## 5.8 HYDROLOGY AND WATER QUALITY

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential impacts to hydrology and water quality conditions in the City of Industry and its Sphere of Influence (SOI) (together referred to as the City) from implementation of the City of Industry General Plan Update. Hydrology deals with the distribution and circulation of water, both on land and underground. Water quality deals with the quality of surface and groundwater. Surface water is water on the surface of the land and includes lakes, rivers, streams, and creeks. Groundwater is water below the surface of the earth.

Water supply and wastewater treatment issues are addressed in Section 5.14, *Utilities and Service Systems*.

### 5.8.1 Environmental Setting

#### Climate and Precipitation

The City lies in the South Coast Air Basin (SoCAB), which includes all of Orange County as well as the nondesert portions of Los Angeles, Riverside, and San Bernardino Counties. The annual average temperature varies little throughout the 12,000-square mile SoCAB, ranging from the low 60s to the high 80s, measured in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas.

The Western Regional Climate Center maintains historical climate information for the western United States and the City. The closest meteorological monitoring station to the City monitored by the Western Regional Climate Center is the Montebello Monitoring Station. According to the Western Regional Climate Center, the average maximum temperature within the local vicinity is 89.7°F in August. The average minimum temperature is reported at 47.2°F in December. In contrast to a very steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all rain falls from November through April. Summer rainfall is normally restricted to widely scattered thunder showers near the coast, with slightly heavier shower activity in the east and over the mountains. According to the Western Regional Climate Center, rainfall averages 14.52 inches per year in the local vicinity (WRCC 2006).

#### Existing Hydrologic Conditions

##### *Watershed and Regional Drainage*

A watershed is an area or region that, by its land characteristics, contributes to the flow of water, sediments, and dissolved materials from the land into a common river, lake, groundwater basin, ocean, or other water body. A watershed encompasses all interrelated functions of the water cycle, surface flow, soil movement, vegetation, and wildlife occurring in a land area that is naturally bounded by mountain ridgelines. It is a vast undertaking to analyze the health of watersheds. Nevertheless, individual watersheds are monitored to better understand the connections between their natural functions and human activities.

Watersheds share similar characteristics, but every watershed is unique because of differences in local conditions. Land form and climate determine the size and form of a watershed, as well as the speed, direction, and quantity of the flow of its rivers. Land forms such as mountain ranges, local hills and ridgelines, and other high grounds, direct water one way or another and form the watershed boundary. Watersheds can be tiny or immense and are often composed of smaller subwatersheds (LACDPW 2006).

As shown in Figure 5.8-1, *San Gabriel River Watershed*, the City lies within the central portion of the San Gabriel River Watershed. The majority of the watershed is in the eastern and southeastern portions of Los Angeles County, with a small portion of the southern boundary in north Orange County (see Figure 5.8-1). The watershed is under the authority of the Los Angeles Regional Water Quality Control Board, with the exception of the portion in Orange County, which is under the authority of the Santa Ana Regional Water Quality Control Board.

The San Gabriel River Watershed is bounded by the San Gabriel Mountains to the north, San Bernardino County and Orange County to the east, the division of the Los Angeles River from the San Gabriel River to the west, and the Pacific Ocean to the south. The San Gabriel River Watershed is composed of approximately 640 square miles, spanning over 37 cities and unincorporated county communities, and drains into the San Gabriel River from the San Gabriel Mountains until its confluence with the Pacific Ocean at the Los Alamitos Bay between Long Beach and Seal Beach.

The San Gabriel River Watershed's main drainage is the San Gabriel River. Major tributaries to the San Gabriel River along its path to the Pacific Ocean include Walnut Creek, San Jose Creek, Coyote Creek, and numerous storm drainage structures. Both Walnut Creek and San Jose Creek join the San Gabriel River near the boundaries of the City. The watershed consists of extensive areas of undisturbed riparian and woodland habitats in its upper reaches, with other areas in the upper watershed subject to heavy recreational use. The upper watershed also contains a series of dams and reservoirs, which exist primarily for flood control purposes. Further downstream, toward the middle of the watershed, are large spreading grounds utilized for groundwater recharge. Today there are 13 dams/catchments, 1 natural lake, and 4 spreading grounds within the San Gabriel River Watershed.

The primary receiving water body for the majority of the City is San Jose Creek, a concrete channelized structure that is mostly open and without a soft bottom. The creek traverses east–west through the entire City, beginning at the eastern boundary with Pomona and leaving the city limits near 5th Avenue heading west, where it eventually empties into the San Gabriel River, north of the SR-60/I-605 interchange.

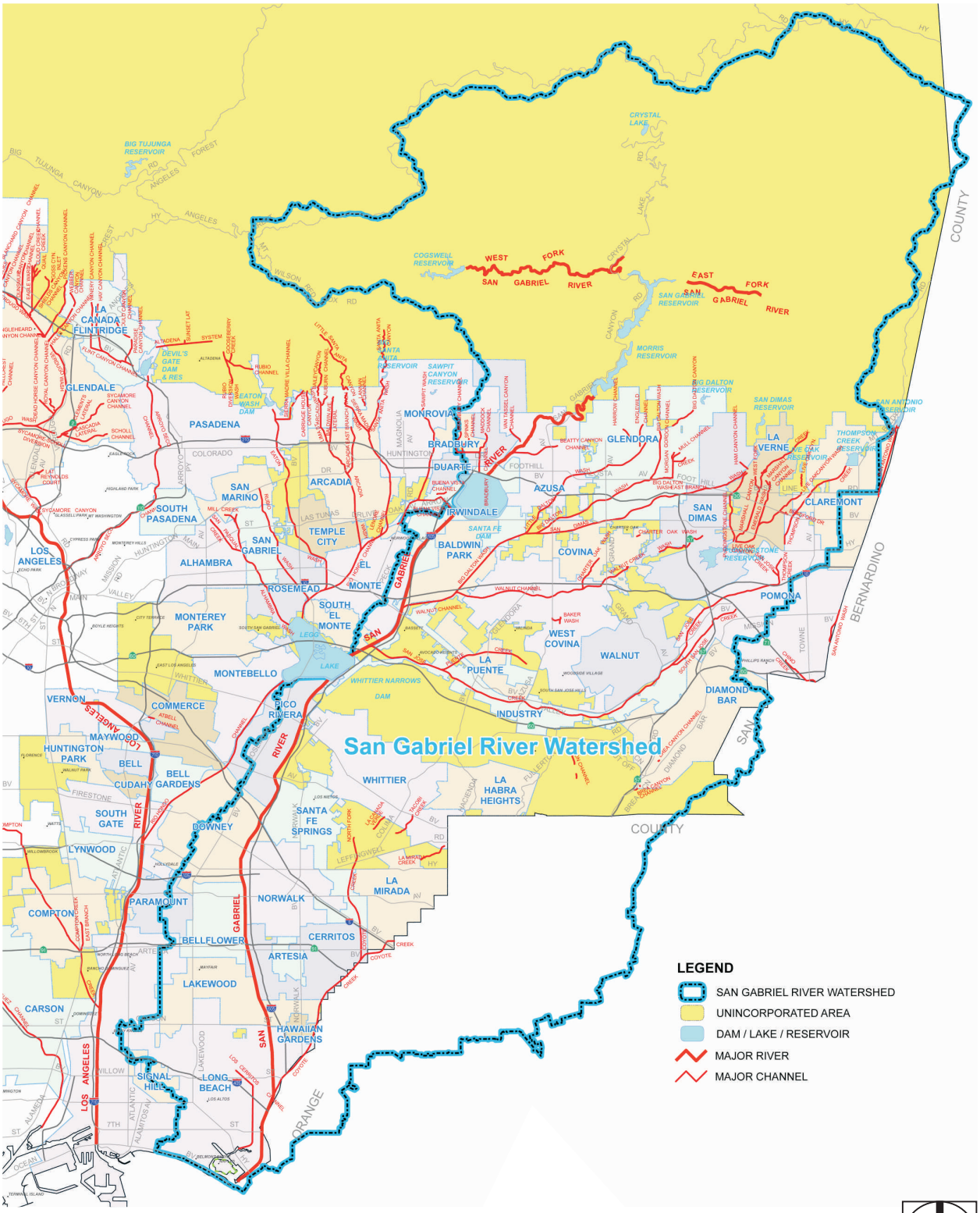
The Los Angeles County Department of Public Works (LACDPW) leads the planning and implementation of watershed management in Los Angeles County, including the San Gabriel River Watershed. LACDPW works with stakeholders in the watershed's future, integrates flood protection, and manages natural resources, water conservation, and efforts to improve the quality of stormwater runoff and groundwater.

***Watershed Management***

Watershed management is a comprehensive approach to effectively protect and restore a watershed's natural resources and water quality, particularly the biological function of riparian habitat and aquatic systems. Watershed management integrates flood protection with water quality and conservation, and preserves existing open space for habitat and recreation.

Because a watershed encompasses many jurisdictions, water quality and natural resource issues are best managed at a regional or watershed level. LACDPW has taken a leading role in engaging local stakeholders and jurisdictions in an effort to generate partnerships, collaborate with educational and professional institutions, and develop and implement watershed master plans throughout the county and San Gabriel River Watershed. These plans incorporate measures to maintain flood protection standards and provide assistance in the event of flooding, encourage watershed management practices, and improve the quality of water that flows to rivers, lakes, and the ocean.

# San Gabriel River Watershed




Source: Los Angeles County Department of Public Works

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### *Local Drainage*

The primary drainage infrastructure for managing flooding and stormwater in and around the City is maintained by the Sanitation Districts of Los Angeles County (LACSD) and is shown in Figure 5.8-2, *Stormwater Drainage System*. It consists of underground storm pipes and drains that empty into mostly structured tributaries of the San Gabriel River. Shown in the figure are the main, named tributaries that have not been completely enclosed for their entire length. The primary receiving body for stormwater in Industry is San Jose Creek, which is a fully-lined, open-concrete channel for most of its length. The other flood control structures shown may have a combination of sand, natural, or concrete bottoms and rip-rap or concrete sides.

Some of these natural drainages are also the location for some of the limited biological resources in the City (see Section 5.3, *Biological Resources*). Other open tributary structures that carry stormwater to San Jose Creek exist in the area but may be placed underground by the time they reach City boundaries and are not shown in Figure 5.8-2.

## Water Resources

Water supply to the City is provided by six separate water agencies: La Puente Valley County Water District, Rowland Water District, San Gabriel Valley Water Company, Suburban Water Systems, Walnut Valley Water District, and City of Industry Waterworks. Figure 5.14-1, *Water System*, shows the service boundaries within the City for each of the water suppliers and the water line information that was made available through CNC Engineering. The figure does not show the full extent of the boundaries of the individual water districts or all water lines. Many of these districts have emergency connections with each other and exchange or transfer programs. The City also uses reclaimed water from the San Jose Creek Water Reclamation Plant, which is located on the western boundary of Industry.

