IV.F HYDROLOGY AND WATER QUALITY

1. INTRODUCTION

This section describes the existing drainage characteristics of the project site and the surrounding portion of the Wilshire Community Plan Area, the quality of surface and groundwater in the area and evaluates the potential impacts of the project with respect to stormwater runoff, surface water quality, and groundwater quality.

2. EXISTING CONDITIONS

The project site is located in the Santa Monica Bay Watershed Management Area. **Figure IV.F-1, Santa Monica Bay Watershed Management Area**, identifies the location of this watershed. The proposed Wilshire and La Brea project is located in the Wilshire Community Plan Area of Central Los Angeles, which lies in the heart of the Los Angeles Coastal Plain. Surface water flows from the plain into several major creeks, and eventually the Pacific Ocean. Stormwater on site is collected and conveyed a short distance to Ballona Creek, which is located approximately 1 mile south of the project site. As discussed in **Section IV.D, Geology**, the site is flat and free of slopes on and adjacent to the site.

Given the highly urbanized character of Wilshire Community Plan Area, impervious surfaces constitute a greater percentage of terrain than do natural permeable surfaces, thereby, limiting the infiltration of precipitation and increasing the rate of stormwater runoff. The project site currently consists of impervious surfaces, including buildings, streets, parking areas and sidewalks. Therefore, existing runoff from the project site is high.

a. Santa Monica Bay Watershed Management Area

Description

The Santa Monica Bay Watershed Management Area (WMA) encompasses approximately 414 square miles of land. The WMA is bordered by the crest of the Santa Monica Mountains to the north, from the Ventura–Los Angeles County line to downtown Los Angeles. From downtown, the watershed extends south and west across the Los Angeles plain to include the area east of Ballona Creek and north of the Baldwin Hills. South of Ballona Creek the natural drainage area reduces to a narrow strip of wetlands between Playa del Rey and Palos Verdes. The project site is situated approximately 9 miles east of the Pacific Ocean.

Water Quality

The Santa Monica Bay WMA has impaired water quality due to runoff from dense clusters of commercial, industrial, residential, and other urban activities. In the 1998 Environmental Protection Agency (EPA) Clean Water Act Section 303(d), a list of impaired waters details impairments in a majority of the Santa Monica Bay WMA due to point and nonpoint sources. These impairments include the following: cadmium, ChemA, chlordane, coliform, copper, DDT, dieldrin, enteric viruses, Lead, polychlorinated biphenyls (PCBs), pH, sediment toxicity, Selenium, silver, and zinc.

b. Drainage System

Surface water from the project site and surrounding properties is directed into local storm drain infrastructure. The storm drain system within the City of Los Angeles is comprised principally of pipes and channels owned by two separate entities: the City of Los Angeles and the County of Los Angeles. Each entity services and maintains their respective facilities.

Most stormwater on the project site drains via sheet flow towards existing City of Los Angeles storm drains in sidewalk gutters in the surrounding streets (i.e., Wilshire Boulevard, La Brea Avenue, Sycamore Avenue, and 8th Street). Storm drains generally flow westerly along Wilshire Boulevard and 8th Street and southerly along La Brea Avenue and Sycamore Avenue.[1] Regionally, storm drains in the City of Los Angeles generally flow southwesterly towards the Pacific Ocean.

According to the City of Los Angeles Safety Element Exhibit F, the project is not located within a 100- or 500-year floodplain. There are 22 dams in the County of Los Angeles, seven of which are operated by the US Army Corps of Engineers (ACOE) and 15 of which are operated by the Los Angeles Department of Public Works. The dam nearest to the project is Hollywood Reservoir, which is approximately 4 miles northeast of the Wilshire and La Brea project site. The proposed project is not located within an inundation zone according to the Los Angeles General Plan Safety Element, Exhibit G.

1 City of Los Angeles Bureau of Engineering, "Navigate LA," Stormwater Drainage Map Images, Map 492, http://navigatela.lacity.org/common/mapgallery/stormwater_images.cfm, 2007.

