (1997) 54 Cal.App.4th 106, 115.
[25] *Azusa Land Reclamation Co. v. Main San Gabriel Basin Watermaster* (1997) 52 Cal.App.4th 1165, 1191 ("*Azusa Land Reclamation*"), *quoting Wildlife Alive v. Chickering* (1976) 18 Cal.3d 190, 205–206.
[26] *Castaic Lake Water Agency v. City of Santa Clarita* (1995) 41 Cal.App.4th 1257.
[27] *Azusa Land Reclamation* (1997) 52 Cal.App.4th 1165, 1192.
[28] *Azusa*, 52 Cal.App.4th at 1192.

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an adverse impact, but the agency failed to secure preparation of an EIR, the agency's action must be set aside because the agency abused its discretion by failing to follow the law."[29]

1.3 cont.

To qualify for a categorical exemption, a lead agency must provide "substantial evidence to support [its] finding that the Project will not have a significant effect."[30] "Substantial evidence" means enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached. Whether a fair argument can be made that the project may have a significant effect on the environment is to be determined by examining the whole record before the lead agency.[31] If a court locates substantial evidence in the record to support the agency's conclusion, the agency's decision will be upheld.[32] If, however, the record lacks substantial evidence, as here, a reviewing court will not uphold an exemption determination.

Section 15332 of the CEQA Guidelines provides an exemption from CEQA for projects characterized as in-fill development meeting the conditions:

(a) The project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations.
(b) The proposed development occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses.
(c) The project site has no value as habitat for endangered, rare or threatened species.
(d) Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality.
(e) The site can be adequately served by all required utilities and public services.

CEQA also contains several exceptions to categorical exemptions. In particular, a categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to "unusual circumstances,"[33] or where there is a reasonable

[29] *Dunn-Edwards Corp. v. Bay Area Air Quality Mgmt. Dist.* (1992) 9 Cal.App.4th 644, 656).
[30] *Banker's Hill, Hillcrest, Park West Community Preservation Group v. City of San Diego* (2006) 139 Cal.App.4th 249, 269.
[31] CEQA Guidelines § 15384.
[32] *Bankers Hill Hillcrest*, 139 Cal.App.4th at 269.
[33] 14 CCR § 15300.2(c).

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possibility that the activity will have a significant effect on the environment, including (1) when "the cumulative impact of successive projects of the same type in the same place, over time is significant."[34] An agency may not rely on a categorical exemption if to do so would require the imposition of mitigation measures to reduce potentially significant effects.[35]

1.3 cont.

Here, the Class 32 Exemption and any other CEQA exemption are inapplicable to the Project due to its significant effects on air quality, health risk and noise.[36]

A. A CEQA Exemption is Inapplicable Because the Project May Result in Significant Effects Related to Air Quality and Health Risk

1. The City Lacks Substantial Evidence to Conclude that the Project's Health Risk Impacts from Air Emissions are Less Than Significant

The City lacks substantial evidence to support its reliance on an exemption because the City failed to analyze the health risk impacts of Project construction and operation to workers and nearby sensitive receptors.

1.4

The Project would increase health risks in the surrounding community by contributing TACs such as Diesel Particulate Matter ("DPM") during construction.[37] During the Project's construction, heavy equipment and diesel trucks would emit DPM, and during operations, the Project's backup generator would emit DPM. DPM has been linked to a range of serious health problems including an increase in respiratory disease, lung damage, cancer, and premature death.[38] The Project's emissions of DPM would impact numerous sensitive receptors, including residents in four residential buildings located within 500 feet of the Project site.[39]

CEQA requires analysis of human health impacts. As the LOD acknowledges, CEQA Guidelines Section 15065(a)(4) provides that the City is required to find a project will have a significant impact on the environment and require an EIR if the environmental effects of a project will cause a substantial adverse effect on human

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[34] 14 CCR § 15300.2(b).
[35] *Salmon Pro. & Watershed Network v. County of Marin* ("*SPAWN*") (2004) 125 Cal.App.4th 1098, 1198-1201.
[36] The Project's significant effects also create exceptions to an exemption under 14 CCR § 15300.2(b), (c).
[37] Clark Comments, pg. 5.
[38] Clark Comments, pg. 3-5.
[39] Categorical Exemption, pg. 65.

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beings.[40] The Supreme Court has also explained that CEQA requires the lead agency to disclose the health consequences that result from exposure to a project's air emissions.[41] 1.4 cont.

For development projects like this one, the Office of Environmental Health Hazard Assessment's ("OEHHA") risk assessment guidelines recommend a formal health risk analysis ("HRA") for short-term construction exposures to TACs lasting longer than 2 months and exposures from projects lasting more than 6 months should be evaluated for the duration of the project.[42] In an HRA, lead agencies must first quantify the concentration released into the environment at each of the sensitive receptor locations through air dispersion modeling, calculate the dose of each TAC at that location, and quantify the cancer risk and hazard index for each of the chemicals of concern.[43] Following that analysis, then the City can make a determination of the relative significance of the emissions. 1.5

The City did not conduct this analysis. Here, the City concludes that the Project would not result in significant health risk impacts without conducting any of the above analytical steps. The City fails to disclose or analyze that the Project's construction and operation would result in emissions of TACs. And the City fails to disclose or analyze the health impacts of exposure to certain concentrations of TACs. And the City fails to quantify the magnitude of TACs emitted by the Project, and fails to model the concentration of TACs at sensitive receptors.[44] In sum, there is no evidence in the Justification to Support a Categorical Exemption ("Categorical Exemption")[45] that the City considered health risks from TACs when determining that the Project qualifies for a categorical exemption.

The City reasons that because the Project's emissions would not exceed Localized Significance Thresholds ("LSTs"), there would not be a significant health risk. LSTs are based on the number of pounds of emissions per day that can be 1.6

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[40] LOD, p. 12, citing 14 CCR § 15065(a)(4); PRC § 21083(b)(3), (d).
[41] *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502, 516, 523.
[42] Office of Environmental Health Hazard Assessment (OEHHA), Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments, February 2015 (OEHHA 2015), Section 8.2.10: Cancer Risk Evaluation of Short Term Projects, pp. 8-17/18; https://oehha.ca.gov/air/crnr/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0.
[43] *Id.*
[44] The City's failure to analyze the magnitude and concentration of the Project's TACs also conflicts with the OEHHA recommendations for HRAs. The OEHHA guidelines recommend an HRA be prepared for this Project's construction and operation because its 24-month construction schedule exceeds 2 months, and its operations would last over 6 months.
[45] City of Los Angeles Planning Department, Justification to Support a Categorical Exemption (September 21, 2022).

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generated by a project that would cause or contribute to adverse localized air quality impacts.[46] But LSTs only apply to four pollutants: NO_x, CO, PM_{10}, and $PM_{2.5}$. Dr. Clark explains that LSTs do not apply to DPM and other TACs.[47] Therefore, the City completely failed to analyze health risk impacts from exposure to TACs during Project construction, and thus fails to support its finding of a less-than-significant health risk impact. 1.6 cont.

2. The Project Has Potentially Significant Health Risk Impacts

Dr. Clark calculates that the Project's emissions of DPM would exceed applicable significance thresholds for health risk.

Using OEHHA's HARP 2 Standalone Risk software, Dr. Clark calculated the cancer risk to the most sensitive population – infants less than 2 years old.[48] The cumulative risk for exposure during the 2 years of construction is 814 in 1,000,000, much greater than the 10 in 1,000,000 threshold set forth by the South Coast Air Quality Management District ("SCAQMD"). For adults, the risk from exposure to DPM from the construction phase of the project is 17.5 in 1,000,0000, which also exceeds the threshold.[49] 1.7

As a result of these significant effects, the Project does not qualify for any CEQA exemption, including a Class 32 exemption. The Project's significant impacts must be disclosed and mitigated in an EIR.

3. Project Impacts Associated with Operational Diesel Exhaust from the Backup Generator May be Significant

The City lacks substantial evidence to support its reliance on a categorical exemption because the City failed to adequately analyze the health risk impacts associated with use of the Project's backup generator during Project operation. 1.8

Dr. Clark explains that diesel-powered backup generators emit DPM, which poses a public health risk. The City's air quality analysis assumes that the backup generator will only be operated for 12 hours a year for testing and maintenance.[50] But according to SCAQMD Rules 1110.2 and 1470, backup generators are allowed

[46] Categorical Exemption, pg. 66.
[47] Clark Comments, pg. 3.
[48] Clark Comments, pg. 7.
[49] Clark Comments, pg. 7-8.
[50] Clark Comments, pg. 11.

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to operate for up to 200 hours per year and maintenance cannot exceed more than 50 hours per year. Thus, the Project's back-up generator is permitted to operate up to 250 hours per year. As a result, the City's assumption that the backup generator would be operated for 12 hours a year likely underestimates the Project's emissions.[51]

Dr. Clark further explains that the City's analysis underestimates emissions because use of emergency generators is expected to rise due to climate change and increased instances of Public Safety Power Shutoff ("PSPS") events and extreme heat events.[52] For every PSPS or Extreme Heat Event triggered during the operational phase of the project, significant concentrations of DPM will be released that are not accounted for in the City's analysis, which only assumes the backup generator will be used 12 hours a year for testing and maintenance. **1.8 cont.**

In sum, the City's operational health risk conclusions are not supported by substantial evidence because the City's analysis does not reflect reasonable hours of use of backup generators.

Dr. Clark generated a site-specific screening level HRA for emissions from the back-up generator to assess the health risk impacts on nearby receptors.[53] Assuming the backup generator is limited to maintenance and testing for 12 hours per year or less, the model calculates emissions of DPM of approximately 1.07 lbs per year. This magnitude of emissions results in health risk impacts of 17.3 in 1,000,000 for residents living within 25 meters of the Project site (the nearest residential receptors for this Project are located diagonally adjacent to the Project site.[54] This impact exceeds the 10 in 1,000,000 threshold set forth by SCAQMD, resulting in a significant impact. **1.9**

Because the Project has a potentially significant health risk impact, the City cannot rely on a categorical exemption. An EIR must be prepared to analyze impacts on sensitive receptors.

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[51] Clark Comments, pg. 8.
[52] Clark Comments, pg. 9.
[53] Clark Comments, pg. 10.
[54] Higgins Building, 108 W 2nd St, Los Angeles, CA 90012.

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B. An Exemption is Inapplicable Because the Project May Result in Significant Noise Impacts Which Require Mitigation

1. The Class 32 Exemption is Inapplicable Because the City Improperly Relies on Noise Mitigation Measures 1.10

The Notice of Exemption states that the Project would result in less-than-significant construction noise impacts. According to the Categorical Exemption, the Project's construction noise impacts are significant if they exceed 75 dBA at a distance of 50 feet from the Project site,[55] and would not exceed ambient noise levels by more than 5 dBA at nearby sensitive receptors.[56] In Table 10, the City presents the estimated construction noise impact at the nearest sensitive receptors, and concludes that neither of these significance thresholds are met.[57] But the City incorrectly incorporates noise reductions from mitigation measures – labeled "project design features"[58] – into this significance determination. The City's noise reductions include (1) avoiding conducting demolition and construction activities concurrently, (2) using noise-muffled equipment, (3) implementing a sound barrier at least 8 feet tall that achieves a minimum 15 dBA noise reduction, and (4) using portable barriers during jackhammering and structural framing.[59] These measures are intended to reduce the Project's construction noise levels to less than significant, and are therefore mitigation within the meaning of CEQA.

An agency may not rely on a categorical exemption if to do so would require the imposition of mitigation measures to reduce potentially significant effects.[60] In *Salmon Pro. & Watershed Network v. County of Marin* ("*SPAWN*"), the court held that a single-family residence was improperly approved pursuant to a categorical exemption because the project included mitigation of the project's impacts on a stream.[61] The lead agency concluded that the project was categorically exempt from CEQA because it entailed construction of a single-family residence with no potentially significant impacts on the environment. The agency's conclusion that the project would not result in adverse effects was founded on "dozens of conditions that have been applied to enhance mitigations and reduce to a minimum the possibility of any adverse environmental impacts."[62] The conditions included detailed

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[55] *See* LAMC Section 112.05.
[56] *See* LAMC Section 112.04; Categorical Exemption, pg. 61.
[57] Categorical Exemption, pg. 61.
[58] Categorical Exemption, pg. 57.
[59] Categorical Exemption, pg. 57-58.
[60] *Salmon Pro. & Watershed Network v. County of Marin* ("*SPAWN*") (2004) 125 Cal.App.4th 1098, 1198-1201.
[61] *Id.* at 1103.
[62] *Id.* at 1107.

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construction limitations and incorporation of a riparian protection plan. The riparian protection plan acknowledged that runoff from new rooftops and driveways can erode stream banks, and proposed drainage features for erosion and sediment control. The court held that these conditions were mitigation measures, and that eligibility for a categorical exemption must be determined without reference to mitigation measures. Thus, the categorical exemption was inapplicable.

1.10 cont.