Some of the water districts that serve the City rely on groundwater from the Main San Gabriel Basin. The basin is an adjudicated basin with established water rights and a governing body to manage the water resources in the basin known as the Main San Gabriel Basin Watermaster. The Basin Watermaster annually establishes an operating safe yield for the Basin. Much of the City, however, lies in the Puente Subbasin, which is hydraulically connected but not a party to the adjudication (MSGWBW 2010).

## Water Quality

Water quality within a watershed is generally impacted by two sources: runoff and groundwater seepage. Stream flow in the San Gabriel River Watershed is almost exclusively the result of surface runoff; therefore, water quality is a reflection of land use. In general, low density land uses, such as wilderness and recreation, have a lower impact on overall water quality than higher density urbanized land uses. Following is a discussion of the quality of water for the two main sources of water (groundwater and surface water) within the Main San Gabriel Basin.

### *Groundwater*

The basin aquifer, which encompasses approximately 170 square miles, is the primary drinking water source in the basin and provides approximately 90 percent of the domestic water supply for San Gabriel Valley's residents and businesses, including the City. Over 400 water-supply wells are used in the basin to extract groundwater for industrial, business, agricultural, and domestic uses. Forty-five different suppliers of water operate in the basin and provide drinking water to more than one million people (USEPA 2002). The State of California has designated all portions of the basin as either a current or potential source of drinking water.

Currently, all drinking water provided by water purveyors within the basin meets all federal and state drinking water standards.

However, multiple areas of contaminated groundwater in the basin prompted the US Environmental Protection Agency (EPA) to place four areas of the San Gabriel Valley on the National Priorities List (NPL, or Superfund list) in 1984, and to begin efforts and studies to understand the nature and extent of the soil and groundwater contamination; identify sources of the contamination; develop a basinwide plan to set cleanup priorities; and develop the institutional framework necessary to address the contamination. The NPL identifies the highest priority hazardous waste sites in the United States for investigation and cleanup.

Groundwater contamination in the San Gabriel Valley is a result of decades of handling and disposal practices, which released volatile organic compounds (VOCs) into the soil and groundwater. VOCs are solvents that evaporate easily at room temperature and are commonly used in dry cleaning, paint stripping, metal plating, and machinery degreasing. The groundwater contamination in the San Gabriel Valley was first detected in 1979 in a groundwater well operated by the Valley County Water District.

Following this discovery, the California Department of Health Services initiated a well sampling program to assess the extent of contamination. By 1984, 59 wells were found to be contaminated with high levels of VOCs. VOC contaminants in the San Gabriel Valley groundwater include tetrachloroethene, trichloroethene, and carbon tetrachloride (USEPA 2002). In the late 1990s, perchlorate and other newly discovered contaminants were detected in the additional water supply and groundwater monitoring wells.

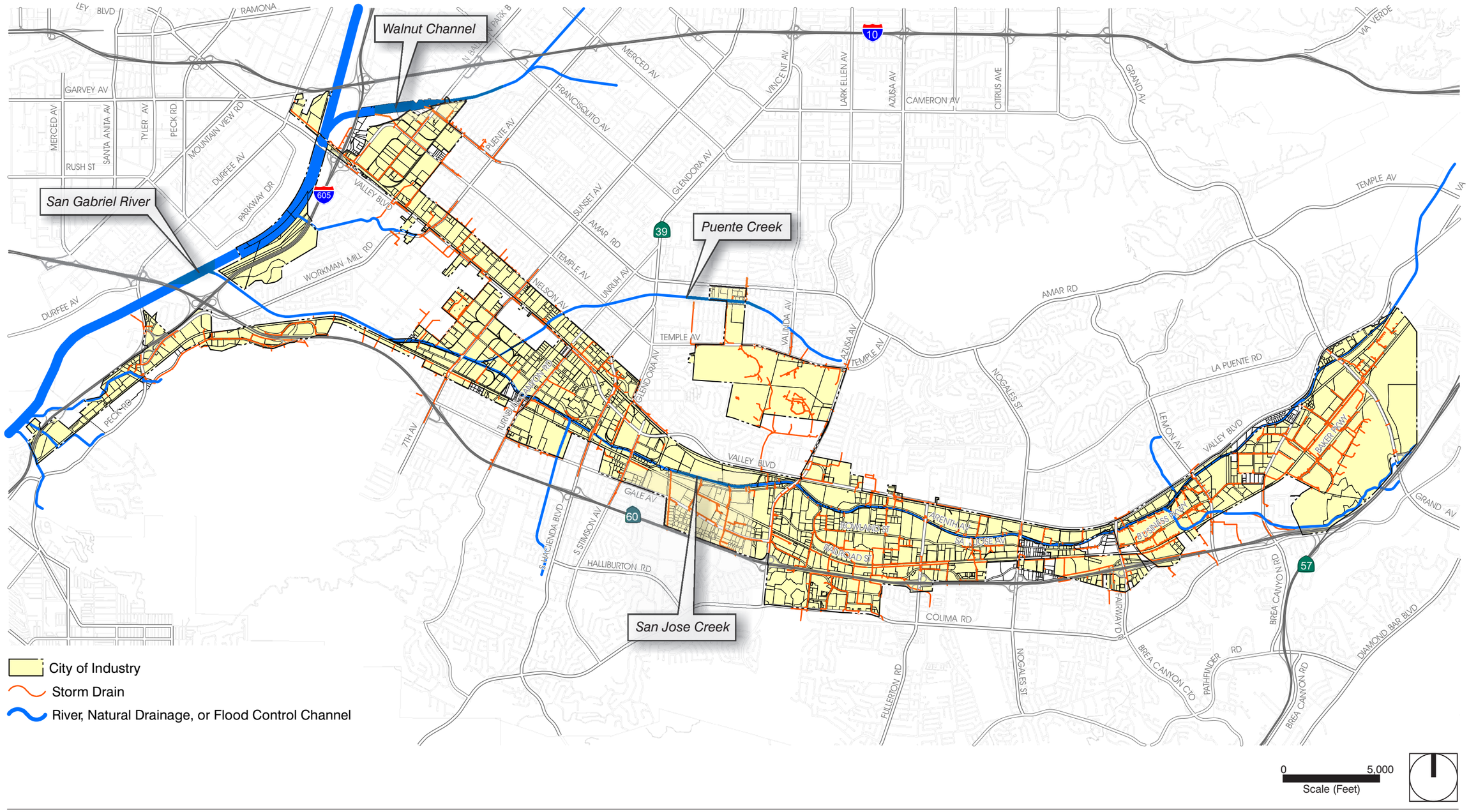
The San Gabriel Valley Superfund Site includes areas of soil and groundwater contamination that underlie significant portions of the cities of Alhambra, Arcadia, Azusa, Baldwin Park, Industry, Irwindale, El Monte, La Puente, Monrovia, Rosemead, South El Monte, West Covina, and other areas of the San Gabriel Valley. Collectively, the Superfund site covers approximately 30 square miles of the San Gabriel Valley's 170-square-mile area. The San Gabriel Valley Superfund Site has been divided into four project areas, also know as operable units (OU): El Monte, South El Monte, and Whittier Narrows OUs (Area 1); Baldwin Park OU (Area 2); Alhambra OU (Area 3); and Puente Valley OU (Area 4). The City comprises a portion of or the majority of Areas 1, 2, and 4, which are described below.

Despite the widespread extent of contamination, the Basin continues to provide approximately 90 percent of the domestic water supply for San Gabriel Valley's residents. Water purveyors in the area have continued to provide their customers with clean water by blending treated water with clean water to meet drinking water standards, obtaining water from neighboring purveyors, and installing wellhead treatment systems. Additionally, EPA's Superfund Site projects are providing additional water supplies by providing treated groundwater to area water purveyors for local use.

*Area 1 Operable Unit*

Area 1 of the San Gabriel Valley Superfund Site consists of the El Monte, South El Monte, and Whittier Narrows OUs. The Whittier Narrows OU is located in the southern portion of the basin and represents the primary discharge point for groundwater and surface water flow exiting the basin. The Whittier Narrows OU generally covers portions of the cities of El Monte and South El Monte and the unincorporated Los Angeles County community of Whittier Narrows; however, the City encompasses a small portion of the east side of the Whittier Narrows OU.

# Stormwater Drainage System



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VOCs are the primary groundwater contaminants found above state and federal drinking water standards in the Whittier Narrows OU. More specifically, chlorinated solvents, including perchloroethylene (PCE) and trichloroethene (TCE), are the primary VOCs that have been detected in excess of state and federal drinking water standards. Other VOCs in excess of drinking water standards have also sporadically been detected. Elevated VOC contamination primarily occurs in the western half of the Whittier Narrows OU and mainly consists of PCE. The highest PCE concentrations are found in the shallow groundwater (up to 100 feet below ground surface), but exceedances of drinking water standards for both of PCE and TCE have been detected up to 400 feet below ground surface in western Whittier Narrows (USEPA 1998).

In 1999, EPA issued an amendment to the Record of Decision (ROD) for the Whittier Narrows OU, which identified the need for a groundwater extraction barrier approximately one-quarter mile north of the Whittier Narrows Dam to halt the flow of contamination traveling toward the Central Basin. To form an effective containment barrier, five or six extraction sites were constructed to remove and treat contaminated groundwater from both the shallow and intermediate zone aquifers. In 2002, EPA finished construction of the comprehensive cleanup facility and it is currently being operated by the City of Whittier (SGBWQA 2007).

*Area 2 Operable Unit*

Area 2 of the San Gabriel Valley Superfund Site consists of the Baldwin Park OU, which is considered the largest area of groundwater contamination in the San Gabriel Valley Superfund Site. The Baldwin Park OU extends through the cities of Azusa, Irwindale, Baldwin Park, West Covina, La Puente, and Industry.

Carbon tetrachloride, PCE, and TCE (commonly used for degreasing and cleaning) are the primary contaminants in the Baldwin Park OU. In 1997 and 1998, EPA discovered several new pollutants, including perchlorate (a component of solid rocket fuel), N-nitrosodimethylamine (associated with liquid rocket fuel), and 1,4-dioxane (used as a stabilizer in some solvents) in the groundwater and included them among the contaminants to be remediated (USEPA 2002).

In 1994, EPA adopted the cleanup plan for the Baldwin Park OU under the ROD. After reaching a detailed agreement with seven local water agencies in March 2002, design work was completed and construction work began on the groundwater extraction wells, treatment systems, and related cleanup facilities specified in the ROD. Construction of the four planned groundwater extraction and treatment facilities was largely completed in 2006. Since than, they have been and continue to supply treated groundwater for potable use.

*Area 4 Operable Unit*

Area 4 of the San Gabriel Valley Superfund Site consists of the Puente Valley OU, which includes most of the City of Industry and portions of the City of La Puente. More specifically, the Area 4 site is an area of contaminated groundwater that runs along San Jose Creek in La Puente and Industry.

VOCs, including PCE, TCE, and1,4-dioxane, are the primary contaminants detected in groundwater in the Puente Valley OU. VOC concentrations are typically highest in the shallow groundwater beneath facilities where leaks and spills have occurred. VOCs have also spread to the intermediate groundwater zone and portions of the deep groundwater zone.