SOURCE: Los Angeles Regional Water Quality Control Board - December 2002

FIGURE **IV.F-1**

Santa Monica Bay Watershed Management Area

c. Surface Water Quality

The project site lies within the Los Angeles Coastal Plain. Natural drainage in the project area has been modified and is now controlled by engineered drainage and flood-control infrastructure. As mentioned above, the Textile Drain conveys stormwater runoff from the project site to the south and eventually into Ballona Creek. Surface water quality in Ballona Creek is directly related to the quality of storm flows and industrial discharges. Surface runoff from stormwater generally contains oils and greases from street runoff, salts, trash and debris, sodium-calcium and sulfate-bicarbonate, which are dissolved from rocks in the tributary areas. Surface water discharges from industrial facilities are regulated under National Pollutant Discharge Elimination System (NPDES) regulations and permits.

d. Groundwater Quality

The City of Los Angeles overlies eight groundwater basins within the jurisdiction of the Los Angeles Regional Water Quality Control Board (LARWQCB) and designated by the California Department of Water Resources (DWR). The Los Angeles Coastal Plain includes the West Coast Basin, the Central Basin, the Santa Monica Basin, and the Hollywood Basin. The San Fernando Valley overlies the San Fernando Basin (or Upper Los Angeles River Area) and portions of the Eagle Rock, Verdugo, and Sylmar Basins, as depicted below in **Figure IV.F-2, Los Angeles Groundwater Basins**. Approximately 80 percent of the City of Los Angeles' groundwater supply is extracted from the San Fernando Basin. The Central and Sylmar Basins provide approximately 15 and 5 percent of the City's groundwater supply, respectively. The City has not extracted water resources from the West Basin due to poor water quality. The City of Los Angeles Draft 2005 Urban Water Management Plan (UWMP) identifies a new source of groundwater: the Eagle Rock Basin. The draft plan states that the annual groundwater entitlements for the San Fernando, Sylmar, Central, West Coast and Eagle Rock Basins are 87,000, 3,255, 15,000, 1,500, and 500 acre-feet per year (afy), respectively. Current groundwater entitlements allow the City a total of 107,255 afy.

Groundwater is a major component of the water supply for many public water suppliers in the Los Angeles metropolitan area and is also used by private industries, as well as a limited number of private agricultural and domestic users. Local groundwater provides approximately 15 percent of the total water supply of the City of Los Angeles. The Los Angeles Department of Water and Power (LADWP) owns and operates these wells.

