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IV.C WATER

INTRODUCTION

This section addresses the potential impacts of the proposed Mountaingate project on existing hydrology and drainage conditions in the project site. Sources utilized in the preparation of this section include interviews and correspondence with personnel at the Bureau of Engineering of the City's Public Works Department, as well as technical studies. A hydrology study for the project site was prepared by Psomas in April 2003 and is provided in its entirety in **Appendix C3** of this Draft EIR.

SURFACE WATER QUALITY AND HYDROLOGY

Environmental Setting

The project site consists of 449.5 acres of undeveloped land located in the Santa Monica Mountains area of the City of Los Angeles. Of the project site, 25.4 acres are intended for actual development. Currently, the surface water runoff from the site consists of direct rainfall and runoff[1] from a portion of the lots along Promontory Road. Surface flow, during and after periods of high-intensity rainfall, collects in intervening canyons and flows southward.

The project site has three distinct canyon areas to which it drains. These canyons are referred to in this Draft EIR as Bundy, Kenter and Mandeville Canyons. The runoff that would be generated from the proposed development would flow into Bundy Canyon, while runoff from areas to remain as open space would still flow into Kenter and Mandeville Canyons. Bundy Canyon is a relatively large drainage, with an existing 12,000 cubic-yard volume debris basin located at the northerly terminus of Bundy Drive, approximately one mile south of the proposed project. This debris basin provides protection for areas downstream. The existing Bundy Canyon hydrology map is shown on **Figure IV.C-1**. Sub-areas A-1 and A-2 indicate the areas contributory to Bundy Canyon, totaling approximately 79.6 acres with Sub-area B draining into Canyonback Road that totals approximately 1.3 acres. The hydrology of the undeveloped condition of Bundy Canyon for the project is quantified on **Table IV.C-1**.

1 Runoff refers to the portion of rainfall or irrigation water that flows across the ground surface rather than infiltrating into the soil. Typically measured in cubic feet per second (cfs), runoff in the City of Los Angeles is analyzed for 50-year frequency storm events and is referred to as "Q_{50}".

Table IV.C-1
Existing Site Development Area Hydrology

Location	Acreage	Q50 Clear (cfs)	Q50 Bulked (cfs)	Debris Production (cy)
Sub-areas A-1, A-2, and B	80.83	118	196	8,498

Source: Psomas, April 2003
cfs = cubic feet per second; cy = cubic yards.

The existing and proposed runoff calculations are based on storm flow during a 50-year storm event (Q50), in accordance with the County of Los Angeles' most recent hydrology method.[2] The Storm Drain Design Division oversees the design and construction of flood control facilities within the City. A bulking factor was applied using Los Angeles County Department of Public Works criteria.[3] The bulking factor is applied to undeveloped watersheds to account for the increase in volume of runoff due to debris, including sediments and plant material, which erodes from the watershed. The factor used for the calculations was 1.66 (Q50 Bulked / Q50 Clear). Typically, development of undeveloped property with non-erodible surfaces, such as pavement, roofs, and ground covering, will cause an increase in the Q50 Clear and a decrease in the Q50 Bulked volumes.

Relevant Policies and Regulations

Federal Pollution Control Act

The Federal Clean Water Act established the national strategy for controlling water quality. The primary purpose of the Act is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters" and to attain a level of water quality "which provides for the protection of and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water[.]" 33 USC §1251(a).

The Federal Clean Water Act contains two strategies for managing water quality. One is a technology-based approach that sets requirements to maintain a minimum level of pollutant management using the best available control technology ("BACT"). The second relies on evaluating the condition of surface waters and setting limits on the amount of pollution that the water can be exposed to without adversely affecting the beneficial uses of those waters. Section 303(d) of the Federal Clean Water Act specifies

2 The City of Los Angeles uses the County bulking factors.
3 Ibid.

Figure IV.C-1

Existing Bundy Canyon Hydrology

that, once a water body is listed as "impaired", the states must establish total maximum daily loads ("TMDLs") for the pollutants causing the impairment (33 USC §1313(d)(c)). The states must then develop a "pollution budget" or pollutant load allocation for point and non-point sources that are contributing to the water quality impairment.[4] Once these allocations have been set, waste load allocations for point sources are implemented through National Pollutant Discharge Elimination System (NPDES) permits for individual dischargers, while non-point source discharges are subject to load allocations that can be specified in an individual NPDES permit or may be regulated or addressed in other ways. Section 402 of the Clean Water Act, as amended, includes the National Pollutant Discharge Elimination System program.