EPA released a ROD in September 1998 that specified the cleanup plan for the Puente Valley OU, which included extraction, containment, and treatment of contaminated groundwater in the shallow and intermediate zones at the mouth of Puente Valley. The remedy also included a set of wells for monitoring the groundwater in the shallow, intermediate, and deep zones at midvalley and the mouth of the valley to ensure that the remedy meets the performance criteria set in the September 1998 ROD.

Installation of the initial shallow and intermediate groundwater cleanup system extraction wells were initiated in 2006 and completed in 2007. In 2009, final design of the second phase of the shallow and intermediate groundwater extraction and treatment systems were completed. Construction of these facilities started in summer of 2009 and is estimated to be completed in spring of 2010 (USEPA 2009).

#### *Surface Water*

Section 303(d) of the federal Clean Water Act (CWA) requires states to identify and establish a list of water bodies for which technology-based effluent limitations required by section 301 of the CWA are not stringent enough to attain and maintain applicable water quality standards. The list is required to be submitted by the State Water Resources Control Board (SWRCB) to EPA every two years for review and approval. These 303(d)-list water bodies are termed "impaired water bodies."

For each water-quality-limited segment of water bodies identified in the 303(d) list, SWRCBs are required to develop what is called total maximum daily load (TMDL), which is the maximum amount of a pollutant that a water body can receive and still attain water quality standards, or take other action to address the impairment. The pollution above that maximum has to be budgeted by allocating it among the various sources of the pollutant in order to regain the beneficial uses of the water body.

San Jose Creek (Reach 1) is a CWA Section 303(d) impaired water body according to the Los Angeles Regional Water Quality Control Board (LARWQCB)(2006 Section 303[d] List of Impaired Waters, Approved June 28, 2007). Reach 1 consists of the portion of the San Jose Creek that extends from approximately Temple Street to the confluence with the San Gabriel River. The pollutant/stressor listed is coliform bacteria, which is found in the water body in amounts significantly above established water quality standards.

In addition to the listing of coliform for the San Jose Creek (Reach 1) by LARWQCB, EPA also listed this reach of the creek as being impaired for selenium and toxicity. Although the data provided to EPA by California's SWRCB indicated that the frequency of the exceedances of these two pollutants/stressors has been reduced, EPA concluded that the subject waters' criteria have not been attained, and that listing for these pollutants/stressors is warranted (USEPA 2007).

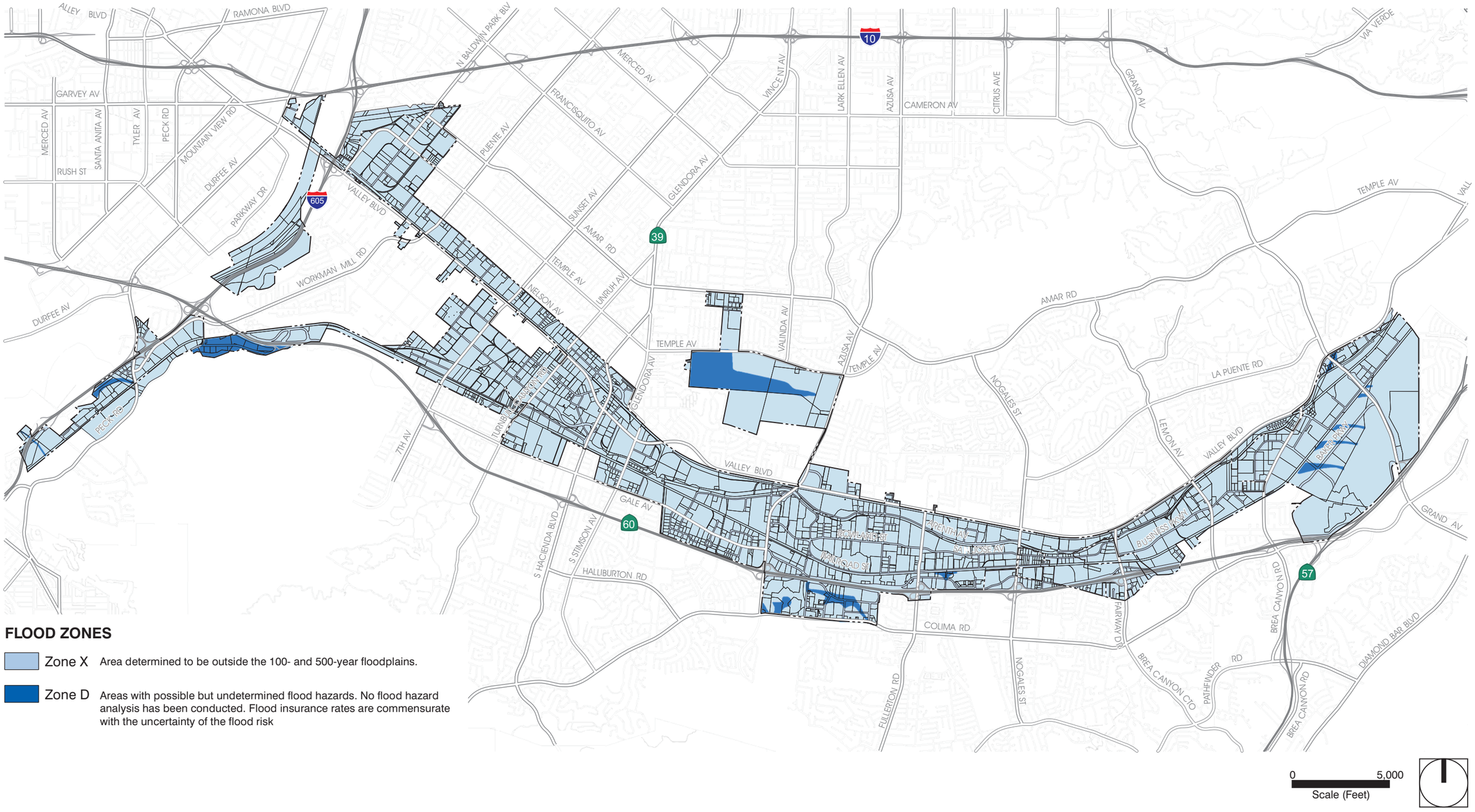
Additionally, on July 16, 2009, LARWQCB approved the draft 2008 Los Angeles Region Integrated Report Clean Water Act Section 305(b) Report and Section 303(d) List of Impaired Waters. In this draft report and list, San Jose Creek was listed as being impaired for three additional pollutants/stressors: ammonia, sulfates, and pH. The LARWQCB-approved list, related documents, and administrative record were submitted to the state board to be incorporated into the statewide list, which includes the lists for the other regional boards. SWRCB has yet to release the draft statewide list for public comment or given notice of the hearing to consider the list. After approval by SWRCB, the statewide list is then submitted to EPA for consideration. Upon EPA approval, the list becomes final (Voong 2010).

### Flood Hazards

#### *Designated Flood Zones*

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Numbers 06037C1668F, 06037C1670F, 06037C1695F, 06037C1700F, 06037C1725F, 06037C1875F, and 06037C1880F, all effective August 26, 2008, the City is not in a designated 100- or 500-year flood hazard area. As shown in Figure 5.8-3, *FEMA Flood Hazards*, the vast majority of the City is within Zone X, which is an area outside the 1 percent annual chance floodplain. Additionally the figure shows a small number of areas in the western, central, and eastern portions of the City in Zone D, that is, areas with possible but undetermined flood hazards and no flood hazard analysis has been conducted.

# FEMA Flood Hazards




## FLOOD ZONES

Zone X — Area determined to be outside the 100- and 500-year floodplains.

Zone D — Areas with possible but undetermined flood hazards. No flood hazard analysis has been conducted. Flood insurance rates are commensurate with the uncertainty of the flood risk

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***Dam Inundation Zones***

The vast majority of the City is not within a dam inundation area; however, there are three dams in the region that could create flooding impacts in the City if they were to fail. More specifically, as shown in Figure 5.8-3, *Dam Inundation Hazards*, portions of the western City limits are within the dam inundation zones of the Puddingstone Dam, Santa Fe Dam, and Whittier Narrows Dam.

*Puddingstone Dam*

The Puddingstone Dam is a large reservoir located in the Frank G. Bonelli County Park in the City of San Dimas near the SR-57/I-10 junction. The dam, which is managed by LACDPW, is an earthen dam built in 1928 and its reservoir has a capacity of 17,190 acre-feet of water. Water flowing from this dam fills Walnut Creek, which eventually dumps into the San Gabriel River at the City's northwestern boundary near the I-10/I-605 junction. In the unlikely event of a catastrophic failure or breach of the Puddingstone Dam, floodwaters from the reservoir would extend throughout a good portion of the western limits of the City within two to three hours, as shown in Figure 5.8-3.

*Santa Fe Dam*

The Santa Fe Dam and reservoir is located on the San Gabriel River and is owned and operated by the US Army Corps of Engineers (Corps), Los Angeles District. The dam is north of the western limits of the City and I-10 near the Arrow Highway/I-605 intersection in the City of Irwindale. It is a dry dam and it is used to control heavy runoff and to support groundwater maintenance with its numerous settling basins. The dam's reservoir has a capacity of 45,409 acre-feet.

Santa Fe Dam impounds water that is collected by the San Gabriel River from the San Gabriel Mountains. The water is either distributed back to the San Gabriel River and then flows to Whittier Narrows Dam and eventually into the Pacific Ocean at Seal Beach or is shunted via Peck Pit to the Rio Hondo, which flows into the Los Angeles River and empties into the Pacific Ocean at Long Beach. Santa Fe Dam is the downstream control in case of problems with the Morris or San Gabriel Dams in Azusa Canyon. The Santa Fe Dam's downstream floodplain includes a portion of Industry's western boundary, as shown in Figure 5.8-4. In the unlikely event of a dam failure, downstream floodwaters would reach portions of the western Industry boundary.

*Whittier Narrows Dam*

The Whittier Narrows Dam and reservoir is located on the San Gabriel River and is owned and operated by the Corps. The Whittier Narrows Dam is west of the western Industry limits near the SR-60/I-605 junction in the City of Montebello. The dam is an earthen dam and is used for flood control.

The Whittier Narrows Dam's reservoir has a capacity of 67,060 acre-feet. It is the downstream control in case of problems with the Santa Fe Dam. The Whittier Narrows Dam controls the flow of not only the San Gabriel River, but also the Rio Hondo River where it joins with the Los Angeles River farther downstream. The Whittier Narrows Dam's up- and downstream floodplain includes a portion of Industry's western boundary, as shown in Figure 5.8-4. In the unlikely event of a dam failure, up- and downstream floodwaters would reach portions of the western Industry boundary.

### *Seiche, Tsunamis, and Mudflows*

*Seiche*

A seiche is an oscillating surface wave in a restricted or enclosed body of water generated by ground motion, usually during an earthquake. Seiches are of concern relative to water storage facilities because inundation from a seiche can occur if the wave overflows a containment wall, such as the largely dry wall of a reservoir, water storage tank, dam, or other artificial body of water. If a seiche were to occur at the largely dry reservoirs that are created by the Santa Fe and/or Whittier Narrows Dams, portions of the City's western boundary could be impacted by waves overflowing these reservoirs.

