

# 5.7 Hydrology and Water Quality

## 5.7.1 INTRODUCTION

This section describes the environmental and regulatory settings and identifies potential impacts for hydrology and water quality resources. The analysis in this section is based on the following:

- *City of Santa Ana General Plan Update,*
- *City of Santa Ana General Plan FEIR,*
- *City of Santa Ana Municipal Code,*
- *City of Santa Ana 2020 Urban Water Management Plan,*
- *City of Santa Ana (2018) Storm Drain Master Plan,*
- *Preliminary Geotechnical Investigation Report (Appendix G),*
- *Phase I Environmental Site Assessment (Phase I) (Appendix J),*
- *Phase II ESA for the northern portion of the site (Phase II North) (Appendix K1),*
- *Phase II ESA for the southern portion of the site (Phase II South) (Appendix K2)*
- *Preliminary Hydrology Report (Appendix L),*
- *Preliminary Water Quality Management Plan (Appendix M), and*
- *Storm Drain Master Plan Drainage Assessment (Appendix R).*

## 5.7.2 REGULATORY SETTING

### Clean Water Act

The U.S. Environmental Protection Agency (USEPA) is the federal agency that implements the Clean Water Act (CWA), which is responsible for water quality management. The purpose of the CWA is to protect and maintain the quality and integrity of the nation's waters by requiring states to develop and implement state water plans and policies.

**CWA Section 303, Total Maximum Daily Loads (TMDL):** Section 303 of the CWA requires states to establish water quality standards consisting of designated beneficial uses of water bodies and water quality standards to protect those uses for all Waters of the United States. Under Section 303(d) of the CWA, states, territories, and authorized tribes are required to develop lists of impaired waters. Impaired waters are waters that do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. The law requires that these jurisdictions establish a priority ranking for listed waters and develop action plans to improve their water quality. This process includes development of Total Maximum Daily Loads (TMDL) that set discharge limits for non-point source pollutants.

A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still safely meet water quality standards. The Ducheny Bill (AB 1740) requires the State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCBs) to post this list and to provide an estimated completion date for each TMDL.

**CWA Section 402, National Pollutant Discharge Elimination System (NPDES) Permit:** Direct discharges of pollutants into Waters of the United States are not allowed, except in accordance with the NPDES program established in Section 402 of the CWA. The main goal of the NPDES program is to protect human health and the environment. Pursuant to the NPDES program, permits that apply to stormwater discharges from

municipal storm drain systems, specific industrial activities, and construction activities (one acre [ac] or more) have been issued. NPDES permits establish enforceable effluent limitations on discharges, require monitoring of discharges, designate reporting requirements, and require the permittee to include use of Best Management Practices (BMPs). Industrial (point source) stormwater permits are required to meet effluent limitations, while municipal and construction permits are governed by the maximum extent practicable (MEP) or the Best Available Technology (BAT)/Best Control Technology (BCT) application of BMPs. The SWRCB is required to develop state-specific permits that comply with the NPDES Permit.

### **Porter-Cologne Act**

The Porter-Cologne Water Quality Control Act of 1969, codified as Division 7 of the California Water Code, authorizes the SWRCB to provide comprehensive protection for California's waters through water allocation and water quality protection. The SWRCB implements the requirements of CWA and establishes water quality standards that have to be set for certain waters by adopting water quality control plans under the Porter-Cologne Act. The Porter-Cologne Act establishes the responsibilities and authorities of the nine RWQCBs, including preparing water quality plans for areas in the region, and identifying water quality objectives and waste discharge requirements (WDRs). Water quality objectives are defined as limits or levels of water quality constituents and characteristics established for reasonable protection of beneficial uses or prevention of nuisance. Beneficial uses consist of all the various ways that water can be used for the benefit of people and/or wildlife.

The Project site is within the Santa Ana River Watershed, Newport Bay sub-watershed. The Santa Ana River Basin Water Quality Control Plan was most recently updated in 2019. This Basin Plan gives direction on the beneficial uses of the waters, describes the water quality that must be maintained to support such uses, and provides programs, projects, and other actions necessary to achieve the established standards.

### **California Anti-Degradation Policy**

A key policy of California's water quality program is the State's Anti-Degradation Policy. This policy, formally known as the Statement of Policy with Respect to Maintaining High Quality Waters in California (SWRCB Resolution No. 68-16), restricts degradation of surface and ground waters. In particular, this policy protects water bodies where existing quality is higher than necessary for the protection of beneficial uses. Under the Anti-Degradation Policy, any actions that can adversely affect water quality in all surface and ground waters must (1) be consistent with maximum benefit to the people of the state; (2) not unreasonably affect present and anticipated beneficial use of the water; and (3) not result in water quality less than that prescribed in water quality plans and policies (i.e., will not result in exceedances of water quality objectives).

### **California Construction General Permit**

The state of California adopted a Statewide NPDES Permit for General Construction Activity (Construction General Permit) on September 2, 2009 (Order No. 2009-0009-DWQ, as amended by 2010-0014-DWQ, 2012-0006-DWQ, and 2022-0057-DWQ). The latest Construction General Permit amendment will become effective September 1, 2023. The Construction General Permit regulates construction site stormwater management. Dischargers whose projects disturb one or more acres of soil, or whose projects disturb less than one acre, but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the Construction General Permit for discharges of stormwater associated with construction activity. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground, such as stockpiling or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility.

