

4.8

HYDROLOGY AND WATER QUALITY

4.8.1 Introduction

This section describes the existing hydrology and water quality conditions and the regulations applicable to hydrology and water quality. The section also analyzes the impacts on area hydrology and water quality, and mitigation measures that would reduce the significance of these impacts. Cumulative impacts related to hydrology and water quality are discussed at the end of this section.

4.8.2 Existing Conditions

Surface Water

The city is within the Los Angeles River Watershed, with its eastern two-thirds within the Arroyo Seco subwatershed. The Los Angeles River Watershed covers approximately 834 square miles from the eastern Santa Monica Mountains to the western San Gabriel Mountains. The primary waterbody within the watershed is the Los Angeles River, which begins in the mountains and flows to Griffith Park, where it turns south through the Glendale Narrows and flows across the coastal plain to San Pedro Bay. There are diverse land uses within this watershed; approximately 360 square miles are designated as open space and 474 square miles consist of residential, industrial, or commercial uses. The Los Angeles River has eight major tributaries including Verdugo Wash and the Arroyo Seco (LADPWS 2009).

The major drainage within the northern one-third of the city is Beckley Canyon Creek, which runs through the center of the northern portion of the city. Beckley Canyon Creek is tributary to Verdugo Wash, which is one of the primary tributaries of the Los Angeles River.

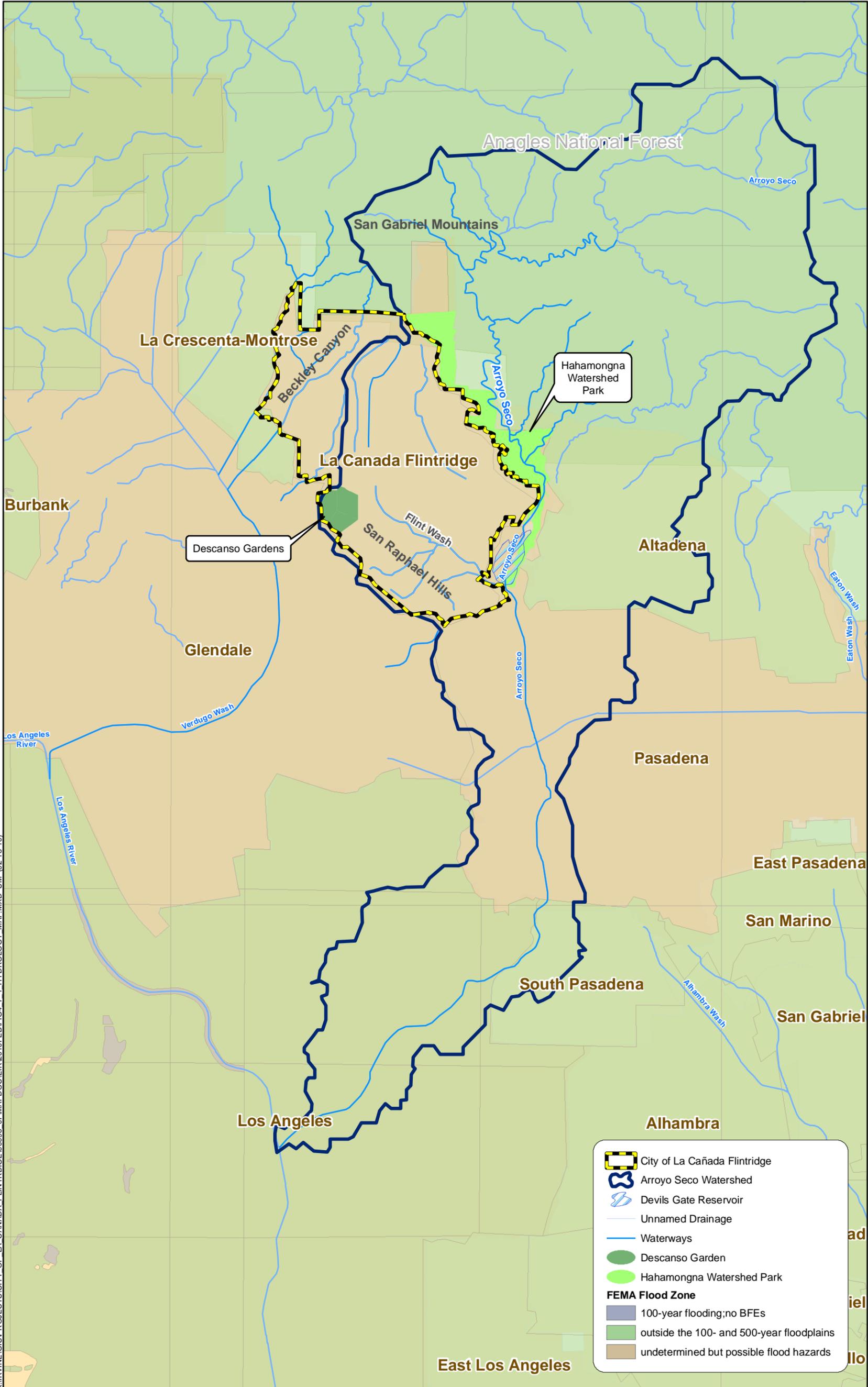
Arroyo Seco Watershed

The eastern two-thirds of the city is within the Arroyo Seco subwatershed. Figure 4.8-1 presents the hydrology of the project area. The Arroyo Seco Watershed is a sub-watershed of the Los Angeles River watershed, which is a coastal watershed partly within the coastal zone. The watershed drains 47 square miles, approximately two-thirds of which are in the San Gabriel Mountains within the Angeles National Forest. The stream runs 22 miles in a deeply incised canyon, beginning under Strawberry Peak in the San Gabriel Mountains and draining into the Los Angeles River near downtown Los Angeles. Roughly half of this length is contained within the boundaries of the Angeles National Forest. La Cañada Flintridge is located in the southern end of the Arroyo Seco Watershed bounding the arroyo to the west.

Within the city, streams flow to the Arroyo Seco River by way of Flint Wash, which is a major tributary to the Arroyo Seco. Flint Wash begins near Descanso Gardens and runs along the toe of the San Raphael Hills, carrying the flow from these canyons and street runoff into the Hahamongna Watershed Park, where it enters just north of Devil's Gate Dam (City 2007b). The last 0.75 mile of Flint Wash, before it enters Hahamongna Watershed Park, is a natural, unlined channel; the remainder consists of a series of lined drainage channels on Los Angeles County Flood Control District easement, draining over 5 square miles of the city (SWRCB 2006). The Arroyo Seco Watershed Management and Restoration Plan has identified several priority restoration projects for the Arroyo Seco Watershed. LCF-1, Flint Wash Restoration, is within La Cañada Flintridge. Opportunities for restoration include naturalization of the channel; restoration of aquatic habitat, where possible; and restoration and protection of riparian habitat, oak woodland habitat, and habitat connectivity.

Several major obstacles impede the Arroyo's flow between its headwaters and the confluence. The two key obstacles are the Brown Mountain Debris Dam, located 7 miles below the Arroyo headwaters, and Devil's Gate Dam, a large flood control facility bisecting the Arroyo 5 miles downstream of Brown Mountain Dam at the southern end of Pasadena's Hahamongna Watershed Park. The Devil's Gate Dam is directly adjacent to the city. Below Devil's Gate Dam, most of the stream has been channelized to increase its capacity to carry floodwaters during winter storms.

