
4.9 HYDROLOGY AND WATER QUALITY

4.9.1 EXISTING CONDITIONS

Project Site Topography and Hydrology

The Project Site consists mostly of undeveloped lands. There is a private paved maintenance access road (“Deer Canyon Road”) that is located within the western portion of the Project Site that connects to Santa Ana Canyon Road in the north. There are also private dirt access roads throughout the Project Site. Therefore, the Project Site consists almost entirely of pervious surfaces.

Elevations within the Project Site range from approximately 600 feet above mean sea level in the southeast area of the Project Site to approximately 330 feet above mean sea level at the northwest boundary of the Project Site along Santa Ana Canyon Road. The topography within the Project Site consists of rolling hills and several steep sided hilltops and ridgelines located in the eastern and western portions of the Project Site. The Project Site is situated along Deer Canyon, which drains to the north towards the Santa Ana River with canyon walls ascending to the east and west (Group Delta 2023a). The Santa Ana River is located approximately 1/8 mile north of the Project Site.

The Project Site contains an existing 96-inch reinforced concrete pipe (RCP) storm drain that would need to be relocated as part of the Project. The existing storm drain is located within an existing 25-foot-wide easement. This storm drain was constructed in 1990 as a condition of the nearby “The Highlands” residential development. The existing storm drain receives runoff from the upper Deer Canyon drainage basin and “The Highlands” development, and conveys this runoff in a northerly direction, ultimately draining into the Santa Ana River.

The Project Site is not located within a 100-year flood zone. The Project Site is located within Flood Zone “X”, which is described as “Areas Outside the 0.2% Annual Chance Floodplain” per Flood Insurance Rate Map (FIRM) – Community Panel Number 06059C0157J, dated December 3, 2009 (FEMA 2021a). Also, a small sliver of the northeastern portion of the Project Site that is located along Santa Ana Canyon Road is shown in the FIRM as “Being Protected From The 1-Percent-Annual-Chance or Greater Flood Hazard By A Levee System. Overtopping Or Failure Of Any Levee System Is Possible.”

According to the Department of Water Resources, Division of Safety of Dams, the Project Site is not located within the dam inundation zone for the Walnut Canyon Reservoir, which is located approximately 1.25-miles to the south of the Project Site at a higher elevation. Due to the topography between Deer Canyon and the Walnut Canyon Reservoir, the Project Site is not located within the inundation zone for this dam. Prado Dam is located approximately 6.6 miles northeast of the Project Site.

Prado Dam is located approximately 2.5 miles east of the City limits, along the Santa Ana River in Riverside County. This dam facility poses the greatest risk to the City (and a majority of northern Orange County) in the event of a catastrophic failure, due to its size and the

amount of water impounded at full capacity. The lowest portions of the Project Site are located within the dam inundation zone for Prado Dam during the worst-case scenario, referred to as “Maximum High Pool Non-Breach”. Consequently, this northernmost portion of the Project Site is subject to potential for flooding as a result of a dam inundation in existing conditions (City of Anaheim 2022b).

Also, Diamond Valley Lake, which is located in Riverside County approximately 40 miles southeast of the City limits, is one of the largest reservoirs in Southern California. It has a capacity of over 800,000 acre-feet. If Diamond Valley Lake were to fail, flood waters would travel along the inundation path east of the City until it reached the Prado Dam area in Corona. The Be Ready Plan (described further below) assumed that this would cause an overflow and inundate the reservoir at Prado Dam, causing water to overflow down the spillway and travel toward the city. Although the northernmost portion of the Project Site is partially within the inundation limits for Prado Dam, the inundation mapping for an event at Diamond Valley Lake show that none of the Project Site would be inundated in such a dam failure event.

Also, according to the City’s “Be Ready Anaheim” plan, the City is susceptible to inundation from Carbon Canyon Dam, which would not affect the Project Site given its distance from this dam and due to intervening topography (City of Anaheim 2022b).

Groundwater

The Project Site is located within the Coastal Plain of the Orange County Groundwater Basin (the Basin), which underlies the northern half of Orange County. This groundwater basin covers approximately 310 square miles and is bordered by the Coyote and Chino Hills to the north, the Santa Ana Mountains to the northeast, the San Joaquin Hills to the south, and the Pacific Ocean to the southwest; and terminates near the Orange County boundary to the northwest, where it connects to the Central Basin of Los Angeles.

The Basin consists of the Upper, Middle and Lower Aquifers, where porous and permeable sediments or rock readily transmit and hold water; they are segregated by materials with low permeabilities. The Upper Aquifer has an average thickness of about 800 feet and consists mostly of sand, gravel, and conglomerate with some silt and clay beds. It provides most of the irrigation water for the Basin. The Middle Aquifer has an average thickness of about 1,600 feet and is composed of sand, gravel, and minor amounts of clay. It provides approximately 90 to 95 percent of the groundwater for the basin. The Lower Aquifer is composed of sand and conglomerate that is about 350 to 500 feet thick and not used for groundwater production (DWR 2020a).

The total capacity of the Basin is estimated at 38 million acre-feet (af), with 37.7 million af of water in storage. Basin recharge occurs through percolation of Santa Ana River flow, infiltration of rainfall, injection into wells, and surface recharge of imported water and recycled water. Groundwater quality has high concentrations of sodium-calcium bicarbonate, with the average total dissolved solids content in 240 public supply wells at approximately 507 milligrams per liter. Sea water intrusion has occurred near the coast. Colored water — from natural organic materials in the Lower Aquifer and increasing levels

of salinity, nitrates, and methyl tertiary butyl ether (MTBE) — has been observed (DWR 2020a).

Groundwater, being perched and variable in depth, is not related to any major aquifer, and is likely 20 feet or more in depth below the existing ground surface within the Project Site (Group Delta 2023a). Based on the nearest surface water, the Santa Ana River, the general groundwater flow is estimated towards the northwest, although can locally follow ephemeral stream beds (Group Delta 2023a).

See Section 4.8, Hazards and Hazardous Materials, of this Draft EIR for additional information.

4.9.2 REGULATORY SETTING

Federal

National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973

The National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973 were enacted to reduce the need for flood protection structures and limit disaster relief costs by restricting development in floodplains. The National Flood Insurance Act established the National Flood Insurance Program (NFIP), which provides flood insurance, floodplain management, and flood hazard mapping data. The Federal Emergency Management Agency (FEMA), established in 1979, is responsible for predicting hazards from flooding events and forecasting the level of inundation under various conditions. As part of its duty to develop standards for delineating fluvial and coastal floodplains, FEMA provides information on Flood Insurance Rate Maps (FIRMs) about the potential for flood hazards and inundation and, where appropriate, designates regions as special flood hazard areas. Under this program, FEMA produces FIRMs that identify properties and buildings in flood risk areas. Flood hazards related to storm events are generally described in terms of 100- or 500-year floods. These are floods that, respectively, have a one percent and 0.2 percent chance of occurring every year.

Communities subject to flood hazards voluntarily participate in the NFIP by adopting and enforcing floodplain management ordinances to reduce the potential for flood damage. In turn, the NFIP offers federally funded flood insurance to homeowners, renters, and business owners in participating communities.