In *Lotus v. Department of Transportation*,[63] the court addressed the adequacy of an EIR analyzing proposed highway construction adjacent to old-growth redwood trees, as opposed to the approval of a categorical exemption as was the case in *SPAWN*.[64] Like the project in *SPAWN*, however, the *Lotus* construction was found by the reviewing agency not to involve any significant effect on the environment, but only after mitigation measures were made a condition of project approval.[65] The court held that actions such as restorative planting, removal of invasive plants, and the use of an arborist and specialized equipment were "plainly mitigation measures and not part of the project itself," resulting in the improper compression of environmental impacts and mitigation measures into a single issue in the EIR.[66]

Here, the instant Project is ineligible for a categorical exemption for the same reason the project in *SPAWN* was ineligible. In both cases, the lead agency's conclusion that the project would not result in adverse effects was founded on "conditions that have been applied to enhance mitigations and reduce to a minimum the possibility of any adverse environmental impacts."[67] Just as the project in *SPAWN* "detailed construction limitations and incorporation of a riparian protection plan" designed to mitigate impacts from runoff, the instant Project includes noise-reducing construction techniques and devices to mitigate construction noise impacts. Per the court's ruling in *SPAWN*, the Project's noise-reducing measures must be considered mitigation measures. Eligibility for a categorical exemption must be determined without reference to mitigation measures. Thus, the Project's categorical exemption is inapplicable.

And per the *Lotus* decision, the Project is ineligible for a categorical exemption because its mitigation measures are not part of the project design. The Project's measures to reduce construction noise are similar to the plant techniques in *Lotus* because they are designed to mitigate the Project's adverse impacts, and are not part of the Project itself. Mitigation of construction noise is not part of the

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[63] 223 Cal.App.4th 645,
[64] *Id.* at 647–648.
[65] *Id.* at 648–649.
[66] *Id.* at 656, fn. 8.
[67] *SPAWN*, 125 Cal.App.4th 1098, 1107.

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Project design because the Project proposes a mixed-use building – noise-reducing devices and techniques merely reduce noise caused by construction of that building. Thus, the categorical exemption is inapplicable. **1.10 cont.**

The City may attempt to rely on cases such as *Citizens for Environmental Responsibility v. State ex rel. 14th District Agricultural Association* ("*CER v. State*"),[68] *Berkeley Hills Watershed Coalition v. City of Berkeley* ("*Berkeley Hills Watershed*"),[69] or *Berkeley Hillside Preservation v. City of Berkeley* ("*Berkeley Hillside Preservation*")[70] to assert that the Project's noise mitigation does not preclude reliance on an exemption. However, as discussed below, these cases are distinguishable from the instant Project. **1.11**

In *CER v. State*,[71] the court held that a rodeo project was not precluded from a categorical exemption by its reliance on a manure mitigation plan ("MMP") to prevent riparian impacts. The court distinguished the MMP from the mitigation in *SPAWN* because the MMP was not a new measure proposed for or necessitated by the rodeo project.[72] Rather, it was a preexisting measure previously implemented to address a preexisting concern, which was formalized in writing before the rodeo project was proposed. Thus, the MMP was actually part of the ongoing "normal operations" of the fairground at which the rodeo project was located. The court concludes that use of this measure did not disqualify the rodeo project from a categorical exemption.[73]

In *Berkeley Hills Watershed*,[74] the court held that a housing project was not precluded from an exemption by its reliance on project design measures to address State requirements for investigation and mitigation within a seismic zone.[75] The geotechnical report prepared for the project stated "[a]ll owners or occupants of homes on hillsides should realize that landslide movements are <u>always</u> a possibility, although generally the likelihood is very low that such an event will occur," and recommended suggestions for removing and controlling the landslide.[76] The court explained these measures were not "mitigation measures" because they were developed as part of the project design to meet building code requirements for properties located in seismic zones and address preexisting conditions on the site as

[68] (2015) 242 Cal.App.4th 555.
[69] (2019) 31 Cal.App.5th 880
[70] (2015) 241 Cal.App.4th 943.
[71] (2015) 242 Cal.App.4th 555.
[72] *Id.* at 569.
[73] *Id.*
[74] (2019) 31 Cal.App.5th 880
[75] *Id.* at 246, fn 9.
[76] *Id.* at 246

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opposed to being "proposed subsequent actions by the project's proponent to mitigate or offset the alleged adverse environmental impacts" of the project.

1.11 cont.

In *Berkeley Hillside Preservation*,[77] the court rejected an argument that implementation of a traffic-management plan for project construction precluded a categorical exemption. When the lead agency approved the use permit for the project, it included various conditions under Berkeley Municipal Code, including a construction traffic management plan.[78] The court stressed that the conditions of approval for this project were standard conditions imposed on residential development which are not intended to address any specific environmental impacts resulting from construction of this project.[79] This point was supported by the fact that no unique conditions of approval were proposed for the project (aside from one that had no relation to any potential environmental impact).[80] The court held that because "the plan […] is not proposed subsequent action taken to mitigate any significant effect of the project, [it is] therefore is not a mitigation measure that precludes the application of a categorical exemption."[81]

This Project is distinguishable from *CER v. State* because the Project's construction noise measures do not preexist the Project. Whereas the mitigation plan in *CER v. State* was part of the ongoing "normal operations" of the fairground at which the rodeo project was located "for decades,"[82] the noise measures in this case were first proposed in the Categorical Exemption. This fact completely distinguishes this project, as the court italicized the word "proposed" throughout the opinion to emphasize the importance of that factor. Indeed, the Project's construction noise measures are proposed – they are not specifically described or required by any preexisting policy. For example, although LAMC Sections 112.04 and 112.05 set out the applicable construction noise thresholds, they do not call for the specific combination of noise reducing techniques and devices proposed to mitigate the Project's particular construction activities.

This Project is also distinguishable from *Berkeley Hills Watershed* because the measures in *Berkeley Hills Watershed* addressed preexisting conditions on the site – the seismic conditions of the project site – whereas the instant Project's noise measures address impacts *generated by* the Project. And whereas the *Berkeley Hills Watershed* measures were integrated into the design of the building, this Project's

[77] (2015) 241 Cal.App.4th 943.
[78] *Id.* at 959.
[79] *Id.*
[80] *Id.*
[81] *Id.* at 961.
[82] 242 Cal.App.4th 555, 566.

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construction noise mitigation is not integrated into the design of the apartment building. Instead, the Project's mitigation is designed to resolve its adverse construction noise impacts. Thus, although both projects involve measures designed to meet regulatory requirements – the project in *Berkeley Hills Watershed* aimed to comply with the building code, and here, the Project aims to comply with LAMC noise thresholds – the instant Project is ineligible for a categorical exemption because it mitigates impacts generated by the Project itself. 1.11 cont.

Finally, this Project is distinguishable from *Berkeley Hillside Preservation*.[83] Whereas the conditions of approval in that case were of standard language, general applicability, and were not designed to mitigate specific adverse impacts, the measures for this Project are bespoke measures designed to mitigate specific construction noise impacts. For instance, the proposed 8-foot-tall sound barrier that reduces noise by 15 dBA is not a preexisting condition of general applicability – it is a unique measure tailored to address the Project's acknowledged noise impacts – the Categorical Exemption acknowledges the Project would require use of heavy equipment that would generate noise of up to 90 dBA at 50 feet.[84] The Project subsequently identifies a combination of mitigation measures to reduce these impacts below LAMC thresholds. Therefore, the Project is precluded from a categorical exemption.

2. The Project's Noise Mitigation Measures Do Not Effectively Mitigate Potentially Significant Construction Noise Impacts 1.12

As explained above, the Categorical Exemption states that the Project would not exceed LAMC thresholds[85] due to implementing measures including a sound barrier at least 8 feet tall that achieves a minimum 15 dBA noise reduction, and using portable barriers during jackhammering and structural framing.[86] Mr. Meighan notes that the City's noise calculations incorporate a 15 dBA noise reduction on account of the sound barrier.[87] But Mr. Meighan explains that this barrier would not provide line of sight shielding for sensitive receptors on the second floors and above of neighboring buildings.[88] He states that "assuming the barrier is 8 feet high, receivers on the second floor or above would be able to look

[83] (2015) 241 Cal.App.4th 943.
[84] Categorical Exemption, pg. 59, Table 9.
[85] *See* LAMC Section 112.04; Categorical Exemption, pg. 61.
[86] Categorical Exemption, pg. 57-58.
[87] Meighan Comments, pg. 5.
[88] *Id.*

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directly over the barrier onto the property and receive no benefit from the shielding effects."[89]

1.12 cont.

Mr. Meighan conducted a calculation of the Project's potential construction noise impacts on 3rd floor receptors using the Roadway Construction Noise Model ("RCNM"), finding that the Project's construction noise impacts exceed the City's 5 dBA threshold.

Table 1: Impact Analysis for Worst-case Construction Scenario on the 3rd Floor of the Higgins Building[90]

Calculated Noise Level (dBA)	Ambient Noise Level (dBA)	Level Above Ambient (dBA)	Impact Threshold (dBA)	Impact?
79.1	61.3	17.8	>5	YES

Mr. Meighan's analysis constitutes substantial evidence demonstrating that the Project may cause a significant construction noise impact. Therefore, the Project does not qualify for a categorical exemption.[91] The Project's significant impacts must be disclosed and mitigated in an EIR.

3. The City's Analysis of Operational and Construction Noise Impacts Are Not Supported by Substantial Evidence

1.13

To qualify for a categorical exemption, a lead agency must provide "substantial evidence to support [its] finding that the Project will not have a significant effect."[92] The City bases its noise analysis on a flawed and unsupported analysis. As a result, its conclusions that the Project's noise impacts are less than significant are not supported by substantial evidence.

First, the City fails to adequately establish the baseline noise level. As numerous courts have held, an agency's failure to adequately describe the existing setting contravenes the fundamental purpose of the environmental review process, which is to determine whether there is a potentially substantial, adverse change compared to the existing setting.[93] Here, the noise analysis relies on a short-term

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[89] *Id.*
[90] Meighan Comments, pg. 5, Table 2.
[91] *See Banker's Hill, Hillcrest, Park West Community Preservation Group v. City of San Diego* (2006) 139 Cal.App.4th 249, 269.
[92] *Banker's Hill, Hillcrest, Park West Community Preservation Group v. City of San Diego* (2006) 139 Cal.App.4th 249, 269.
[93] *Save Our Peninsula Com. v. Monterey Bd. of Supervisors* (2001) 87 Cal.App.4th 99, 121-22; *City of Carmel-by-the Sea v. Bd. of Supervisors* (1986) 183 Cal.App.3d 229, 246.

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measurement of 15-minute duration during the day to describe existing conditions. Mr. Meighan explains that, in order to conduct a proper noise analysis, the baseline must also be established for evening, and possibly nighttime conditions.[94] Social events in the roof deck terrace with pool and lounge spaces could occur during evening hours, and rooftop equipment could also operate during evening and nighttime conditions. Without this data, it is not possible to evaluate the significance of noise sources operating during non-daytime hours. **1.13 cont.**

Another flaw Mr. Meighan detected is that the City's analysis assumes only the two loudest pieces of equipment is used per stage of construction, measured at the center of the project site.[95] He explains that this approach may underestimate the Project's noise impacts, which are greater than disclosed by the City when construction equipment is used closer to the borders of the Project site. **1.14**

Mr. Meighan also explains that the Categorical Exemption erroneously cites an expectation that the Project's HVAC equipment would not cause significant impacts because the HVAC equipment would be similar to equipment on the currently existing building.[96] Mr. Meighan shows that the mechanical units required for a 17-story mixed-use building will likely be larger and louder than a two-story commercial building. **1.15**

Mr. Meighan states that the Categorical Exemption does not mention whether the Project would use pile driving during construction.[97] He explains that pile driving is a preferred construction technique for large buildings like this, and has the potential for damage to neighboring buildings. A categorical exemption cannot be relied upon if the Project can elect to use pile driving. **1.16**

Finally, as explained in the preceding section, the Project's proposed sound barriers would not achieve the City's claimed 15 dBA reduction on neighboring residences above the ground floor. The City's reliance on the 15 dBA construction noise reduction violates CEQA's principle against relying on mitigation measures of uncertain efficacy or feasibility.[98] As a result, the City's finding of a less-than-significant construction noise impact is not supported by substantial evidence. **1.17**

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[94] Meighan Comments, pg. 1.
[95] Meighan Comments, pg. 5.
[96] Categorical Exemption, pg. 63; Meighan Comments, pg. 6.
[97] Meighan Comments, pg. 6.
[98] *Kings County Farm Bureau v. County of Hanford* (1990) 221 Cal.App.3d 692, 727-28 (a groundwater purchase agreement found to be inadequate mitigation because there was no record evidence that replacement water was available).