Downstream of Devil's Gate Dam, the Arroyo's natural character is lost to urbanization. The removal of riparian vegetation, urban development, and the introduction of exotic plant species have all but replaced the once lush vegetation below the dam. Chaparral, which covers much of the land mass in the adjacent Angeles National Forest, has encroached significantly within the Arroyo Seco watershed. The remaining native riparian habitat now comprises only 15% of the total land mass within the watershed and far less than this proportion in the urbanized area south of Devil's Gate (Arroyo Seco 2006:16-17).



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Source: ESRI Hydro (2003)

Figure 4.8-1
Hydrology Map
La Cañada Flintridge
General Plan Program EIR

There are several debris basins within the city, which are engineered structures designed to collect sediment and any loose debris eroded from the steep hillside watershed of the San Gabriel Mountains, and prevent damage to downstream properties and channels (City 2007b).

Groundwater

Raymond Groundwater Basin

The eastern portion of the city is located in the Raymond Groundwater Basin (Basin Number 4-23), which covers approximately 26,200 acres (40.9 square miles) (DWR 2004a). The Raymond Groundwater Basin includes water-bearing sediments bounded by contact with consolidated basement rocks of the San Gabriel Mountains on the north and the San Rafael Hills on the southwest. The west boundary is delineated by a drainage divide at Pickens Canyon Wash and the southeast boundary of the Raymond Fault (DWR 2004a). Figure 4.8-2 presents the areas served by the four water service providers. Figure 4.8-3 presents the boundaries of the basin relatively to the city's boundaries.

Natural recharge in the basin is mainly from direct percolation of precipitation and percolation of ephemeral stream flow from the San Gabriel Mountains to the north. The principal streams that recharge are the Arroyo Seco, Eaton Creek, and Santa Anita Creek. Water levels in the Raymond Groundwater Basin have varied over time but are managed to stay within limits of long-time mean elevation. Groundwater storage capacity of the basin is estimated to be 1,450,000 acre feet (DWR 2004a).

Actual groundwater storage was estimated as approximately 1,000,000 acre-feet (af) in 1970 (DWR 2004a). Unfortunately, there is not enough information available to do a detailed analysis on the groundwater budget for the basin. However, the Raymond Basin Management Board measures actual groundwater extraction. In 1998 approximately 40,900 af of water was extracted for urban use, and 14 af for other uses (DWR 2004a).

San Fernando Valley Groundwater Basin

The western portion of the city is located in the San Fernando Valley Groundwater Basin (Basin Number 4-12, Figure 4.10-3). This basin covers approximately 145,000 acres (226 square miles) and includes water-bearing sediments beneath the San Fernando Valley, Tujunga Valley, Browns Canyon, and the Verdugo Mountains near La Crescenta and Eagle Rock. The San Fernando Groundwater Basin is bounded on the north and northeast by the San Gabriel Mountains, on the east by the San Rafael Hills, on the south by the

Santa Monica Mountains and Chalck Hills, and on the west by the Simi Hills. The San Fernando Valley Groundwater Basin is drained by the Los Angeles River and its tributaries (DWR 2004b).

The San Fernando Valley Groundwater Basin recharges through stormwater runoff and natural stream flow. Stormwater runoff contains natural stream flow from the surrounding mountains and precipitation on impervious surfaces. Stream flows in the eastern portion of the basin infiltrate into the groundwater. The water levels in the basin have been stable for the past 20 years (DWR 2004b). Hydrographs show variations in water levels of 5 to 40 feet in the western part of the basin, a variation of about 40 feet in the southern and northern parts, and a variation of about 80 feet in the eastern part. The storage capacity of the basin is approximately 3,670,000 af (DWR 2004b).

Groundwater Supply

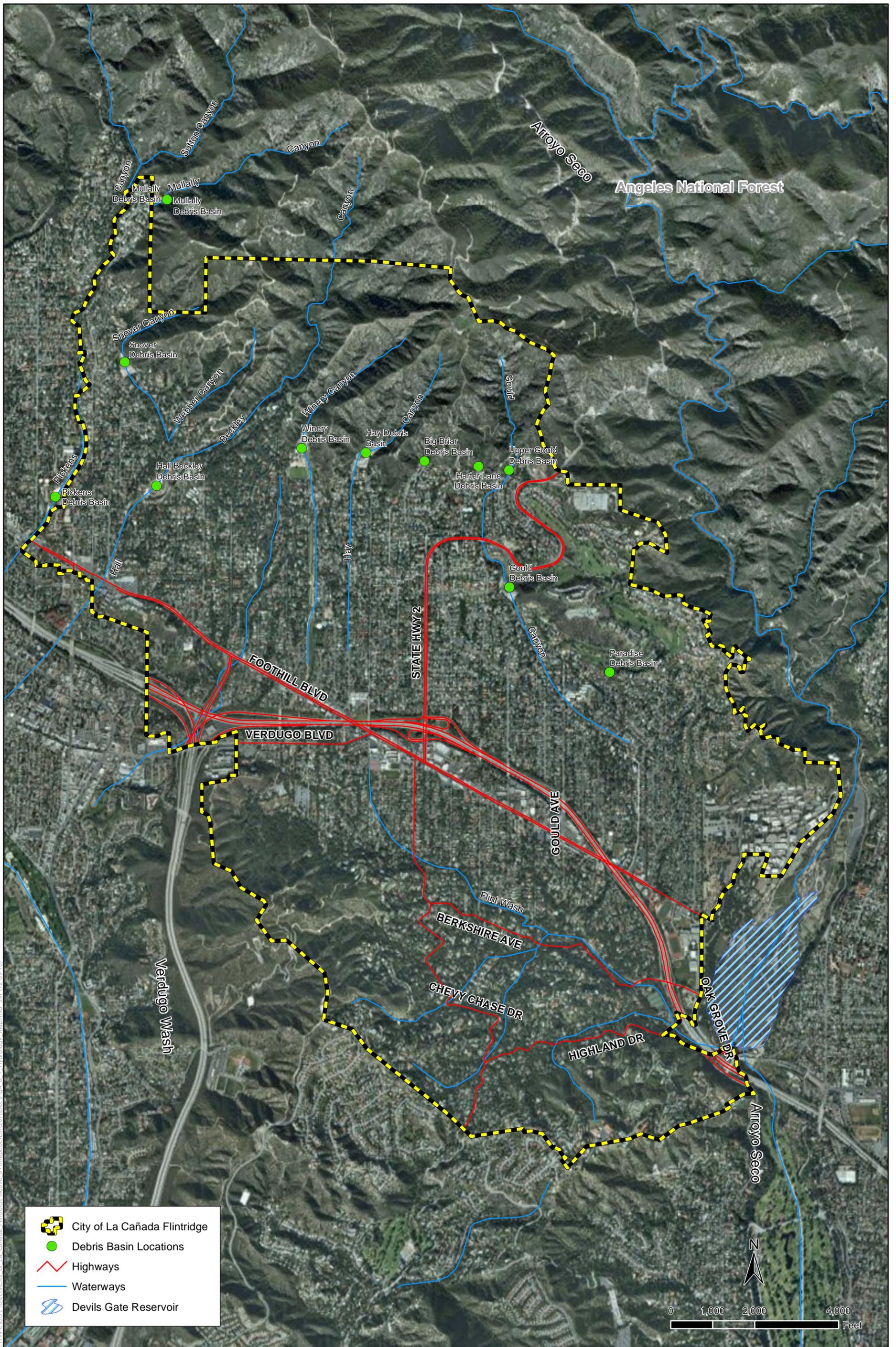
Four water companies serve the city: the Mesa Crest Water Company, La Cañada Irrigation District, Valley Water Company, and Crescenta Valley Water District. The first three have pumping rights to the Raymond Groundwater Basin. The Crescenta Valley Water District obtains its water from the Los Angeles District local wells in the Verdugo Basin¹. All the water purveyors obtain imported water supplies through the Foothill Municipal Water District, a member agency of the Metropolitan Water District of Southern California. The Project demand on water supply is discussed in detail in Chapter 4.14, "Utilities." However, water taken from local wells has nitrate and volatile organic compound (VOC) levels in excess of federal and state regulations. This necessitates the blending of well water with higher quality imported water to achieve acceptable potable water quality levels (City 2007b).