Clean Water Act

The Clean Water Act (CWA) (33 United States Code [USC] § 1251, et seq.) is the major federal legislation governing the water quality aspects of construction and operation for the proposed project. The CWA established the basic structure for regulating discharges of pollutants into waters of the United States (not including groundwater) and waters of the State. The objective of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” The CWA establishes the basic structure for

regulating the discharge of pollutants into waters of the United States. The CWA authorizes the United States Environmental Protection Agency (EPA) to implement pollution control programs.

NPDES Program

In 1972, the CWA was amended to require National Pollutant Discharge Elimination System (NPDES) permits for the discharge of pollutants to “Waters of the U.S.” from any point source. Specifically, under the CWA, it is unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a National Pollutant Discharge Elimination System (NPDES) permit is obtained. The permit will contain limits on what the permittee can discharge, monitoring and reporting requirements, and other provisions to ensure that the discharge does not harm water quality or people's health. The NPDES permit specifies discharge prohibitions, effluent limitations, and other provisions, such as monitoring deemed necessary to protect water quality based on criteria specified in the National Toxics Rule (NTR), the California Toxics Rule (CTR), and the Basin Plan. In essence, the permit translates general requirements of the Clean Water Act into specific provisions tailored to the operations of each person discharging pollutants. The NPDES Permit for Anaheim is the Santa Ana Regional Water Quality Control Board Municipal NPDES Permit Order No. R8-2002-0010.

In 1987, the CWA was again amended to require that the U.S. Environmental Protection Agency (USEPA) establish regulations for permitting under the NPDES permit program for municipal and industrial stormwater discharges. The USEPA published final regulations regarding stormwater discharges on November 16, 1990. The regulations require that municipal separate storm sewer system (MS4) discharges to surface waters be regulated by an NPDES permit. MS4s are a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains), and are owned or operated by a public body that has jurisdiction over the disposal of sewage, industrial wastes, stormwater, or other wastes. The MS4s are designated or used for collecting or conveying stormwater only (i.e., not wastewater or combined sewage).

With respect to wastewater treatment plants specifically, discharge prohibitions and limitations in an NPDES permit are designed to maintain public health and safety, protect receiving water resources, and safeguard the water's designated beneficial uses. Discharge limitations typically define allowable effluent quantities for flow, biochemical oxygen demand, total suspended matter, residual chlorine, settleable matter, total coliform, oil and grease, pH, and toxic pollutants. Limitations also typically encompass narrative requirements regarding mineralization and toxicity to aquatic life. Under the NPDES permits issued to the city/county to operate the treatment plants, the city/county is required to implement a pretreatment program. This program must comply with the regulations incorporated in the CWA and the General Pretreatment Regulations (Code of Federal Regulations [CFR] Title 40,

Section 303—Water Quality Standards and Total Maximum Daily Loads

In addition, the CWA requires states to adopt water quality standards for surface water bodies, to be approved by the USEPA pursuant to Section 303(c)(2)(b). Water quality standards consist of designated beneficial uses for a particular water body (e.g., wildlife habitat, agricultural supply, fishing), along with water quality criteria necessary to support those uses. Water quality criteria are prescribed concentrations or levels of constituents, such as lead, suspended sediment, and fecal coliform bacteria, or narrative statements that represent the quality of water that supports a particular use. Because California has not established a complete list of acceptable water quality criteria, the USEPA has established numeric water quality criteria for certain toxic constituents in the form of the California Toxics Rule (see 40 Code of Federal Regulations Section 131.38), discussed further below. When designated beneficial uses of a particular water body are compromised by water quality, Section 303(d) of the CWA requires states and authorized Native American tribes to identify and list that water body (or segment(s) thereof) as impaired. Once a water body has been deemed impaired, a Total Maximum Daily Load (TMDL) must be developed for each impairing water quality constituent. The TMDL is a calculation of the total maximum daily load (amount) of a pollutant that a water body can receive daily and still safely meet water quality standards. TMDLs include waste load allocations for urban stormwater runoff as well as municipal and industrial wastewater discharges, with allocations apportioned for individual Municipal Separate Storm Sewer Systems (MS4s) and wastewater treatment plants, including those in Orange County. For stormwater, load reductions would be required to meet the TMDL waste load allocations within the 20 years required by the TMDLs. Where multiple uses exist, water quality standards must protect the most sensitive use. Water quality standards are typically numeric, although narrative criteria based on biomonitoring methods may be employed where numerical standards cannot be established or where they are needed to supplement numerical standards. There are no Section 303(d)-listed water bodies within the Project Site or to which waters from the Project Site flow. The Project Site is located within the Santa Ana River Watershed and is tributary to Reach 2 of the Santa Ana River. Currently, there is no approved Watershed Infiltration and Hydromodification Management Plan (WIHMP) for the Santa Ana River Watershed. There are currently no TMDLs established for the Santa Ana River downstream from the Project Site.

The State Water Board, RWQCBs, and EPA are responsible for establishing TMDL waste load allocations and incorporating approved TMDLs into water quality control plans, NPDES permits, and Waste Discharge Requirements (WDRs) in accordance with a specified schedule for completion.

Section 401—Water Quality Certification

Section 404 of the CWA regulates temporary and permanent fill and disturbance of wetlands and waters of the United States. Under Section 404, the discharge (temporary or permanent) of dredged or fill material into waters of the United States, including wetlands, typically must be authorized by the United States Army Corps of Engineers (USACE) through either the Nationwide Permit (general categories of discharges with minimal effects) or the Individual Permit. Section 401 of the CWA requires compliance with State water quality standards for

actions within State waters. Under CWA Section 401, an applicant for a Section 404 permit (to discharge dredged or fill material into waters of the United States) must first obtain a certificate from the appropriate agency stating that the fill is consistent with the State's water quality standards and criteria. In California, the State Water Board delegates authority to either grant water quality certification or waive the requirements to the nine RWQCBs. The California Regional Water Quality Control Board – Santa Ana Region 8 is the applicable water quality control board for the Project.

River and Harbors Act — Section 10

Section 10 of the Rivers and Harbors Act of 1899 requires that regulated activities conducted below the ordinary high-water elevation of navigable waters of the United States be approved and permitted by the USACE. Regulated activities include the placement or removal of structures, work involving dredging, disposal of dredged material, filling, excavation, or any other disturbance of soils/sediments or modification of a navigable waterway. Navigable waters of the United States are those waters of the United States that are subject to the ebb and flow of the tide shoreward to the mean high-water mark and/or are presently used, or have been used in the past, or may be susceptible to use, to transport interstate or foreign commerce. Section 10 also regulates tributaries and backwater areas that are associated with navigable waters of the United States and are located below the ordinary high-water elevation of the adjacent navigable waterway. A project proponent can apply for a permit/letter of permission for work regulated under Section form. An application for a USACE permit will serve as an application for both Section 404 and Section 10 permits.