*Tsunami*

Tsunamis are a type of earthquake-induced flooding that is produced by large-scale sudden disturbances of the sea floor. Tsunamis interact with the shallow sea floor topography upon approaching a landmass, resulting in an increase in wave height and a destructive wave surge into low-lying coastal areas. Because the City is approximately 25 miles east of the Pacific Ocean, potential impacts from a tsunami are considered negligible.

*Mudflows*

Mudflows are landslide events in which a mass of saturated soil flows downhill as a very thick liquid. The vast majority of the City is relatively level, with minimal changes in elevation; however, there are two areas with significant slopes in the southwestern and eastern City boundaries that could result in mudflow impacts to adjacent and surrounding land uses.

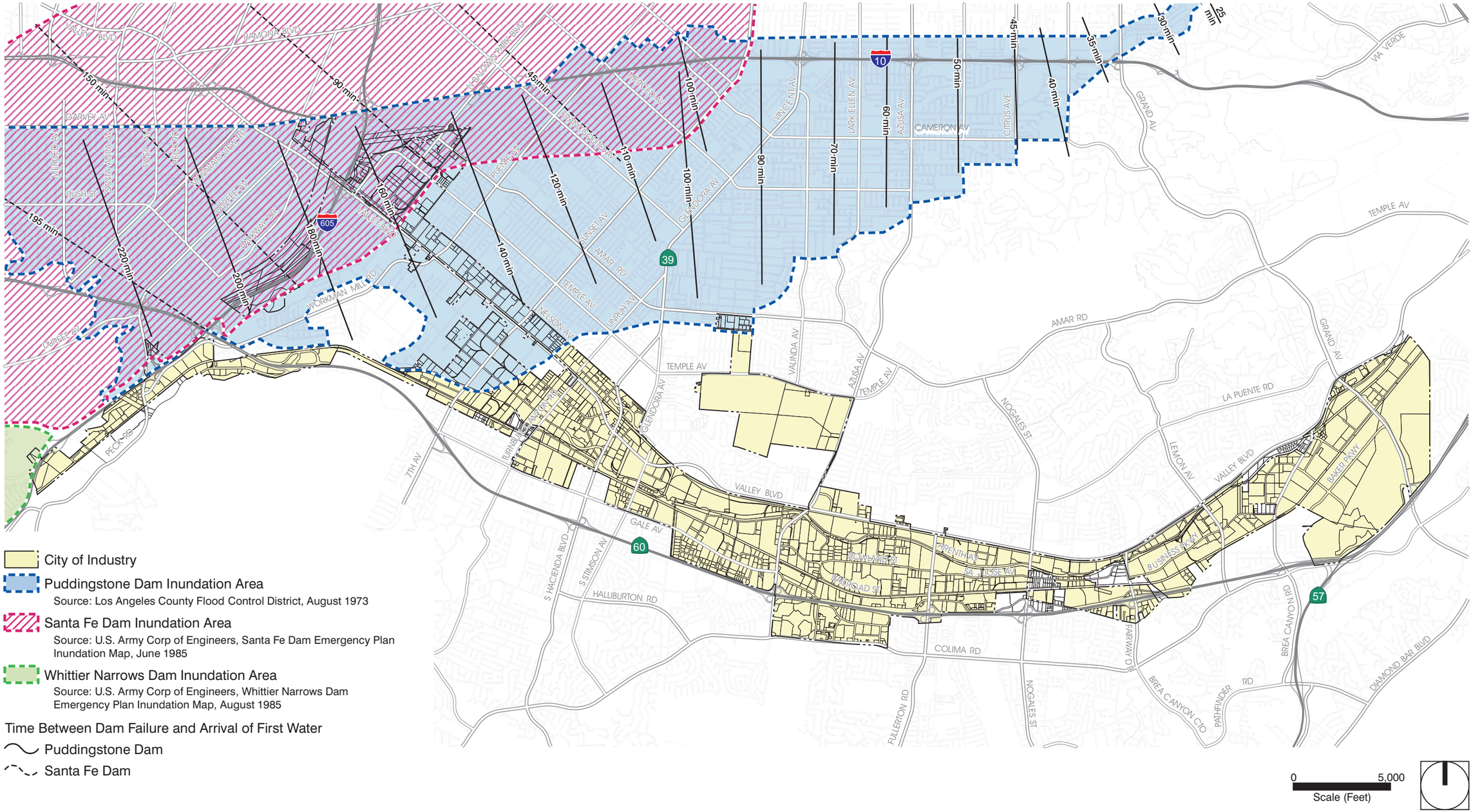
The IBC site, which lies in the eastern limits of the City, is vacant land and consists of low rolling hills that have been susceptible to landslides primarily on north-facing slopes. Grading for slope stabilization and revegetation has taken place in many locations, but failure still may occur until the entire area is developed. Until than, a heavy downpour of rain could make the undeveloped hills within the IBC site susceptible to mudflows, thereby potentially impacting adjacent and surrounding businesses and residences.

The Puente Hills, which form a portion of the City's southwestern boundary, are a chain of hills in an unincorporated area in eastern Los Angeles County. They lie to the south of the San Gabriel Valley and SR-60, to the east of I-605, to the north of Whittier Boulevard, and to the west of the cities of Diamond Bar and Chino Hills. A heavy downpour of rain could make the undeveloped hills of the Puente Hills susceptible to mudflows, thereby potentially impacting businesses within the City that are located at the foot of the western end of the hills.

## Regulatory Framework

Federal, state, and local laws, regulations, plans, or guidelines that are potentially applicable to the proposed project are summarized below. They are designed to achieve regional water quality objectives and thereby protect the beneficial uses of the region's surface water and groundwater.

# Dam Inundation Hazards



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### Federal

*Safe Drinking Water Act*

The federal Safe Drinking Water Act (SDWA) provides regulations on drinking water quality. The SDWA gives the EPA the authority to set drinking water standards, such as the National Primary Drinking Water regulations (NPDWRs or primary standards). The NPDWRs protect drinking water quality by limiting the levels of specific contaminants that are known to occur or have the potential to occur in water and can adversely affect public health. All public water systems that provide service to 25 or more individuals are required to satisfy these legally enforceable standards. Water purveyors must monitor for these contaminants on fixed schedules and report to EPA when a maximum contaminant level (MCL) has been exceeded. MCL is the maximum permissible level of a contaminant in water that is delivered to any user of a public water system. Drinking water supplies are tested for a variety of contaminants, including organic and inorganic chemicals (e.g., minerals), substances that are known to cause cancer (e.g., carcinogens), radionuclides (e.g., uranium and radon), and microbial contaminants (e.g., coliform and Escherichia coli). Changes to the MCL list are typically made every three years, as EPA adds new contaminants or, based on new research or new case studies, revised MCLs for some contaminants are issued. The California Department of Health Services, Division of Drinking Water and Environmental Management, is responsible for implementation of the SDWA in California.

*Clean Water Act*

The federal Water Pollution Control Act (also known as the Clean Water Act [CWA]) is the principal statute governing water quality. The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States and gives EPA the authority to implement pollution control programs, such as setting wastewater standards for industry. The statute's goal is to end all discharges entirely and to restore, maintain, and preserve the integrity of the nation's waters. The CWA regulates both the direct and indirect discharge of pollutants into the nation's waters. The CWA sets water quality standards for all contaminants in surface waters and makes it unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit is obtained under its provisions. The CWA mandates permits for wastewater and stormwater discharges, requires states to establish site-specific water quality standards for navigable bodies of water, and regulates other activities that affect water quality, such as dredging and the filling of wetlands. The CWA also funded the construction of sewage treatment plants and recognized the need for planning to address nonpoint sources of pollution. Section 402 of the CWA requires a permit for all point source (a discernible, confined, and discrete conveyance, such as a pipe, ditch, or channel) discharges of any pollutant (except dredge or fill material) into waters of the United States.

*National Pollutant Discharge Elimination System*

Under the National Pollutant Discharge Elimination System (NPDES) program promulgated under Section 402 of the CWA, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain an NPDES permit. The term pollutant broadly includes any type of industrial, municipal, and agricultural waste discharged into water. Point sources are discharges from publicly owned treatment works (POTWs), discharges from industrial facilities, and discharges associated with urban runoff. While the NPDES program addresses certain specific types of agricultural activities, the majority of agricultural facilities are defined as nonpoint sources and are exempt from NPDES regulation. Pollutant contributors come from direct and indirect sources. Direct sources discharge directly to receiving waters, whereas indirect sources discharge wastewater to POTWs, which in turn discharge to receiving waters. Under the national program, NPDES permits are issued only to direct point source discharges. The National Pretreatment Program addresses industrial and commercial indirect dischargers. Municipal sources are POTWs that receive primarily domestic sewage from residential and commercial customers. Specific NPDES program areas applicable to municipal sources are the National Pretreatment Program, the Municipal

Sewage Sludge Program, Combined Sewer Overflows (CSOs), and the Municipal Storm Water Program. Nonmunicipal sources include industrial and commercial facilities. Specific NPDES program areas applicable to these industrial/commercial sources are: Process Wastewater Discharges, Non-Process Wastewater Discharges, and the Industrial Storm Water Program. NPDES issues two basic permit types: individual and general. Also, the EPA has recently focused on integrating the NPDES program further into watershed planning and permitting.

The NPDES has a variety of measures designed to minimize and reduce pollutant discharges. All counties with storm drain systems that serve a population of 50,000 or more, as well construction sites one acre or more in size, must file for and obtain an NPDES permit. Another measure for minimizing and reducing pollutant discharges to a publicly owned conveyance or system of conveyances (including roadways, catch basins, curbs, gutters, ditches, man-made channels and storm drains, designed or used for collecting and conveying stormwater) is the EPA's Storm Water Phase II Final Rule. The Phase II Final Rule requires an operator (such as a City) of a regulated small municipal separate storm sewer system (MS4) to develop, implement, and enforce a program (e.g., best management practices, ordinances, or other regulatory mechanisms) to reduce pollutants in postconstruction runoff to the City's storm drain system from new development and redevelopment projects that result in the land disturbance of greater than or equal to one acre.

In California, the SWRCB and local Regional Water Quality Control Boards (RWQCB) have assumed the responsibility of implementing the EPA's NPDES permit program. SWRCB is the regulating authority for industrial and construction activities, while LARWQCB issues and enforces MS4 stormwater permits in the County of Los Angeles, including the City.

*National Flood Insurance Program*

The National Flood Insurance Act of 1968 and the Flood Disaster Protection Act (FDPA) of 1973 mandate FEMA to evaluate flood hazards. FEMA provides FIRMs for local and regional planners to promote sound land use and floodplain development, identifying potential flood areas based on the current conditions. To delineate a FIRM, FEMA conducts engineering studies referred to as Flood Insurance Studies (FISs). Using information gathered in these studies, FEMA engineers and cartographers delineate Special Flood Hazard Areas (SFHAs) on FIRMs.