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Due to these analytical flaws, the City's noise findings are not supported by substantial evidence. Without substantial evidence, the City cannot rely on a categorical exemption. 1.18

4. The City's Noise Significance Thresholds Are Not Supported by Substantial Evidence

The Project's operational noise significance thresholds are not supported by substantial evidence because they do not reflect sleep disturbance impacts. The Project includes several sources of potential sleep-disturbing operational noise impacts: the balconies and rooftop area; mechanical equipment including an HVAC; and roadway traffic noise. Compliance with the significance thresholds for these noise impacts does not constitute substantial evidence that sleep disturbance impacts are less-than-significant. 1.19

Courts have held that compliance with noise regulations alone is not substantial evidence of a less-than-significant impact.[99] In *Oro Fino Gold Mining Corp. v. County of El Dorado* ("*Oro Fino*"),[100] a mining company applied for a special use permit for drilling holes to explore for minerals.[101] The mining company argued the proposed mitigated negative declaration prohibited noise levels above the applicable county general plan noise standard maximum of 50 dBA and, therefore, there could be no significant noise impact. The court rejected this argument: "we note that conformity with a general plan does not insulate a project from EIR review where it can be fairly argued that the project will generate significant environmental effects."[102] Thus, the court concluded an EIR was required. 1.20

In *Citizens for Responsible & Open Government v. City of Grand Terrace* ("*Grand Terrace*"),[103] the city approved a 120-unit senior housing facility based on a mitigated negative declaration.[104] The noise element of the city's general plan stated exterior noise levels in residential areas should be limited to 65 dB

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[99] *King & Gardiner Farms, LLC v. Cnty. of Kern* (2020) 45 Cal.App.5th 814, 865.
[100] (1990) 225 Cal.App.3d 872.
[101] *Id.* at pg. 876; *see also Keep our Mountains Quiet v. County of Santa Clara* (2015) 236 Cal.App.4th 714; *Citizens for Responsible & Open Government v. City of Grand Terrace* (2008) 160 Cal.App.4th 1323, 1338; *Gentry v. City of Murrieta* (1995) 36 Cal.App.4th 1359, 1416 (project's effects can be significant even if "they are not greater than those deemed acceptable in a general plan"); *Environmental Planning & Information Council v. County of El Dorado* (1982) 131 Cal.App.3d 350, 354, ("CEQA nowhere calls for evaluation of the impacts of a proposed project on an existing general plan").
[102] *Id.* at pp. 881–882.
[103] (2008) 160 Cal.App.4th 1323.
[104] *Id.* at 1327.

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CNEL.[105] The initial study concluded the facility's air conditioner units would cause noise impacts, but with mitigating measures the project would operate within the general plan's noise standard. But the court cited *Oro Fino* for the principle that "'conformity with a general plan does not insulate a project from EIR review where it can be fairly argued that the project will generate significant environmental effects.'"[106] A citizen's group provided substantial evidence supporting such a fair argument. This evidence included testimony from an individual in the HVAC industry that the type of air conditioning units proposed by the project "sound like airplanes."[107] And at a city council public hearing, community and city council members expressed concern that the air conditioners would be noisy.[108] The court considered the testimony about the noise generated by the proposed air conditioners, took into account the mitigation measures, and concluded "there is substantial evidence that it can be fairly argued that the Project may have a significant environmental noise impact."[109] **1.20 cont.**

Here, the significance threshold for the Project's mechanical equipment noise impacts is contained in LAMC Section 112.02, which prohibits noise from mechanical equipment, including HVACs, from exceeding 5 decibels at receptors. The Categorical Exemption states that operational traffic noise would be less-than-significant if it would be less than 3 dBA.[110] The City states that adherence to LAMC Section 116.01 is the only applicable criterion for assessing noise impacts from the Project's open space. LAMC Section 116.01 provides: "it shall be unlawful for any person to willfully make or continue, or cause to be made or continued, any loud, unnecessary, and unusual noise which disturbs the peace or quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area." **1.21**

These significance thresholds do not address the Project's potential for sleep disturbance at nearby residential receptors. The World Health Organization ("WHO") identifies a guidance of 45 dBA Leq (outdoors) to avoid sleep disturbance from a continuous source, and a limit of 60 dBA Lmax for intermittent sources.[111] The significance thresholds summarized above do not necessarily consider noise impacts at WHO levels significant, nor otherwise address potential sleep disturbance impacts. Further, the City's significance thresholds do not identify the unique impacts of speakers on sleep: low frequency bass notes can cause significant

[105] *Grand Terrace,* 160 Cal.App.4th at 1338.
[106] *Grand Terrace, supra*, at pg. 1338.
[107] *Id.* at 1338-1339.
[108] *Id.* at 1338.
[109] *Id.* at p. 1341.
[110] Categorical Exemption, pg. 64.
[111] Meighan Comments, pg. 4.

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impacts even when the A-weighted level complies with applicable code. This occurs because low frequency bass notes pass through exterior walls and closed windows with little reduction.[112] Accordingly, other agencies, such as the City of San Francisco, limit low frequency noise increase from this type of use on a C-weighted basis.[113] 1.21 cont.

The Project has potentially significant sleep disturbance impacts on nearby residential receptors. The Project includes 12,692 sf of open space, a majority of which would be concentrated on the 4,237 sf roof deck.[114] Noise would potentially be generated by the up to 60 people that are accommodated on the roof deck. Noise would also potentially be generated by speakers on the roof deck or other open spaces. The Categorical Exemption states that while speakers on the roof deck are not anticipated, there is no condition precluding their use. Thus, there is the potential for low-frequency bass notes to disturb sleep. Accordingly, the Categorical Exemption acknowledges that occupancy of the Project's open spaces may increase ambient noise near the Project site.[115] Mr. Meighan also states that excessive noise from these rooftop activities occurring between 10 PM and 7 AM could cause sleep disturbance and would be potentially significant.[116]

In sum, the City's operational noise thresholds do not account for the Project's potential sleep disturbance impacts. Thus, the City lacks the substantial evidence necessary to rely on a categorical exemption. 1.22

III. The Director's Approval of the Project's Site Plan Review Was Contrary to Law and Unsupported by Substantial Evidence

The Director erroneously approved a Site Plan Review for the Project pursuant to LAMC Section 16.05 without substantial evidence to support the required findings. This approval requires making certain environmental findings. LAMC Sec. 16.05(A) provides that: 1.23

> The purposes of site plan review are to promote orderly development, **evaluate and mitigate significant environmental impacts**, and promote public safety and the general welfare by ensuring that development projects are properly related to their sites, surrounding properties, traffic circulation, sewers, other infrastructure and environmental setting; and to **control or**

[112] *Id.*
[113] Meighan Comments, pg. 4.
[114] Categorical Exemption, pg. 63.
[115] *Id.*
[116] Meighan Comments, pg. 4.

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> **mitigate the development of projects which are likely to have a significant adverse effect on the environment** as identified in the City's environmental review process, or on surrounding properties by reason of inadequate site planning or improvements. [emphasis added]

1.23 cont.

LAMC Sec. 16.05(E) further provides that:

a. In granting site plan approval, the Director may condition and/or modify the project, or select an alternative project, as he or she deems necessary to implement the general or specific plan and to mitigate significant adverse effects of the development project on the environment and surrounding areas.
b. The Director **shall not approve or conditionally approve a site plan review for a development project unless an appropriate environmental review clearance has been prepared in accordance with the requirements of CEQA.** [emphasis added]

Here, the purposes of site plan review set forth by LAMC Sec. 16.05(A) have not been fulfilled, as the Project's environmental document failed to adequately evaluate and mitigate significant environmental impacts. Further, the appropriate environmental review clearance has not been prepared in accordance with the requirements of CEQA, in violation of LAMC Sec. 16.05(E). As explained above, the appropriate environmental clearance is an EIR, not a categorical exemption. Further, the analysis conducted in the categorical exemption contained flaws in violation of CEQA, as shown in these comments. The findings adopted by the Director in support of the Project's Site Plan Review approval were not supported by substantial evidence, and were therefore contrary to law.[117] The Commission must vacate the Director's approval of the Project's site plan review.

IV. The Director's Approval of the Density Bonus Was Contrary to Law and Unsupported by Substantial Evidence

1.24

The Director erroneously approved a Density Bonus for the Project pursuant to LAMC Section 12.22 A.25 without substantial evidence to support the required findings. The LAMC provides that the Director is prohibited from approving a Density Bonus if there is substantial evidence demonstrating that:[118]

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[117] Code Civ. Proc § 1094.5(b); *Topanga Assn. for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 515.
[118] Section 12.22 A.25(g)(2)(i)(c).

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(i) The Incentive is not required in order to provide for affordable housing costs as defined in California Health and Safety Code Section 50052.5, or Section 50053 for rents for the affordable units; or

(ii) The Incentive will have a Specific Adverse Impact upon public health and safety or the physical environment or on any real property that is listed in the California Register of Historical Resources and for which there is no feasible method to satisfactorily mitigate or avoid the Specific Adverse Impact without rendering the development unaffordable to Very Low, Low and Moderate Income households. Inconsistency with the zoning ordinance or general plan land use designation shall not constitute a specific, adverse impact upon the public health or safety.

1.24 cont.

The Findings state that there is no evidence that the density bonus incentive would have a specific adverse impact. This conclusion is unsupported because the City failed to quantify the health risk from the Project's air emissions on nearby sensitive receptors, and failed to accurately analyze noise impacts. The Director's conclusion is also erroneous, as the analysis presented in this letter shows that, when calculated, the Project will cause potentially significant and unmitigated health risk and noise impacts. These impacts are heightened due to the Project's density bonus: the requested increase in FAR allows the Applicant to expand the building envelope so that additional units can be constructed.[119] The FAR increase allows the Project to construct an additional 26,856 sf.[120] The increased size of the Project results in a longer construction period, which extends the duration of the Project's construction noise and emissions. Since this letter demonstrates that these emissions are potentially significant, this Finding was contrary to law and lacks the support of substantial evidence.

V. CONCLUSION

CREED LA respectfully requests that the City set a hearing on this appeal, and that the Area Planning Commission uphold this appeal, vacate the Director's approval of the Project, and direct staff to prepare an EIR for the Project. 1.25

Sincerely,

Aidan P. Marshall

APM:acp

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[119] City of Los Angeles Planning Department, Director's Letter of Determination (September 21, 2022), pg. 11.
[120] *Id.*

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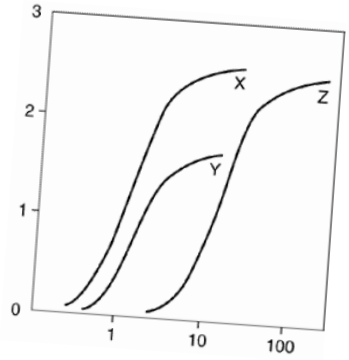
EXHIBIT A

APPEAL LETTER NO. 1A



Clark & Associates
Environmental Consulting, Inc.

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October 4, 2022

Adams Broadwell Joseph & Cardozo
601 Gateway Boulevard, Suite 1000
South San Francisco, CA 940804

Attn: Mr. Aidan Marshall

Subject: Comments On Proposed Use Development Project Located At 216 South Spring Street (DIR-2020-7846-DB-SPR-RDP-HCA)

Dear Mr. Marshall,

At the request of Adams Broadwell Joseph & Cardozo (ABJC), Clark and Associates (Clark) has reviewed materials related to the 2022 City of Los Angeles (the City) Categorical Exemption of the above referenced project. 1A.1

Clark's review of the materials in no way constitutes a validation of the conclusions or materials contained within the plan. If we do not comment on a specific item this does not constitute acceptance of the item.

The Project Site occupies approximately 12,784 square feet of lot area (0.29 acres) and is currently developed with a one-story commercial building. The Applicant proposes the demolition of the existing structure for the construction of a 17- story mixed-use building with 120 multi-family dwelling units, 1,032 square feet of retail, and a 1,981 square-foot restaurant. The proposed development would reach a maximum height of 223 feet and 4 inches above grade. The unit mix would include 16 studio units, 89 one-bedroom units, 13 two-bedroom units, and two three-bedroom units. Of the 120 dwelling units, 11 percent of the units (14 units) would be reserved at the "very low income" level. The building would include approximately 12,692 square feet of open space, including an outdoor rooftop deck, common recreation areas, and private balconies. The Proposed Project would include a total of 103,550 square feet of floor area, resulting in an approximate 8.1:1 FAR. The Proposed Project would provide 69 vehicle parking spaces on-site, pursuant to AB 744, in a three-level subterranean parking garage and 102 bicycle parking spaces. There are two non-protective street trees in the public right-of-way which would be removed. The street tree removal is subject to a 2:1

replacement ratio to the satisfaction of the Board of Public Works. There are no existing trees on the Project Site. The Project also proposes to plant 30 24-inch box trees on-site, pursuant to the Los Angeles Municipal Code (LAMC).

1.A1 cont.

Source: Google Earth, Aerial View, 2020.

Figure 3
Aerial Photograph of the Project Site and Surrounding Land Uses

Figure 1: 216 South Spring Street Project Location

According to the Notice of Exemption (NOE), the Proposed Project meets all of the criteria necessary to qualify for a CEQA Exemption as a Class 32 (Infill Development Project) pursuant to CEQA Guideline Sections 15332. A Class 32 Exemption would not be applicable if it can be demonstrated that the project will have significant air quality impacts.

The failure of the City to analyze the health risks from stationary emissions associated with the project require the City to withdraw the NOE and have the Proponent prepare an environmental impact report (EIR) 1A.1 cont.

Specific Comments:

1A.2

1. The City's Air Quality Analysis Fails To Include A Quantitative Health Risk Analysis Of The Impacts Of Toxic Air Contaminants From The Construction Phase And Operational Phase Of The Project For The Nearest Sensitive Receptor(s)

The City has failed to conduct a numerical health risk analysis (HRA) for Project. The NOE states that, for the purposes of assessing pollution concentrations upon sensitive receptors, the SCAQMD has developed LSTs that are based on the number of pounds of emissions per day that can be generated by a project that would cause or contribute to adverse localized air quality impacts. [1] The nearest sensitive receptors that could potentially be subject to localized air quality impacts associated with construction of the Proposed Project include the residential buildings to the west of the Project Site. For the Criteria Pollutants assessed under CEQA, this is correct. For toxic air contaminants (TACs), there are no LSTs, nor levels of significance based on the pounds per day. Instead, the determination of a significance threshold is based on a ***quantitative risk analysis*** that requires the City to perform a multistep, quantitative health risk analysis.