National Pollutant Discharge Elimination System (NPDES)

Discharge of pollutants into waters of the United States via storm water is prohibited by the Federal Water Pollution Control Act of 1972, commonly referred to as the Clean Water Act (CWA). Section 402 of the CWA requires NPDES permits for storm-water discharges from storm drain systems[5] to waters of the United States.[6] Congressional reauthorization of the CWA in 1987 established the NPDES provisions governing storm-water discharges from municipal, industrial and commercial sites. NPDES permits for "non-point" discharges from these types of sites are commonly referred to as "storm-water permits".

Every city and county in California with a population greater than 100,000 has been issued a NPDES permit for storm-water discharges, including Los Angeles County, City of Los Angeles, and 84 other permittees within the County. A NPDES Municipal Permit No. CAS614001 was issued to Los Angeles County and co-permittees within its jurisdiction on July 31, 1996, and expired on July 30, 2001, but is still active until a new permit is adopted by the Los Angeles RWQCB. The existing NPDES Municipal Permit No. CAS614001 incorporates 12 of the 13 baseline Best Management Practices (BMPs), which have been approved by the RWQCB. Several additional water quality permits and plans are required (e.g., Municipal Permit No. CAS614001, a County-wide Storm Water Management Plan (CSWMP), a Watershed Management Area Plan (WMAP).

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4 Points sources are those that generate discharge from a discrete conveyance facility. Non-point sources represent all other sources.

5 Storm drain systems are described as Municipal Separate Storm Sewer Systems (MS4s) and include streets, gutters, conduits, natural or artificial drains, channels and water courses or other facilities that are owned, operated, maintained or controlled by any Permittee (cities and counties) and used for the purpose of collecting, storing, transporting or disposing of storm water.

6 Section 402(p)(3)(B) requires that permits for storm drain systems "(i) may be issued on a system- or jurisdiction-wide basis; (ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and (iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants."

Applicants for development projects in the County of Los Angeles, including the City of Los Angeles, have two major responsibilities under the NPDES Municipal Permit No. CAS614001. The first is to submit and then implement a Standard Urban Storm Water Mitigation Plan ("SUSMP") containing design features and BMPs appropriate and applicable to the project.[7] The purpose of the SUSMP is to reduce post-construction pollutants in storm-water discharges. Prior to issuance of any grading or building permit, the City must approve the SUSMP.

The second responsibility is to prepare a Storm-Water Pollution Prevention Plan (SWPPP) for all construction projects with disturbed areas of 2 to 5 acres. Alternatively, the applicant may conform to the State Construction Activity Storm-Water Permit for projects greater than 5 acres. The applicant must ensure that a SWPPP is approved, or file a Notice of Intent to comply with the State Permit prior to issuance of a grading permit.

In California, the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Board (RWQCB) are responsible for administering the NPDES Program on behalf of the U.S. Environmental Protection Agency. The SWRCB issues “general” NPDES permits for construction activities and for certain types of industrial and commercial operations. General Permits reduce amount of time and expense required for compliance with the NPDES provisions of the Clean Water Act. The RWQCB recently adopted the Standard Urban Storm Water Mitigation Plan (SUSMP), which took effect in October 2000.

California Porter-Cologne Act

At the state level, the Porter-Cologne Water Quality Control Act of 1970 established the State Water Resources Control Board ("WRCB"), which regulates water quality. In this Act, the Legislature directed that state policy should provide principles and guidelines for water quality control and objectives for key geographic locations. To accomplish this objective, the state is subdivided into nine regions each containing a separate Regional Water Quality Control Board ("RWQCB"). This statute gives the state and regional water quality control boards broad powers to protect water quality by regulating waste disposal and requiring cleanup of hazardous conditions.