The FDPA requires owners of all structures in identified SFHAs to purchase and maintain flood insurance as a condition of receiving federal or federally related financial assistance, such as mortgage loans from federally insured lending institutions. Community members within designated areas are able to participate in the National Flood Insurance Program (NFIP) afforded by FEMA. The NFIP is required to offer federally subsidized flood insurance to property owners in communities that adopt and enforce floodplain management ordinances that meet minimum criteria established by FEMA. The National Flood Insurance Reform Act of 1994 further strengthened the NFIP by providing a grant program for state and community flood mitigation projects. The act also established the Community Rating System (CRS), a system for crediting communities that implement measures to protect the natural and beneficial functions of their floodplains, as well as managing erosion hazards.

The County of Los Angeles, under the NFIP, has created standards and policies to ensure flood protection. These policies address development and redevelopment; compatibility of uses; required predevelopment drainage studies; compliance with discharge permits; enhancement of existing waterways; and cooperation with the Corps and Los Angeles County Flood Control District (LACFCD).

### State

*Porter-Cologne Water Quality Control Act*

The Porter-Cologne Water Quality Control Act (California Water Code Sections 13000 et seq.), with additions and amendments made effective January 1, 2010, is the basic water quality control law for California. Under this Act, SWRCB has ultimate control over state water rights and water quality policy. In California, EPA has delegated authority to issue NPDES permits to SWRCB. The state is divided into nine regions related to water quality and quantity characteristics. SWRCB, through its RWQCBs carries out the regulation, protection, and administration of water quality in each region. Each regional board is required to adopt a Water Quality Control Plan or Basin Plan that recognizes and reflects the regional differences in existing water quality, the beneficial uses of the region's ground and surface water, and local water quality conditions and problems.

The City lies in the Puente Subbasin of the Main San Gabriel Basin, in the San Gabriel River Watershed. The Water Quality Control Plan–Los Angeles Region (4), which was adopted in 1994 by LARWQCB, is the basin plan for the coastal watersheds of Los Angeles and Ventura Counties, including the San Gabriel River Watershed. This basin plan gives direction on the beneficial uses of the state waters within the basin plan of the Los Angeles region, describes the water quality that must be maintained to support such uses, and provides programs, projects, and other actions necessary to achieve the standards established in the basin plan.

*General Construction Permit*

Pursuant to the CWA Section 402(p) requiring regulations for permitting of certain stormwater discharges, SWRCB issued a statewide general NPDES permit and Waste Discharge Requirements (WDRs) for stormwater discharges from construction sites. The General Construction Permit (GCP), WDRs Order No. 2009-0009-DWQ and NPDES Permit No. CAS000002 was adopted by the SWRCB on September 2, 2009, and became effective July 1, 2010. The newly adopted GCP supersedes Order 99-08-DWQ and is required to be enforced by each local RWQCB unless the local RWQCB issues its own GCP, which it may choose to do.

The GCP regulates discharges of pollutants in stormwater associated with construction activity (stormwater discharges) to waters of the United States from construction sites that disturb one or more acres of land surface, or that are part of a common plan of development or sale that disturbs more than one acre of land surface. Under the GCP, proponents of sites of one acre or greater are required to either obtain individual NPDES permits for stormwater discharges or be covered by the GCP. Coverage under the GCP is accomplished by completing and filing a Notice of Intent (NOI) with SWRCB. Each applicant under the GCP is required to develop a Stormwater Pollution Prevention Plan (SWPPP) prior to grading activities and required to implement the SWPPP during construction. The primary objective of the SWPPP is to identify, construct, implement, and maintain best management practices (BMPs) to reduce or eliminate pollutants in stormwater discharges and authorized non-stormwater discharges from the construction site. In addition to these provisions, the recently adopted GCP outlines the following new requirements:

- Requires both numeric action levels (NALs, turbidity 250 NTU, pH 6.5 – 8.5) and numeric effluent limits (NELs, Turbidity 500 NTU, pH 6-9) for pH and turbidity, and special numeric limits for Active Treatment System (ATS) discharges from construction sites.

- Prohibits discharge of any debris (including trash), except for the stormwater and non-stormwater discharges specifically authorized by the GCP or another NPDES permit.

- Requires electronic filing of Permit Registration Documents and Notices of Termination with SWRCB.

- Requires the discharger to calculate the site's sediment risk and receiving water risk during periods of soil exposure (i.e., grading and site stabilization) and use the calculated risks to determine a risk level(s) using the methodology outlined in the GCP.

In the Los Angeles Region, where the City is located, SWRCB is the permitting authority, while LARWQCB provides local oversight and enforcement of the GCP.

*Industrial Stormwater Permit*

Pursuant to the CWA Section 402(p), SWRCB issued a statewide general NPDES permit and WDRs for stormwater associated with industrial activities. The Industrial Stormwater General Permit (ISGP) is implemented under WDRs Order No. 97-03-DWQ and NPDES Permit No. 000001. Coverage under the ISGP is based on a facility's Standard Industrial Classification (SIC)(replaced by North American Industrial Classification System). Facilities requiring coverage include (specific SICs are included in Attachment 1 of the ISGP):

- Facilities subject to federal stormwater effluent limitations guidelines and new source-performance standards or toxic pollutant effluent standards (includes cement manufacturing, feedlots, fertilizer, manufacturing, petroleum refining, phosphate manufacturing, steam electric, coal mining, mineral mining and processing, ore mining and dressing, and asphalt emulsion).
- Certain types of manufacturing facilities.
- Hazardous waste treatment, storage, or disposal.
- Landfills, land application sites, and open dumps.
- Recycling facilities.
- Stream electric power generation facilities.
- Transportation facilities that have vehicle maintenance shops, equipment cleaning operations, or airport de-icing operations.
- Sewage or wastewater treatment works.

Coverage under the ISGP is obtained by filing an NOI with SWRCB. Each permittee is required to prepare and implement a SWPPP to help identify the sources of pollution that affect the quality of industrial stormwater discharges and authorized non-stormwater discharges, and to describe and ensure the implementation of BMPs to the best available technology/best conventional pollutant control technology (BAT/BCT) standard to reduce or prevent pollutants in stormwater discharges and authorized non-stormwater discharges. The ISGP requires the permittee to conduct an annual comprehensive site-compliance evaluation as part of the SWPPP. The ISGP also requires collection and analysis of stormwater discharge samples (for a specific suite of parameters that are based on the SIC), as well as visual observations of runoff in wet and dry weather.

For certain type of light industrial operations (SICs defined in the ISGP), ISGP coverage is only required if industrial materials, equipment, or activities are exposed to stormwater. The facility can obtain a No Exposure Certification (NEC) if activities are not exposed to stormwater, in which case the facility would not be subject to the ISGP requirements. The NEC requirements of the ISGP are as follows:

- All prohibited non-stormwater discharges have been eliminated or otherwise permitted.

- All authorized non-stormwater discharges have been identified and addressed in the SWPPP.
- All areas of past exposure have been inspected and cleaned, as appropriate.
- All significant materials related to industrial activity (including waste materials) are not exposed to stormwater or authorized non-stormwater discharges.
- All industrial activities and industrial equipment are not exposed to stormwater or authorized non-stormwater discharges.
- There is no exposure of stormwater to significant materials associated with industrial activity through other direct or indirect pathways, such as from industrial activities that generate dust and particulates.

There is a periodic reevaluation of the facility to ensure the above conditions are continuously met. At a minimum, reevaluation is required to be conducted once a year.

In the Los Angeles Region, where the City is located, SWRCB is the permitting authority, while LARWQCB provides local oversight and enforcement of the ISGP through the Sanitation Districts of Los Angeles County.

***Local***

*Stormwater Permit (MS4 Permit)*

In December of 2001, LARWQCB issued an MS4 permit (No. CAS6118036) under Order No. 01-182 to the County of Los Angeles and its 84 co-permittees within the Los Angeles region, which includes the City. The MS4 permit designates the LACFCD as the Principal Permittee, and the County of Los Angeles and 84 incorporated cities are designated Permittees. The Principal Permittee coordinates and facilitates activities necessary to comply with the requirements of the MS4 permit, but is not responsible for ensuring the compliance of any Permittee.

Whereas the GCP is issued statewide, MS4 permits are issued by local RWQCBs in order to provide the means to address stormwater quality issues specific to the local watershed or region. As a result, MS4 permits are a more prescriptive level of regulation, requiring permittees to develop and implement a stormwater management program with the goal of reducing the discharge of pollutants to the maximum extent practicable (MEP). The MEP standard is a more stringent performance standard than the BAT/BCT standards established for the GCP. The stormwater management program or Municipal Storm Water Management Program, as it is referred to in the Los Angeles region, must specify LARWQCB-approved BMPs to address the following program areas: public education and outreach, illicit discharge detection and elimination, construction and postconstruction, and good housekeeping for municipal operations.

Pursuant to the Los Angeles County MS4 permit, the county and individual cities are responsible for controlling or limiting urban pollutants generated by construction and postconstruction activities from reaching their MS4s.

*Standard Urban Stormwater Mitigation Plan*

In compliance with the MS4 permit, the Permittees implemented a stormwater quality management program (SQMP) with the ultimate goal of accomplishing the requirements of the MS4 permit and reducing the amount of pollutants in stormwater and urban runoff. The SQMP is broken up into six separate programs as outlined in the MS4 permit. These programs are Public Information and Participation, Industrial/Commercial Facilities, Development Planning, Development Construction, Public Agency Activities, and Illicit

Connection/Illicit Discharge. One specific requirement of the Development Planning Program is the Standard Urban Stormwater Mitigation Plan (SUSMP). The SUSMP contains a list of minimum BMPs that must be employed to infiltrate or treat stormwater runoff, control peak flow discharge, and reduce the postproject discharge of pollutants from stormwater conveyance systems. The SUSMP defines, based on land use type, the types of practices that must be included and issues that must be addressed as appropriate to the development type and size. Compliance with SUSMP requirements is used as one method to evaluate significance of project development impacts on surface water runoff.

Finalized in September of 2002, the County of Los Angeles' Manual for the Standard Urban Stormwater Mitigation Plan (Manual) details the requirements for new development and significant redevelopment BMPs. The Manual is a model guidance document designed for use by permittees and individual project owners in selecting and designing site-specific postconstruction BMPs and to comply with the SUSMP requirements. It addresses water quality and drainage issues by specifying design standards for structural or treatment-control BMPs that infiltrate or treat stormwater runoff and control peak flow discharge. BMPs are defined in the Manual and SUSMP requirements as any program, technology, process, sizing criteria, operational methods or measures, or engineered systems that (when implemented) prevent, control, remove, or reduce pollution (LACDPW 2002).

Treatment-control BMP design criteria and guidance are also contained in the Stormwater Best Management Practice Design and Maintenance Manual, issued by LACDPW in May of 2009. In contrast to the Manual, this manual does not provide information on plan submittal requirements, but instead provides detailed guidance on BMP sizing, design specifications, and maintenance requirements. The design specifications contained in this manual are based on and consistent with the general design principles contained in the Manual (LACDPW 2009).