TACs, including diesel particulate matter (DPM)[2], contribute to a host of respiratory impacts and may lead to the development of various cancers. Failing to quantify those impacts places the community at risk for unwanted adverse health impacts. *Even brief exposures to the TACs could lead to the development of adverse health impacts over the life of an individual*.

Diesel exhaust contains nearly 40 toxic substances, including TACs and may pose a serious public health risk for residents in the vicinity of the facility. TACs are airborne substances that are

[1] City of Los Angeles. 2022. NOE 216 South Spring Street. Pg 66

[2] Because DPM is a TAC, it is a different air pollutant than criteria particulate matter (PM) emissions such as PM10, PM2.5, and fugitive dust. DPM exposure causes acute health effects that are different from the effects of exposure to PM alone.

capable of causing short-term (acute) and/or long-term (chronic or carcinogenic, i.e., cancer causing) adverse human health effects (i.e., injury or illness). TACs include both organic and inorganic chemical substances. The current California list of TACs includes approximately 200 compounds, including particulate emissions from diesel-fueled engines.

1A.2 cont.

Diesel exhaust has been linked to a range of serious health problems including an increase in respiratory disease, lung damage, cancer, and premature death.[3,4,5] Fine DPM is deposited deep in the lungs in the smallest airways and can result in increased respiratory symptoms and disease; decreased lung function, particularly in children and individuals with asthma; alterations in lung tissue and respiratory tract defense mechanisms; and premature death.[6] Exposure to DPM increases the risk of lung cancer. It also causes non-cancer effects including chronic bronchitis, inflammation of lung tissue, thickening of the alveolar walls, immunological allergic reactions, and airway constriction.[7] DPM is a TAC that is recognized by state and federal agencies as causing severe health risk because it contains toxic materials, unlike $PM_{2.5}$ and PM_{10}.[8]

The inherent toxicity of the TACs requires the City to first quantify the concentration released into the environment at each of the sensitive receptor locations through air dispersion modeling, calculate the dose of each TAC at that location, and quantify the cancer risk and hazard index for each of the chemicals of concern. Following that analysis, then the City can make a determination of the relative significance of the emissions.

According to the NOE, the nearest sensitive receptors to the Project site include a mixed-use

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[3] California Air Resources Board, Initial Statement of Reasons for Rulemaking, Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant, Staff Report, June 1998; see also California Air Resources Board, Overview: Diesel Exhaust & Health, https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health#:~:text=Diesel%20Particulate%20Matter%20and%20Health&text=In%201998%2C%20CARB%20identified%20DPM,and%20other%20adverse%20health%20effects.

[4] U.S. EPA, Health Assessment Document for Diesel Engine Exhaust, Report EPA/600/8-90/057F, May 2002.

[5] Environmental Defense Fund, Cleaner Diesel Handbook, Bring Cleaner Fuel and Diesel Retrofits into Your Neighborhood, April 2005; http://www.edf.org/documents/4941_cleanerdieselhandbook.pdf, accessed July 5, 2020.

[6] California Air Resources Board, Initial Statement of Reasons for Rulemaking, Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant, Staff Report, June 1998.

[7] Findings of the Scientific Review Panel on The Report on Diesel Exhaust as adopted at the Panel's April 22, 1998 Meeting.

[8] Health & Safety Code § 39655(a) (defining "toxic air contaminant" as air pollutants "which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health. A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the federal act (42 U.S.C. Sec. 7412 (b)) is a toxic air contaminant.")

residential building located at 108 West 2nd Street. Along with 3 other mixed use sites, they represent the closest sensitive receptors to the Project.

Sensitive receptors identified within 500 feet of the Project Site include:

1) Mixed-use residential building immediately northeast of the Project Site, located at 108 W. 2nd Street;
2) Multi-family residences further east of the Project Site, located at 222 S. Main Street;
3) Multi-family residences further southwest of the Project Site, located at 242 S. Broadway and 257 S. Spring Street; and
4) Future mixed-use residential building west of the Project Site, located at 222 W. 2nd Street (currently under construction).

1A.2 cont.

Figure 2: page 60 of NOE Indicating Closest Sensitive Receptors

These receptors would be exposed to TACs released during Project construction and operation, including DPM. No effort is made in the NOE to quantify the potential health impacts from DPM generated by construction activities or operational activities from the Project on these sensitive receptors. The City's failure to perform such an analysis is clearly a major flaw in the NOE and may be placing the residents of the adjacent structures at risk from the construction and operational phases of the Project.

2. Using The Data From The CalEEMOD Analysis Of The Construction Phase Of The Project, An Air Dispersion Model Of Potential Releases of DPM Show The Annual Average Concentration Of DPM At The Nearest Receptor Would Exceed 2 ug/m3 During The Construction Phase

1A.3

Using the CalEEMOD analysis supplied in Attachment 4 of the NOE it is possible to calculate potential emissions of DPM at the nearest receptor to the Project site during the construction phase of the Project.

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.8177	23.5920	19.8870	0.0534	3.3988	0.8105	4.2093	1.4295	0.7600	2.1895	0.0000	5,538.8798	5,538.8798	0.7348	0.5088	5,708.8753
2023	1.6744	13.8198	19.4852	0.0389	1.2219	0.6479	1.8698	0.3267	0.6076	0.9343	0.0000	3,811.8416	3,811.8416	0.6523	0.0735	3,850.0392
2024	8.5860	12.9603	19.2150	0.0386	1.2219	0.5773	1.7991	0.3267	0.5412	0.8679	0.0000	3,778.4829	3,778.4829	0.6480	0.0713	3,815.9158
Maximum	**8.5860**	**23.5920**	**19.8870**	**0.0534**	**3.3988**	**0.8105**	**4.2093**	**1.4295**	**0.7600**	**2.1895**	**0.0000**	**5,538.8798**	**5,538.8798**	**0.7348**	**0.5088**	**5,708.8753**

1A.3 cont.

Figure 3: CalEEMOD Analysis Of Construction Phase

Assuming that the emissions are limited to just the on-site emissions of PM10 exhaust, the total amount of emissions over the site is calculated to be approximately 305 lbs of DPM over the construction period.

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/1/2022	8/1/2022	5	22	
2	Grading	Grading	8/2/2022	11/1/2022	5	66	
3	Building Construction	Building Construction	11/2/2022	2/28/2024	5	346	
4	Architectural Coating	Architectural Coating	3/1/2024	7/2/2024	5	88	

Figure 4: Time Line Of Construction Phase

Using the only values for the on-site emissions, the emission rate for the site was calculated below.

Phase	Year	Emissions	Duration	Total Emissions For Phase	Emissions Per Day	Emission Rate Per Hour	Site Wide Annual Emission Rate
		lbs/day	days	lbs	lbs/day	lbs-hour	lbs-hr/ft2
Demolition	2022	0.3375	22	7.425	0.014224138	0.001778017	
Grading	2022	0.7463	66	49.2558	0.09435977	0.011794971	
Building Construction	2022	0.73	40	29.2	0.055938697	0.006992337	
	2023	0.6379	250	159.475	0.305507663	0.038188458	

Phase	Year	Emissions	Duration	Total Emissions For Phase	Emissions Per Day	Emission Rate Per Hour	Site Wide Annual Emission Rate
		lbs/day	days	lbs	lbs/day	lbs-hour	lbs-hr/ft2
	2024	0.5675	56	31.78	0.060881226	0.007610153	
Architectural Coating	2024	0.3227	88	28.3976	0.054401533	0.006800192	
Total			522	305.5334	0.585313027	0.073164128	6.97503E-06

Assuming that emissions will be limited to an eight-hour period during weekdays it is possible to calculate averaged emissions over the whole construction site. Using AERMOD, the US EPA's preferred air dispersion model, it is possible to calculate the concentrations of DPM from the construction area at the closest receptors located at 108 West 2nd Street. AERMOD is an acronym for the American Meteorological Society/Environmental Protection Agency Regulatory Model Improvement Committee's Dispersion Model. AERMOD contains the necessary algorithms to model air concentrations from a wide range of emission source types, including stack-based point sources, fugitive area sources, and volume sources. **1A.3 cont.**

Using the meteorological data from SCAQMD for the USC/Downton monitoring station (closest met station to the Project site), limiting the emissions to an 8-hour period on weekdays, the concentrations at the 108 West 2nd Street building were calculated and are summarized below.

X	Y	2012	2013	2014	2015	2016	Average
m	m	ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3
385055	3768512	2.485695	2.575368	2.161039	2.255038	2.439032	2.383234
385072.5	3768497	0.453255	0.4852313	0.3613367	0.4266863	0.4590648	0.437115
385090.8	3768481	0.139004	0.1558533	0.09672991	0.1260649	0.1403288	0.131596
385098.9	3768528	0.353684	0.3685095	0.3430974	0.3342747	0.3823079	0.356375

Using the OEHHA's HARP 2 Standalone Risk software, the cancer risk to the most sensitive population, infants less than 2 years old was calculated. The cumulative risk for exposure during the 2 years of construction is 814 in 1,000,000, much greater than the 10 in 1,000,000 threshold outlined by SCAQMD. For adults, the risk from exposure to DPM from the construction phase

of the project is 17.5 in 1,000,0000. The results of the air model and the health risk analysis are attached as an appendix to this letter. 1A.3 cont.

3. The Air Quality Analysis For The Project Fails To Accurately Assess The Impacts From The Emergency Generator That Will Be Installed Onsite.

1A.4

In Attachment 4 to the NOE of Project, the air quality analysis assumes that the back up generator (BUG) on site will only be operated for 12 hours a year (testing and maintenance). According to SCAQMD Rules 1110.2, 1470, back-up generators (BUGs) are allowed to operate for up to 200 hours per year and maintenance cannot exceed more than 50 hours per year. The City must revise its air quality analysis to include the use of BUGs onsite in an EIR.

In addition to the testing emissions the air quality analysis must include the substantial increase in operational emissions from BUGs in the Air Basin due to unscheduled events, including but not limited to Public Safety Power Shutoff (PSPS) events and extreme heat events. Extreme heat events are defined as periods where in the temperatures throughout California exceed 100 degrees Fahrenheit.[9] From January, 2019 through December, 2019, Southern California Edison reported 158 of their circuits underwent a PSP event[10]. In Los Angeles County two circuits had 4 PSPS events during that period lasting an average of 35 to 38 hours. The total duration of the PSPS events in Los Angeles lasted between 141 hours to 154 hours in 2019. In 2021, the Governor of California declared that during extreme heat events the use of stationary generators shall be deemed an emergency use under California Code of Regulations (CCR), title 17, section 93115.4 sub. (a) (30) (A)(2). The number of Extreme Heat Events is likely to increase in California with the continuing change in climate the State is currently undergoing.

Power produced during PSPS or extreme heat events is expected to come from engines regulated by CARB and California's 35 air pollution control and air quality management districts (air districts). [11] Of particular concern are health effects related to emissions from diesel back-up engines.

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[9] Governor of California. 2021. Proclamation of a state of emergency. June 17, 2021.

[10] SCAQMD. 2020. Proposed Amendement To Rules (PARS) 1110.2, 1470, and 1472. Dated December 10, 2020. http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1110.2/1110-2_1470_1472/par1110-2_1470_wgm_121020.pdf?sfvrsn=6.

[11] CARB. 2019. Use of Back-up Engines For Electricity Generation During Public Safety Power Shutoff Events. October 25, 2019.

DPM has been identified as a toxic air contaminant, composed of carbon particles and numerous organic compounds, including over forty known cancer-causing organic substances. The majority of DPM is small enough to be inhaled deep into the lungs and make people more susceptible to further injury. 1A.4 cont.

According to the California Public Utilities Commission (CPUC) de-energization report[12] in October 2019, there were almost ***806 PSPS events*** (emphasis added) that impacted almost 973,000 customers (~7.5% of households in California) of which ~854,000 of them were residential customers. CARB's data also indicated that on average each of these customers had about 43 hours of power outage in October 2019. [13] Using the actual emission factors for each diesel BUG engines in the air district's stationary BUGs database, CARB staff calculated that the 1,810 additional stationary generators (like those proposed for the Project) running during a PSPS in October 2019 generated 126 tons of NOx, 8.3 tons or particulate matter, and 8.3 tons of DPM.

For every PSPS or Extreme Heat Event (EHE) triggered during the operational phase of the project, significant concentrations of DPM will be released that are not accounted for in the City's analysis. In 2021, two EHEs were declared. For the June 17, 2021 EHE, stationary generator owners were allowed to use their BUGs for 48 hours. For the July 9, 2021 EHE, the stationary generator owners were allowed to use their BUGs for 72 hours. These two events would have increased 10 fold the calculated DPM emissions from the Project if only the 12 hours of testing claimed in the Categorical Exemption were to be true. An EIR must be written for the Project that includes an analysis of the additional operation of the BUG that will occur at the project site that is not accounted for in the current air quality analysis.

4. Given The Proximity Of Sensitive Receptors To The Site And The Nature of The Toxic Air Contaminants Emitted, The Operational Emissions From The Back Up Generator Will Cause A Significant Health Risk To Residents Near The Project Site. 1A.5

[12] https://www.cpuc.ca.gov/deenergization/ as cited in CARB, 2020. Potential Emission Impact of Public Safety Power Shutoff (PSPS), Emission Impact: Additional Generator Usage associated With Power Outage..