Federal Antidegradation Policy

The federal antidegradation policy is designed to protect existing water uses, water quality, and national water resources. The federal policy directs states to adopt a Statewide policy that includes the following primary provisions:

- Existing instream uses and the water quality necessary to protect those uses shall be maintained and protected.
- Where existing water quality is better than necessary to support fishing and swimming conditions, that quality shall be maintained and protected unless the state finds that allowing lower water quality is necessary for important local economic or social development.
- Where high-quality waters constitute an outstanding national resource, such as waters of national and state parks, wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

National Toxics Rule (NTR)

In 1992, the EPA promulgated the NTR under the CWA to establish numeric criteria for priority toxic pollutants for 14 states to bring all states into compliance with the

requirements of CWA Section 303(c)(2)(B). The NTR established water quality standards for 42 pollutants not covered under California's Statewide water quality regulations at that time. As a result of the court-ordered revocation of California's Statewide basin plans in September 1994, the EPA initiated efforts to promulgate additional federal water quality standards for California. In May 2000, the EPA issued the CTR (discussed further below), which includes all the priority pollutants for which the EPA has issued numeric criteria not included in the NTR.

Executive Order 11988

Executive Order 11988, "Floodplain Management," directs all federal agencies to avoid, to the extent possible, long- and short-term adverse impacts of occupancy and modification of floodplains, and to avoid supporting development in a floodplain either directly or indirectly wherever there is a practicable alternative. Compliance requirements are outlined in 23 Code of Federal Regulations 650, Subpart A, "Location and Hydraulic Design of Encroachment on Floodplains." If a project involves significant encroachment into the floodplain, the final environmental document must include:

- The reasons why the proposed action must be located in the floodplain,
- Alternatives considered and the reasons they were not practicable, and
- A statement indicating whether the action conforms to applicable state or local floodplain protection standards.

State

Porter-Cologne Act

The federal CWA places the primary responsibility for the control of water pollution and for planning the development and use of water resources with the states. California's primary statute governing water quality and water pollution issues is the Porter-Cologne Water Quality Control Act of 1970 (Porter-Cologne Act). The Porter-Cologne Act grants the State Water Resource Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs) broad powers to protect water quality and is the primary vehicle for implementing California's responsibilities under the Federal CWA. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to (1) adopt plans and policies; (2) regulate discharges to surface water and groundwater; (3) regulate waste disposal sites; and (4) require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, and oil or petroleum products.

Each RWQCB must formulate and adopt a water quality plan (or Basin Plan) for its region. The regional plans conform to the policies set forth in the Porter-Cologne Act and those established by the SWRCB in its State Water Policy, including establishing beneficial uses, water quality objectives, and implementation programs for each of the nine regions in California.

The Porter-Cologne Act also requires waste dischargers to notify the RWQCBs of their activities by filing reports of waste discharge; and authorizes the State Water Board and RWQCBs to issue and enforce WDRs, NPDES permits, CWA Section 401 water quality certifications, and other approvals. The Porter-Cologne Act also enables the RWQCBs to include water discharge prohibitions applicable to particular conditions, areas, or types of waste within its regional plan. The RWQCBs are also authorized to (1) enforce discharge limitations; (2) take actions to prevent violations of these limitations from occurring; and (3) conduct investigations to determine the status of the quality of any “Waters of the State.” Civil and criminal penalties are imposed on persons who violate the requirements of the Porter-Cologne Act or any SWRCB/RWQCB orders. The RWQCBs are also authorized to issue waivers to reports of waste discharge and WDRs for broad categories of “low threat” discharge activities that have minimal potential to cause adverse water quality effects when implemented according to prescribed

California Toxics Rule and State Implementation Policy

The California Toxics Rule (CTR) is a federal regulation that is issued by the USEPA and provides numeric water quality criteria for numerous potentially toxic constituents in receiving waters with human health or aquatic life designated uses in California. The CTR criteria are regulatory criteria adopted for inland surface waters, enclosed bays, and estuaries in California that are on the CWA Section 303(c) list for contaminants. Human health criteria (water- and organism-based) apply to all waters with a municipal and domestic water supply beneficial use designation as indicated in the basin plans. CTR criteria are applicable to the receiving water body and therefore must be calculated based upon the probable hardness values of the receiving waters for evaluation of acute (and chronic) toxicity criteria. At higher hardness values for the receiving water, copper, lead, and zinc are more likely to bind with components in the water which, in turn, reduces the bioavailability and resulting potential toxicity of these metals. The Basin Plan objectives and the CTR criteria do not apply directly to discharges of urban runoff, but rather to specified receiving waters.

The Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, also known as the State Implementation Policy, was adopted by the State Water Board in 2000. It establishes provisions for translating CTR criteria, NTR criteria, and Basin Plan water quality objectives for toxic pollutants into:

- NPDES permit effluent limits,
- Effluent compliance determinations,
- Monitoring for 2,3,7,8-tcdd (dioxin) and its toxic equivalents,
- Chronic (long-term) toxicity control provisions,
- Site-specific water quality objectives, and
- Effluent compliance exceptions.

The goal of the State Implementation Policy is to establish a standardized approach for permitting discharges of toxic effluent to inland surface waters, enclosed bays, and estuaries throughout the State.

California Code of Regulations (Wetlands and Waters Definition)

The State Water Board indicates that no single accepted definition of wetlands exists at the State level and that the RWQCBs may have different requirements and levels of analysis regarding the issuance of water quality certifications. According to the State Water Board, an area is a wetland if, under normal circumstances:¹⁰

- (1) The area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both;
- (2) The duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and
- (3) The area's vegetation is dominated by hydrophytes or the area lacks vegetation.

Under California State law, waters of the State mean "any surface water or groundwater, including saline waters, within the boundaries of the state." As such, water quality laws apply to both surface water and groundwater. After the U.S. Supreme Court decision in *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (53 USC 159), the Office of Chief Counsel of the State Water Board released a legal memorandum confirming the State's jurisdiction over isolated wetlands. The memorandum stated that under the Porter-Cologne Act, discharges to wetlands and other waters of the State are subject to State regulation, and this includes isolated wetlands. In general, the State Water Board regulates discharges to isolated waters in much the same way as it does for waters of the United States, using the Porter-Cologne Act rather than CWA authority.

NPDES Implementation

The NPDES permits all involve similar processes, which include submitting notices of intent for discharging to water in areas under the jurisdiction of Santa Ana RWQCB (Region 8) and implementing Best Management Practices (BMPs) to minimize those discharges. The Santa Ana RWQCB (Region 8) may also issue site-specific WDRs, or waivers to WDRs, for certain waste discharges to land or waters of the State.

Construction Activity

The State Water Board stormwater general permit for construction activity (Order 2009-009-DWQ, as amended by Order Nos. 2010-0014-DWQ and 2012-0006-DWQ) applies to all construction activities that would disturb 1 acre of land or more. Construction activities subject to the general construction activity permit include clearing, grading, stockpiling, and excavation. Dischargers are required to eliminate or reduce non-stormwater discharges to storm sewer systems and other waters. Through the NPDES and WDR processes, the State Water Board seeks to ensure that the conditions at a project site during and after construction do not cause or contribute to direct or indirect impacts on water quality (i.e.,

pollution and/or hydromodification) upstream and downstream. To comply with the requirements of the Construction General Permit, a project applicant must file a Notice of Intent (NOI) with the State Water Board to obtain coverage under the permit; prepare a Storm Water Pollution Prevention Plan (SWPPP); and implement inspection, monitoring, and reporting requirements appropriate to the project's risk level as specified in the SWPPP.