*Basin Plan*

In 1994, the Water Quality Control Plans for the Santa Clara River Basin and Los Angeles River Basin were comprehensively updated and combined into one volume, entitled Water Quality Control Plan–Los Angeles Region (4) (Basin Plan). The Basin Plan was adopted by LARWQCB on June 13, 1994, and approved by SWRCB on November 17, 1994, and by the State Office of Administrative Law on February 23, 1995. The Basin Plan contains the region's water quality standards, which consist of designated beneficial uses for surface and ground waters, narrative or numeric water quality objectives to protect those beneficial uses, and a policy to maintain high quality waters (i.e., antidegradation). The Basin Plan also includes implementation plans for water quality objectives to protect all waters in the region through various regulatory programs, including TMDLs for impaired water bodies, WDRs, NPDES permits, waivers, and remediation programs among others.

The California Water Code Section 13240 directs the state and regional boards to periodically review and update basin plans. Additionally, CWA Section 303(c) directs states to review water quality standards every three years and, as appropriate, modify and adopt new standards. During this triennial review, possible revisions to the basin plan are prioritized and implemented through future basin plan amendments over the course of a three-year period, based upon available resources. The triennial review process occurs in three phases and is cyclical, meaning that at the end of one 3-year review period, the review process begins again with the next three-year period. In this sense, the review process is ongoing, reflecting the continuing planning process followed by the RWQCBs. Moreover, a triennial review is not the only occasion where Basin Plan modifications are contemplated. Indeed, since 1994, 59 Basin Plan amendments have been adopted by LARWQCB, including revisions to objectives and beneficial uses, new and revised implementation plans and policies, and TMDLs, some in the context of a triennial review, and others outside that process (LARWQCB 2010).

In accordance with CWA Section 303(c), LARWQCB is in the process of amending the Basin Plan. The current triennial review (Phases I and II) began in the fall of 2011. Phase I included the solicitation of letters to interested parties requesting data and information on water quality standards and other basin planning issues that should be addressed and the compiling of a separate set of issues that reflect LARWQCB staff recommendations. Phase II consisted of a public workshop held by LARWQCB on September 14, 2011, for the purpose of providing the public and the LARWQCB members with an opportunity to discuss and begin to identify priority basin planning issues to be addressed during the current triennial review period. Phase II also consisted of LARWQCB developing its preferences regarding which issues should be addressed based on the considerations from the public and staff in a formal LARWQCB staff report and resolution entitled "2011-2013 Triennial Review: Presentation and Selection of Basin Planning Priority Projects." LARWQCB presented the staff report and resolution to the public on December 1, 2011. Upon approval, LARWQCB will commence Phase III of the triennial review process, which will eventually lead to an amended and adopted Basin Plan sometime in 2014.

*San Gabriel River Corridor Master plan*

In 1999, the County of Los Angeles Board of Supervisors directed LACDPW to prepare a plan for the San Gabriel River corridor. After many years of planning and coordination, the final San Gabriel River Corridor Master Plan (Master Plan) and EIR were presented to the Los Angeles County Board of Supervisors for adoption in June 2006.

The Master Plan identifies priorities, provides guidance, and coordinates multiple goals of the many jurisdictions and other stakeholders that share the river—reflecting the consensus of all these stakeholders. It integrates over 130 independently sponsored enhancement projects that were identified by the 19 cities along the river, the County of Los Angeles, and the public agencies and community organizations that participated in developing the Master Plan. It summarizes projects and programs already underway or proposed, enabling the entire river community to see what's being done and what remains to be done in the future.

The Plan also provides suggestions on the types of projects to pursue, as well as on how to design a project that reflects the agreed on vision and principles. This includes performance criteria that project sponsors can use to assess potential projects and, once implemented, to measure their progress in meeting the goals and objectives. Finally, the Master Plan includes five Concept Design Studies that demonstrate the multiobjective approach applied at the project level—providing lessons that project sponsors can use to guide their own efforts (LACDPW 2006).

*City of Industry Municipal Code*

The City of Industry Municipal Code identifies land use categories, development standards, and other general provisions that ensure consistency between the City's General Plan and proposed development projects. The following provisions from the City's Municipal Code related to drainage facilities and water quality are relevant to future development that would be accommodated by the General Plan Update.

- ***Chapter 8.20 (Integrated Waste Management), Section 8.20.320 (Unlawful Dumping).*** It is unlawful for any person to deposit, release, spill, leak, pump, pour, emit, empty, discharge, inject, dump or dispose into the environment, including the abandonment of or discarding of barrels, containers and other closed receptacles of solid or liquid waste of any kind whatsoever, any solid or liquid waste upon any premises, including, but not limited to, any storm drain or channel, within the city, or to cause, suffer, or permit such solid or liquid waste to come to be located upon any premises within the City, except as authorized by the City's Municipal Code.

- ***Chapter 13.16 (Storm Water and Urban Runoff Pollution Control).*** Incorporates by reference and adopts many of the provisions outlined in LARWQCB's MS4 permit, ISGP and GCP. The provisions outlined in Chapter 13.16 include prohibition for illicit discharges and connections; control of pollutants from sites of industrial activity to the City's MS4; prohibitions for spills, dumping and disposal; requirements for the implementation of BMPs; construction activity stormwater measures.

- ***Chapter 13.17 (Standard Urban Storm Water Mitigation Plan Implementation).*** Incorporates by reference and adopts many of the provisions outlined in LARWQCB's SUSMP. The provisions outlined in Chapter 13.17 include limitations on the rate of discharge; subdivision design standards; and guidance and standards for the design, implementation, and maintenance of BMPs.

- ***Chapter 15.44 (Floodplain Management).*** Includes provisions for standards of construction for building sites in flood-prone areas; standards for subdivisions or other proposed new development in flood-prone areas; and standards for the design of new and replacement water supply and sanitary sewage systems that would minimize flooding impacts on these systems.

- ***Chapter 16.42 (Drainage and Sewer Facilities), Section16.42.010 (Payment of Fees Required)***. Prior to filing any final map or parcel map, the subdivider shall pay or cause to be paid any fees for defraying the actual or estimated costs of constructing planned drainage facilities for the removal of surface and stormwaters from local or neighborhood drainage areas or sanitary sewer facilities for local sanitary sewer areas established pursuant to Section 66483 of the California Government Code.

- ***Chapter 17.36 (Design Review), Section 17.36.080 (Standard Conditions of Approval)***.

  A. The following conditions are standard conditions of approval, all of which are imposed as conditions of approval for any development plan submitted to the city council pursuant to this chapter, unless expressly made inapplicable by the city council:

     2. The applicant shall provide drainage and grading plans to be approved by the City Engineer prior to the issuance of a building permit. Such plans shall be in substantial conformity with the development plans approved pursuant to this chapter.

     13. The applicant shall construct storm drains to the satisfaction of the City engineer prior to the final approval of the development and the hookup of utilities.

### *5.8.2 Thresholds of Significance*

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project 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 pre-existing nearby wells would drop to a level which 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 a 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, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.

HYD-5 Create or contribute runoff water which would exceed the capacity of existing or planned storm water 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 as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.

HYD-8 Place within a 100-year flood hazard area structures which would impede or redirect flood flows.

HYD-9 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.

HYD-10 Be subject to inundation by seiche, tsunami, or mudflow.

The Initial Study, included as Appendix A, substantiates that impacts associated with the following thresholds would be less than significant: HYD-7. This impact will not be addressed in the following analysis.

### *5.8.3 Environmental Impacts*

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

***IMPACT 5.8-1: IMPLEMENTATION OF THE GENERAL PLAN UPDATE WOULD ALLOW FOR FUTURE DEVELOPMENT, RESULTING IN SHORT-TERM UNQUANTIFIABLE INCREASES IN POLLUTANT CONCENTRATIONS DURING CONSTRUCTION. ADDITIONALLY, POSTPROJECT DEVELOPMENT MAY ALTER THE QUALITY OF STORMWATER RUNOFF. [THRESHOLDS HYD-1 AND HYD-6]***

***Impact Analysis:*** As shown in Figure 5.8-1, *San Gabriel River Watershed*, the City lies within the central portion of the San Gabriel River Watershed. The San Gabriel River Watershed's main drainage is the San Gabriel River. Major tributaries to the San Gabriel River along its path to the Pacific Ocean include Walnut Creek, San Jose Creek, Coyote Creek, and numerous storm drainage structures. The primary receiving water body for the majority of the City is San Jose Creek, a concrete channelized structure that is mostly open and without a soft bottom. Storm drainages and channelized washes run directly from the City to the various creeks and the San Gabriel River. San Jose Creek (Reach 1) is a CWA Section 303(d) impaired water body according to LARWQCB (2006 Section 303[d] List of Impaired Waters, Approved June 28, 2007). Additionally, the San Gabriel Valley Superfund Site includes areas of soil and groundwater contamination that underlie significant portions of a number of cities and other areas of the San Gabriel Valley, including the City.

The water quality of the San Gabriel River Watershed and Basin is directly affected by the land uses in the City and surrounding cities. With the exception of the eastern end (592-acre vacant IBC site), the majority of land potentially available for development within the City has been urbanized; therefore, implementation of the General Plan Update would not substantially change the amount of developed land in the City's boundaries and is not expected to result in a significant increase in runoff volumes. However, implementation of the General Plan Update would indirectly result in development or redevelopment in certain areas of the City, including the IBC site in the eastern boundary of the City. Development or redevelopment would contribute urban runoff and/or stormwater runoff to the local drainage system and receiving waters through an increase in impervious surfaces, especially during periods of heavy rain. Additionally, the development or introduction of future industrial land uses in Industry could involve the handling, use, or emission of chemicals and contaminants, which can contribute to poor water quality in the San Gabriel River Watershed and Basin. Pollutants from urban development include bacteria/pathogens, metals, oxygen-demanding substances, nutrients, oil and grease, organic compounds, pesticides, sediments, and trash and debris. Pollutants from construction activities that can enter stormwater include sediment, metals, nutrients, soil additives, pesticides, construction chemicals, and other construction waste.

All future construction projects of one acre or more would be required to comply with the Statewide GCP, WDRs Order No. 2009-0009-DWQ and NPDES Permit No. CAS000002. Under the GCP, proponents of sites of one acre or greater are required to either obtain individual NPDES permits for stormwater discharges or be covered by the GCP. NPDES permits for discharges of stormwater from construction sites require that each applicant under the GCP develop a SWPPP prior to grading activities and implement the SWPPP during construction. The primary objective of the SWPPP is to identify, construct, implement, and maintain BMPs to reduce or eliminate pollutants in stormwater discharges and authorized non-stormwater discharges from the construction site.

Projects approved and/or implemented under General Plan Update would also be required to control pollutants in discharges of stormwater from postconstruction activities under Los Angeles County's MS4 permit (No. CAS6118036). Additionally, certain industrial activities (specific SICs are included in Attachment 1 of the ISGP) would require coverage under the ISGP, which is implemented under WDRs Order No. 97-03-DWQ and NPDES Permit No. 000001. Each permittee is required to prepare and implement a SWPPP, which outlines BMPs to reduce or prevent pollutants in stormwater discharges and authorized non-stormwater discharges.

Additionally, future development pursuant to the General Plan Update would be subject to the provisions of the City's Municipal Code. Some of the applicable provisions would include:

- ***Chapter 8.20 (Integrated Waste Management), Section 8.20.320 (Unlawful Dumping).*** Prohibits unlawful dumping into any storm drain or channel within the City.