Flooding

The City of La Cañada Flintridge is susceptible to flood hazards due to its proximity to the Los Angeles River and the fact that it is a hillside community. The Los Angeles River Flood Prevention Program, administered by the Los Angeles County Flood Control District, has been responsible for correction of the major flood control deficiencies in the community. The city is also subject to mudflows and landslides due to the steep topography.

There are three areas within the city that are subject to minor flooding during intense storm periods due to storm drain deficiencies: Foothill Boulevard (north side east of Ocean View Boulevard), Georgina Road (100 feet south of

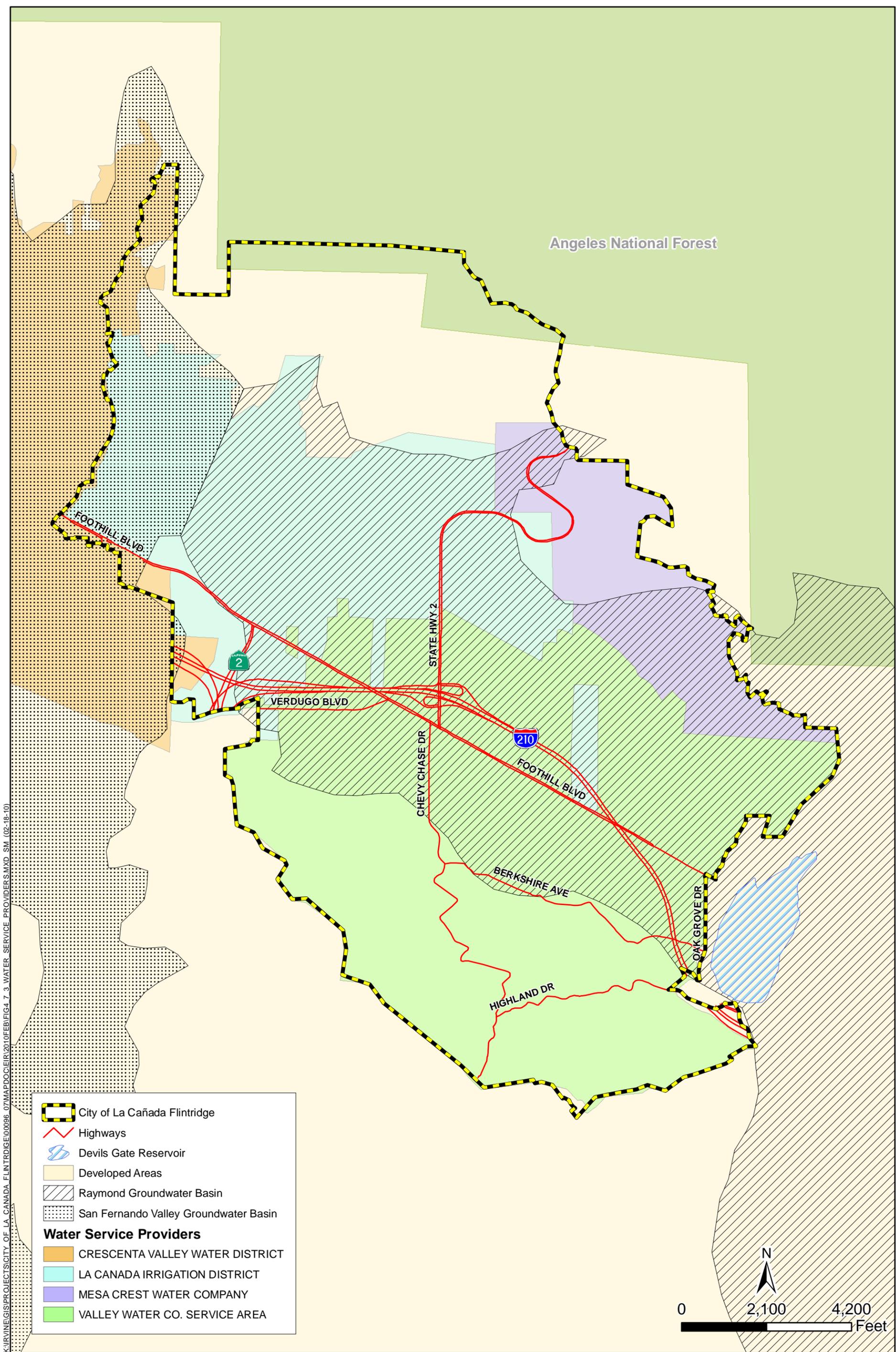
¹ The Verdugo Basin is a subbasin of the San Fernando Valley Groundwater Basin (RWQCB 1995).



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Source : California Department of Water Resources (2002); ESRI USA Imagery (1m; 2007)

Figure 4.8-2
Surface Water and Drainage
La Cañada Flintridge General Plan Program EIR



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Source : Foothill Municipal Water District (2005); LARWQCB (1995)

Figure 4.8-3
Water Service Providers
La Cañada Flintridge General Plan Program EIR

Flintridge Oaks Drive), and Foothill Boulevard (north side, at Lasheart Drive). Minor flooding problems on Foothill Boulevard and in the southern portion of the city occur due to heavy rainfall in drainage courses and canyons sometimes resulting in overflow, erosion, and debris deposition. These problems are due primarily to several inadequate, pre-1940 drains, catch basins, and laterals in conjunction with the high proportion of impervious surfaces (City 2007b).

The City of La Cañada Flintridge has several flood-control facilities in place including stormwater systems and debris basins. Drainage channels and subdrains have controlled the vast majority of flooding potential within developed portions of the city. Drainage courses and canyons originate from the surrounding foothills. Due to potential overflow, erosion, and debris deposition, the Los Angeles County Public Works Department (LACPWD) considers some of the drainages deficient during heavy rainfall. On March 20, 1978, the City signed a resolution describing a commitment to recognize and evaluate floodplain hazards and manage floodplain control measures in order to participate in the National Flood Insurance Program that is managed by FEMA.

FEMA has developed a Flood Insurance Rate Map (FIRM) that delineates the entire city into flood zone designations. The city is not located within the 100-year or 500-year flood plains. Flood Zone D is assigned to “areas in which flood hazards are undetermined, but possible” and flood Zone X to “areas outside the 1% annual chance floodplain.” Other Zone X is assigned to “areas determined to be outside the 0.2% annual chance floodplain” (FIRM Map Number 06037C1375F, Los Angeles County, CA and Incorporated Areas, Panel 1375E of 2350). Areas assigned flood Zone D have not been reviewed through a detailed hydraulic study process and are assumed to have the potential to flood based on typical rainfall patterns, watershed characteristics, and land use in the area. The northern part of the city is designated as flood Zone D, while the center of the city is designated as Zone X. The foothills on the western area of the city are designated as Zone D, while the southeastern area of the San Gabriel Mountains is designated as Zone X; other areas are Zone X and D.

The Los Angeles County Flood Control District requires all developments to analyze site hydrology assuming 50-year frequency storm intensity and burned conditions over the entire watershed affecting the site. Therefore, individual hydrology studies are required on a case-by-case basis for proposed developments within the city.