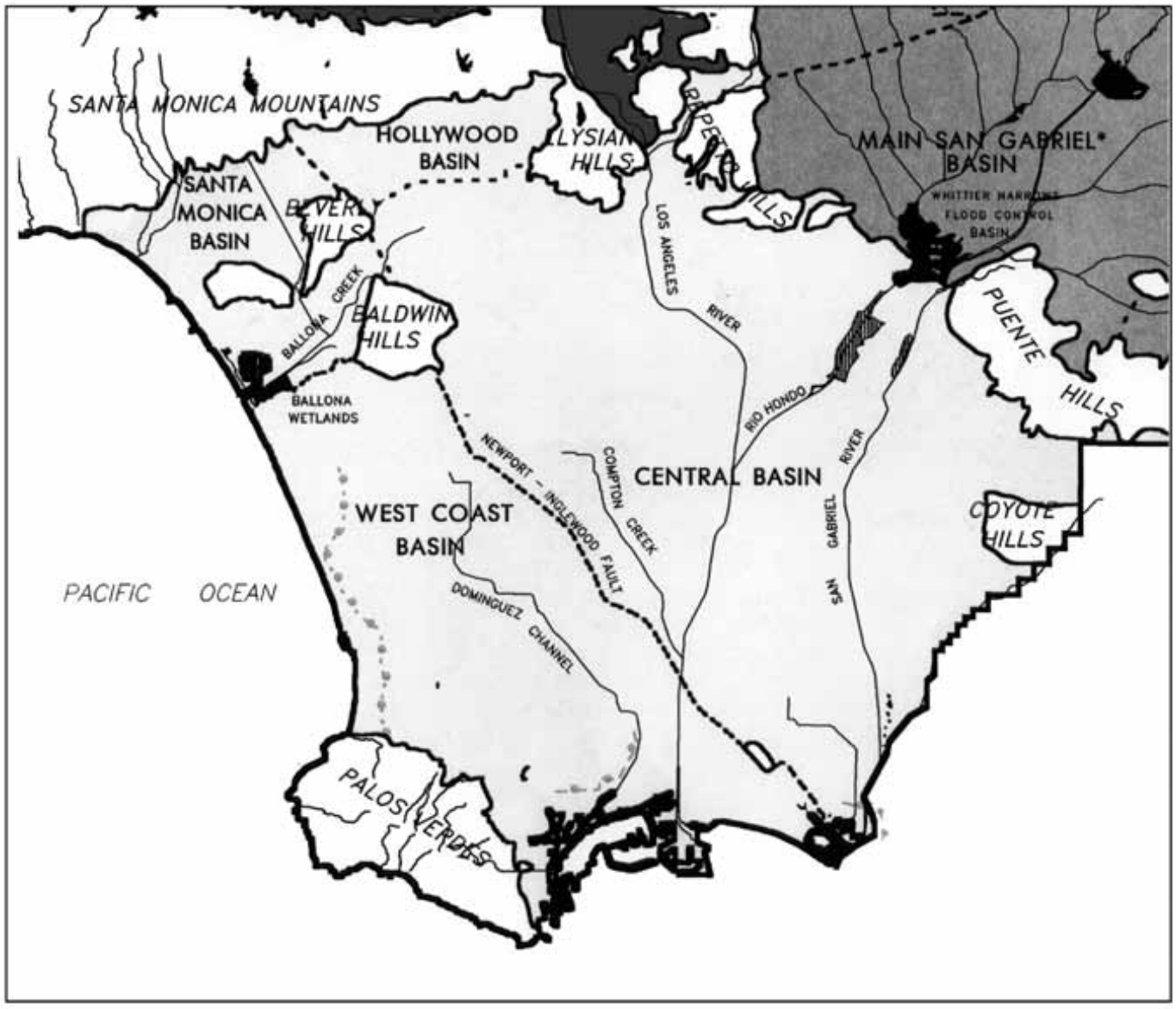
Each groundwater basin is replenished by percolation, precipitation, and return water from irrigation. Individual basins may also be replenished by the following: surface water spreading of local runoff, imported water and reclaimed water, injection of imported water (for protection against saline intrusion),

and subsurface inflow from other basins. The major spreading areas are generally on the higher portions of the valley floor near the mountains or along major streams or channels.

Historically, the groundwater basins have become contaminated as a result of human activities and natural phenomena. Contamination can result from spills, leaks, leachate, discharges of contaminants, returns from agriculture or urban irrigation, saltwater intrusion, septic system and wastewater discharges and other sources. Areas of contaminated groundwater are relatively well documented in the Los Angeles area by several agencies that regulate use, or manage groundwater supplies, including the LARWQCB.

As detailed in **Section IV.E, Hazards and Hazardous Materials**, a Phase I Environmental Site Assessment report prepared by EFI Global, Inc for the project site identified solvent impacted groundwater beneath the project site. In addition, the Phase I report identified the presence of at least two former waste oil underground storage tanks (USTs) on the southwest portion of the property site. A Phase II Environmental Site Assessment was completed by EFI Global, Inc. to further investigate the initial Phase I findings. According to the Phase II assessment, reported laboratory analytical results for selected soil and/or groundwater samples collected from the project site indicated the following constituents at concentrations greater than the laboratory method detection limit (MDL): Total petroleum hydrocarbons (TPH) as diesel (TPHd) and oil (TPHo), VOCs, Polycyclic aromatic hydrocarbons compounds (PAHs), and select California Administrative Manual (CAM) 17 Metals (see **Section IV.E, Hazards and Hazardous Materials**). As a result, groundwater underneath the site is considered contaminated.

Concerning off-site hazards, a regulatory database search was conducted for the Phase I report. Of all the databases searched, those sites listed in the Leaking Underground Storage Tank (LUST) and the state index of properties with hazardous waste (CORTESE) databases are sites where known leaks, spills or contaminations have occurred and, therefore, could represent contamination concerns to subsurface soils or ground water. LUST incident reports contain an inventory of reported leaking underground storage tank incidents, and the CORTESE database identifies public drinking water wells with detectable levels of contamination, hazardous substance sites selected for remedial action, sites with known toxic material identified through the abandoned site assessment program, sites with underground storage tanks having a reportable release and all solid waste disposal facilities from which there is known migration. The Phase I ESA report revealed that there are seven LUST sites within approximately 0.5 mile of the project site. All of these leaks, spills, or contaminations are historical, and remedial actions were completed. Therefore, these off-site locations would not contaminate groundwater beneath the project site.