[13] CARB, 2020. Potential Emission Impact of Public Safety Power Shutoff (PSPS), Emission Impact: Additional Generator Usage associated With Power Outage.

No attempt is made by the City to assess how the routine testing and maintenance of the diesel emergency generator would affect the identified sensitive receptors. Using the SCAQMD's Rule 1401 Risk Assessment Programs Risk Tool V1.103 software, it is possible to generate a site-specific screening level HRA for emissions from the back-up generator (BUG). Assuming the system is restricted to maintenance and testing for 12 hours per year or less, the model calculates emissions of DPM of approximately 1.07 lbs per year. This value is the same as the amount reported in the NOE for the operational analysis of the site. **1A.5 cont.**

Assuming the generator's emissions will be vented at the ground level, the vent to the generator would be approximately 14 feet above grade level. For the Risk Tool inputs, the stack height (exit point of the generator) was set to 14 feet above grade.

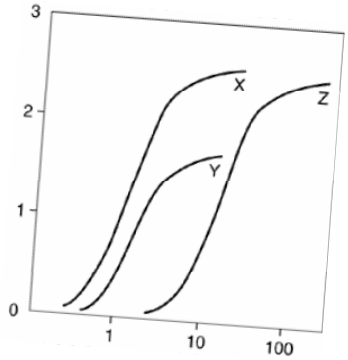
Based on the emission of 1.2 lbs per year of DPM, the SCAQMD Risk Tool calculates a risk of 17.3 in 1,000,000 for residents living within 25 meters of the Project Site. Commercial workers located within 25 meters of the site face a potential health risk of 5.99 in 1,000,000. The model was set to assume T-BACT controls were in place for the generator (control efficiency of 99%).

All of the results for this analysis are presented in Exhibit B to this letter. The City must address this significant error in their air quality analysis and prepare an EIR for the Project.

Conclusion

The facts identified and referenced in this comment letter lead me to reasonably conclude that the Project could result in significant unmitigated impacts if the Categorical Exemption is approved. The City must re-evaluate the significant impacts identified in this letter by requiring the preparation of a revised environmental impact report. **1A.6**

Sincerely,



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James J. J. Clark, Ph.D.

Principal Toxicologist

Toxicology/Exposure Assessment Modeling

Risk Assessment/Analysis/Dispersion Modeling

Education:

Ph.D., Environmental Health Science, University of California, 1995

M.S., Environmental Health Science, University of California, 1993

B.S., Biophysical and Biochemical Sciences, University of Houston, 1987

Professional Experience:

Dr. Clark is a well recognized toxicologist, air modeler, and health scientist. He has 20 years of experience in researching the effects of environmental contaminants on human health including environmental fate and transport modeling (SCREEN3, AEROMOD, ISCST3, Johnson-Ettinger Vapor Intrusion Modeling); exposure assessment modeling (partitioning of contaminants in the environment as well as PBPK modeling); conducting and managing human health risk assessments for regulatory compliance and risk-based clean-up levels; and toxicological and medical literature research.

Significant projects performed by Dr. Clark include the following:

LITIGATION SUPPORT

Case: James Harold Caygle, et al, v. Drummond Company, Inc. Circuit Court for the Tenth Judicial Circuit, Jefferson County, Alabama. Civil Action. CV-2009

Client: Environmental Litgation Group, Birmingham, Alabama

Dr. Clark performed an air quality assessment of emissions from a coke factory located in Tarrant, Alabama. The assessment reviewed include a comprehensive review of air quality standards, measured concentrations of pollutants from factory, an inspection of the facility and detailed assessment of the impacts on the community. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Settlement in favor of plaintiff.

Case: Rose Roper V. Nissan North America, et al. Superior Court of the State Of California for the County Of Los Angeles – Central Civil West. Civil Action. NC041739

Client: Rose, Klein, Marias, LLP, Long Beach, California

Dr. Clark performed a toxicological assessment of an individual occupationally exposed to multiple chemicals, including benzene, who later developed a respiratory distress. A review of the individual's medical and occupational history was performed to prepare an exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to respiratory irritants. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Settlement in favor of plaintiff.

Case: O'Neil V. Sherwin Williams, et al. United States District Court Central District of California

Client: Rose, Klein, Marias, LLP, Long Beach, California

Dr. Clark performed a toxicological assessment of an individual occupationally exposed to petroleum distillates who later developed a bladder cancer. A review of the individual's medical and occupational history was performed to prepare a quantitative exposure assessment. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Summary judgment for defendants.

Case: Moore V., Shell Oil Company, et al. Superior Court of the State Of California for the County Of Los Angeles

Client: Rose, Klein, Marias, LLP, Long Beach, California

Dr. Clark performed a toxicological assessment of an individual occupationally exposed to chemicals while benzene who later developed a leukogenic disease. A review of the individual's medical and occupational history was performed to prepare a quantitative exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to refined petroleum hydrocarbons. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Settlement in favor of plaintiff.

Case: Raymond Saltonstall V. Fuller O'Brien, KILZ, and Zinsser, et al. United States District Court Central District of California

Client: Rose, Klein, Marias, LLP, Long Beach, California

Dr. Clark performed a toxicological assessment of an individual occupationally exposed to benzene who later developed a leukogenic disease. A review of the individual's medical and occupational history was performed to prepare a quantitative exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to refined petroleum hydrocarbons. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Settlement in favor of plaintiff.

Case: Richard Boyer and Elizabeth Boyer, husband and wife, V. DESCO Corporation, et al. Circuit Court of Brooke County, West Virginia. Civil Action Number 04-C-7G.

Client: Frankovitch, Anetakis, Colantonio & Simon, Morgantown, West Virginia.

Dr. Clark performed a toxicological assessment of a family exposed to chlorinated solvents released from the defendant's facility into local drinking water supplies. A review of the individual's medical and occupational history was performed to prepare a qualitative exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to chlorinated solvents. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Settlement in favor of plaintiff.

Case: JoAnne R. Cook, V. DESCO Corporation, et al. Circuit Court of Brooke County, West Virginia. Civil Action Number 04-C-9R

Client: Frankovitch, Anetakis, Colantonio & Simon, Morgantown, West Virginia.

Dr. Clark performed a toxicological assessment of an individual exposed to chlorinated solvents released from the defendant's facility into local drinking water supplies. A review of the individual's medical and occupational history was performed to prepare a qualitative exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to chlorinated solvents. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Settlement in favor of plaintiff.

Case: Patrick Allen And Susan Allen, husband and wife, and Andrew Allen, a minor, V. DESCO Corporation, et al. Circuit Court of Brooke County, West Virginia. Civil Action Number 04-C-W

Client: Frankovitch, Anetakis, Colantonio & Simon, Morgantown, West Virginia.

Dr. Clark performed a toxicological assessment of a family exposed to chlorinated solvents released from the defendant's facility into local drinking water supplies. A review of the individual's medical and occupational history was performed to prepare a qualitative exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to chlorinated solvents. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Settlement in favor of plaintiff.

Case: Michael Fahey, Susan Fahey V. Atlantic Richfield Company, et al. United States District Court Central District of California Civil Action Number CV-06 7109 JCL.

Client: Rose, Klein, Marias, LLP, Long Beach, California

Dr. Clark performed a toxicological assessment of an individual occupationally exposed to refined petroleum hydrocarbons who later developed a leukogenic disease. A review of the individual's medical and occupational history was performed to prepare a qualitative exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to refined petroleum hydrocarbons. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Settlement in favor of plaintiff.

Case: Constance Acevedo, et al., V. California Spray-Chemical Company, et al., Superior Court of the State Of California, County Of Santa Cruz. Case No. CV 146344

Dr. Clark performed a comprehensive exposure assessment of community members exposed to toxic metals from a former lead arsenate manufacturing facility. The former manufacturing site had undergone a DTSC mandated removal action/remediation for the presence of the toxic metals at the site. Opinions were presented regarding the elevated levels of arsenic and lead (in attic dust and soils) found throughout the community and the potential for harm to the plaintiffs in question.

Case Result: Settlement in favor of defendant.

Case: Michael Nawrocki V. The Coastal Corporation, Kurk Fuel Company, Pautler Oil Service, State of New York Supreme Court, County of Erie, Index Number I2001-11247

Client: Richard G. Berger Attorney At Law, Buffalo, New York

Dr. Clark performed a toxicological assessment of an individual occupationally exposed to refined petroleum hydrocarbons who later developed a leukogenic disease. A review of the individual's medical and occupational history was performed to prepare a qualitative exposure assessment. The exposure assessment was evaluated against the

known outcomes in published literature to exposure to refined petroleum hydrocarbons. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Judgement in favor of defendant.

SELECTED AIR MODELING RESEARCH/PROJECTS

Client – Confidential

Dr. Clark performed a comprehensive evaluation of criteria pollutants, air toxins, and particulate matter emissions from a carbon black production facility to determine the impacts on the surrounding communities. The results of the dispersion model will be used to estimate acute and chronic exposure concentrations to multiple contaminants and will be incorporated into a comprehensive risk evaluation.

Client – Confidential

Dr. Clark performed a comprehensive evaluation of air toxins and particulate matter emissions from a railroad tie manufacturing facility to determine the impacts on the surrounding communities. The results of the dispersion model have been used to estimate acute and chronic exposure concentrations to multiple contaminants and have been incorporated into a comprehensive risk evaluation.

Client – Los Angeles Alliance for a New Economy (LAANE), Los Angeles, California

Dr. Clark is advising the LAANE on air quality issues related to current flight operations at the Los Angeles International Airport (LAX) operated by the Los Angeles World Airport (LAWA) Authority. He is working with the LAANE and LAX staff to develop a comprehensive strategy for meeting local community concerns over emissions from flight operations and to engage federal agencies on the issue of local impacts of community airports.

Client – City of Santa Monica, Santa Monica, California

Dr. Clark is advising the City of Santa Monica on air quality issues related to current flight operations at the facility. He is working with the City staff to develop a comprehensive strategy for meeting local community concerns over emissions from flight operations and to engage federal agencies on the issue of local impacts of community airports.

Client: Omnitrans, San Bernardino, California

Dr. Clark managed a public health survey of three communities near transit fueling facilities in San Bernardino and Montclair California in compliance with California Senate Bill 1927. The survey included an epidemiological survey of the effected communities, emission surveys of local businesses, dispersion modeling to determine potential emission concentrations within the communities, and a comprehensive risk assessment of each community. The results of the study were presented to the Governor as mandated by Senate Bill 1927.

Client: Confidential, San Francisco, California

Summarized cancer types associated with exposure to metals and smoking. Researched the specific types of cancers associated with exposure to metals and smoking. Provided causation analysis of the association between cancer types and exposure for use by non-public health professionals.

Client: Confidential, Minneapolis, Minnesota

Prepared human health risk assessment of workers exposed to VOCs from neighboring petroleum storage/transport facility. Reviewed the systems in place for distribution of petroleum hydrocarbons to identify chemicals of concern (COCs), prepared comprehensive toxicological summaries of COCs, and quantified potential risks from carcinogens and non-carcinogens to receptors at or adjacent to site. This evaluation was used in the support of litigation.

Client – United Kingdom Environmental Agency

Dr. Clark is part of team that performed comprehensive evaluation of soil vapor intrusion of VOCs from former landfill adjacent residences for the United Kingdom's Environment

Agency. The evaluation included collection of liquid and soil vapor samples at site, modeling of vapor migration using the Johnson Ettinger Vapor Intrusion model, and calculation of site-specific health based vapor thresholds for chlorinated solvents, aromatic hydrocarbons, and semi-volatile organic compounds. The evaluation also included a detailed evaluation of the use, chemical characteristics, fate and transport, and toxicology of chemicals of concern (COC). The results of the evaluation have been used as a briefing tool for public health professionals.

EMERGING/PERSISTENT CONTAMINANT RESEARCH/PROJECTS

Client: Ameren Services, St. Louis, Missouri

Managed the preparation of a comprehensive human health risk assessment of workers and residents at or near an NPL site in Missouri. The former operations at the Property included the servicing and repair of electrical transformers, which resulted in soils and groundwater beneath the Property and adjacent land becoming impacted with PCB and chlorinated solvent compounds. The results were submitted to U.S. EPA for evaluation and will be used in the final ROD.

Client: City of Santa Clarita, Santa Clarita, California

Dr. Clark is managing the oversight of the characterization, remediation and development activities of a former 1,000 acre munitions manufacturing facility for the City of Santa Clarita. The site is impacted with a number of contaminants including perchlorate, unexploded ordinance, and volatile organic compounds (VOCs). The site is currently under a number of regulatory consent orders, including an Immanent and Substantial Endangerment Order. Dr. Clark is assisting the impacted municipality with the development of remediation strategies, interaction with the responsible parties and stakeholders, as well as interfacing with the regulatory agency responsible for oversight of the site cleanup.

Client: Confidential, Los Angeles, California

Prepared comprehensive evaluation of perchlorate in environment. Dr. Clark evaluated the production, use, chemical characteristics, fate and transport, toxicology, and remediation of perchlorate. Perchlorates form the basis of solid rocket fuels and have recently been detected in water supplies in the United States. The results of this research

were presented to the USEPA, National GroundWater, and ultimately published in a recent book entitled *Perchlorate in the Environment.*

Client – Confidential, Los Angeles, California

Dr. Clark is performing a comprehensive review of the potential for pharmaceuticals and their by-products to impact groundwater and surface water supplies. This evaluation will include a review if available data on the history of pharmaceutical production in the United States; the chemical characteristics of various pharmaceuticals; environmental fate and transport; uptake by xenobiotics; the potential effects of pharmaceuticals on water treatment systems; and the potential threat to public health. The results of the evaluation may be used as a briefing tool for non-public health professionals.