The SWPPP includes a site map, describes construction activities and potential pollutants, and identifies BMPs that will be employed to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby water resources, such as petroleum products, solvents, paints, and cement. The permit also requires the discharger to consider using post-construction permanent BMPs that will remain in service to protect water quality throughout the life of the project. All NPDES permits also have inspection, monitoring, and reporting requirements.

Industrial General Stormwater Permit

The Statewide stormwater NPDES permit for general industrial activity (Order 2014-0057-DWQ, superseding Order 97-03-DWQ) regulates discharges associated with 10 broad categories of industrial activities, such as operation of wastewater treatment works, and with recycling facilities. The industrial general permit requires the implementation of Best Available Technology Economically Achievable and Best Conventional Pollutant Control Technology to achieve performance standards. The permit also requires development of a SWPPP that identifies the site-specific sources of pollutants and describes the measures at the facility applied to reduce stormwater pollution. A monitoring plan is also required.

Local

Drainage and Flood Control

Major regional drainage facilities are designed to provide protection against major loss of life and property for a 100-year storm event. Intermediate facilities include smaller channels and detention facilities. The regional and intermediate drainage facilities serving the City of Anaheim are owned and maintained by Orange County Public Works.

The City of Anaheim owns and maintains local drainage facilities, which include those with watersheds less than 640 acres. Improvements to local drainage and flood-control structures are subject to review and approval by the City Engineer. These facilities must be designed to meet all applicable standards and requirements, including accommodating a 25-year frequency storm event, as outlined in the Orange County Hydrology Manual.

Orange County Water District Act

The Orange County Water District Act was amended by the State Legislature in 1953, authorizing a replenishment assessment to be charged to all groundwater pumpers and requiring that all pumpers report semi-annually the amount of groundwater they extract. By knowing the total amount of groundwater extraction in the Orange County Groundwater Basin, the Orange County Water District (OCWD) could estimate the amount of

replenishment water needed to offset the annual overdraft, as well as reduce the accumulated overdraft (OCWD 2024a). This has allowed the OCWD to reverse the trend of groundwater depletion. OCWD is entrusted to manage and replenish the region's groundwater basin, which provides water to approximately 2.5 million people (OCWD 2015a, 2024a).

Santa Ana River Basin Plan

The Water Quality Control Plan for the Santa Ana River Basin (also the Basin Plan for the Santa Ana Region, hereafter referred to as the “Basin Plan”) seeks to preserve and enhance water quality and to protect the beneficial uses of water bodies in the Santa Ana River Watershed (Santa Ana RWQCB 2019a). The Basin Plan discusses the existing water quality, beneficial uses of the groundwater and surface waters, and local water quality conditions and problems within the Santa Ana River watershed. The Basin Plan provides water quality standards for water resources in the Santa Ana River and its watershed. Also, the Basin Plan includes an implementation plan to maintain these standards. The standards serve as the basis for the basin’s regulatory programs.

Basin Plan implementation occurs primarily through issuance of Waste Discharge Requirements (WDRs); discharge prohibitions; water quality certifications; programs for salt management, non-point sources, and stormwater; and monitoring and regulatory enforcement actions, as necessary.

Municipal Separate Storm Sewer System Permit

Pursuant to Section 402 of the CWA, the Santa Ana RWQCB issued a renewal of the MS4 permit (Order No. R8-2009-0030) to the County, the OCFCD, and the northern Orange County cities, including the City of Anaheim (collectively “the Co-permittees”). This Municipal Separate Storm Sewer System (MS4) Permit regulates stormwater discharges to the MS4 in northern Orange County and details the requirements for new development and significant redevelopment projects, including specific sizing criteria for treatment Best Management Practices (BMPs).

To implement the requirements of the MS4 Permit, each of the Co-permittees (including City of Anaheim) has committed to the continued implementation of a Storm Water Management Program and Local Implementation Plan (LIP). Inspections, monitoring and reporting activities are also required, including implementation of the Water Quality Management Plans for new development and significant redevelopment projects within its respective jurisdiction as part of the development plan and entitlement approval process. The Water Quality Management Plan must identify permanent source-control BMPs, Site Design BMPs, and low impact development (LID) BMPs or treatment-control BMPs that would be implemented to treat, infiltrate, or filter first flush runoff from individual development sites.

National Pollution Discharge Elimination System General Construction Activities Permit

Pursuant to CWA Section 402(p), which requires regulations for permitting of certain stormwater discharges, the SWRCB has issued a Statewide NPDES General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities (Order No 2022-0057-DWQ, NPDES No. CAS 000002) (Construction General Permit), adopted by the SWRCB on September 8, 2022 is currently in effect. Construction activities subject to this permit include clearing, grading, and ground disturbances such as stockpiling or excavation, but do not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility.

Under the Construction General Permit, stormwater discharges from construction sites with a disturbance area of one acre or more are required to either obtain individual NPDES permits for stormwater discharges or be covered by the Construction General Permit. Coverage under the Construction General Permit is obtained by completing and filing a Notice of Intent (NOI) with the SWRCB and preparing a Storm Water Pollution Prevention Plan (SWPPP) prior to any land disturbance. The SWPPP identifies erosion control, sediment control, tracking control, wind erosion control, waste management, and non-stormwater management BMPs that would be implemented during the construction phase to reduce or eliminate pollutants entering the storm drain system.

City of Anaheim General Plan

Public Services and Facilities Element

The Public Services and Facilities Element of the City's General Plan addresses public services and infrastructure, such as fire protection, law enforcement, parks, schools, water, sewer, and storm drain systems (City of Anaheim 2004f). The Element discusses and shows the storm drain system map and existing deficiencies in the system. Applicable goals and policies from the Public Services and Facilities Element that relate to storm drainage and are relevant to this analysis are provided in Section 4.10, Land Use and Planning, with a project consistency analysis.

Green Element

The Green Element of the City's General Plan is a single, comprehensive plan to add more green areas throughout the City and to protect and enhance its natural and recreational resources (City of Anaheim 2004b). It addresses ways to protect water quality of the City's surface water and groundwater resources. Applicable goals and policies from the Green Element that are related to hydrology and water quality and that are relevant to this analysis are provided in Section 4.10, Land Use and Planning, along with a project consistency analysis.

Safety Element

The Safety Element of the City’s General Plan, referred to as “Be Ready Anaheim”, is described by the City as a hazard mitigation plan. The plan addresses the following: natural and man-made hazards in the City; ways to reduce fire hazards, geologic and seismic hazards, and flood hazards; and includes City-wide disaster preparedness measures. It identifies flood and inundation hazards and programs to protect the City from these hazards (City of Anaheim 2024d). Applicable goals and policies from the Safety Element that are related to flood hazards and that are relevant to this analysis are provided in Section 4.10, Land Use and Planning, with a project consistency analysis.

Anaheim Municipal Code

Landscape Water Efficiency Ordinance

Chapter 10.19 of Title 10 of the Anaheim Municipal Code (AMC) is the Landscape Water Efficiency Ordinance. This ordinance establishes an alternative ordinance acceptable under Executive Order B-29-15 as being at least as effective as the State Model Water Efficient Landscape Ordinance and promotes the design, installation, and maintenance of landscaping in a manner that conserves regional water resources by ensuring that landscaping projects are not unduly water-needy and that irrigation systems are appropriately designed and installed to minimize water waste.