_____ Regional Boundary

_____ Streams

* The main San Gabriel is a part of the San Gabriel groundwater basins

NOT TO SCALE

SOURCE: City of Los Angeles – May 2004

FIGURE **IV.F-2**

Los Angeles Groundwater Basins

3. REGULATORY FRAMEWORK

a. Hydrology and Drainage

Drainage and flood control structures and improvements in the County of Los Angeles are subject to review and approval by the Los Angeles County Department of Public Works (LACDPW). The methodology and assumptions used in evaluating surface hydrology in this draft EIR are consistent with LACDPW's *Hydrology Manual*. Runoff calculations are based on LACDPW policy for urban flood protection from a 250-year storm. The LACDPW will review and approve plans for any improvements to County-owned facilities.

Drainage and flood control structures and improvements in the City of Los Angeles are also subject to review and approval by the City of Los Angeles Public Works Division (LAPWD). The methodology and assumptions used in evaluating the surface hydrology in this draft EIR are consistent with City standards. The LAPWD will review and approve project storm drain plans prior to construction. As required by the LAPWD, all public storm facilities are to be designed in conformity with the standards set forth by Los Angeles County.

b. Surface Water Quality

Federal Regulations

The Federal Clean Water Act (CWA) Section 401 regulates the discharges of pollutants into "waters of the US" from any point or non-point source. It is the responsibility of the State Water Resources Control Board (SWRCB) and RWQCB to regulate the activities and factors that affect, or have the potential to affect, water quality in the state. In the State of California, the NPDES program is administered by the local RWQCBs. Individual permits are issued for certain defined sources of discharge while non-point source runoff from construction sites and urban development are regulated under a series of general permits.

State Regulations

The Porter-Cologne Water Quality Control Act of 1969 established the principal state program for water quality control. The Porter-Cologne Water Quality Control Act also authorizes the SWRCB to implement the provisions of the Federal CWA. The act divided the state into nine RWQCB areas. Each RWQCB implements and enforces provisions of the Porter-Cologne Act and the CWA subject to policy guidance and review by the SWRCB. The project site is located in Region 4, the LARWQCB area.

Local Regulations

In accordance with the Porter-Cologne Water Quality Control Act and the CWA Amendments of 1972, the LARWQCB established a Water Quality Control Plan for the Los Angeles Region, known as the Basin Plan. This document designates beneficial uses of water bodies, sets water quality objectives to protect those uses, addresses localized water quality problems and sets forth a plan to protect water quality. General discharge permits issued by the LARWQCB under the Basin Plan are used to regulate polluted stormwater runoff, treated groundwater, non-hazardous soil disposal and other discharges.

Under recent regulations adopted by the LARWQCB, projects are required to implement a Standard Urban Storm Water Mitigation Plan (SUSMP), during the operational life of the project to ensure that stormwater pollution is addressed by incorporating Best Management Practice (BMP) features into the design of the project. This plan defines water-quality design standards to ensure that stormwater runoff is managed for water quality concerns and to ensure that pollutants carried by stormwater are confined and not delivered to waterways. Project applicants are required to abide by source-control and treatment-control BMPs from the list approved by the LARWQCB and included in the SUSMP. In combination, these treatment-control BMPs must be sufficiently designed and constructed to treat or filter the first 0.75 inch of stormwater runoff from a storm event.

c. Groundwater Quality

Federal

The United States Environmental Protection Agency (US EPA) sets drinking water standards under the CWA and the Safe Drinking Water Act. These regulations apply to groundwater only if the groundwater is directly conveyed to the consumer for drinking water purposes. The US EPA also sets Maximum Contaminant Levels (MCL) for substances in drinking water.

The CWA also regulates the discharge of pollutants to "waters of the US" as defined by the CWA from any point source under the auspices of the NPDES program. In the State of California, the federal NPDES program is administered by the local RWQCBs, as discussed above. The discharge of groundwater (such as from dewatering) into the storm drain or sewer system, for example, is regulated by a general NPDES permit issued by the LARWQCB.