Water Quality

Surface Water Quality

Urban runoff is a surface water pollutant in the Arroyo Seco subwatershed. The Arroyo Seco Creek and Verdugo Wash are listed on the 2008 Los Angeles RWQCB's CWA Section 303(d) list of impaired water bodies for coliform bacteria and trash (LARWQCB 2009). The high coliform and trash counts are direct results of non-point source pollution running into the Arroyo Seco and Verdugo Wash via storm drains. The Arroyo Seco and Verdugo Wash must also comply with the Total Maximum Daily Load (TMDL) water quality regulations set forth by the RWQCB limiting pollutant inputs into the Los Angeles River, even if not specifically listed for them. A TMDL is the amount of loading that the waterbody can receive and still meet water quality standards.

Groundwater Quality

The Raymond Groundwater Basin water supply requires dilution with other high-quality water supply sources to meet drinking water quality standards set by the EPA. Groundwater in the basin is typically rich in calcium bicarbonate. The average total dissolved solids content in the basin is about 400 milligrams per liter (mg/L) with a high of 600 mg/L. Fluoride content occasionally exceeds recommended levels of 1.6 mg/L near the San Gabriel Mountains. VOCs are detected in wells near Arroyo Seco, and radiation is occasionally detected near the San Gabriel Mountains (DWR 2004a).

The western portion of the San Fernando Valley Groundwater Basin has a dominant calcium sulfate-bicarbonate character, and the eastern portion has a dominant calcium bicarbonate. The total dissolved solids range from 326 to 615 mg/L. Contamination from VOCs such as trichloroethylene (TCE), perchloroethylene (PCE), petroleum compounds, chloroform, nitrate, sulfate, and heavy metals were found in the basin (DWR 2004b).

The city includes both centralized sewage treatment and older individual septic systems. Individual septic systems have been known to leak and cause nitrate contamination in groundwater. Currently the city has many sewer lines installed and is still in the process of incorporating portions of the city into the sewer system. Once individual septic systems are removed, groundwater nitrate-contamination is expected to drop below state and federal thresholds (City 2007b).

4.8.3 Regulatory Setting

Federal Regulations

Federal Clean Water Act

The CWA is the primary federal law promulgated to protect the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands.

CWA Permits for Fill Placement in Waters and Wetlands (Section 404)

CWA Section 404 regulates the discharge of dredged and fill materials into "waters of the United States," which include oceans, bays, rivers, streams, lakes, ponds, and wetlands. Project proponents must obtain a permit from the USACE for all discharges of dredged or fill material into waters of the United States, including wetlands, before proceeding with a proposed activity. Before any actions that may impact surface waters are carried out, a delineation of jurisdictional waters of the United States must be completed, following USACE protocols in order to determine whether the Project area encompasses wetlands or other waters of the United States that qualify for CWA protection. These include any or all of the following.

- areas within the ordinary high water mark of a stream, including non-perennial streams with a defined bed and bank and any stream channel that conveys natural runoff, even if it has been realigned, or
- seasonal and perennial wetlands, including coastal wetlands.

Wetlands are defined for regulatory purposes as areas "inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3, 40 CFR 230.3).

CWA Section 404 permits may be issued only for the least environmentally damaging practicable alternative. That is, authorization of a proposed discharge is prohibited if there is a practicable alternative that would have less adverse impacts and that lacks other significant adverse consequences.

Permits for Stormwater Discharge (Section 402)

CWA Section 402 regulates discharges to surface waters through the NPDES program, administered by the EPA. In California, the State Water Resources Control Board is authorized to oversee the NPDES program through the RWQCBs. The NPDES program issues both general permits (those that cover a number of similar or related activities) and individual permits.

Municipal Activities

Municipal discharges of stormwater runoff are regulated under the NPDES General Permit for Municipal Small Storm Sewer Systems (MS4) (MS4 Permit). The City is a co-permittee of the Los Angeles County Department of Public Works (LADPW) MS4 Permit. Issued in 2001 by the Los Angeles RWQCB (Order No. 01-182, NPDES No. CAS004001), the permit covers approximately 3,100 square miles and serves a population of about 10 million. The MS4 Permit contains a requirement for permittees to develop and implement their own programs for stormwater management. As such, the City adopted the Stormwater Management and Discharge Ordinance. Section 3.7.3.3 provides a more in depth description of the City's Stormwater Management and Discharge Ordinance (City 2006a).

An important requirement of the County's MS4 Permit is implementation of the Standard Urban Stormwater Mitigation Plans (SUSMPs) and numerical design standards for BMPs. The final SUSMP was issued on March 8, 2000 (SWRCB 2000). The purpose of the SUSMP requirements is to minimize, to the maximum extent practicable, the discharge of pollutants of concern from new and redevelopment. The numerical design standard is that post-construction treatment BMPs be designed to mitigate (infiltrate or treat) stormwater runoff from the first 0.75 inch of rainfall, prior to its discharge to a stormwater conveyance system.

Construction Activities

Most construction projects that disturb 1 acre of land or more are required to obtain coverage under the NPDES General Permit for Construction Activities (General Construction Permit), which requires the applicant to file a notice of intent (NOI) to discharge stormwater and to prepare and implement a SWPPP (SWRCB 2009). The SWPPP includes an overview of the BMPs that would be implemented to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby water resources.

Dewatering Activities

Pumping of groundwater seepage from an excavation and subsequent discharge is considered a dewatering discharge. Small amounts of construction-related dewatering are covered under the General Construction Permit. For dewatering discharges that do not meet the criteria in the General Construction Permit, however, the RWQCB should be consulted and may require that an individual NPDES permit and WDRs be obtained for dewatering activities.

Water Quality Certification (Section 401)

Under CWA Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the United States must obtain certification from the state in which the discharge would originate. Here, the Los Angeles RWQCB has this responsibility. Therefore, all projects that have a federal component and may affect state water quality (including projects that require federal agency approval, such as the issuance of a Section 404 permit) also must comply with CWA Section 401.

Clean Water Act Section 303(d)

Section 303(d) of the federal CWA requires the State Water Resources Control Board (SWRCB) to develop an impairment list that allows regulators to determine the priority schedule of the water bodies need for a TMDL. The relevant 303(d) listings for water bodies in the project vicinity are described under “Surface Water Quality” above.

Safe Drinking Water Act

The Safe Drinking Water Act, as amended in 1986 and 1996, requires the protection of drinking water and its sources (i.e., rivers, lakes, reservoirs, springs, and groundwater wells). The act authorizes the EPA to set national standards for drinking water to protect against pollutants. The EPA, states, and local agencies work together to enforce these standards.

National Flood Insurance Program

The National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973 were enacted to reduce the need for large, publicly funded flood control structures and disaster relief by restricting development on floodplains.

FEMA administers the National Flood Insurance Program to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains. FEMA issues FIRMs for communities participating in the National Flood Insurance Program. These maps delineate flood hazard zones in urbanized areas and in some rural areas. The locations of FEMA-designated floodplains in the Project area are included in the discussion of existing conditions above.

Executive Order 11988 (Floodplain Management)

Executive Order 11988 addresses floodplain issues related to public safety, conservation, and economics. It generally requires federal agencies constructing, permitting, or funding to:

- avoid incompatible floodplain development,
- be consistent with the standards and criteria of the National Flood Insurance Program, and
- restore and preserve natural and beneficial floodplain values.

This order will apply to the proposed Project if construction related to the CWA Section 404 permit falls under any of the bulleted categories listed above.

State Regulations

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act), also known as the California Water Code, is California's statutory authority for the protection of water quality. Under this act, the state must adopt water quality policies, plans, and objectives that protect the state's waters. The act sets forth the obligations of the SWRCB and RWQCBs pertaining to the adoption of water quality control plans (basin plans) and establishment of water quality objectives. Unlike the federal CWA, which regulates only surface water, the Porter-Cologne Act regulates both surface water and groundwater.