Local National Pollutant Discharge Elimination System Regulations

Chapter 10.09, National Pollution Discharge Elimination System (NPDES), of the AMC, outlines the City’s regulations for complying with the NPDES and its MS4 Permit. It identifies the following: (1) prohibitions on illicit connections to the storm drain system; (2) prohibited discharges; (3) controls on urban runoff from new development and significant redevelopment through preparation of Water Quality Management Plans; (4) local discharge permits for non-stormwater discharges into the storm drain system; and (5) the City’s inspection and enforcement responsibilities.

4.9.3 THRESHOLDS OF SIGNIFICANCE

In accordance with the City of Anaheim’s Environmental Checklist, the Project would result in significant impacts related to hydrology and water quality if it would:

- a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.
- b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

- c) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
 - (i) result in substantial erosion or siltation on or off site;
 - (ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;
 - (iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
 - (iv) impede or redirect flood flows.
- d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.
- e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

4.9.4 IMPACT ANALYSIS

- a) *Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?*

Less Than Significant Impact. This section discusses the Project's potential construction- and operational-related water quality impacts.

Construction-Related Water Quality Impacts

The Project could result in short-term construction impacts to surface water quality from demolition, grading, building construction, paving, utility installation, and other construction-related activities. For example, construction would require the use of gasoline and diesel-powered heavy equipment, such as bulldozers, backhoes, water pumps, and air compressors. Stormwater runoff from the Project Site during construction could contain soil and sediments from these activities. Also, an accidental release (in the form of spills or leaks) from heavy equipment and machinery, construction staging areas, and/or building sites could also enter runoff and typically would include petroleum products such as gasoline, diesel fuel, lubricating oil and grease, hydraulic oil, automatic transmission fluid, paints, solvents, glues, heavy metals and other substances, which could degrade receiving waters. As discussed above, the SWRCB has issued the Statewide NPDES General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities (Order No 2022-0057-DWQ, NPDES No. CAS 000002), adopted by the State Water Resources Control Board (SWRCB) on September 8, 2022) (Construction General Permit). Under this Construction General Permit, an individual NPDES permit or Construction General Permit coverage must be obtained for discharges of stormwater from construction sites with a disturbed area of one or more acres. Since the development area within the Project Site is approximately 32.79 acres, coverage under the Construction General Permit for Discharges

is required. To obtain coverage, the Project Developer would be required to retain the services of a certified Qualified SWPPP consultant to prepare and obtain approval of a SWPPP for the Project that adheres to all applicable requirements and standards. The SWPPP would outline and implement site-specific stormwater quality control measures (such as BMPs) during construction activities to prevent pollutants from entering downstream waterways. The Project Developer, or the contractor if specifically delegated, would electronically submit permit registration documents prior to beginning construction activities in the Storm Water Multi-Application Report Tracking System, which would consist of a Notice of Initiation (NOI), Risk Assessment, Post-Construction Calculations, a site map, the proposed SWPPP, a signed certification statement, and the first annual fee. Once approved, the Project would be required to adhere to the SWPPP, including implementation of identified BMPs.

Project construction would also be required to adhere to all applicable rules pursuant to authority of the South Coast Air Quality Management District, including its Rule 402 (Nuisance) and Rule 403 (Fugitive Dust) to help minimize, to the extent feasible, dust from leaving the Project Site during construction.

Adherence to applicable robust regulatory requirements would ensure that the Project's short-term impacts to surface water quality during construction would be less than significant, and no mitigation measures are required.

Groundwater, being perched and variable in depth, is not related to any major aquifer, and is likely 20 feet or more in depth below the existing ground surface (bgs) within the Project Site (Group Delta 2023a). Given that the proposed Project grading and excavation activities would be greater than 20 feet bgs, groundwater may be encountered during excavations or grading operations, which then may require dewatering. Any groundwater encountered would be treated through the use of Baker Tanks or by similar means in accordance with the applicable requirements of the Construction General Permit. Therefore, this would avoid any substantial degradation of groundwater quality in the event of dewatering or otherwise. Therefore, the Project would result in a less than significant impact related to groundwater quality during construction, and no mitigation measures are required.

Operational Water Quality Impacts

A Preliminary Hydrology and Hydraulic Study and a Preliminary Water Quality Management Plan were prepared for the Project to serve as the basis of the Project's drainage system design and have been utilized in this analysis (Hunsacker 2024a and 2024b), attached as Appendix K. As discussed more fully in the Preliminary Water Quality Management Plan, general pollutants that may result from Project operations, which are also known as project priority pollutants of concern, and are typical of this type of mixed use residential development include suspended solids/sediment, nutrients, heavy metals, pathogens (bacteria/virus), pesticides, oil and grease, toxic orange compounds, and trash and debris (Hunsaker & Associates 2024b). As detailed in the Project Description within Section 3 of this Draft EIR, the Project would install a local on-site stormwater collection system that would collect stormwater and would convey it to a City owned and operated stormwater collection facility within Santa Ana Canyon Road. These drainage improvements have been

incorporated into the Project design based on the recommendations of the Preliminary Water Quality Management Plan to minimize impacts, to the extent feasible, related to stormwater quality generated from Project implementation. The City has reviewed the PWQMP for consistency with applicable provisions of the Orange County Drainage Area Management Plan; the intent of the non-point source NPDES Permit for Waste Discharge Requirements for the County of Orange; applicable Orange County Flood Control District requirements; additional applicable City of Anaheim requirements; and all other applicable standards and requirements. The Property Owner/Developer would be required to demonstrate that BMPs have been designed and implemented as specified in the Preliminary Water Quality Management Plan and the future Final WQMP, which would be approved by the City pursuant to applicable laws and regulations. Construction and operation of these improvements, including identified stormwater BMPs, would adequately convey and treat stormwater runoff that would be generated within the Project Site.

Accordingly, the Project would be required to adhere to all applicable federal, State and local laws and regulations, programs, standards and other requirements, including, but not limited to, those set forth by the CWA, the Porter-Cologne Act, the Basin Plan, and applicable goals, policies, and actions provided in the General Plan, and applicable provisions of the AMC (including Section 10.09, which outlines the City's regulations for complying with the NPDES and its MS4 permit) to address post-construction impacts on stormwater. Adherence to the foregoing laws, regulations, programs, standards and requirements would minimize the potential to degrade water quality in downstream water bodies to the maximum extent feasible and prevent seepage of pollutants into the groundwater basin.

Therefore, the Project would result in a less than significant impact related to this threshold and no mitigation measures are required.

b) Would the Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less Than Significant Impact.

Groundwater Supply Impacts

As detailed more fully in the Water Supply Assessment (WSA), the Project Site is within APU's existing service area, and would be served with potable water service provided by APU.