State

The Porter-Cologne Water Quality Control Act of 1969 established the principal state program for water quality control. In accordance with this act and the CWA Amendments of 1972, the LARWQCB

established a Water Quality Control Plan for the Los Angeles Region, known as the Basin Plan. It is the responsibility of the SWRCB and the RWQCBs to regulate the activities and factors that affect, or have the potential to affect, groundwater quality in the state.

The California Domestic Water Quality and Monitoring Regulations are set forth in Title 22 of the California Code of Regulations (CCR). These regulations establish primary and secondary drinking water standards for public water systems and are based on the national standards. As with federal regulations, these regulations apply to groundwater only if the groundwater is directly conveyed to the consumer for drinking water purposes.

The Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) has two basic provisions: (1) no discharge of a listed chemical shall be made in a significant amount to a potential source of drinking water or to soil, which may cause the chemical to enter groundwater; and (2) the posting of clear and reasonable warnings prior to the exposure of Proposition 65 listed chemicals is required.

Local

Because the project site overlies the Central Basin, the watermaster vested with the responsibility to monitor and account for any groundwater extraction or interference within the project area is the South District Department of Water Resources. The watermaster essentially oversees the basin and manages water resources with sustainability as a goal.

4. ENVIRONMENTAL IMPACT ANALYSIS

a. Significance Criteria

Surface Water Quality

The *L.A. California Environmental Quality Act (CEQA) Thresholds Guide* states that a project would normally have a surface water quality impact if discharges associated with the project would

- create pollution, contamination or nuisance as defined in Section 13050 of the California Water Code (CWC); or
- cause regulatory standards to be violated, as defined in the applicable NPDES storm water permit or Water Quality Control Plan for the receiving water body.[2]

2 *Los Angeles CEQA Thresholds Guide: Your Resource for Preparing CEQA Analyses in Los Angeles*, City of Los Angeles, Environmental Affairs Department, (1998) D.2-4.

Groundwater Quality

The *L.A. CEQA Thresholds Guide* states that a project would normally result in a significant impact on groundwater quality if it would:

- affect the rate, or change the direction, of movement of existing contaminants;
- expand the area affected by contaminants;
- result in an increased level of groundwater contamination (including that from direct percolation, injection or salt water intrusion); or
- cause regulatory water quality standards in an existing production well to be violated, as defined in the CCR, Title 22, Division 4, Chapter 15, and in the Safe Drinking Water Act.

b. Project Impacts

The proposed project is located in the Wilshire Community Plan Area of Los Angeles, which is an urban environment served by existing drainage infrastructure. However, potential surface and groundwater quality impacts associated with project construction and operation are discussed below. Potential impacts to surface water hydrology and groundwater level were discussed in the Initial Study prepared for the project, which is included as **Appendix I** to this draft EIR.

Surface Water Quality

Construction

A project would normally result in a significant impact to surface water quality if it would

- *create pollution, contamination or nuisance; or*
- *cause regulatory standards to be violated, as defined in the applicable NPDES storm water permit or Water Quality Control Plan for the receiving water body.*

During project construction, grading activities associated with construction could potentially result in a temporary increase in the amount of suspended solids running off the site. In the event of rainfall, construction site runoff originating from the project site could result in sheet erosion of exposed soil. Erosion of exposed soil caused by runoff could affect surface water quality in the vicinity of the project site, as well as downstream from the project site as water flows through Ballona Creek and into the Pacific Ocean. Therefore, construction-related erosion could result in a potentially significant impact to surface water quality; however, through the incorporation of recommended mitigation measures, this impact can be reduced to a less than significant level. Mitigation measures include satisfying the

requirements of the NPDES and the Stormwater and Urban Runoff Pollution Control provisions from the Los Angeles Municipal Code, which includes the preparation of an SUSMP. The SUSMP would incorporate BMPs by requiring controls of pollutant discharges that utilize best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT) to reduce pollutants.