State Water Resources Control Board and Regional Water Quality Control Boards

The SWRCB administers state water rights and water quality functions. The SWRCB and its nine RWQCBs administer water rights and enforce pollution control standards, and are responsible for ensuring implementation and compliance with the provisions of the federal CWA and California's Porter-Cologne Act.

The proposed Project is situated within the jurisdiction of the Los Angeles RWQCB. The Los Angeles RWQCB has the authority to implement water quality standards through the issuance of permits for discharges to waters within its jurisdiction, including programs such as Section 401 Water Quality Certifications, SWPPP, WDRs, and NPDES to achieve water quality objectives.

Los Angeles Regional Water Quality Control Board- Water Quality Control Plan (Basin Plan)

The RWQCB is responsible for developing and implementing the Water Quality Control Plan (Basin Plan) for the Los Angeles Region, which documents approaches to implementing state and federal policies in the context of actual water quality conditions. The RWQCB's other activities include permitting of waste discharges and implementing monitoring programs of pollutant effects. On June 13, 1994, the RWQCB adopted the Basin Plan, which the SWRCB approved in 1995. The Basin Plan identifies beneficial uses of receiving waters, water quality objectives imposed to protect the designated beneficial uses, and strategies and schedules for achieving water quality objectives. Section 303(c)(2)(B) of the CWA requires Basin Plans to include water quality objectives governing approximately 68 of the EPA's list of 126 pollutants (RWQCB 1995).

Groundwater Management Act of 1992 (AB 3030)

California's Groundwater Management Act (Water Code Sections 10750–10756) gave existing local agencies expanded authority over the management of groundwater resources in basins recognized by the California Department of Water Resources (DWR). Its intent was to promote the voluntary development of groundwater management plans to ensure stable groundwater supplies for the future. Under the act, a groundwater management plan is defined as providing for "planned use of the groundwater basin yield, storage space, transmission capability, and water in storage."

The act stipulates the technical components of a groundwater management plan as well as procedures for such a plan's adoption, including passage of a formal resolution of intent to adopt a groundwater management plan and holding a public hearing on the proposed plan. The act also requires agencies to adopt rules and regulations to implement an adopted plan, and empowers agencies to raise funds to pay for the facilities needed to manage the basin, such as extraction wells, conveyance infrastructure, recharge facilities, and testing and treatment plants.

Local

La Cañada Flintridge Stormwater Management and Discharge Ordinance

The City has adopted a Stormwater Management and Discharge Ordinance (Chapter 9.20, La Cañada Flintridge Municipal Code), which is intended to assure consistency with the requirements of existing NPDES permits. The

Ordinance requires the owner or occupant of any property within the city to comply with requirements regarding use of water; storage of materials, machinery, and equipment; and discharge of gray water. It also establishes requirements for the preparation of an Urban Stormwater Mitigation Plan (USMP) for certain types of uses or permits, including automotive repair shops, subdivisions into five or more residential lots, commercial development that creates 100,000 square feet of impervious coverage, restaurants, parking lots, and single-family hillside residences.

4.8.4 Impact Analysis

This section describes the impact analysis relating to hydrology and water quality. It describes the methods used to determine the impacts of the GP Update, the changes to the existing conditions, and the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Methodology

The impact analysis is a program-level analysis that evaluates development that is reasonably foreseeable if the General Plan Update is adopted and implemented. Although the General Plan Update would not directly cause development, the land use policy contained within the General Plan Update would prescribe the acceptable land uses throughout the city. Implementation of the proposed land use designations could, therefore, indirectly lead to types of development considered acceptable under the General Plan Update. Based on the existing conditions described above, the impact analysis programmatically and qualitatively assesses the indirect and cumulative impacts on hydrology and water quality as a consequence of implementing the General Plan Update.

Because this is a programmatic environmental analysis document, many of the numeric measurements necessary for a quantitative analysis are dependent on specific future development technical studies. Thus, this impact analysis is generally qualitative in nature. Moreover, because construction information is not available for future projects at this time, the analysis regarding water quality impacts from construction is applied generically, and discusses typical sources of water pollution. Applicable regulatory requirements are discussed where appropriate.

Thresholds of Significance

Appendix G of the CEQA Guidelines was used to determine that the proposed Project would have a potentially significant effect on hydrology and water quality if it would:

- HYD-1:** violate any water quality standards or waste discharge requirements;
- HYD-2:** substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted);
- HYD-3:** substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off site;
- HYD-4:** substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off site;
- HYD-5:** 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;
- HYD-6:** otherwise substantially degrade water quality;
- HYD-7:** place housing within a 100-year flood hazard area structures which would impede or redirect flow;
- HYD-8:** expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or
- HYD-9:** be subject to inundation by seiche, tsunami, or mudflow.

Impacts and Mitigation Measures

Threshold HYD-1: Would the proposed Project violate any water quality standards or waste discharge requirements?

The City is required to comply with the water quality standards set forth in the Basin Plan. Violation of water quality standards may result from non-point source pollutants, an increase in imperviousness, or waste discharge into a waterbody. The Project proposes to redesignate existing land uses within the project area. Table 3-1 in Chapter 3, "Project Description," shows the land use designations and acreages the City proposes to redesignate.

Non-point source and point source pollutants can contribute to the degradation of surface water quality. Common non-point source pollutants include herbicides, oil, grease, toxic chemicals, sediment, and pet waste. Point source pollutants are those that are discharged directly into a waterbody by municipalities, industries, and private land owners (EPA 2008b).

As stated in Chapter 3, "Project Description," most of the city is almost at buildout with the exception of the 340 acres in the designated Hillside Residential area, a 42-acre parcel in the Estate Residential area, and 0.92 acre in the designated Mixed Use area. Implementation of the Project would generate additional non-point source pollutants from the development of the existing vacant lots into residential and mixed-use uses. It can be anticipated that at buildout additional non-point source pollutants such as trash, grease, oil, pet waste, and toxic chemicals would be generated. An increase in non-point source pollutants could substantially violate the TMDL set forth by the RWQCB for the Arroyo Seco Creek, Verdugo Wash, and Los Angeles River. Violation of these TMDLs would be considered significant.

The creation of new imperviousness increases stormwater runoff volume and rate. In the absence of stormwater detention or infiltration facilities, the creation of new imperviousness would indirectly impact water quality through an increase in stormwater runoff that would introduce additional non-point source pollutants from the new developments. Further, an increase in stormwater runoff volume and rate would affect water quality by causing erosion and sedimentation in the receiving waterbody.

Implementation of the proposed Project would result in an increase in imperviousness at buildout. As stated above, an increase in imperviousness would result in indirect impacts on water quality through the introduction of pollutants generated by the surrounding land uses and erosion and sedimentation. The increase in imperviousness that would result from the implementation of the proposed Project would affect the water quality of Arroyo Seco and Verdugo Wash. As discussed above in "Existing Conditions," the

Arroyo Seco and Verdugo Wash are major tributaries to the Los Angeles River. Water quality impacts on the Arroyo Seco and Verdugo Wash would also result in impacts on the Los Angeles River. If there were no regulations, the Project would have the potential to violate water quality standards. However, compliance with the NPDES MS4 Permit (Order No. 01-182, NPDES No. S004001) and Stormwater Management and Discharge Ordinance would reduce impacts on water quality by minimizing the quantity of stormwater directed to impervious surfaces; BMPs would be used, such as retention basins and bio swales; and post-development peak runoff flow would be controlled by mimicking pre-development hydrology.