As discussed in more detail in Section 4.17, Utilities & Service Systems, of this Draft EIR and in the WSA, the City relies on a combination of imported surface water, local groundwater, and recycled water (to a limited degree) to meet its water needs. The City works together with two primary agencies, Metropolitan Water District of Southern California (Metropolitan or MWD) and OCWD to ensure a safe and reliable water supply that will continue to serve the community in periods of drought and shortage. The sources of imported water supplies include the Colorado River and the State Water Project (SWP) provided by Metropolitan (Psomas 2024b). The City's main source of water supply is groundwater from the Orange

County Groundwater Basin (Basin). The City has historically relied on approximately 70 percent groundwater (previous 10-year average) and 30 percent imported water under normal conditions. Over the 25-year planning period of the 2020 UWMP, groundwater supplies are anticipated to increase to between 80 and 85 percent of total water use. Recycled water represents less than 0.2 percent of the City's total water supply.

Accordingly, the primary source of water for the City is the Basin. OCWD is responsible for the protection of water rights to the Santa Ana River in Orange County as well as the management and replenishment of the Basin. OCWD replenishes and maintains the Basin at safe levels while increasing the Basin's annual yield by utilization of the best available technology. Other than recycled water, OCWD primarily recharges the Basin with water from the Santa Ana River and to a lesser extent with imported raw water purchased from Metropolitan. OCWD continues to develop new replenishment supplies, recharge capacity, and basin protection measures to meet projected production from the Basin during average/normal rainfall, during drought periods, and in planning for climate change.

On January 1, 2017, the OCWD, City of La Habra, and Irvine Ranch Water District submitted the Basin 8-1 Alternative to the California Department of Water Resources (OCWD 2017a). The Project Site is located in the "Santa Ana Canyon Management Area" portion of the Basin, as identified in the Basin 8-1 Alternative. The Santa Ana Canyon Management Area covers the easternmost extent of Basin 8-1. The water resources in the Santa Ana Canyon Management Area include the Santa Ana River. In this area of the County, groundwater is primarily located in a thin alluvial aquifer that is 90 to 100 feet thick and is a combination of infiltrated surface water and groundwater inflow from the adjacent foothills (OCWD 2017a). OCWD monitors surface water flow and quality as well as groundwater levels and quality throughout the Santa Ana Canyon Management Area. According to OCWD, groundwater pumping in the Santa Ana Canyon Management Area is primarily used for irrigation with a minimal amount used for potable purposes. The amount of groundwater pumping that occurs in this area of the County is small relative to the large volumes of flow in the canyon provided by the Santa Ana River and monitoring indicates there are no depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water (OCWD 2017a). OCWD has determined that long-term reduction in groundwater levels in the Santa Ana Canyon Management Area are not foreseeable given the high volume of Santa Ana River flow relative to the amount of groundwater production and the high rate at which the shallow groundwater formations recharge as a result of surface flow in the Santa Ana Canyon. As discussed in the Basin 8-1 Alternative document, there are currently no groundwater withdrawals within the areas of the Santa Ana Canyon Management Area that are covered by the Cities of Anaheim, Chino Hills, and Yorba Linda; Riverside County; and Yorba Linda Water District (OCWD 2017a). The Sustainability Goal for the Santa Ana Canyon Management Area in the Basin 8-1 Alternative document is to continue monitoring sustainable conditions and monitor to ensure that no significant and unreasonable results occur in the future. The Project would not inhibit OCWD from continuing to monitor conditions within the Santa Ana Canyon Management Area of the groundwater basin or otherwise impair OCWD's effort in this regard. Furthermore, there is no evidence that the Project would result in any significant or unreasonable groundwater conditions, as described in the Basin 8-1 Alternative document.

While the Project would not involve any direct withdrawals of groundwater (e.g., does not involve drilling a new well), it would be served by APU, which relies primarily on groundwater for APU's water supply. The WSA concludes that water demand associated with the Project would not significantly constrain APU's supply over the long-term and can be assumed to be accounted for in the APU demand projections. As discussed more fully in the WSA and in Section 4.17, Utilities & Service Systems, of this Draft EIR, APU would have sufficient water supplies to serve the Project as well as other existing and reasonably foreseeable future development within APU's service area during normal, single-dry and multiple-dry years.

Based on the foregoing, the Project would not directly or indirectly exacerbate groundwater overdraft (to the extent that it exists) or otherwise conflict with sustainable groundwater management of the Basin. Therefore, the Project would not substantially decrease groundwater supplies and impacts in this regard would be less than significant; no mitigation measures would be required.

Groundwater Recharge Impacts

With respect to groundwater recharge, due to the soil type, the steep terrain, and the high groundwater table in the Project Site, there is limited groundwater recharge that currently occurs within the Project Site, despite the fact that it is almost entirely pervious surface (Hunsaker & Associates 2024b).

The Project would substantially increase the amount of impervious surface within the Project Site by from approximately 1.22 acres in existing conditions to 17.6 acres with the Project, which would further reduce the amount of limited groundwater recharge occurring within the Project Site (Hunsaker & Associates 2024b). That said, impervious areas were minimized to the extent feasible in Project design through the provision of landscaping, planter areas, etc. Also, the Project has been designed to include and would be required to incorporate biotreatment BMPs including bioretention with underdrains and proprietary vegetated biotreatment systems that would help to facilitate some amount of groundwater recharge.

In 2014, the California Sustainable Groundwater Management Act (SGMA) was passed. The law provides authority for agencies to develop and implement groundwater sustainability plans or alternative plans that demonstrate the basin is being managed sustainably. The Project Site would obtain potable water during operations from APU. As discussed above, APU obtains groundwater from the Basin, which is managed by OCWD. OCWD adopted its first Groundwater Management Plan in 1989, which was last updated in 2015 (OCWD 2015a). The Groundwater Management Plan sets forth basin management goals and objectives and describes how the basin is managed. The Project would not result in any conflicts with goals and objectives of this plan since none of the goals or objectives are applicable to specific projects. Furthermore, the Project would not conflict with any of the recharge or groundwater replenishment activities that the OCWD is undertaking since none of OCWD's recharge facilities are within or near the Project Site.

Based on the foregoing, including the limited recharge opportunities provided by the Project Site in its current condition, the Project's design that sought to facilitate recharge to the extent feasible, and its consistency with the broader groundwater sustainability efforts being pursued by OCWD, the Project would not interfere substantially with groundwater recharge and would not impede sustainable groundwater management of the Basin.

Therefore, the Project would result in a less than significant impact related to this threshold and no mitigation measures are required.

c) Would the Project substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) result in substantial erosion or siltation on- or off-site;

Less Than Significant Impact. As described above under threshold (a) of this section, with the introduction of new impervious surfaces and the construction of proposed structures and improvements, the Project would alter the existing drainage pattern in a manner that could result in erosion and siltation during construction, and thus the potential for polluted runoff. However, the Project's adherence to all applicable laws and regulations, including, among others, requirements under the Construction General Permit such as the preparation and implementation of a SWPPP for the Project. The SWPPP would be designed to ensure that erosion, siltation, and flooding are prevented or minimized to the maximum extent feasible during construction. In addition, the SWPPP would include both structural (physical devices or measures) and operational (timing of construction) BMPs that would prevent the discharge of pollutants directly or indirectly into waterbodies. This would ensure that potential effects related to erosion and siltation would be a less than significant during construction.