PUBLIC HEALTH/TOXICOLOGY

Client: Brayton Purcell, Novato, California

Dr. Clark performed a toxicological assessment of residents exposed to methyl-tertiary butyl ether (MTBE) from leaking underground storage tanks (LUSTs) adjacent to the subject property. The symptomology of residents and guests of the subject property were evaluated against the known outcomes in published literature to exposure to MTBE. The study found that residents had been exposed to MTBE in their drinking water; that concentrations of MTBE detected at the site were above regulatory guidelines; and, that the symptoms and outcomes expressed by residents and guests were consistent with symptoms and outcomes documented in published literature.

Client: Confidential, San Francisco, California

Identified and analyzed fifty years of epidemiological literature on workplace exposures to heavy metals. This research resulted in a summary of the types of cancer and non-cancer diseases associated with occupational exposure to chromium as well as the mortality and morbidity rates.

Client: Confidential, San Francisco, California

Summarized major public health research in United States. Identified major public health research efforts within United States over last twenty years. Results were used as a briefing tool for non-public health professionals.

Client: Confidential, San Francisco, California

Quantified the potential multi-pathway dose received by humans from a pesticide applied indoors. Part of team that developed exposure model and evaluated exposure concentrations in a comprehensive report on the plausible range of doses received by a specific person. This evaluation was used in the support of litigation.

Client: Covanta Energy, Westwood, California

Evaluated health risk from metals in biosolids applied as soil amendment on agricultural lands. The biosolids were created at a forest waste cogeneration facility using 96% whole tree wood chips and 4 percent green waste. Mass loading calculations were used to estimate Cr(VI) concentrations in agricultural soils based on a maximum loading rate of 40 tons of biomass per acre of agricultural soil. The results of the study were used by the Regulatory agency to determine that the application of biosolids did not constitute a health risk to workers applying the biosolids or to residences near the agricultural lands.

Client – United Kingdom Environmental Agency

Oversaw a comprehensive toxicological evaluation of methyl-*tertiary* butyl ether (M*t*BE) for the United Kingdom's Environment Agency. The evaluation included available data on the production, use, chemical characteristics, fate and transport, toxicology, and remediation of M*t*BE. The results of the evaluation have been used as a briefing tool for public health professionals.

Client – Confidential, Los Angeles, California

Prepared comprehensive evaluation of *tertiary* butyl alcohol (TBA) in municipal drinking water system. TBA is the primary breakdown product of M*t*BE, and is suspected to be the primary cause of M*t*BE toxicity. This evaluation will include available information on the production, use, chemical characteristics, fate and transport in the environment, absorption, distribution, routes of detoxification, metabolites, carcinogenic potential, and remediation of TBA. The results of the evaluation were used as a briefing tool for non-public health professionals.

Client – Confidential, Los Angeles, California

Prepared comprehensive evaluation of methyl *tertiary* butyl ether (MTBE) in municipal drinking water system. MTBE is a chemical added to gasoline to increase the octane

rating and to meet Federally mandated emission criteria. The evaluation included available data on the production, use, chemical characteristics, fate and transport, toxicology, and remediation of MTBE. The results of the evaluation have been were used as a briefing tool for non-public health professionals.

Client – Ministry of Environment, Lands & Parks, British Columbia

Dr. Clark assisted in the development of water quality guidelines for methyl tertiary-butyl ether (MTBE) to protect water uses in British Columbia (BC). The water uses to be considered includes freshwater and marine life, wildlife, industrial, and agricultural (e.g., irrigation and livestock watering) water uses. Guidelines from other jurisdictions for the protection of drinking water, recreation and aesthetics were to be identified.

Client: Confidential, Los Angeles, California

Prepared physiologically based pharmacokinetic (PBPK) assessment of lead risk of receptors at middle school built over former industrial facility. This evaluation is being used to determine cleanup goals and will be basis for regulatory closure of site.

Client: Kaiser Venture Incorporated, Fontana, California

Prepared PBPK assessment of lead risk of receptors at a 1,100-acre former steel mill. This evaluation was used as the basis for granting closure of the site by lead regulatory agency.

RISK ASSESSMENTS/REMEDIAL INVESTIGATIONS

Client: Confidential, Atlanta, Georgia

Researched potential exposure and health risks to community members potentially exposed to creosote, polycyclic aromatic hydrocarbons, pentachlorophenol, and dioxin compounds used at a former wood treatment facility. Prepared a comprehensive toxicological summary of the chemicals of concern, including the chemical characteristics, absorption, distribution, and carcinogenic potential. Prepared risk characterization of the carcinogenic and non-carcinogenic chemicals based on the exposure assessment to quantify the potential risk to members of the surrounding community. This evaluation was used to help settle class-action tort.

Client: Confidential, Escondido, California

Prepared comprehensive Preliminary Endangerment Assessment (PEA) of dense non-aqueous liquid phase hydrocarbon (chlorinated solvents) contamination at a former printed circuit board manufacturing facility. This evaluation was used for litigation support and may be used as the basis for reaching closure of the site with the lead regulatory agency.

Client: Confidential, San Francisco, California

Summarized epidemiological evidence for connective tissue and autoimmune diseases for product liability litigation. Identified epidemiological research efforts on the health effects of medical prostheses. This research was used in a meta-analysis of the health effects and as a briefing tool for non-public health professionals.

Client: Confidential, Bogotá, Columbia

Prepared comprehensive evaluation of the potential health risks associated with the redevelopment of a 13.7 hectares plastic manufacturing facility in Bogotá, Colombia The risk assessment was used as the basis for the remedial goals and closure of the site.

Client: Confidential, Los Angeles, California

Prepared comprehensive human health risk assessment of students, staff, and residents potentially exposed to heavy metals (principally cadmium) and VOCs from soil and soil vapor at 12-acre former crude oilfield and municipal landfill. The site is currently used as a middle school housing approximately 3,000 children. The evaluation determined that the site was safe for the current and future uses and was used as the basis for regulatory closure of site.

Client: Confidential, Los Angeles, California

Managed remedial investigation (RI) of heavy metals and volatile organic chemicals (VOCs) for a 15-acre former manufacturing facility. The RI investigation of the site included over 800 different sampling locations and the collection of soil, soil gas, and groundwater samples. The site is currently used as a year round school housing approximately 3,000 children. The Remedial Investigation was performed in a manner

that did not interrupt school activities and met the time restrictions placed on the project by the overseeing regulatory agency. The RI Report identified the off-site source of metals that impacted groundwater beneath the site and the sources of VOCs in soil gas and groundwater. The RI included a numerical model of vapor intrusion into the buildings at the site from the vadose zone to determine exposure concentrations and an air dispersion model of VOCs from the proposed soil vapor treatment system. The Feasibility Study for the Site is currently being drafted and may be used as the basis for granting closure of the site by DTSC.

Client: Confidential, Los Angeles, California

Prepared comprehensive human health risk assessment of students, staff, and residents potentially exposed to heavy metals (principally lead), VOCs, SVOCs, and PCBs from soil, soil vapor, and groundwater at 15-acre former manufacturing facility. The site is currently used as a year round school housing approximately 3,000 children. The evaluation determined that the site was safe for the current and future uses and will be basis for regulatory closure of site.

Client: Confidential, Los Angeles, California

Prepared comprehensive evaluation of VOC vapor intrusion into classrooms of middle school that was former 15-acre industrial facility. Using the Johnson-Ettinger Vapor Intrusion model, the evaluation determined acceptable soil gas concentrations at the site that did not pose health threat to students, staff, and residents. This evaluation is being used to determine cleanup goals and will be basis for regulatory closure of site.

Client –Dominguez Energy, Carson, California

Prepared comprehensive evaluation of the potential health risks associated with the redevelopment of 6-acre portion of a 500-acre oil and natural gas production facility in Carson, California. The risk assessment was used as the basis for closure of the site.

Kaiser Ventures Incorporated, Fontana, California

Prepared health risk assessment of semi-volatile organic chemicals and metals for a fifty-year old wastewater treatment facility used at a 1,100-acre former steel mill. This evaluation was used as the basis for granting closure of the site by lead regulatory agency.

ANR Freight - Los Angeles, California

Prepared a comprehensive Preliminary Endangerment Assessment (PEA) of petroleum hydrocarbon and metal contamination of a former freight depot. This evaluation was as the basis for reaching closure of the site with lead regulatory agency.

Kaiser Ventures Incorporated, Fontana, California

Prepared comprehensive health risk assessment of semi-volatile organic chemicals and metals for 23-acre parcel of a 1,100-acre former steel mill. The health risk assessment was used to determine clean up goals and as the basis for granting closure of the site by lead regulatory agency. Air dispersion modeling using ISCST3 was performed to determine downwind exposure point concentrations at sensitive receptors within a 1 kilometer radius of the site. The results of the health risk assessment were presented at a public meeting sponsored by the Department of Toxic Substances Control (DTSC) in the community potentially affected by the site.

Unocal Corporation - Los Angeles, California

Prepared comprehensive assessment of petroleum hydrocarbons and metals for a former petroleum service station located next to sensitive population center (elementary school). The assessment used a probabilistic approach to estimate risks to the community and was used as the basis for granting closure of the site by lead regulatory agency.

Client: Confidential, Los Angeles, California

Managed oversight of remedial investigation most contaminated heavy metal site in California. Lead concentrations in soil excess of 68,000,000 parts per billion (ppb) have been measured at the site. This State Superfund Site was a former hard chrome plating operation that operated for approximately 40-years.

Client: Confidential, San Francisco, California

Coordinator of regional monitoring program to determine background concentrations of metals in air. Acted as liaison with SCAQMD and CARB to perform co-location sampling and comparison of accepted regulatory method with ASTM methodology.

Client: Confidential, San Francisco, California

Analyzed historical air monitoring data for South Coast Air Basin in Southern California and potential health risks related to ambient concentrations of carcinogenic metals and volatile organic compounds. Identified and reviewed the available literature and calculated risks from toxins in South Coast Air Basin.

IT Corporation, North Carolina

Prepared comprehensive evaluation of potential exposure of workers to air-borne VOCs at hazardous waste storage facility under SUPERFUND cleanup decree. Assessment used in developing health based clean-up levels.

Professional Associations

American Public Health Association (APHA)
Association for Environmental Health and Sciences (AEHS)
American Chemical Society (ACS)
California Redevelopment Association (CRA)
International Society of Environmental Forensics (ISEF)
Society of Environmental Toxicology and Chemistry (SETAC)

Publications and Presentations:

Books and Book Chapters

Sullivan, P., **J.J. J. Clark,** F.J. Agardy, and P.E. Rosenfeld. (2007). *Synthetic Toxins In The Food, Water and Air of American Cities*. Elsevier, Inc. Burlington, MA.

Sullivan, P. and **J.J. J. Clark**. 2006. *Choosing Safer Foods, A Guide To Minimizing Synthetic Chemicals In Your Diet*. Elsevier, Inc. Burlington, MA.

Sullivan, P., Agardy, F.J., and **J.J.J. Clark**. 2005. *The Environmental Science of Drinking Water*. Elsevier, Inc. Burlington, MA.

Sullivan, P.J., Agardy, F.J., **Clark, J.J.J.** 2002. *America's Threatened Drinking Water: Hazards and Solutions*. Trafford Publishing, Victoria B.C.

Clark, J.J.J. 2001. "TBA: Chemical Properties, Production & Use, Fate and Transport, Toxicology, Detection in Groundwater, and Regulatory Standards" in *Oxygenates in the Environment.* Art Diaz, Ed.. Oxford University Press: New York.

Clark, J.J.J. 2000. "Toxicology of Perchlorate" in *Perchlorate in the Environment.* Edward Urbansky, Ed. Kluwer/Plenum: New York.

Clark, J.J.J. 1995. Probabilistic Forecasting of Volatile Organic Compound Concentrations At The Soil Surface From Contaminated Groundwater. UMI.

Baker, J.; **Clark, J.J.J.**; Stanford, J.T. 1994. Ex Situ Remediation of Diesel Contaminated Railroad Sand by Soil Washing. Principles and Practices for Diesel Contaminated Soils, Volume III. P.T. Kostecki, E.J. Calabrese, and C.P.L. Barkan, eds. Amherst Scientific Publishers, Amherst, MA. pp 89-96.

Journal and Proceeding Articles

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008) A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equialency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. Organohalogen Compounds, Volume 70 (2008) page 002254.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008) Methods For Collect Samples For Assessing Dioxins And Other Environmental Contaminants In Attic Dust: A Review. Organohalogen Compounds, Volume 70 (2008) page 000527

Hensley A.R., Scott, A., Rosenfeld P.E., **Clark, J.J.J.** (2007). "Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility." *Environmental Research.* 105:194-199.

Rosenfeld, P.E., **Clark, J. J.,** Hensley, A.R., and Suffet, I.H. 2007. "The Use Of An Odor Wheel Classification For The Evaluation of Human Health Risk Criteria For Compost Facilities" Water Science & Technology. 55(5): 345-357.