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7 The RWQCB, Los Angeles Region, approved the SUSMP that requires new construction and development projects to implement BMPs on March 8, 2000. The SUSMP requires that new developments and re-development projects employ a variety of general and land use specification measures to reduce the post-project discharge of pollutants from stormwater conveyance systems to the "maximum extent practicable". In May 2000, the County of Los Angeles finalized its *Manual for the Standard Urban Storm Water Mitigation Plan*, which details the requirements of the SUSMP. Projects that fall into any of the seven SUSMP development categories (including home subdivisions with 10 to 99 housing units) are required to incorporate appropriate SUSMP requirements into project plans as part of the development plan approval process for building and grading permits.

The WRCB sets state policy for water quality control that must be followed by the regional water boards and by other state agencies and offices. Each RWQCB must formulate and adopt a plan for all areas within their region. The regional plans are to conform to the policies set forth in the Act and established by the WRCB in its state water policy. The regional plans must: (a) identify beneficial uses of the waters that are to be protected, such as domestic, navigational, agricultural, industrial and recreational uses, as well as aesthetic enjoyment; (b) establish water quality objectives, limits or levels of constituents or characteristics established to protect beneficial uses and to prevent nuisances; and (c) present an implementation program necessary to achieve those water quality objectives.

General Construction Activity Storm-Water Permit (GCASP)

An NPDES permit is required for construction activities that disturb soils, including clearing, grading, or excavation, if the total construction site is five or more acres in size. In general, the GCASP allows storm-water discharges from a construction site, and prohibits non-storm-water discharges and any discharges containing reportable quantities of hazardous substances. Permitted storm-water discharges are not restricted by numerical effluent limitations. Instead, discharges are required to implement appropriate pollution prevention control practices and / or Best Management Practices (BMPs).

The State General Permit for Construction Activity permitting process requires the submittal of a Notice of Intent (NOI) to the SWRCB. An NOI is a formal notice to the SWRCB from project applicants / developers that a construction project is about to begin. The NOI provides information on the owner, location and type of project, and certifies that the developer will comply with the construction general permit conditions. The NOI is not a permit application, and so no approval is required.

After completion of the NOI, a Storm-Water Pollution Prevention Plan (SWPPP) must be developed. SWPPP is a series of phases and activities to first, characterize a facility, and then to select and carry out actions that prevent storm-water pollution. For construction projects, this refers to a report that includes site maps, identification of construction / contractor activities that could cause pollutants in storm water, and a description of measures or practices to control these pollutants. The SWPPP is required for construction sites of at least five acres and must be prepared and implemented before construction begins. The NOI and SWPPP shall be available on-site, at all times, along with the approved building and / or grading plans. At the completion of construction activities, a Notice of Termination must be filed with the SWRCB in Sacramento.

LARWQCB Water Quality Control Plan

Discharges to both surface and groundwaters are regulated by the National Pollutant Discharge Elimination System (NPDES), which is administered by the LARWQCB as part of its discharge permit program. Any proposed action that would result in a discharge into the waters of the Los Angeles region must describe the quantity and nature of the proposed discharge in a Report of Waste Discharge (ROWD) or an NPDES application. As part of the NPDES ROWD permit, the RWQCB will incorporate appropriate measures and limitations to protect public health and water quality.

NPDES permits are required for all construction projects impacting five acres or more, or smaller areas that are part of a larger common plan, including excavation, demolition, grading and clearing to mitigate potential construction-related water quality impacts.

The project applicant is required to prepare a SWPPP pursuant to the NPDES that would identify the various BMPs that would be implemented on the site during construction.