Construction activities such as grading, handling of hazardous materials, and stockpiling that result from implementing the Project would have the potential to result in a violation of water quality standards, if not regulated. Projects that disturb 1 acre or more are required to submit a NOI to the RWQCB to obtain coverage under the Construction Activities Stormwater General Permit Order No. 99-08-DWQ. Compliance with the permit requires permittees to develop a SWPPP to be implemented during the construction phase of the project. The SWPPP requires the incorporation of BMPs for the storage and handling of hazardous materials. In addition to being required to comply with the state's Construction Activities Stormwater General Permit, the City would further ensure water quality standards are not violated through the adoption of a Grading and Erosion Control Ordinance and Spill Prevention and Control Program.

Point discharge of non-treated water into channels or streams could result in a violation of water quality standards if not regulated. Waste discharge into water bodies requires compliance with the RWQCB's WDR permit. In 2006 the SWRCB adopted a Statewide General Waste Discharge Requirements and Monitoring and Reporting Program Order No. 2006-003 for sanitary sewer systems. The regulations in the WDR were set forth to minimize water quality impacts from Sanitary Sewer Overflow (SSO) that have resulted in beach closures, adverse effects to other water bodies, or serious health and safety nuisance problems (City 2008). Although the city's sanitary sewer system is managed by Consolidated Sewer Maintenance District, the City maintains full ownership of the sewer system. In response to the state's General WDR, the City adopted a Sanitary Sewer Management Plan in 2008 to prevent a violation of water quality standards through a sanitary sewer overflow. Compliance with the Sanitary Sewer Plan would minimize impacts on water quality by preventing discharges of non-treated sanitary water into surface waters.

Moreover, the Project includes several relevant, self-mitigating objectives and policies, which would be implemented during the permit review process, conducted by the Department of Community Development. The following General Plan objectives and policies also would influence future zoning code amendments and updates, which also are used by the Department of Community Development during discretionary review. Select examples include:

CNE Objective 1.2: Preserve and improve local water quality.

CNE Policy 1.2.1: Ensure that new projects are designed to preserve and protect the watershed in and near the City from pollutants, excessive changes in natural drainage courses, wildfires, and other natural or human-made detrimental effects on the watershed system. Where practical and feasible, the City may undertake programs to accomplish these ends.

CNE Policy 1.2.2: Promote the implementation of Low Impact Development stormwater management techniques in new or rehabilitated commercial or residential projects. Actions include:

- a. Minimizing pollutant loading and changes in hydrology; ensuring that post-development runoff rates from a site do not negatively impact downstream erosion and stream habitat; minimizing the amount of stormwater guided to impermeable surfaces; and maximize percolation of stormwater into the ground where appropriate.
- b. Preserving wetlands, riparian corridors, and buffer zones.
- c. Establishing reasonable limits on the clearing of vegetation from a project site.
- d. Requiring incorporation of structural and non-structural best management practices to mitigate projected increases in pollutant loads and flows.

CNE Policy 1.2.3: Work with governmental and environmental partners to improve water quality in the Arroyo Seco Watershed through support of water quality improvement programs.

CNE Policy 1.2.4: Encourage the implementation of the Flint Wash Restoration Project.

CNE Policy 1.2.5: Undertake environmental enhancement opportunities that were identified in the list of potential Link/West Gateway Corridor Improvement Recommendations (2004), during this planning period. Publicize these projects as demonstration projects for protection and enhancement of the watershed.

CNE Policy 1.2.6: Develop best management practices for water quality and watershed enhancements and encourage their implementation voluntarily and through review of development applications.

CNE Policy 1.2.7: Improve water quality through public education programs.

CNE Policy 1.2.8: Continue to implement upgrades to the local drainage system, including storm water collection and curbs and gutters and other appropriate measures.

CNE Policy 1.2.9: Require review of all development projects that have a potential for causing a deterioration of groundwater quality beyond standards imposed by the State Water Resources Control Board to assure compliance with state and federal standards. Methods should be developed to control activities that have detrimental impacts on groundwater quality.

At buildout, the proposed Project would result in an increase in residential and mixed-use development, but no industrial use. Moreover, several policies would be put into place to help minimize and reduce the future effects on water quality. Thus, the proposed Project would not result in the direct discharge of industrial waste into surface waters.

Impact Determination

The city is permitted under NPDES MS4 Permit (Order No. 01-182, NPDES No. S004001). Per the requirements of the Order, the City adopted a Stormwater Management and Discharge Ordinance. Compliance with the Order and Stormwater Management and Discharge Ordinance requires the preparation of an USWMP. Additionally, the city has nine debris basins designed to collect sediment and any loose debris eroded from the steep hillside watershed of the San Gabriel Mountains (City 2007b). The City will also require the implementation of Low Impact Development (LID) practices into developments that will increase the stormwater peak flow of a site (see MM HYD-1, below). LID practices include tree boxes, pervious pavement, retention basins, bioswales, and rain gardens. Moreover, the City will encourage the implementation of the BMPs set forth in the Arroyo Seco Watershed Management and Restoration Plan. Compliance with the RWQCB's Order, Stormwater Management and Discharge Ordinance, and USWMP requirements, and encouragement of LID practices would minimize potentially significant impacts to water quality standards.

Compliance with the Sanitary Sewer Plan would prevent the overflow of sanitary sewer into surface waters. At buildout, the Project would not increase the amount of point source pollution from land uses such as industrial development because implementation of the Project would not result in the designation of new industrial land uses. Moreover, policies listed under CNE Objective 1.2 would be implemented during discretionary permit reviews conducted by the Department of Community Development. Thus, the Project would not result in significant impacts on water quality through point source pollution.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts related to Threshold HYD-1 would be less than significant.

Threshold HYD-2: Would the proposed Project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?

The city is within the Raymond Groundwater and San Fernando Valley Groundwater Basins. As discussed in “Existing Conditions” above, groundwater is recharged through the percolation of stormwater and surface waters. A significant increase in imperviousness could substantially interfere with groundwater recharge. As a result, a significant increase in imperviousness could result in significant impacts on the groundwater table level.

The Project proposes to redesignate existing land uses within the Project area. At buildout, approximately 340 acres would be developed at the density of 1 unit per 10 acres; an approximately 47-acre property within the southern boundaries of the city would also be developed with single-family residences, and approximately 48.85 would be developed with mixed uses. The development of the existing vacant land would result in new imperviousness. The creation of new imperviousness prevents rainfall or surface waters to percolate into the groundwater system. Thus, new imperviousness would affect groundwater levels by interfering with the percolation of stormwater into the groundwater system, and impacts are considered to be significant related to groundwater recharge.

At buildout, the proposed Project would result in new housing and commercial/retail uses. The introduction of these new uses would generate additional water demands upon the four water companies: Mesa Crest Water Company, La Canada Irrigation District, Valley Water Company, and Crescenta Valley County Water District. All of the water companies that serve the project area pump groundwater. Mesa Crest Water Company, La Canada Irrigation District, and Valley Water Company have pumping rights to the Raymond Groundwater Basin (City 2007b). The fourth water company, Crescenta Valley County Water District, is supplied with water from the Los Angeles District local

wells in the Verdugo Basin (City 2007b). At buildout the Project would increase the water demand by about 802.3 acre-feet per year of water. Adoption of the proposed Project has the potential to substantially contribute to the depletion of groundwater by increasing its demand. Depletion of groundwater due to an increase in water demand is further analyzed in Section 4.14, "Utilities."

The General Plan Update would include the following self-mitigating policy, which would be implemented during the permit review process, conducted by the Department of Community Development. The following General Plan policy also would influence future zoning code amendments and updates, which also are used by the Department of Community Development during discretionary review. :

CNE Policy 1.2.9: Require review of all development projects that have a potential for causing a deterioration of groundwater quality beyond standards imposed by the State Water Resources Control Board to assure compliance with state and federal standards. Methods should be developed to control activities that have detrimental impacts on groundwater quality.