Hensley A.R., Scott, A., Rosenfeld P.E., **Clark, J.J.J.** 2006. "Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility." The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006, August 21 – 25, 2006. Radisson SAS Scandinavia Hotel in Oslo Norway.

Rosenfeld, P.E., **Clark, J. J.** and Suffet, I.H. 2005. "The Value Of An Odor Quality Classification Scheme For Compost Facility Evaluations" The U.S. Composting Council's 13th Annual Conference January 23 - 26, 2005, Crowne Plaza Riverwalk, San Antonio, TX.

Rosenfeld, P.E., **Clark, J. J.** and Suffet, I.H. 2004. "The Value Of An Odor Quality Classification Scheme For Urban Odor" WEFTEC 2004. 77th Annual Technical Exhibition & Conference October 2 - 6, 2004, Ernest N. Morial Convention Center, New Orleans, Louisiana.

Clark, J.J.J. 2003. "Manufacturing, Use, Regulation, and Occurrence of a Known Endocrine Disrupting Chemical (EDC), 2,4-Dichlorophnoxyacetic Acid (2,4-D) in California Drinking Water Supplies." National Groundwater Association Southwest Focus Conference: Water Supply and Emerging Contaminants. Minneapolis, MN. March 20, 2003.

Rosenfeld, P. and **J.J.J. Clark**. 2003. "Understanding Historical Use, Chemical Properties, Toxicity, and Regulatory Guidance" National Groundwater Association Southwest Focus Conference: Water Supply and Emerging Contaminants. Phoenix, AZ. February 21, 2003.

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Browne, T., **Clark, J.J.J.** 1998. Treatment Options For Perchlorate In Drinking Water. Proceedings From the Groundwater Resource Association Seventh Annual Meeting, Walnut Creek, CA, October 23, 1998.

Clark, J.J.J., Brown, A., Rodriguez, R. 1998. The Public Health Implications of MtBE and Perchlorate in Water: Risk Management Decisions for Water Purveyors. Proceedings of the National Ground Water Association, Anaheim, CA, June 3-4, 1998.

Clark J.J.J., Brown, A., Ulrey, A. 1997. Impacts of Perchlorate On Drinking Water In The Western United States. U.S. EPA Symposium on Biological and Chemical Reduction of Chlorate and Perchlorate, Cincinnati, OH, December 5, 1997.

Clark, J.J.J.; Corbett, G.E.; Kerger, B.D.; Finley, B.L.; Paustenbach, D.J. 1996. Dermal Uptake of Hexavalent Chromium In Human Volunteers: Measures of Systemic Uptake From Immersion in Water At 22 PPM. Toxicologist. 30(1):14.

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Ozone Exposures in Residents of Los Angeles County. American Review of Respiratory Disease. 141(4):A70.

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EXHIBIT B

APPEAL LETTER NO. 1B

WILSON IHRIG
ACOUSTICS, NOISE & VIBRATION

CALIFORNIA
WASHINGTON
NEW YORK

WI #22-005.23

October 4th, 2022

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SUBJECT: 216 South Spring Project Categorical Exemption, Comments on the Noise Analysis

Dear Mr. Marshall,

Per your request, I have reviewed the subject matter document for the 216 South Spring Project Categorical Exemption (CatEx) in Los Angeles, California. The proposed Project involves demolition of one existing commercial building and the construction, use and maintenance of a 17-story mixed-use building. The Noise Impact Analysis is contained in Section 4.0, subheading d of the CatEx, with supplemental calculations in Attachment 3. **1B.1**

The Project is surrounded by noise sensitive uses – residences within one block on the northeast, southwest, and east, as well as a church to the east, a (closed) movie theatre to the southeast, and offices to the north. The closest residence is the Higgins Building at 108 W 2nd St, roughly 20 feet across an alley at the closest point

Baseline Noise Level characterizations are Incomplete

The noise analysis relies on short-term measurements of 15-minute duration. In order to conduct the CEQA analysis, the baseline must be established for evening, and possibly nighttime conditions. Social events in the roof deck terrace with pool and lounge spaces could occur during evening hours, and rooftop equipment could also operate during evening and nighttime conditions. Without this data, it is not possible to evaluate the significance of noise sources operating during non-daytime hours. **1B.2**

Furthermore, the noise analysis relies on these short-term measurements without any discussion of how typical these data were for daytime conditions or how they would apply to evening or nighttime conditions. Environmental noise can vary widely throughout the day (perhaps +/-10 dBA or more for areas with intermittent local traffic), and relying on measurements that represent only 2% of the daytime hours (7 AM to 7 PM) leaves quite a lot for interpretation

Thresholds of Significance are Not Properly Developed

Per CEQA[1], the CE can only be applied to projects which have no significant effects:

14 CCR § 15300

§ 15300. Categorical Exemptions.

Section 21084 of the Public Resources Code requires these guidelines to include a list of classes of projects which have been determined not to have a significant effect on the environment and which shall, therefore, be exempt from the provisions of CEQA.
In response to that mandate, the Secretary for Resources has found that the following classes of projects listed in this article do not have a significant effect on the environment, and they are declared to be categorically exempt from the requirement for the preparation of environmental documents.

Note: Authority cited: Section 21083, Public Resources Code. Reference: Section 21084, Public Resources Code.

Figure 1 CEQA Section 15300

Thus, a project that has significant, or **potentially significant**, effects cannot qualify for a categorical exemption. The City of Los Angeles Planning website[2] confirms that infill development projects (Class 32) that have significant noise impacts do not qualify for exemption from CEQA. (See Figure 2 and 3)

WHAT IS A CATEGORICAL EXEMPTION?
Every discretionary action requires environmental review pursuant to CEQA. However, the CEQA Guidelines include a list of classes of projects which have been determined to not have a significant effect on the environment, also known as Categorical Exemptions. If your project falls within one of these classes, it is exempt from the provisions of CEQA and no environmental review is required unless one of the exceptions in CEQA Guideline Section 15300.2 applies (discussed below).

WHAT IS THE CLASS 32 CATEGORICAL EXEMPTION?
The Class 32 "Infill" Categorical Exemption (CEQA Guideline Section 15332), hereafter referred to as the Class 32 Exemption, exempts infill development within urbanized areas if it meets certain criteria. The class consists of environmentally benign infill projects that are consistent with the General Plan and Zoning requirements. This class is not intended for projects that would result in any significant traffic, noise, air quality, or water quality impacts. This exemption is not limited to any use type and may apply to residential, commercial, industrial, public facility, and/or mixed-use projects.

Figure 2 City of LA Planning Document Regarding Class 32 Exemptions [3]

1B.3

Incomplete CNELs

Based on a recent CEQA document published by the City of Los Angeles[4], these standard Los Angeles CEQA thresholds were omitted from the CE document:

1B.4

[1] https://opr.ca.gov/ceqa/
[2] https://planning.lacity.org/development-services/environmental-review#
[3] https://planning.lacity.org/odocument/ad70d15e-11b8-49ef-aba3-b168f670a576/Class%2032%20Categorical%20Exemption.pdf
[4] In March 2022, City of Los Angeles Department of City Planning issued an Initial Study/Mitigated Negative Declaration (ISMND) for the Melrose and Seward project citing tiered noise increase thresholds for off-site operational traffic noise, and a 3 dB increase limit in the CNEL for stationary noise. https://planning.lacity.org/odocument/662769bf-8702-4acd-9c2b-d96b9845e464/ENV-2021-2909-MND.pdf

Significance Criteria

Noise impacts shall be considered significant if any of the following occur as a direct result of the Project.

Off-Site Operational Traffic Noise

- When the noise levels at existing and future noise-sensitive land uses (e.g., residential, etc.):

- are less than 60 dBA CNEL and the Project creates a readily perceptible 5 dBA CNEL or greater Project-related noise level increase; or
- range from 60 to 65 dBA CNEL and the Project creates a barely perceptible 3 dBA CNEL or greater Project-related noise level increase; or
- already exceed 65 dBA CNEL, and the Project creates a community noise level impact of greater than 1.5 dBA CNEL (FICON, 1992).

1B.4 cont.

In order to conduct the CEQA analysis, the baseline Ldn or CNEL must be established, and Table 8 (page 58) must provide the Ldn or CNEL.

Sleep Disturbance Threshold is Missing

1B.5

Any nighttime activities should also be evaluated for potential sleep disturbance which could be caused by social events at the rooftop terrace areas. Sleep disturbance being noises which may not cause a person to become fully awake, but instead change a person's sleep from one deeper level of sleep to a less restful level of sleep. Although the health effects of noise are not taken as seriously in the United States as they are in other countries, they are real and, in many parts of the country, pervasive. Noise can disturb sleep by making it more difficult to fall asleep, by waking someone after they are asleep, or by altering their sleep stage, e.g., reducing the amount of rapid eye movement (REM) sleep. Noise exposure for people who are sleeping has also been linked to increased blood pressure, increased heart rate, increase in body movements, and other physiological effects. Not surprisingly, people whose sleep is disturbed by noise often experience secondary effects such as increased fatigue, depressed mood, and decreased work performance.

Thus, excessive noise from rooftop activities occurring between 10 PM and 7 AM could cause sleep disturbance and would be potentially significant. The World Health Organization[5] identifies a guidance of 45 dBA Leq (outdoors) to avoid sleep disturbance from a continuous source, and a limit of 60 dBA Lmax for intermittent sources[6]. However, it has been our experience that low frequency bass notes, commonly found in music played at lounges, can problematic even when the A-weighted level complies with applicable code. This is partly because the low frequencies pass through the

[5] https://www.who.int/docstore/peh/noise/Comnoise-1.pdf

[6] These outdoor levels assume that the residence reduces noise by 15 dBA with windows open, which is typical for conventional construction.

exterior walls and closed windows with little reduction. The City of San Francisco[7] limits low frequency noise increase from this type of use to 8 dB on a C-weighted basis. To illustrate this issue, Figure 1 shows noise measurement taken when music was playing at a hotel rooftop/poolside lounge. The nearby plaza was at ground level about 150 to 250 ft from the nearest subwoofers. Even several blocks away the low frequency pulse of the music was 6 decibels higher than the non-music ambient.

1B.5 cont.

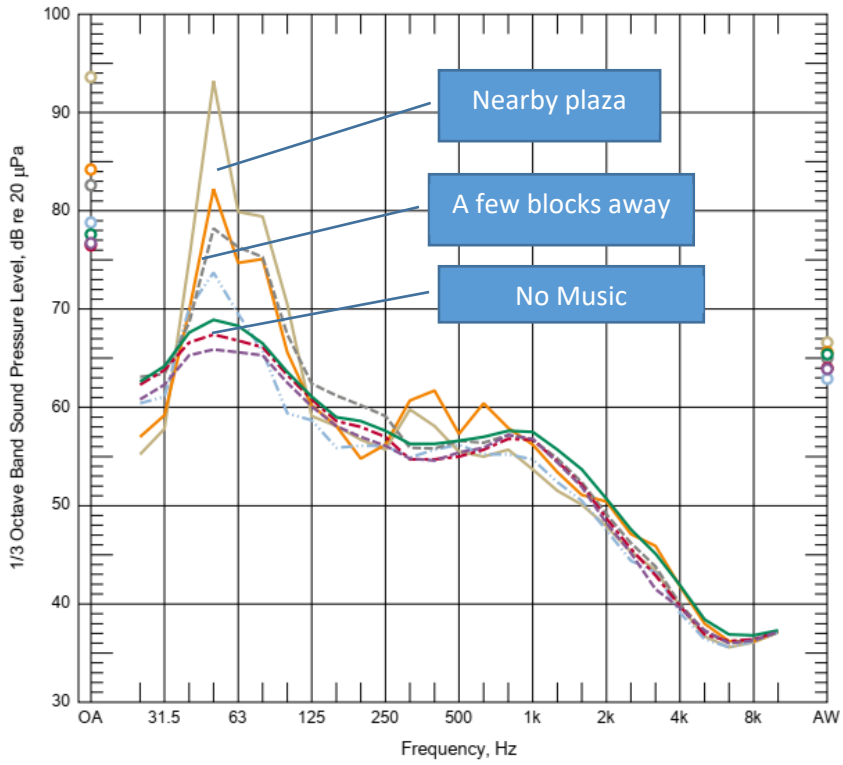

Figure 3 Sample Exterior Noise Near an Urban Hotel Lounge (L_{25})

The document cites no objective criterion to evaluate rooftop noise, and no criteria to evaluate potential sleep disturbance have been presented. A noise increase threshold, for the Project and the cumulative evaluations of nearby noise levels, compounds one on top of another and would potentially lead to a substantial and significant noise impact.

Impact Analyses are Incomplete

Construction Noise

1B.6

There are a few errors with the construction noise analysis. The first is the aforementioned problem that the sound levels are based on a fifteen-minute sample. This amount of time may not be representative of the loudest times of day, and thus the most sensitive limits.

1B.7

Another is the assumption of 15 dBA of shielding in the noise calculations. The document explicitly states that this is a "noise barrier" and thus could already be considered mitigation since it is relied upon to reduce construction noise levels. Additionally, even if implemented, this barrier would not

[7] https://codelibrary.amlegal.com/codes/san_francisco/latest/sf_police/0-0-0-6511

provide line of sight shielding for receivers on the top floor of the Higgins Building. Assuming the barrier is 8 feet high, receivers on the second floor or above would be able to look directly over the barrier onto the property and receive no benefit from the shielding effects. A sample calculation, taken from the Roadway Construction Noise Model (RCNM) is presented below. Calculations were performed on the 3rd floor, as a conservative estimate to avoid any barrier effects.