Examples of BMPs that may be implemented during site grading and construction as part of the SWPPP could include the following:

- Covering excavated and graded areas where loose, bare soil might otherwise be subject to wind and water erosion.
- Disallowing the placement of any soils materials in the path of known drainage areas.
- Providing temporary de-silting basins to ensure that surface water flow do not carry significant amounts of on-site soils and contaminants downstream.
- Requiring that any construction vehicle maintenance be conducted in staging areas where appropriate controls have been established to ensure that fuels, motor oil, coolant, and other hazardous materials are not deposited into areas where they may enter surface water and groundwater.
- Restricting the use of chemicals that may be transferred to surface waters by storm-water flows or leach to groundwater basins through water percolation into the soil.
- Requiring that permanent slopes and embankments be vegetated as soon as possible following final grading.

Also, the NPDES permit requirement applies to all discharges of pollutants to "navigable waters" from a "point source".[8] A point source is defined broadly in the Clean Water Act as "any discernible, confined

8 McCutchen, Black, Verleger, and Shea, the Attorneys of: *California Environmental Law Handbook, Second Edition*, Government Institutes, Inc. January 1988, p. 61.

and discreet conveyance" such as a well, pipe, ditch, discreet fissure, container, or vessel.[9] Navigable waters are defined broadly as "waters of the United States", and the U.S. EPA has effectively asserted that these comprise most surface waters, including waters that are tributary to navigable waters, interstate waters, and interstate waters having some impact or involvement in interstate commerce.[10]

Environmental Impact Analysis

Significance Threshold Criteria

Surface Water Quality

The L.A. CEQA *Thresholds Guide* indicates that a project would normally have a water 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 that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or Water Quality Control Plan for the receiving water body.[11]

Surface Water Hydrology

The L.A. CEQA *Thresholds Guide* indicates that a proposed project would normally have a significant impact on surface water hydrology if it would:

1. Cause flooding during the projected 50-year developed storm event which would have the potential to harm people or damage property or sensitive biological resources;
2. Substantially reduce or increase the amount of surface water in a water body; or
3. Result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the current or direction of water flow.

9 Ibid.

10 Ibid., pp. 61-62.

11 L.A. CEQA *Thresholds Guide*: *Your Resource for Preparing CEQA Analyses in Los Angeles*, City of Los Angeles, Environmental Affairs Department, May 14, 1998, p. D.2-4.

Project Impacts

Construction Impacts on Surface Water Quality

Grading and excavation necessary for site preparation could result in wind and water driven erosion of soils that would increase sedimentation during storm events. As the construction area is greater than 5 acres in size, a NPDES permit that includes a SWPPP is required prior to the issuance of grading permits. Compliance with NPDES permit requirements would reduce construction-related sedimentation and erosion impacts to less than significant levels.

Post-Construction Water Quality Impacts

Common concerns related to surface water quality include the potential deposition of pollutants generated by motor vehicles and the maintenance and operation of landscape areas. Urban runoff contains almost every type of water pollutant, including suspended solids, bacteria, heavy metals, oxygen-demanding substances, nutrients, and oil and grease. Primary sources of urban runoff pollutants include animal droppings, atmospheric fallout, land erosion, lawn runoff (pesticides, herbicides, fertilizers), and pavement runoff.[12] These contaminates could result in potential significant impacts. As a result of project compliance with the NPDES permit, specific measures have been incorporated into the project that include SUSMPs and SWPPPs for development projects. The NPDES permit will ensure that the quality of stormwater runoff leaving the project site will meet all regulatory standards and will maintain the beneficial uses of the surface water for public and commerce. Based on the above, no significant impact would result.

Surface Water Hydrology

The watershed in which the project site lies is largely undeveloped and subject to mudflows and debris production. Project implementation would result in site grading which would "flatten" portions of the site for development, and would introduce non-erodible surfaces (e.g., pavement, roofs, permanent vegetation, etc.).

The proposed project would modify existing hydrology and include a storm drainage system that would collect runoff from Stoney Hill and Canyonback Roads and drain into Bundy Canyon. The proposed hydrology and storm drainage system is shown in **Figure IV.C-2**. The City of Los Angeles' current

12 Robert A. Corbitt, *Standard Handbook of Environmental Engineering*, (New York City: McGraw-Hill Publishing Company, 1989), p. 753.