Operation

A project would normally result in a significant impact to surface water quality if the project would

- *create pollution, contamination or nuisance; or*
- *cause regulatory standards to be violated, as defined in the applicable NPDES storm water permit or Water Quality Control Plan for the receiving water body.*

The existing site is occupied by uses that could potentially contribute to decreased surface water quality (i.e., buildings containing lead-based paint and asbestos-containing material, and a surface parking lot potentially containing surface oil products). While the proposed project would increase the intensity of land uses on the project site, the amount of developed area on each site would remain similar to existing conditions. Thus, it is unlikely that the proposed project would result in an increase in site runoff.

Stormwater quality is generally affected by the length of time since the last rainfall, rainfall intensity, urban uses of the area and quantity of transported sediment. Typical urban water quality pollutants usually result from motor vehicle operations, oil/grease residues, fertilizer/pesticide uses, human/animal littering, careless material storage/handling and poor property management. The majority of pollutant loads are usually washed away during the first flush of the storm occurring after the dry-season period.

Street and parking lot-/garage-generated pollutants typically contain atmospheric pollution, tire-wear residues, petroleum products, oil and grease, fertilizer and pesticide wash-offs, industrial chemical spills, as well as animal droppings and litter types of wastes. The pollutants are washed from street surfaces by a rainfall adequate to produce sufficient runoff. The amount of pollutants washed off the street surface is a function of the amount of pollutants on street surfaces and amount of surface water flow by storm and non-storm events such as hosing down of walkways and parking garage surfaces. These pollutants have the potential to degrade water quality and may result in significant impacts. Operation of the proposed project would result in an increase in land use intensity and, thus, potentially an increase in the presence of site contaminants. All parking and building maintenance areas would be located in the subterranean parking structure. Therefore, the quantity of land devoted to uses that could result in the transport of on-site contaminants through site runoff is minimal and comparable to existing conditions. The increase in land use intensity relative to the current land uses could result in a potentially significant impact to

surface water quality; however, through the incorporation of a recommended mitigation measure (**MM-HYD-10**), this impact would be reduced to a less than significant level.

Groundwater Quality

Construction

A project would normally result in a significant impact on groundwater quality if it would

- *affect the rate, or change the direction, of movement of existing contaminants.*

The construction of foundations for mid-rise buildings and subterranean parking structures could have the potential to interfere with groundwater by intercepting the aquifer during excavation. The proposed project involves the construction of a seven-story building and a subterranean parking structure. The geotechnical investigation conducted for the proposed project determined that the depth of ground water on the site is between 16 to 21 feet below the ground surface.[3] The subterranean parking structure would be approximately 36 feet below ground surface at 8th Street and approximately 27 feet below ground surface at Wilshire Boulevard. Therefore, excavation for the proposed project would exceed a depth of 16 to 21 feet below ground surface, and thus would encounter groundwater during project construction. Therefore, project construction could result in a significant impact to groundwater or groundwater quality.

During construction, dewatering may be required and could be achieved with temporary dewatering wells, storage tanks, and filters. Treated water would then be disposed of into the City storm drain system. Dewatering activities would require an NPDES Permit for Groundwater Discharge from the LARWQCB. This permit would ensure that water discharged into the City's storm drain system would meet all NPDES requirements for suspended solids, organic material, and other water quality parameters thereby reducing water quality impacts associated with this activity to a less than significant level.

A project would normally result in a significant impact on groundwater quality if it would

- *expand the area affected by contaminants.*

As discussed above, the groundwater beneath the project area is currently contaminated, and given the existing groundwater level, project construction activities could affect groundwater. Treated water would then be disposed of into the City storm drain system. Disposal of treated groundwater would require an NPDES Permit for Groundwater Discharge from the LARWQCB, which would ensure that water

3 R. T. Frankian & Associates Geotechnical Engineering & Engineering Geology, *Preliminary Geotechnical Investigation* (2006).

discharged into the City's storm drain system would meet all NPDES requirements for suspended solids, organic material, and other water quality parameters. Therefore, water quality impacts associated with this activity would be reduced to a less than significant level.

Operation

A project would normally result in a significant impact on groundwater quality if it would

- *result in an increased level of groundwater contamination (including that from direct percolation, injection or salt water intrusion).*

The existing project site consists largely of impervious surfaces. Upon implementation of the proposed project, conditions at the project site would be comparable to existing conditions, as the site would continue to be developed predominantly with impervious surfaces. Therefore, the project site does not currently allow for direct percolation within the Central Los Angeles Basin. As such, implementation of the proposed project is not expected to contribute to or result in groundwater contamination in the project vicinity, and thus there is no potential for significant impacts to groundwater resources.