The Project would involve mass grading within the Project Site to clear area for building pads and other Project improvements. As described in more detail above under threshold (a) of this section, a system of stormwater BMPs have been incorporated in the Project's design, which would reduce potential for erosion and siltation during Project operations. Also, slopes adjacent to the developed portion of the Project Site would be landscaped and would include terrace drains and v-gutters to minimize, to the extent feasible, erosion on the hillsides. Also, existing off-site stormwater flows would be collected into the Project's storm drain systems to route off-site flows through the Project Site, thereby utilizing the Project's water quality basins, which would attenuate post-construction flows to below existing conditions as well as address water quality issues. As discussed in threshold (a) of this section, during operation, the Project would be required to comply with applicable laws and regulations, programs, and standards, including goals, policies, and actions provided in the General Plan as discussed in more detail in Section 4.10, Land Use and Planning, of this Draft EIR. Furthermore, the Project would be subject to Section 10.09 of the AMC, which outlines the City's regulations for complying with the NPDES and its MS4 Permit, such as: (1) prohibitions on illicit connections to the storm drain system; (2) prohibited discharges; (3) controls on urban runoff from new development and significant redevelopment through preparation of Water Quality Management Plans; (4) local discharge permits for non-

stormwater discharges into the storm drain system; and (5) the City's inspection and enforcement responsibilities.

Therefore, the Project would result in a less than significant impact related to this threshold and no mitigation is required.

ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;

Less Than Significant Impact.

Regarding construction-related impacts, as described above, with the introduction of new impervious surfaces and grading changes has the potential for altering the existing drainage pattern in a manner that could result in a substantial increase in the rate or amount of surface runoff in a manner that would result in flooding on- or off-site. The Project would increase the amount of impervious surface within the Project Site from approximately 1.2 acres in existing conditions to 17.6 acres with the Project (Hunsaker & Associates 2024b). As such, the Project would increase peak stormwater runoff from the Project Site by approximately 21.6 percent when compared to existing conditions (Hunsaker & Associates 2024b). Also, the Project would involve grading within the Project Site that would change the way that stormwater drains within the Project Site. However, the Project's adherence to all applicable laws and regulations, including, among others, requirements under the Construction General Permit such as the preparation and implementation of a SWPPP for the Project. The SWPPP would be designed to ensure that erosion, siltation, and flooding are prevented or minimized to the maximum extent feasible during construction. This would ensure that potential effects related to on- or off-site flooding would be less than significant during construction.

In terms of potential operational-related impacts, as part of the analyses contained in the Project's Preliminary Water Quality Management Plan, hydrologic conditions of concern (HCOC) with respect to downstream flooding, erosion potential of natural channels, downstream, impacts of increased flows on natural habitat, and other topics were considered (Hunsaker & Associates 2024b). A HCOC is a combination of upland hydrologic conditions and stream biological and physical conditions that present a condition of concern for physical and/or biological degradation of streams. A potential HCOC impact was identified in the Preliminary Water Quality Management Plan related to the Project's proposed discharge of stormwater to a natural drainage to the northeast of the Project Site. To address HCOC impacts for the Project's discharge to the natural area to the northeast, runoff discharging to the northeast point of compliance would be mitigated via the basins located within DMAs 1 and 2 (Hunsaker & Associates 2024b). Applicable hydromodification control performance criteria have been established for the Project as follows:

- "Post-project runoff discharge volume for the 2-year frequency storm does not exceed that of the predevelopment condition by more than 5% and time of concentration of post-development runoff for the 2-year storm event is not less than that for the predevelopment condition by more than 5% (Hunsaker & Associates 2024b)."

Since the rate and amount of surface runoff would be increased, the Project would be required to incorporate a system for stormwater capture and conveyance that meets all applicable requirements and standards, including, among others, the performance criteria noted above and in the PWQMP. In general, the Project's drainage area and flow direction would be consistent with pre-Project conditions. Runoff would be conveyed as surface flow to gutters in the Project Site that would discharge to catch basins. The Project's main storm drain system would then receive all flows and would convey them to a realigned portion of the existing 96" storm drain line that would be upsized to a 108" pipe. Runoff from the Project Site would be conveyed northerly to the Santa Ana River as in pre-Project conditions. To satisfy the Project's requirements for low impact development and to address runoff pollutants of concern for the Project, the Project would be required to use biotreatment BMPs including bioretention with underdrains and proprietary vegetated biotreatment systems.

With implementation of the drainage design and operational water quality BMPs that are proposed for the Project, and adherence to all other applicable standards and requirements set forth in the governing laws and regulations, the Project would not result in a substantial increase in the rate or amount of surface runoff in a manner that would result in flooding on- and off-site would be avoided. In addition, the foregoing would ensure no significant impact related to HCOCs. Therefore, the Project would result in a less than significant impact relative to this threshold, and no mitigation measures are either required.

iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

Less Than Significant Impact. As discussed above, stormwater runoff from the Project would be captured on-site in a stormwater system that would adhere to all applicable requirements, standards and performance criteria. This stormwater would ultimately be conveyed to City storm drain facilities that ultimately drain north to the Santa Ana River (Hunsacker & Associates 2024b). Moreover, this system has been designed to capture and convey existing off-site flows from an adjacent residential subdivision as well. The Project's drainage system would serve to slow, reduce, and meter the volume of runoff leaving the Project Site in accordance with applicable standards (e.g., post-development flows being equal to or less than predevelopment flows) and would ensure that downstream storm drainage facilities are not inundated with Project-related stormwater.

Based on Anaheim Public Works' review and approval of the Project's Preliminary Hydrology and Hydraulic Study, the Project would not create or contribute to runoff water that would exceed the capacity of existing or planned stormwater drainage systems (Hunsacker & Associates 2024a and 2024b). Rather, the Project's runoff can be accommodated within existing stormwater drainage systems. Moreover, the Project would be required to be designed and implemented in such a way to prevent any substantial additional sources of polluted runoff.

Therefore, the Project would result in a less than significant impact related to this threshold and no mitigation is required.

iv) *impede or redirect flood flows?*

Less Than Significant Impact. The Project Site is not located within a FEMA designated 100-year flood zone and is not in an area that is prone to flooding. As described in further detail under threshold (d) below, the project site is not susceptible to inundation from flood hazards. Also, the Project Site is not located within the dam inundation zone for the Walnut Canyon Reservoir. Prado Dam is located approximately 6.6 miles northeast of the Project Site. The lowest portions of the Project Site are located within the dam inundation zone for Prado Dam during the worst-case scenario, referred to as “Maximum High Pool Non-Breach”. Consequently, this portion of the Project Site is subject to potential for flooding during a potential failure of Prado Dam. The Project’s structures are proposed to be constructed at higher elevations than the dam inundation zone for Prado Dam. Therefore, the Project would not impede or redirect any flood flows.

The Project Site contains natural drainage features as shown in Exhibit 4.3-5. The Project’s stormwater drainage system would include culverts and catch basins that would intercept Project flows as well as these off-site flows and would convey them to the north to an existing storm drain line within Santa Ana Canyon Road and to a drainage to the northeast of the Project Site, each of which have been confirmed to have adequate capacity to accommodate the Project’s stormwater flows. As such, the Project has no potential to impede or redirect flood flows (Hunsacker & Associates 2024b).