Figure IV.C-2

Proposed Hydrology and Storm Drain System

storm drain design standards require a measure of control for storm-water runoff and potential debris flow in drainage channels, courses and other improved systems.

Currently, there is a debris basin in Bundy Canyon upstream of existing development. Due to location of the site at the top of the drainage area, there are no debris producing areas entering the site from the existing development area. Also, there would be less debris producing areas within the proposed development at build-out due to the conversion of open space to impervious or stabilized surfaces. The existing facility would remain as the control for debris flow from the Bundy Canyon watershed. As a result, no further facilities are required.

For storm-water runoff, one method of control is through the installation of detention basins upstream of downstream inlets to the drainage system. Detention basins are designed to retain water, allowing the regulated outflow to be reduced at a flow rate according to the downstream existing systems capacity. Storm-water runoff would increase as a result of the development. Because of this fact, a detention basin would be installed in Bundy Canyon downstream of the location where the project's storm water would be discharged. This detention basin, designed with a storage capacity of 561 cubic yards, would collect the water flow and release it downstream at less than or equal to pre-development flow conditions.

It should be noted that there are 1.25± acres within the proposed development that are independent of the major proposed system and which do not drain into the detention basin. This area is located north and south of the southerly terminus of an existing 24 inch storm drain in Canyonback Drive. Runoff from this area, would be collected in existing catch basins and would be conveyed northerly via the existing storm drain.

Table IV.C-2 presents the existing and post-development runoff rates for the entire project site. The Mandeville and Kenter Canyons would experience a reduction in peak flow due to a portion of their drainage areas being diverted to the proposed project storm drain. A portion of the easterly ridge area, which currently drains to the east towards the existing golf course, would also have a reduction in runoff with this area being diverted to Bundy Canyon. The resulting increase in drainage to Bundy Canyon is mitigated with the use of the planned detention basin. Based on the decrease in runoff and debris producing area, the project would have beneficial impacts on downstream drainage facilities. In conclusion, the proposed project would not result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the current or direction of water flow. As a result of project implementation, there would not be any significant impacts on surface water hydrology within the project site.

Table IV.C-2
Comparison of Pre- and Post-Development Site Hydrology

Location	Acreage	Q50 Clear (cfs)	Q50 Bulked (cfs)	Debris Production (cy)
Existing Flow to Bundy Canyon	79.6	114	189	8,498
Proposed Flow to Bundy Canyon	90.7	151	251	5,370

Source: Psomas, April 2003
cfs = cubic feet per second; cy = cubic yards.
Does not include hydrology Region B

Cumulative Impacts

Implementation of the proposed project and other projects in the vicinity would cumulatively increase the amount of impervious surface area, runoff and landform and drainage pattern alterations along the Bundy Canyon drainage basin. Related projects will be required to comply with NPDES stormwater quality discharge requirements. With implementation of appropriate mitigation measures such as BMPs and SWPPP, proper engineering practices, and adherence to State, regional, and local requirements, cumulative water quality impacts would be reduced levels considered less than significant.

Only one other project is being developed in the local vicinity. This project is located outside of the Mountaingate community, to the east of the San Diego Freeway. Due to the distance and different drainage areas associated between these two projects, drainage issues associated with cumulative projects would not have any direct, indirect or synergistic effects with regards to cumulative drainage issues. Additionally, each future project is required to provide adequate capacity to convey drainage to a safe point of discharge and pay fees to connect to the drainage system. In this manner, the existing drainage system would be upgraded as necessary to accommodate runoff created by the development of future uses. Given the above, no significant cumulative impacts are expected.

Mitigation Measures

As no significant impacts were identified, no mitigation measures are required.

Adverse Effects

Site grading and construction would alter the existing drainage patterns and incrementally increase storm-water runoff upstream of the detention basin. This incremental increase would be offset by the proposed detention basin, creating no additional runoff to existing storm drains and natural drainage courses. Project development performed in compliance with the requirements of the Bureau of Engineering, all other responsible agencies, and all applicable codes and ordinances would ensure that surface water quality and surface water hydrology related impacts are less than significant.