A project would normally result in a significant impact on groundwater quality if it would

- *Cause regulatory water quality standards in an existing production well to be violated, as defined in the CCR, Title 22, Division 4, Chapter 15, and in the Safe Drinking Water Act.*

As discussed above, since the project site is currently and would remain, predominantly, covered by impervious surfaces, the project site would not contribute to groundwater recharge. Therefore, the project would not affect groundwater quality of existing wells. No potential for significant groundwater quality impacts would result from project implementation.

c. Cumulative Impacts

Surface Water Quality

Development of the proposed project in combination with the list of related projects identified in **Section III, General Description of Environmental Setting**, could result in the violation of water quality and/or waste discharge requirements during construction and operation. However, each of the related projects would be subject to the same requirements as the proposed project and, thus, would be required to prepare a Storm Water Pollution Prevention Plan (SWPPP) for construction activities. As with the project, the SWPPPs prepared for Citywide projects would incorporate BMPs by requiring controls of pollutant discharges that utilize BAT and BCT to reduce pollutants. In addition, the operation of all the related projects are required, by Chapter 13.29, Storm Water and Urban Runoff Pollution Prevention

Control and SUSMP provisions of the Los Angeles Municipal Code, to submit and then implement a SUSMP containing design features and BMPs appropriate and applicable to the project to reduce post-construction pollutants in stormwater discharges. Potential water quality impacts of the Citywide projects in combination with the proposed project would be less than significant in light of the preparation and implementation of the SWPPP and SUSMP and the enforcement of these requirements by the City. Therefore, the proposed project has no potential to contribute to significant cumulative surface water quality impacts.

The Santa Monica Bay WMA, within the limits of the City of Los Angeles, is composed mainly of urban uses, with remaining open spaces being devoted to uses not likely to be developed. As a result, most of the drainage system in the watershed consists of engineered storm channels and, therefore, is expected to experience little change. Additionally, as extensive development is not expected in the remaining open spaces, it is unlikely that there would be substantial alteration of drainage systems and watercourses in those areas. Because the proposed project, as well as surrounding projects, would be constructed on already urban-developed sites, the amount of runoff would not substantially increase, and therefore, substantial increases in erosion, siltation, flooding, and exceedance of the stormwater drainage system are not expected. Cumulatively, the project does not have the potential for significant impacts related to runoff and stormwater drainage.

Existing stormwater facilities are adequate to accommodate existing and anticipated flows. The proposed project, as well as the related projects identified in **Section III, General Description of Environmental Setting**, would be located in the urbanized environment of Los Angeles. While cumulative future development may require that there be some localized modifications or additions to the existing stormwater drainage system, it is expected that these modifications or additions would not be extensive, as stormwater drainage systems already exist in the primarily impervious and urbanized area of Central Los Angeles. Consequently, there is no potential for significant cumulative impacts from implementation of the proposed project in combination with the identified related projects.

From the cumulative analysis above, the proposed project would not result in a cumulatively considerable contribution to the degradation of surface water quality in Los Angeles or the greater Los Angeles Basin.

Groundwater Quality

Implementation of Citywide projects would result in additional development that could indirectly require an increased use of groundwater through the provision of potable water provided by LADWP. However, the provision of water, including the increased use of groundwater supplies, as a result of the

cumulative development of the proposed projects and identified related projects is within the established demand projections of the LADWP (refer to **Section IV.L.1, Water**, of this draft EIR for supplementary analysis of water supplies). Groundwater to be consumed by cumulative development would be consumed according to current plans and projections by the LADWP and would not, therefore, be substantially depleted as a result of the implementation of cumulative development.

Recharge in the Los Angeles Coastal Plain consists of percolation, precipitation, and return water from irrigation. Individual basins within the Los Angeles Coastal Plan may also be replenished by the following: surface water spreading of local runoff, imported water and reclaimed water, injection of imported water (for protection against saline intrusion), and subsurface inflow from other basins. Neither the proposed projects nor any of the identified related projects would be developed within a recharge area, and, as such, cumulative impacts to groundwater recharge would be less than significant.