However, impacts on groundwater recharge would be significant prior to mitigation.

Impact Determination

Impact HYD-1: Implementation of the proposed Project would result in the creation of new imperviousness, which would minimize the existing surface area available for groundwater recharge in the Project area. A reduction of groundwater recharge through stream flow is not anticipated because the Project does not propose any activities within the existing streams. At buildout, the Proposed Project would result in significant impacts on groundwater recharge and water table levels.

Mitigation Measures

MM HYD-1: Low Impact Development (LID) Practices. The following shall be incorporated into the General Plan Policy Implementation Program or adopted by City ordinance: All new developments shall be required to incorporate LID practices into their stormwater drainage plans. The incorporation of LID practices would include the following measures from CNE 1.2.2: (a) minimizing pollutant loading and changes in hydrology; (b) ensuring that post-development runoff rates from a site do not negatively impact downstream erosion and stream habitat; (c) minimizing the amount of stormwater guided to impermeable surfaces; (d) maximizing percolation of stormwater into the ground where appropriate; (e) preserving wetlands, riparian corridors, and buffer zones; (f) establishing reasonable limits on the clearing of vegetation from a project site; and (g) requiring incorporation of structural and non-structural best

management practices to mitigate projected increases in pollutant loads and flows to ensure that, during a wet weather event, all stormwater remains on site. The incorporation of BMPs such as the use of tree boxes, retention basins, bioswales, rain gardens, and roof gardens will minimize impacts on the groundwater basins by allowing stormwater to percolate into the groundwater basins.

Residual Impacts

After implementation of mitigation measure MM HYD-1 impacts related to Impact HYD-1 would be less than significant.

Threshold HYD-3: Would the proposed Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off site?

Implementation of the proposed Project would result in the redesignation of existing land uses. The development of undisturbed surface area could alter the existing drainage pattern of the site or area in a manner that would result in substantial erosion or siltation on or off site. As stated in Chapter 3, "Project Description," the city is mostly built out with the exception of 340 acres of vacant land designated as Hillside Residential, 47 acres within the Estate Residential area, and approximately 18 acres of underutilized land within the proposed Mixed Use area. Figure 4. 8-1 presents the surface waters within the Project area, and shows that there are a number of streams in the area.

At buildout, the proposed Project would increase the existing imperviousness of the city. The development of raw land has the potential to alter the existing drainage pattern of the site or area. As stated under Threshold HYD-1, an increase in imperviousness increases stormwater runoff rate and volume. An increase in stormwater runoff causes erosion and sedimentation in the receiving water body by eroding the stream banks and creating scour. Erosion or siltation on or off site caused by altering the existing drainage patterns of the vacant sites would result in significant impacts if it were to occur.

As discussed in Threshold HYD-1, the City is a co-permittee of an NPDES MS4 Permit (Order No. 01-182, NPDES No. S004001). The City has a Stormwater Management and Discharge Ordinance that requires the implementation of an Urban Stormwater Mitigation Plan. Compliance with the NPDES MS4 Permit (Order No. 01-182, NPDES No. S004001) and Stormwater Management and Discharge Ordinance would reduce impacts on water quality by minimizing the quantity of stormwater directed to impervious surfaces; BMPs such as the use of retention basins and bio swales would be implemented; and post-development peak runoff flow would be controlled by mimicking pre-development

hydrology. Compliance with the NPDES MS4 Permit (Order No. 01-182, NPDES No. S004001) and Stormwater Management and Discharge Ordinance requirements would prevent the alteration of the existing drainage pattern by ensuring that post-development hydrology mimics the existing drainage pattern. In addition, the implementation of BMPs such as the use of retention basins and bio swales would minimize the potential for offsite erosion and siltation by reducing the runoff rate and volume. Compliance with the regulations set forth in the NPDES MS4 Permit (Order No. 01-182, NPDES No. S004001) and Stormwater Management and Discharge Ordinance would reduce impacts to less-than-significant levels.

Impact Determination

Compliance with the regulations set forth in the NPDES MS4 Permit (Order No. 01-182, NPDES No. S004001) and Stormwater Management and Discharge Ordinance would reduce impacts to less-than-significant levels.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts related to Threshold HYD-3 would be less than significant.

Threshold HYD-4: Would the proposed Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff, in a manner which would result in flooding on- or off-site?

As discussed in Threshold HYD-3, at buildout, the Project would not result in the alteration of the existing drainage pattern of the site or area, or substantially increase the rate or amount of surface runoff because the City would comply with the NPDES MS4 Permit (Order No. 01-182, NPDES No. S004001) and Stormwater Management and Discharge Ordinance. As a result, the Project would not result in flooding on or off site.

Impact Determination

Compliance with the City's Stormwater Management and Discharge Ordinance requires all developments subject to approval from the planning commission or seeding the issuance of a grading or building permit to prepare an USWMP. Implementation of the USWMP would require peak stormwater runoff rates from new development to not exceed predevelopment levels. In addition,

compliance with the RWQCB's Permit (Order No. 01-182, NPDES No. S004001) and required maintenance of catch basins would alleviate flood hazards. As a result, implementation of the Project would not increase stormwater runoff in such a way that would result in flooding. Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts related to Threshold HYD-4 would be less than significant.

Threshold HYD-5: Would the proposed Project 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?

Although the city is almost built out, the Project would result in an overall increase in imperviousness from development of existing vacant land. In addition, there is also a potential for new imperviousness to result from redevelopment and infill projects. Redevelopment and infill development would occur in areas with existing connections to the city's storm drain system. Development of the vacant lands under the Project would increase demand on stormwater drainage services.

Residential and mixed-use developments would involve a substantial amount of new impervious surface, which would increase the amount of surface runoff as well as convey non-point source contaminants to surface waters via drainage facilities during storm events. Additional runoff could accelerate soil erosion and stream channel scour, and provide a more effective means of transport for pollutants entering waterways. Stormwater runoff that would be created by the Project would be conveyed into the existing stormwater drainage system. The city's stormwater discharge is permitted under RWQCB Permit (Order No. 01-182, NPDES No. S004001). All future developments within the city are required to comply with the requirements set forth by the RWQCB in the permit. Additionally, the City is also required to comply with the TMDLs for the Los Angeles River, Arroyo Seco, and Verdugo Wash.

Impact Determination

Compliance with the City's Stormwater Management and Discharge Ordinance requires the preparation of an USWMP, which requires new developments to reduce runoff to pre-development conditions. Compliance with the RWQCB

Permit (Order No. 01-182 NPDES No. S004001) and the City's Stormwater Management and Discharge Ordinance would minimize the potential of stormwater runoff to result in additional sources of polluted runoff and exceed the capacity of existing or planned stormwater drainage systems. To further minimize the potential for new pollutants into waterways, the City will require new developments to implement LID practices, such as bioswales and tree boxes, to allow stormwater to percolate into the ground (MM HYD-1). As a result, the Project would result in less-than-significant impacts with mitigation incorporated.

Mitigation Measures

Implement mitigation measure MM HYD-1.

Residual Impacts

Impacts related to Threshold HYD-5 would be less than significant.

Threshold HYD-6: Would the proposed Project otherwise substantially degrade water quality?

Implementation of the Proposed Project would result in the redesignation of exiting land uses. At buildout, existing vacant lands would be developed with residential and mixed-use uses. Potential impacts on groundwater quality would result if the new residences are on septic tanks. Leakages from septic tanks have the potential to impact groundwater quality by allowing nitrates to infiltrate into the groundwater system. Presently, the groundwater from the Raymond Groundwater Basin is treated to meet drinking water quality standards (DWR 2004a).