Table 1: RCNM Results for Worst-case Construction Scenario on the 3rd Floor of the Higgins Building

1B.7 cont.

Description	Usage (%)	Spec Max (dBA)	Actual Max (dBA)	Receptor Distance to Project Site (Feet)	Receptor Height Above Project (Feet)	Receptor Distance to Centerline of Project Site (Feet)	Calculated LEQ (dBA)
Concrete / Industrial Saw	20	90	90	20	30	86	77.9
Dozer	40	85	82	20	30	86	73.0

Table 2: Impact Analysis for Worst-case Construction Scenario on the 3rd Floor of the Higgins Building

Calculated Noise Level (dBA)	Ambient Noise Level (dBA)	Level Above Ambient (dBA)	Impact Threshold (dBA)	Impact?
79.1	61.3	17.8	>5	YES

Based on the worst-case scenario, more mitigation would be needed.

Another problem is that the analysis follows the Construction Noise Quantitative General Assessment Guidelines of the FTA Transit Noise and Vibration Impact Manual. As part of this analysis, only the two loudest pieces of equipment are used per stage of construction, measured at the center of the project site. Using all equipment that is planned to be used during each construction stage and assuming the equipment will be moving around the site in different locations, both reasonable and common assumptions based on how construction sites can work, produces significant impacts that exceed the threshold. 1B.8

Rooftop Deck/Terrace

Similarly, the noise analysis from the rooftop deck/terrace must be reconsidered. The document states that "it is unlikely that the Proposed Project would operate at such full capacity often or for a prolonged period of time that it would result in excessive crowd noise" and states that this area could accommodate "up to 60 people". But the document fails to include analysis quantifying or otherwise characterizing the noise levels generated by use of the rooftop deck. 1B.9

These noise levels could easily be much more than 5 dBA higher than the daytime noise levels shown in Table 8 (page 58), and in the absence of ambient data during evening (or nighttime) conditions, these could also be much more than 5 dBA higher than the existing evening (or nighttime) ambient. Thus, noise from the rooftop deck/terrace could be potentially significant based on information provided.

Rooftop Equipment

The CatEx cites an expectation that the project HVAC equipment would be similar to what is on site, since the existing site is a two-story commercial building this is not a fair comparison. The existing equipment are very different in size and character from what would be required for a 17-story residential structure. For instance the Project equipment would operate during the nighttime hours, whereas HVAC for commercial office buildings can be shutdown at night.

1B.10

In our experience, there would be several mechanical units on the rooftop. Such equipment could include air cooled condenser fans with a typical sound rating of 85 sound power level (PWL), and several make up air fans as large as 40,000 cubic feet per minute (CFM) (90 dBA PWL). A combination of two or more fans would generate a noise level on the order of 65 dBA at a distance of 20 ft. In the absence of ambient data during evening (or nighttime) conditions, these could also be much more than 5 dBA higher than the existing evening (or nighttime) ambient. Noise from rooftop equipment would be potentially significant and should be evaluated with more specific information.

Additionally, the document states that "the on-site equipment would be designed and located such that they would be appropriately shielded and fitted with noise muffling devices to reduce operational noise levels" This implies mitigation, which means the project cannot be covered by a categorical exemption.

Structural Groundborune Vibration

This project shares a property line with two adjacent buildings, and as such construction vibration could trigger and impact and should be studied. There is no mention of pile driving, which is a preferred construction technique for large buildings like this. Pile driving would have the potential to cross damage thresholds for nearby buildings, and mitigation methods and possibly measurements would very likely be required.

1B.11

Conclusions

There are several errors and omissions in the CatEx noise analysis. Correcting these would potentially identify several significant impacts which require mitigation. **1B.12**

Please feel free to contact me with any questions on this information.

Very truly yours,

WILSON IHRIG

Jack Meighan
Associate

216 South Spring Project Categorical Exemption, Comments on the Noise Analysis.docx

WILSON IHRIG
ACOUSTICS, NOISE & VIBRATION

JACK MEIGHAN

Associate

Jack joined Wilson Ihrig in 2021 and is an experienced acoustics engineer with expertise in projects involving rail transit systems, highways, CEQA analysis, environmental noise reduction, mechanical drawing reviews, and construction noise and vibration mitigation. He has hands-on experience with project management, including client coordination and presentations, as well as in designing, developing, and testing MATLAB code used in acoustics applications. Additionally, his expertise includes taking field measurements, developing test plans and specifying, purchasing, setting up and repairing acoustic measurement equipment. He has experience in using Traffic Noise Model (TNM), CadnaA, EASE, Visual Basic, LabView, and CAD software.

Education

- B.S. in Mechanical Engineering, University of Southern California, Los Angeles, CA

Project Experience

Metro Regional Connector, Los Angeles CA
Planned, took, and processed measurements as part of a team to determine the effectiveness of floating slab trackwork for a new subway in downtown Los Angeles that travels below the Walt Disney Concert Hall and the Colburn School of Music.

Rodeo Credit Enterprise CEQA Analysis for New Construction, Palmdale, CA
Wrote an accepted proposal and executed it for a noise study project to determine noise mitigation requirements on a new housing development. Led all aspects of the project and managed the budget during all phases of project completion. Completed 5 separate projects of this type for this developer.

Blackhall Studios, Santa Clarita, CA
Led the vibration measurement effort for a new soundstage directly adjacent to an existing freight and commuter rail line. Tested equipment, processed data, and analyzed results to determine the vibration propagation through the soil to the proposed soundstage locations, and was part of the team that developed mitigation techniques for the office spaces directly next to the rail line.

Octavia Residential Condos CEQA Study, San Francisco, CA
Calculated the STC ratings for the proposed windows to meet Title 24 requirements, modeled the acoustic performance of floor and ceiling structures, researched noise codes, helped with a mechanical design review, and wrote a report summarizing the results for a new Condominium project being developed in San Francisco.

San Diego International Airport Terminal I Replacement, CA
Conducted interior noise and vibration measurements, analyzed measurement data to help determine project criteria, modeled the existing and future terminals in CadnaA, and was part of a team that did a complete HVAC analysis of the entire terminal, as part of a CEQA analysis where a new terminal for the airport is being designed.

Five Points Apartments Noise Study, Whittier, CA
Took measurements, researched sound data and solutions, and recommended mitigation for a new apartment complex that was located next to an existing car wash, as part of a CEQA review.

USC Ellison Vibration Survey, Los Angeles, CA
Conducted vibration measurements as part of a survey to determine the effectiveness of vibration isolation platforms that are used to insulate cell growth in a cancer research facility. Determined the effectiveness and presented this information to the client. Researched and recommended a permanent monitoring system so the client could view data in real time.

TEN50 Condos 'Popping' Noise Investigation, Los Angeles, CA
Was part of a team that investigated the noise source of an unwanted popping noise in luxury condos in Downtown Los Angeles. Helped isolate the noise source location with accelerometers to determine where vibrations were occurring first and used an acoustic camera to determine where in the condo the noise was coming from.

2000 University Project, Berkely, CA
Wrote a construction noise monitoring plan based on environmental noise calculations, wrote a report summarizing the results, and attending a meeting with the client to discuss options.

Bay Area Rapid Transit (BART) On-Track, CA, San Francisco Bay Area, CA*
Day to day project manager, responsible for meetings, presentations, and coordination with the client for an ongoing noise study on the BART system. Developed MATLAB code to process measurements and determine areas where high corrugation was present, contributing to excessively high in-car noise levels. Performed noise measurements inside both the right of way and the vehicle cabin, in addition to rail corrugation measurements.

California I-605/SR-60 Interchange Improvement, Los Angeles, CA*
Developed a noise model of the area that predicted sound levels for abatement design, in addition to conducting noise measurements and analysis. Led the Team in use of the FHWA Traffic Noise Model Software for the project, involving three major highways and two busy interchanges extending over 17 miles in southern California.

Sound Transit On-Track, Seattle, WA*
Took measurements, fixed equipment, and developed software in MATLAB to process Corrugation Analysis Trolley measurements as part of an ongoing noise study on the Sound Transit Link system. Tested vibration data to determine the best measurement and processing techniques to store the data in an online database for in-car measurements.

LA Metro CRRC Railcar Testing, Los Angeles, CA*
Led the effort to plan the measurements, determine measurement locations and finalize the test plan. Formulated a method to capture speed data directly from legacy train vehicles. Executed noise and vibration specification measurements for new rail cars delivered by CRRC.

City of Los Angeles, Pershing Square Station Rehabilitation Noise Monitoring, CA*
Built noise models, wrote a construction noise plan, and assisted in on-site construction noise issues as they arose for a renovation of the Pershing Square metro station in downtown Los

** Work done prior to working for Wilson Ihrig*

Angeles. Trained construction personnel in techniques for noise reduction and how to conduct noise monitoring measurements to meet project specifications.

City of Orange Metrolink Parking Garage Construction Monitoring, CA*
Wrote an adaptive management vibration monitoring plan, set up equipment to monitor live vibration levels, and generated weekly reports as part of an effort to build a new parking garage. Designed, planned, and completed measurements to predict and mitigate pile driving construction impacts at three historic building locations adjacent to the construction site. Coordinated with the client whenever an on-site problem arose.

LA Metro Westside Subway Construction, Los Angeles, CA*
Planned, organized, and processed noise measurements for the Purple Line extension construction. Implemented both long term microphones to measure noise levels and accelerometers to measure vibration levels in existing subway tunnels. Oversaw noise monitoring at sensitive construction sites for the project and worked with the contractor to find ways to reduce construction noise levels by approximately 10dB.

Montreal Réseau Express Métropolitain, Canada*
Conducted vibration propagation measurements used to create models to predict operational vibration levels for an under-construction transit line. Managed equipment, solved problems in the field, and wrote parts of the report summarizing the findings of the acoustic study.

NHCRP Barrier*
Took on-highway measurements and wrote, designed, developed, and tested MATLAB code to identify specific spectrograms to use for analyses for a project evaluating barrier reflected highway traffic noise differences in the presence of a single absorptive or reflective noise barrier.

Siemens Railcar Testing for Sound Transit, Seattle, WA*
Measured in-car noise and vibration for new rail cars delivered by Siemens. Developed new internal techniques for measurements based on the written specifications. Contributed to the team that helped identify issues that new cars had in meeting the Sound Transit specifications for noise and vibration. Participated in developing the test plan and specified then acquired new equipment for the measurement.

Toronto/Ontario Eglinton Crosstown Light Rail, Final Design, Canada*
Assisted in vibration propagation measurements, analysis, and recommendations for mitigation for a 12-mile light-rail line both on and under Eglinton Avenue. Set up and ran equipment for at-grade measurements with an impact hammer for underground measurements with an impact load cell that was used during pre-construction borehole drilling.

** Work done prior to working for Wilson Ihrig*

APPEAL LETTER NO. 2

Justification/Reason for Appeal

216 Spring Street Project

DIR-2020-7846-DB-SPR-HCA

I. REASON FOR THE APPEAL

SAFER appeals the City Planning Director's approval of a Site Plan Review for 216 Spring Street Project DIR-2020-7846-DB-SPR-HCA ("Project"). The Site Plan Review approval was in error because the Categorical Exemption ("CE") prepared for the Project (ENV-2020-7847-CE) fails to comply with the California Environmental Quality Act ("CEQA"). The City of Los Angeles ("City") must fully comply with CEQA prior to *any approvals* in furtherance of the Project. Therefore, the City of Los Angeles ("City") must set aside the Site Plan Review entitlements and prepare an initial study to determine the appropriate level of environmental review to undertake pursuant to CEQA.

II. SPECIFICALLY THE POINTS AT ISSUE

2.1

SAFER specifically appeals all findings related to the Project's Site Plan Review (DIR-2020-7846-DB-SPR-HCA). The Project does not qualify for a categorical exemption pursuant to Section 15332 of the CEQA Guidelines ("Infill Exemption") because the Project does not meet the terms of the exemption. Because proper CEQA review must be complete *before* the City approves the Project's entitlements (*Orinda Ass'n. v. Bd. of Supervisors* (1986) 182 Cal.App.3d 1145, 1171 ["No agency may approve a project subject to CEQA until the entire CEQA process is completed and the overall project is lawfully approved."].), the approval of the Project's Site Plan Review entitlements was in error. Additionally, by failing to properly conduct environmental review under CEQA, the City lacks substantial evidence to support its findings for the Site Plan Review entitlements.

III. HOW YOU ARE AGGRIEVED BY THE DECISION

2.2

Members of appellant Supporters Alliance for Environmental Responsibility ("SAFER") live and/or work in the vicinity of the proposed Project. They breathe the air, suffer traffic congestion, and will suffer other environmental impacts of the Project unless it is properly mitigated.

IV. WHY YOU BELIEVE THE DECISION-MAKER ERRED OR ABUSED THEIR DISCRETION

2.3

The Director of City Planning approved the Site Plan Review and approved a Categorical Exemption for the project pursuant to Section 15332 of the CEQA Guidelines, despite a lack of substantial evidence in the record that the Project met the requirements for the Infill Exemption. Rather than exempt the Project from CEQA, the City should have prepared an initial study followed by an EIR or negative declaration in accordance with CEQA prior to consideration of approvals for the Project. The City is not permitted to approve the Project's entitlements until proper CEQA review has been completed.