- ***Chapter 13.16 (Storm Water and Urban Runoff Pollution Control).*** Incorporates by reference and adopts many of the provisions outlined in LARWQCB's MS4 permit, ISGP and GCP. Provisions include prohibition for illicit discharges and connections; control of pollutants from sites of industrial activity to the City's MS4; prohibitions for spills, dumping and disposal; requirements for the implementation of BMPs; and construction activity storm water measures.

- ***Chapter 13.17 (Standard Urban Storm Water Mitigation Plan Implementation).*** Incorporates by reference and adopts many of the provisions outlined in LARWQCB's SUSMP. Provisions include limitations on the rate of discharge; subdivision design standards; and guidance and standards for the design, implementation, and maintenance of BMPs.

Furthermore, under the General Plan Update policies, the City would take the following actions to reduce impacts of potential developments on water quality:

- Require the control and management of urban runoff, consistent with Regional Water Quality Control Board and Los Angeles County MS4 Permit regulations (RM1-4).
- Seek and pursue the most efficient and cost- effective means of implementing NPDES permit requirements. Allow new development projects to creatively implement NPDES standards and requirements (RM1-5).
- Encourage the use of low impact development strategies to intercept runoff, slow the discharge rate, increase infiltration and ultimately reduce discharge volumes to traditional storm drain systems (RM1-6).
- Protect groundwater quality by incorporating strategies that prevent pollution, require remediation where necessary, capture and treat urban runoff, and recharge the aquifer. Cooperate with federal, state, and local agencies that are charged with improving water quality in the region (RM1-7).
- Require the management of wastewater discharge and collection consistent with requirements adopted by the Regional Water Quality Control Board (RM1-8).
- Prohibit the disposal of hazardous and electronic waste into the municipal waste stream (RM4-2).

With regards to the vacant IBC site at the eastern limits of the City, the site has approved plans for development and it would eventually be developed. Development plans for the site have been previously analyzed under separate EIRs, which concluded that development of the site would not lead to a significant water quality impact. Development of the site would also be controlled by mitigation measures outlined in those EIRs, including those related to water quality and drainage, if and when the development plans for the IBC get implemented.

It is also important to note that the General Plan Update is a regulatory document that sets forth the framework for future growth and development and does not directly result in development in and of itself. Before any development can occur in the City, all such development is required to be analyzed for conformance with the General Plan, zoning requirements, and other applicable local and state requirements; comply with the requirements of CEQA; and obtain all necessary clearances and permits.

Therefore, implementation of the General Plan Update would not cause a substantial impact to the quality of water sources within the San Gabriel River Watershed and Basin.

***IMPACT 5.8-2:*** ***IMPLEMENTATION OF THE GENERAL PLAN UPDATE WOULD ALLOW FOR FUTURE DEVELOPMENT THAT COULD INCREASE THE AMOUNT OF IMPERVIOUS SURFACES IN THE CITY, WHICH IN TURN COULD IMPACT OPPORTUNITIES FOR GROUNDWATER RECHARGE. [THRESHOLD HYD-2]***

***Impact Analysis:*** The theoretical buildout of the Industry General Plan Update in a post-2035 scenario is forecast to accommodate 12,200,799 square feet of additional nonresidential land uses in the City and 1,513,216 square feet of additional nonresidential uses in its SOI, compared to existing conditions. Any new development would increase the amount of impermeable surfaces in the City and SOI, and reduce the amount of permeable surfaces available for groundwater recharge.

With the exception of the eastern end (592-acre vacant IBC site), nearly all of the City is developed with highly urbanized uses and are therefore not available for or designated as areas for groundwater recharge. Most of the increase in impermeable surfaces in the City would result from development of the few vacant, scattered lots that remain and the vacant IBC site on the eastern end of the City. Development in these areas would occur in accordance with the land use designations of the General Plan Update or in the case of the IBC site, with previously adopted development plans. Future development projects considered for approval under the General Plan Update would also have to meet the following requirements for limiting impacts to groundwater recharge:

- Preparation of project-specific hydrology studies estimating project impacts on drainage in accordance with procedures outlined in the County of Los Angeles' Manual for the Standard Urban Stormwater Mitigation Plan.

- Implementation of BMPs to minimize runoff and provide for infiltration of stormwater into the soil onsite in accordance with the County of Los Angeles' Manual for the Standard Urban Stormwater Mitigation Plan.

Additionally, under the General Plan Update policies, the City would take the following actions to reduce impacts on groundwater recharge opportunities:

- Work with local water providers to construct, maintain, and upgrade our water supply, transmission, storage, and treatment facilities to support existing and new development (RM1-1).

- Encourage the use of recycled water (RM1-2).

- Encourage the conservation of water resources through the use of drought-tolerant plants and water-saving irrigation systems (RM1-3).

- Encourage the use of low impact development strategies to intercept runoff, slow the discharge rate, increase infiltration and ultimately reduce discharge volumes to traditional storm drain systems (RM1-6).

- Protect groundwater quality by incorporating strategies that prevent pollution, require remediation where necessary, capture and treat urban runoff, and recharge the aquifer. Cooperate with federal, state, and local agencies that are charged with improving water quality in the region (RM1-7).

Projected water supplies available to the City (including groundwater), water demands that would be generated by future development accommodated by the General Plan Update, and impacts of such water demands on the Main San Gabriel Basin, are discussed in detail in Section 5.14, *Utilities and Service Systems*.

***IMPACT 5.8-3:*** ***FUTURE DEVELOPMENT THAT WOULD BE ACCOMMODATED BY THE GENERAL PLAN UPDATE WOULD INCREASE THE AMOUNT OF IMPERVIOUS SURFACES IN THE CITY AND WOULD THEREFORE INCREASE SURFACE-WATER FLOWS INTO DRAINAGE SYSTEMS WITHIN THE SAN GABRIEL RIVER WATERSHED. [THRESHOLDS HYD-3, HYD-4, AND HYD-5]***

***Impact Analysis:*** Future development in the City pursuant to the General Plan Update may cause changes to the existing drainage patterns, increase the amount of impervious surface, or lead to the creation of substantial erosion, siltation or flooding. In areas that are currently undeveloped in the City, such as the few

vacant scattered lots that remain and the vacant IBC site in the eastern end of the City, there is potential for drainages and/or drainage patterns to be altered.

However, in most developed areas—which consist of the majority of the City—stormwater drainage and runoff would flow within the City's existing stormwater drainage systems. The primary drainage infrastructure for managing flooding, stormwater and runoff in and around the City is maintained by LACSD and is shown in Figure 5.8-2, *Stormwater Drainage System*. Future development projects considered for approval under the General Plan Update would also have to meet the following requirements for limiting impacts to the existing drainage system and to minimize impacts related to erosion, siltation, or flooding:

- Preparation of project-specific hydrology studies estimating project impacts on drainage in accordance with procedures outlined in the County of Los Angeles' Manual for the Standard Urban Stormwater Mitigation Plan.

- Implementation of BMPs to minimize runoff and provide for infiltration of stormwater into the soil onsite in accordance with the County of Los Angeles' Manual for the Standard Urban Stormwater Mitigation Plan.

Additionally, future development pursuant to the General Plan Update would be subject to the provisions of the City's Municipal Code, including Sections 16.42.010 (Payment of Fees Required) and 17.36.080 (Standard Conditions of Approval). As outlined in Section 16.42.010, prior to filing any final map or parcel map, subdividers are required to pay or cause to be paid any fees for defraying the actual or estimated costs of constructing planned drainage facilities for the removal of surface and stormwater from local or neighborhood drainage areas. As outlined in Section 17.36.080, as a standard condition of approval, development plans require that project applicants submit drainage and grading plans to the City Engineer for review and approval prior to issuance of a building permit. Section 17.36.080 also requires project applicants to construct storm drains to the satisfaction of the City engineer.

Furthermore, under the General Plan Update policies, the City would take the following actions to reduce impacts to the existing drainage system and to minimize impacts related to erosion, siltation, or flooding:

- Require the control and management of urban runoff, consistent with Regional Water Quality Control Board and Los Angeles County MS4 Permit regulations (RM1-4).

- Encourage the use of low impact development strategies to intercept runoff, slow the discharge rate, increase infiltration, and ultimately reduce discharge volumes to traditional storm drain systems (RM1-6).

- Protect groundwater quality by incorporating strategies that prevent pollution, require remediation where necessary, capture and treat urban runoff, and recharge the aquifer. Cooperate with federal, state, and local agencies that are charged with improving water quality in the region (RM1-7).

- Coordinate with the LACFCD to ensure that updated and effective master drainage plans are implemented in a timely fashion for the short- and long-term protection of the community (S2-1).

Finally, future development projects that would be accommodated by the General Plan Update would be required to comply with the adopted City of Industry Standard Plan requirements for street improvements, curb and gutter, drainage, catch basins, etc.

With regard to the vacant IBC site at the eastern limits of the City, the site has approved plans for development and it would eventually be developed. Development plans for the site have been previously analyzed under separate EIRs, which concluded that development of the site would not lead to a significant impact on the drainage system. Development of the site would also be controlled by mitigation measures outlined in those EIRs, including those related to drainage, if and when the development plans for the IBC get implemented.

***IMPACT 5.8-4: FUTURE DEVEOPMENT THAT WOULD BE ACCOMMODATED BY THE GENERAL PLAN UPDATE COULD INTRODUCE DEVELOPMENT IN PORTIONS OF THE CITY THAT ARE IN FEMA-DESIGNATED FLOOD HAZARD ZONES. [THRESHOLDS HYD-8]***

***Impact Analysis:*** According to the FEMA Flood Insurance Rate Map, the City is not in a designated 100- or 500-year flood hazard area. As shown in Figure 5.8-3, *FEMA Flood Hazards*, the vast majority of the City is within Zone X, that is, outside the 1 percent annual chance floodplain. Additionally, as shown in Figure 5.8-3, a small number of areas in the western, central, and eastern portions of the City are within Zone D, an area with possible but undetermined flood hazards and no flood hazard analysis has been conducted. Development in the areas designated Zone D may be subjected to flooding hazards.

However, the areas of potential flooding impact consist mostly of commercial and industrial uses and a golf course. Proposed land use designations for the flood-prone areas would be Employment, Commercial, and Recreation and Open Space, which are similar to existing land uses. The portions of the City within Zone D are also already almost completely developed with urban uses; therefore, implementation of General Plan Update would not lead to a substantial increase in developed area in these portions of the City. Implementation of General Plan Update is not expected to result, directly or indirectly, in changed land uses that would add people or structures within the flood-prone areas.

Under the General Plan Update policies of the Safety Element, the City would also take the following actions to reduce impacts of potential developments within flood-prone areas:

- Coordinate with the LACFCD to ensure that updated and effective master drainage plans are implemented in a timely fashion for the short- and long-term protection of the community (S2-1).
- Cooperate in securing FEMA map amendments recognizing the appropriate redesignation of flood plains within the City boundaries (S2-2).
- Comply with state and federal law and do not permit facilities using, storing, or otherwise involved with substantial quantities of onsite hazardous materials to be located in the 100-year flood zone unless all standards of elevation, flood proofing, and storage have been implemented to the satisfaction of the Engineering and Planning Departments (S2-3).