Therefore, the Project would result in a less than significant impact related to this threshold and no mitigation is required.

d) *Would the Project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?*

No Impact. The Project Site is not located within a FEMA designated 100-year flood zone. Also, the Project Site is not located within the dam inundation zone for the Walnut Canyon Reservoir. Prado Dam is located approximately 6.6 miles northeast of the Project Site. The lowest portions of the Project Site are located within the dam inundation zone for Prado Dam during the worst-case scenario, referred to as “Maximum High Pool Non-Breach”. Consequently, this small area of the Project Site is subject to potential for flooding during a catastrophic failure of Prado Dam. Accordingly, the Project’s structures are proposed to be constructed at higher elevations than the dam inundation zone for Prado Dam.

The Project Site is not near the ocean or other large, enclosed water body with the potential to be at risk of seismically -induced tidal or seiche phenomena.

Therefore, the Project would result in no impact related to this threshold and no mitigation is required.

e) Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less Than Significant Impact. In terms of a potential conflict with a water quality control plan, as discussed above, the Santa Ana RWQCB (Region 8) prepares, maintains and implements the Water Quality Control Plan for the Santa Ana River Basin (Basin Plan). The Basin Plan sets water quality standards in the Santa Ana River Basin by establishing beneficial uses for specific water bodies and designating numerical and narrative water quality objectives. The Basin Plan sets water quality objectives for the participating jurisdictions including Anaheim (which would include the Project Site) and the surrounding areas. Water quality thresholds identified in the Basin Plan are intended to reduce pollutant discharge and ensure that water bodies are of sufficient quality to meet their designated beneficial uses. The Project would not conflict with the water quality standards outlined in the Basin Plan or worsen water quality conditions in any 303(d)-listed water body. As discussed above in response to threshold (a) within this section, pollutant discharge during construction would be avoided through compliance with the robust regulatory framework, including, among others, requirements and standards of the Construction General Permit including the preparation and implementation of a SWPPP. Once the Project is constructed, the Project would consist of a mixed-use residential and commercial development. Pollutants generated during Project operations would be typical in nature, and treated using biotreatment BMPs including bioretention with underdrains and proprietary vegetated biotreatment systems, as specified in the Project's Preliminary Water Quality Management Plan (Hunsaker & Associates 2024b). The Project would be required to adhere to all applicable laws and regulations, including adherence to NPDES permitting mandates, which are enforced by several public agencies, including the City via its authority under Section 10.09 of the AMC. Therefore, the Project would not result in a significant source of pollutants for downstream water bodies and the Project would thereby not conflict with or obstruct implementation of the Basin Plan.

With respect to a potential conflict with a sustainable groundwater management plan, as discussed previously in response to threshold (b) in this section, the Project would not result in conflicts with any goals or policies related to the Santa Ana Canyon Management Area of the Basin. OCWD has determined that long-term reduction in groundwater levels in the Santa Ana Canyon Management Area are not foreseeable given the high volume of Santa Ana River flow relative to the amount of groundwater production and the high rate at which the shallow groundwater formations recharge as a result of surface flow in the Santa Ana Canyon. As discussed in the Basin 8-1 Alternative document, there are currently no groundwater withdrawals within the areas of the Santa Ana Canyon Management Area that are covered by the Cities of Anaheim, Chino Hills, and Yorba Linda; Riverside County; and Yorba Linda Water District (OCWD 2017a). The Sustainability Goal for the Santa Ana Canyon Management Area in the Basin 8-1 Alternative document is to continue monitoring sustainable conditions and monitor to ensure that no significant and unreasonable results occur in the future. The Project would not inhibit OCWD from continuing to monitor conditions within the Santa Ana Canyon Management Area of the groundwater basin or otherwise impair OCWD's effort in this regard. Furthermore, there is no evidence that the Project would result in any significant or unreasonable groundwater conditions, as

described in the Basin 8-1 Alternative document. See also, the WSA's detailed discussion regarding the ability to serve the Project without

The WSA concludes that water demand associated with the Project would not significantly constrain APU's supply over the long-term and can be assumed to be accounted for in the APU demand projections. As discussed more fully in the WSA and in Section 4.17, Utilities & Service Systems, of this Draft EIR, APU would have sufficient water supplies to serve the Project as well as other existing and reasonably foreseeable future development within APU's service area during normal, single-dry and multiple-dry years.

Therefore, for the reasons described above, the Project would not conflict with or obstruct implementation of a sustainable groundwater management plan.

Therefore, the Project would result in a less than significant impact related to this threshold and no mitigation is required.

4.9.5 CUMULATIVE IMPACTS

Cumulative impacts related to hydrology and water quality occur within a defined watershed. The Santa Ana River would be the receiving waters for the Project, combined with other cumulative developments in the watershed. Projects considered in the cumulative impact analysis consist of past, present and reasonably foreseeable future projects within this geographic scope, including those described in more detail in Table 4-1, Cumulative Projects List, which is provided in Section 4.0.

Collectively, the cumulative projects and the Project would result in increased development that would have the potential to collectively increase demand for stormwater conveyance and increase risks associated with polluted runoff, during both construction and operation. However, federal, state, regional and local laws and regulations are robust in this regard. For example, NPDES permit requirements have become more stringent over the years and now require new development and redevelopment projects to manage and treat all significant sources of stormwater pollutants and runoff, which would result in a reduction in runoff and overall pollutant loads in stormwater in the relevant areas over time, thereby reducing impacts in this regard.

Accordingly, the Project as well as other cumulative development would be required to adhere to all applicable mandates, standards and performance criteria during construction and operation, including, among other things, developing hydrology and hydraulic studies and water quality management plans to avoid and minimize potential for runoff, to the extent feasible, and thus limit or avoid erosion, sedimentation, flooding, and related issues. For example, each project would be required to develop and implement a SWPPP to control stormwater runoff, and each would be required to incorporate adequately sized storm drainage features that accommodate runoff in order to prevent polluted runoff entering into receiving waters as well as on- and off-site flooding. Furthermore, there is a comprehensive regulatory framework governing groundwater management, to which the Project and other cumulative developments would be required to ensure their respective development proposals would not obstruct or impair sustainable groundwater management planning.

Therefore, cumulative impacts related to hydrology and water quality would be less than significant.

The Project's contribution to this already less than significant cumulative impact would not be cumulatively considerable. It would be required to adhere to the Construction General Permit, the applicable NPDES permit mandates during operation, and all other applicable federal, State, regional and laws and regulations, programs, and standards, including, without limitation, goals, policies, and actions provided in the General Plan and Section 10.09 of the AMC. Additionally, the Project would install an on-site storm drainage system that would include basins intended to promote percolate of runoff into the soil and ensure that post-development flows were equal to or less than predevelopment flows.

Based on the forgoing, the Project would have a less than significant cumulative impact with respect to hydrology and water quality and no mitigation measures would be required.

4.9.6 MITIGATION PROGRAM

No significant impacts pertaining to hydrology and water quality were identified; therefore, no mitigation measures are required.

4.9.7 SIGNIFICANCE AFTER MITIGATION

Project impacts related to hydrology and water quality would be less than significant; therefore, no mitigation measures are required.

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