As noted under Threshold HYD-1, several policies would be implemented. These include:

CNE Objective 1.2: Preserve and improve local water quality.

CNE Policy 1.2.1: Ensure that new projects are designed to preserve and protect the watershed in and near the City from pollutants, excessive changes in natural drainage courses, wildfires, and other natural or human-made detrimental effects on the watershed system. Where practical and feasible, the City may undertake programs to accomplish these ends.

CNE Policy 1.2.2: Promote the implementation of Low Impact Development stormwater management techniques in new or rehabilitated commercial or residential projects. Actions include:

- a. Minimizing pollutant loading and changes in hydrology; ensuring that post-development runoff rates from a site do not negatively impact downstream erosion and stream habitat; minimizing the amount of stormwater guided to impermeable surfaces; and maximize percolation of stormwater into the ground where appropriate.
- b. Preserving wetlands, riparian corridors, and buffer zones.
- c. Establishing reasonable limits on the clearing of vegetation from a project site.
- d. Requiring incorporation of structural and non-structural best management practices to mitigate projected increases in pollutant loads and flows.

CNE Policy 1.2.3: Work with governmental and environmental partners to improve water quality in the Arroyo Seco Watershed through support of water quality improvement programs.

CNE Policy 1.2.4: Encourage the implementation of the Flint Wash Restoration Project.

CNE Policy 1.2.5: Undertake environmental enhancement opportunities that were identified in the list of potential Link/West Gateway Corridor Improvement Recommendations (2004), during this planning period. Publicize these projects as demonstration projects for protection and enhancement of the watershed.

CNE Policy 1.2.6: Develop best management practices for water quality and watershed enhancements and encourage their implementation voluntarily and through review of development applications.

CNE Policy 1.2.7: Improve water quality through public education programs.

CNE Policy 1.2.8: Continue to implement upgrades to the local drainage system, including storm water collection and curbs and gutters and other appropriate measures.

CNE Policy 1.2.9: Require review of all development projects that have a potential for causing a deterioration of groundwater quality beyond standards imposed by the State Water Resources Control Board to assure compliance with state and federal standards. Methods should be developed to control activities that have detrimental impacts on groundwater quality.

However, even with above policies, the City would still need the confirmation that a wastewater treatment facility would be able to treat the wastewater generated by new development.

Impact Determination

Impact HYD-2: Implementation of the Proposed Project has the potential to pollute groundwater.

Mitigation Measures

MM HYD-2: Sanitary Sewer Line. The City shall require that prior to issuance of permits for the development of existing vacant lands designated for residential and mixed-use uses, the City shall confirm that a wastewater treatment facility will treat the wastewater generated by the new development and that the new development will be connected to that facility.

Residual Impacts

After implementation of mitigation measure MM HYD-2, impacts related to Impact HYD-2 would be less than significant.

Threshold HYD-7: Would the proposed Project place housing within a 100-year flood hazard area structures which would impede or redirect flow?

The city is not within a 100-year flood hazard zone. As a result, the Project would not place housing within a 100-year flood hazard area, which would impede or redirect flow.

Impact Determination

No impact.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts related to Threshold HYD-7.

Threshold HYD-8: Would the proposed Project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

The proposed Project would not increase the risk of loss, injury, or death involving flooding. The city is not within a 100- or 500-year flood zone, and there are no levees surrounding the city. The Project also would not increase the risk to persons or structures from failure of the Devils Gate Dam, which is located adjacent to the eastern city limits.

Impact Determination

The Project would not increase the exposure of people or structures to a significant loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts related to Threshold HYD-8 would be less than significant.

Threshold HYD-9: Would the proposed Project be subject to inundation by seiche, tsunami, or mudflow?

The proposed Project would not expose people or property to increased risks involving seiche and tsunami because the Project is not located near the ocean or other body of water. At buildout, the proposed Project would expose people and structures to the risk of mudflow. The designated Hillside residential area is on slopes greater than 30% on the San Gabriel Mountains. During storm seasons when the soil becomes saturated, the chance for a mudflow event greatly increases in steep areas, particularly after wildfire. Such a mudflow event would cause injury or damage structures.

Compliance with Chapter 11.35 of the Municipal Code Hillside Development would minimize the risk to persons and structures from mudflow because it requires development to be planned in such a manner as to avoid mudflow. However, development may occur in the Hillside Residential land use designation. Consequently, homes may be exposed to high risk areas for mudflow. The risk to persons and structures from mudflow would be significant.

Impact Determination

Impact HYD-3. Development may occur in the Hillside Residential land use designation. Consequently, homes may be exposed to high risk areas for mudflow. The risk to persons and structures from mudflow would be significant.

Mitigation Measures

No mitigation is feasible because the General Plan Update would allow residential development in high risk areas.

Residual Impacts

Impacts related to Threshold HYD-9 would be significant and unavoidable.

Cumulative Impacts

The geographic scope for cumulative impacts that would occur under the proposed Project includes those areas downstream of the water bodies located in the city boundaries. Past and present development projects have modified the area's original hydrology, and now include runoff of imported water, additional storm flows from increased impervious surfaces, as well as natural flows. These changes have also impacted water quality, with an increase in pollutants from urban, industrial, and agricultural sources, as well as erosion of the stream channel and downstream sedimentation from increased flows. NPDES permits have reduced inputs from point sources (industrial and agricultural) and non-point sources through MS4s. However, past, present, and reasonably foreseeable projects have contributed to, and will likely continue to contribute to cumulatively significant impacts.

Development that would occur under the General Plan Update would be subject to existing state and federal regulations. These regulations include TMDL development for impairments that will help to identify pollutant sources and establish waste discharge requirements that would improve water quality. Additionally, implementation of the General Plan Update would require application of the local LID BMPs to future development and would, over time, improve water quality flowing downstream by replacing existing impervious surfaces that flow directly to the water bodies, with less impervious surfaces, and impervious surfaces that flow into vegetated areas prior to discharging into water bodies. This would reduce the transportation of urban pollutants into the water bodies for transport downstream.

As discussed above, regulations and mitigation would protect downstream resources from changes in hydrology. Also, use of LID BMPS for development or redevelopment projects would reduce the amount of impervious surfaces and

the water flowing directly into the stream system. All development requiring a grading permit would undergo review to ensure compliance with the City's municipal code, including the stormwater ordinance and floodplain development requirements, as well as the goals, objectives, and policies identified in the General Plan Update.

Thus, in consideration of the (1) proposed Project's limited potential to increase water quality pollutants or change hydrology, (2) existing ordinances, and (3) policies proposed by the General Plan Update, the Project's incremental contribution would not be substantial enough to significantly contribute to a cumulatively considerable impact. Thus, future development associated with the General Plan Update would not result in a cumulatively significant impact on water quality or hydrology.

Impact Determination

Future development associated with the General Plan Update would not result in a cumulatively significant impact on water quality or hydrology.

Mitigation Measures

Implement mitigation measure MM HYD-1.

Residual Impacts

The Project's incremental contribution to cumulative impacts on hydrology and water quality from past, present, and reasonable foreseeable projects would not be significant.

Significant and Unavoidable Adverse Impacts

Buildout of the General Plan Update would result in the following significant and unavoidable adverse hydrology impact:

Impact HYD-3. Development may occur in the Hillside Residential land use designation. Consequently, homes may be exposed to high risk areas for mudflow. The risk to persons and structures from mudflow would be significant. No mitigation is feasible to reduce this impact to a level less than significant.