From the cumulative analysis above, development of the proposed project and the related projects identified in **Section III** are not expected to substantially degrade groundwater quality or have any significant cumulative effects.

d. Mitigation Measures

The following mitigation measures are proposed to ensure that there are no potentially significant impacts to surface or ground water quality.

MM-HYD-1. Prior to start of soil-disturbing activities at the site, a Notice of Intent (NOI) and SWPPP shall be prepared in accordance with, and in order to partially fulfill, the California SWRCB Order No. 99-08-DWQ, NPDES General Permit No. CAS000002 (General Construction Permit). The SWPPP shall meet the applicable provisions of Sections 301 and 402 of the CWA and Chapter 6 Article 4.4, Storm Water and Urban Runoff Pollution Control from the Los Angeles Municipal Code by requiring controls of pollutant discharges that utilize BAT and BCT to reduce pollutants. Examples of BAT/BCT that may be implemented during site grading and construction could include straw hay bales, straw bale inlet filters, filter barriers and silt fences.

MM-HYD-2. The project applicant shall prepare and implement an SUSMP in accordance with the requirements of Chapter 6 Article 4.4, Storm Water and Urban Runoff Pollution Control, from the Los Angeles Municipal Code, to ensure that stormwater runoff is managed for water quality concerns through implementation of appropriate and applicable BMPs. Prior to issuance of any grading or building permits, the County and/or Stormwater Division of Bureau of Sanitation must approve the SUSMP.

The following is a listing of applicable BMPs that may be implemented as part of the project through the preparation of the SUSMP:[4]

- Provide reduced-width sidewalks and incorporate landscaped buffer areas between sidewalks and streets.
- Use permeable materials for private sidewalks, driveways, parking lots, or interior roadway surfaces (examples: hybrid lots, parking groves, permeable overflow parking, etc.).
- Comply with all zoning and applicable ordinances to reduce overall lot imperviousness by promoting alternative driveway surfaces and shared driveways that connect two or more homes together.
- Where feasible, direct rooftop runoff to pervious areas such as yards, open channels, or vegetated areas, and avoid routing rooftop runoff to the roadway or the stormwater conveyance system.
- Infiltration trenches
- Oil/water separators
- Catch basin inserts
- Continuous flow deflection/separation systems
- Storm drains inserts
- Media filtration
- Bioretention facility
- Dry-wells
- Cisterns
- Foundation planting
- Catch basin screens
- Normal flow storage/separation systems
- Clarifiers
- Filtration systems
- Primary wastewater treatment systems

4 Los Angeles County Department of Public Works, September 2002. *Development Planning for Storm Water Management: A Manual for the Standard Urban Storm Water Mitigation Plan (SUSMP)*. http://ladpw.org/wmd/NPDES/SUSMP_MANUAL.pdf. 2005.

MM-HYD-3. The project contractor, during construction, and the project owner, during operation, shall properly store hazardous materials to prevent contact with precipitation or runoff.

MM-HYD-4. The project contractor, during construction, and the project owner, during operation, shall develop and maintain effective monitoring and a cleanup program for spills and leaks of hazardous materials.

MM-HYD-5. The project contractor, during construction, and the project owner, during operation, shall place equipment to be repaired or maintained in covered areas on a pad of absorbent material to contain leaks, spills, or small discharge.

MM-HYD-6. The project contractor, during construction, and the project owner, during operation, shall provide periodic and consistent removal of landscape and construction debris.

MM-HYD-7. The project contractor, during construction, and the project owner, during operation, shall sweep parking lots at regular, frequent intervals to remove debris. The project contractor, during construction, and the project owner, during operation, shall also remove any significant chemical residue on the project site through appropriate methods.

MM-HYD-8. The project owner, landscapers and maintenance team, during project operation, landscaping, and maintenance activities, shall use non-toxic alternatives for such applications as insecticides, herbicides, rodenticides, and fertilizers. Furthermore, chemical controls shall only be applied outdoors when precipitation is not forecast for the project area.

e. Adverse Effects

With the implementation of the mitigation measures listed above, the proposed project is not expected to result in any adverse effects with regards to hydrology or water quality.