Additionally, future development or redevelopment within the Zone-D areas would be subject to the provisions of the City's Municipal Code. For example, Chapter 15.44 (Floodplain Management) includes provision for standards of construction for building sites in flood-prone areas; standards for subdivisions or other proposed new development in flood-prone areas; and standards for the design of new and replacement water supply and sanitary sewage systems that would minimize impacts from flooding. The City also requires that all new structures within a flood-prone area provide elevations above the elevations of the base flood level. Furthermore, new development would be required to develop new stormwater infrastructure or upsizing existing infrastructure, as needed, to reduce flood hazards.

Therefore, implementation of the General Plan Update would not cause substantial flooding hazards.

***IMPACT 5.8-5: FUTURE DEVEOPMENT THAT WOULD BE ACCOMMODATED BY THE GENERAL PLAN UPDATE COULD INTRODUCE DEVELOPMENT IN THE WESTERN PORTION OF THE CITY, WHICH INCLUDES AREAS IN THE INUNDATION AREAS OF THE PUDDINGSTONE, SANTA FE, AND WHITTIER NARROWS DAMS. [THRESHOLD HYD-9]***

***Impact Analysis:*** The vast majority of the City is not within a dam inundation area; however, there are three dams in the region that could create flooding impacts in the City. More specifically, as shown in Figure 5.8-3, *Dam Inundation Hazards*, portions of the western City limits are within the dam inundation zones of the Puddingstone Dam, Santa Fe Dam, and Whittier Narrows Dam. In the unlikely event of a catastrophic failure or breach of these dams, floodwaters from the reservoirs created by these dams would extend throughout a good portion of the western limits of the City, as shown in Figure 5.8-3. Development in these areas would potentially expose people or structures to significant impacts related to flooding risks. However, the probability of a catastrophic failure of these dams during an earthquake or other natural disaster is very low, and emergency evacuation procedures are in place in the event of dam failure.

The Los Angeles County Office of Emergency Management (OEM) provides emergency planning, coordination, operations, public education, training, and grants administration services for the City. The County OEM also prepares the Operational Area Emergency Response Plan (OAERP), which strengthens short- and long-term emergency response and recovery capability, and identifies emergency procedures and emergency management routes in the county. The Los Angeles County Fire Department (LACFD) also maintains a list of emergency procedures to be followed in the event of a dam failure.

In the event of a dam failure, the City would coordinate with LACFD and OEM to ensure that all emergency measures and response systems are implemented to the fullest during such a disaster. The dams are also required by Division 3 of the California Water Code to be monitored periodically for structural safety. Surveillance measurements of dams in California are the responsibility of the owner and are subject to supervision by the Department of Water Resources, as specified in the California Water Code.

Additionally, the areas of potential flooding impact consist mostly of commercial and industrial uses, and a golf course. Proposed land use designations for the inundation areas of theses dams would be Employment, Commercial, and Recreation and Open Space, which are similar to existing land uses. The portions of the City within the dam inundation areas are also already almost completely developed with urban uses; therefore, implementation of General Plan Update would not lead to a substantial increase in developed area in these portions of the City. Implementation of General Plan Update is not expected to result, directly or indirectly, in changed land uses that would add people or structures within the areas that could potentially be inundated by a dam failure.

Furthermore, under the General Plan Update policies of the Safety Element, the City would take the following actions to reduce impacts of potential developments within dam inundation areas:

- Coordinate with and support the County OEM in preparing and implementing the OAERP. (S5-1)

As demonstrated above, implementation of the General Plan Update would not cause substantial flooding hazards arising from a dam failure or breech.

***IMPACT 5.8-6: FUTURE DEVELOPMENT THAT WOULD BE ACCOMMODATED BY THE GENERAL PLAN UPDATE WOULD NOT BE SUBJECT TO INUNDATION BY A SEICHE OR MUDFLOW. [THRESHOLD HYD-10]***

***Impact Analysis:***

**Seiche**

If a seiche were to occur at the largely dry reservoirs that are created by the Santa Fe and/or Whittier Narrows Dams, portions of the City's western boundary (Northern and Southern Finger areas shown in Figure 3-2, *Aerial Photograph*) could be impacted by waves overflowing these reservoirs. The areas of potential impact consist mostly of commercial and industrial uses, and a golf course. Proposed land use designations for the majority of the areas in the western City boundary that could be inundated by a seiche would be Employment, Commercial, and Recreation and Open Space, which are similar to existing land uses. Therefore, implementation of General Plan Update is not expected to result, directly or indirectly, in changed land uses that would add people or structures within the areas that could potentially be inundated by a seiche. Thus, implementation of the General Plan Update would not cause substantial hazards arising from a seiche.

**Mudflows**

The vast majority of the City is relatively level, with minimal changes in elevation; however, there are two areas with significant slopes in the southwestern and eastern City boundaries that could result in mudflow impacts to adjacent and surrounding land uses.

The Puente Hills, which form a portion of the City's southwestern boundary, are a chain of hills in an unincorporated area in eastern Los Angeles County. They lie to the south of the San Gabriel Valley and SR-60, to the east of I-605, to the north of Whittier Boulevard, and to the west of the cities of Diamond Bar and Chino Hills. A heavy downpour of rain could make the undeveloped hills of the Puente Hills susceptible to mudflows, thereby potentially impacting businesses within the City that are located at the foot of the western end of the hills. However, rainwater that flows across the surface of the undeveloped portions of the hills are captured in and distributed through the major drainages that exist throughout the various areas of the hillside and along the foot of the hills. Many of the existing development and improvements along these hills includes paved roads, man-made and natural channels, parking areas, and commercial and industrial land uses. Grading for slope stabilization and revegetation has also taken place in many locations of these hills. Additionally, the soils and vegetation that are found on the undeveloped portions of the hills slow down the amounts of runoff and provide for ground infiltration, thereby reducing the amount of rainwater that sheet flows off the hills. Therefore, impacts from potential mudflows of these hills would be less than significant.

The IBC site, which lies in the eastern limits of the City, is vacant land and consists of low rolling hills that have been susceptible to landslides primarily on north-facing slopes (see Figure 3-2, *Aerial Photograph*). A heavy downpour of rain could make the undeveloped hills within the IBC site susceptible to mudflows, thereby potentially impacting adjacent and surrounding businesses and residences. However, rainwater that flows across the surface of these undeveloped hills are captured in and distributed through the major drainages that exist along the foot of the hills, which include man-made and natural channels. Grading for slope stabilization and revegetation has also taken place in many locations of the IBC site. Additionally the soils and vegetation that are found on the hills slow down the runoff and provide for infiltration into the ground, thereby reducing the amount of rainwater that sheet flows off the hills. Furthermore, the IBC site has approved plans for development and it would eventually be developed. Finally, pursuant to Section 17.36.080 (Standard Conditions of Approval) of the City's Municipal Code, as a standard condition of

approval, development plans within the IBC site would require the project applicant to submit drainage and grading plans to the City Engineer for review and approval prior to issuance of a building permit. Therefore, impacts from potential mudflows of these hills would not be significant.

### *5.8.4 Relevant General Plan Policies*

The following are relevant policies of the General Plan Update that are related to groundwater supply, the protection of drainage systems, flood hazards, water quality standards, and waste discharge requirements. Policy number references are provided in parentheses.

**Resource Management Element**

- Work with local water providers to construct, maintain, and upgrade our water supply, transmission, storage, and treatment facilities to support existing and new development (RM1-1).
- Encourage the use of recycled water (RM1-2).
- Encourage the conservation of water resources through the use of drought-tolerant plants and water-saving irrigation systems (RM1-3).
- Require the control and management of urban runoff, consistent with Regional Water Quality Control Board and Los Angeles County MS4 Permit regulations (RM1-4).
- Seek and pursue the most efficient and cost-effective means of implementing NPDES permit requirements. Allow new development projects to creatively implement NPDES standards and requirements (RM1-5).
- Encourage the use of low impact development strategies to intercept runoff, slow the discharge rate, increase infiltration, and ultimately reduce discharge volumes to traditional storm drain systems (RM1-6).
- Protect groundwater quality by incorporating strategies that prevent pollution, require remediation where necessary, capture and treat urban runoff, and recharge the aquifer. Cooperate with federal, state, and local agencies that are charged with improving water quality in the region (RM1-7).
- Require the management of wastewater discharge and collection consistent with requirements adopted by the Regional Water Quality Control Board (RM1-8).
- Prohibit the disposal of hazardous and electronic waste into the municipal waste stream (RM4-2).

**Safety Element**

- Coordinate with the LACFCD to ensure that updated and effective master drainage plans are implemented in a timely fashion for the short- and long-term protection of the community (S2-1).
- Cooperate in securing FEMA map amendments recognizing the appropriate redesignation of flood plains within the City boundaries (S2-2).
- Comply with state and federal law and do not permit facilities using, storing, or otherwise involved with substantial quantities of onsite hazardous materials to be located in the 100-year flood zone unless all standards of elevation, flood proofing, and storage have been implemented to the satisfaction of the Engineering and Planning Departments (S2-3).

- Require that the users of hazardous materials be adequately prepared to prevent and mitigate hazardous materials releases (S4-2).

- Coordinate with and support the County OEM in preparing and implementing the OAERP (S5-1).

### *5.8.5 Existing Regulations*

**State and Local**

- General Construction Permit, implemented under WDRs Order No. 2009-0009-DWQ and NPDES Permit No. CAS000002
- Industrial Stormwater General Permit, implemented under WDRs Order No. 97-03-DWQ and NPDES Permit No. 000001
- Los Angels County MS4 permit (No. CAS6118036) under Order No. 01-182

**City of Industry Municipal Code**

- Title 8 (Health and Safety), Chapter 8.20 (Integrated Waste Management), Section 8.20.320 (Unlawful dumping)
- Title 13 (Water and Sewers), Chapter 13.16 (Storm Water and Urban Runoff Pollution Control)
- Title 13 (Water and Sewers), Chapter 13.17 (Standard Urban Storm Water Mitigation Plan Implementation)
- Title 15 (Buildings and Construction), Chapter 15.44 (Floodplain Management)
- Title 16 (Subdivisions), Chapter 16.42 (Drainage and Sewer Facilities), Section16.42.010 (Payment of Fees Required)
- Title 17 (Zoning), Chapter 17.36 (Design Review), Section 17.36.080 (Standard Conditions of Approval)

### *5.8.6 Level of Significance Before Mitigation*

Upon implementation of regulatory requirements and compliance with the General Plan Update policies, the following impacts would be less than significant: 5.8-1, 5.8-2, 5.8-3, 5.8-4, 5.8-5, and 5.8-6.

### *5.8.7 Mitigation Measures*

No significant impacts were identified and no mitigation measures are required.

### *5.8.8 Level of Significance After Mitigation*

No significant unavoidable adverse impacts were identified relating to hydrology and water quality.