To obtain coverage under this permit, project operators must electronically file Permit Registration Documents, which include a Notice of Intent, a Stormwater Pollution Prevention Plan (SWPPP), and other

compliance-related documents, including a risk-level assessment for construction sites, an active stormwater effluent monitoring and reporting program during construction, rain event action plans, and numeric action levels for pH and turbidity as well as requirements for qualified professionals to prepare and implement the plan. An appropriate permit fee must also be paid to the SWRCB.

The Construction General Permit requires project applicants to file a Notice of Intent with the SWRCB to discharge stormwater, and to prepare and implement a SWPPP for projects that will result in more than 1 acre of soil disturbance. The SWPPP would include a site map, description of stormwater discharge activities, and best management practices (BMPs) taken from the menu of BMPs set forth in the California Stormwater Quality Association BMP Handbook that will be employed to prevent water pollution. The SWPPP is required to include BMPs that will be used to control soil erosion and discharges of other construction-related pollutants (e.g., petroleum products, solvents, paints, cement) that could contaminate nearby water resources. It must demonstrate compliance with local and regional erosion and sediment control standards, identify responsible parties, provide a detailed construction timeline, and implement a BMP monitoring and maintenance schedule. The Construction General Permit also requires the SWPPP to identify BMPs that will be implemented to reduce controlling potential chemical contaminants from impacting water quality. Types of BMPs include erosion control (e.g., preservation of vegetation), sediment control (e.g., fiber rolls), non-stormwater management (e.g., water conservation), and waste management. The SWPPP is also required to include BMPs to reduce pollutants in stormwater discharges after all construction phases have been completed at the site (post-construction BMPs).

### **California Water Resources Control Board Low Impact Development Policy**

The SWRCB adopted the Low Impact Development (LID) Policy which, at its core, promotes the idea of “sustainability” as a key parameter to be prioritized during the design and planning process for future development. The SWRCB has directed its staff to consider sustainability in all future policies, guidelines, and regulatory actions. LID is a proven approach to manage stormwater. The RWQCBs are advancing LID in California in various ways, including provisions for LID requirements in renewed Phase I municipal stormwater NPDES permits.

### **Santa Ana Regional Water Quality Control Board Water Quality Control Plan**

The City of Santa Ana is within the jurisdiction of the Santa Ana RWQCB. The RWQCB sets water quality standards for all ground and surface waters within its region through implementation of a Water Quality Control Plan (Basin Plan). The Basin Plan describes existing water quality conditions and establishes water quality goals and policies. The Basin Plan is also the basis for the Regional Board’s regulatory programs. To this end, the Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term “water quality standards,” as used in the Federal Clean Water Act, includes both the beneficial uses of specific water bodies and the levels of quality which must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions that are necessary to achieve and maintain target water quality standards. The goal of the Basin Plan is to protect public health and welfare and maintain or enhance water quality and potential beneficial uses of the water.

### **Santa Ana Regional Municipal Separate Storm Sewer System Permit**

The Municipal Separate Storm Sewer System (MS4) Permit for the Santa Ana Region, NPDES Permit No. CAS618030 (Order R8-2009-0030 as amended by Order No. R8-2010-0062) regulates urban runoff from areas under jurisdiction of the Permit’s various permittees, which include Orange County, Orange County Flood Control District, and the incorporated cities within Orange County including the City of Santa Ana. When discharged, urban runoff (or stormwater) has the potential to mix with and carry various pollutants into receiving waters. The MS4 Permit lists allowable and unallowable discharges and requires

implementation of LID infrastructure, which are engineered facilities that are designed to retain and/or biotreat runoff on the project site. Developments that qualify as a development or redevelopment project, which includes the proposed project as specified by criteria in the MS4 Permit, are required to develop a site specific water quality management plan (WQMP), which includes site design, source control and treatment control elements to reduce the discharge of pollutants in runoff. The WQMP is required to be approved prior to the issuance of a building or grading permit, and post-construction BMPs are required to be implemented. The MS4 Permit requires priority projects to infiltrate, harvest and use, evapotranspire, or biotreat/biofilter, the 85th percentile of a 24-hour storm event (Design Capture Volume). The MS4 Permit also requires the evaluation and use of LID features using the following hierarchy of treatment: infiltration, evapotranspiration, harvest/reuse, and biotreatment.

Biotreatment BMPs are a broad class of LID BMPs that reduce stormwater volume to the maximum extent practicable, treat stormwater using a suite of treatment mechanisms characteristic of biologically active systems, and discharge water to the downstream storm drain system or directly to receiving waters. Treatment mechanisms include media filtration (though biologically-active media), vegetative filtration (straining, sedimentation, interception, and stabilization of particles resulting from shallow flow through vegetation), general sorption processes (i.e., absorption, adsorption, ionexchange, precipitation, surface complexation), biologically-mediated transformations, and other processes to address both suspended and dissolved constituents. Examples of biotreatment BMPs include bioretention with underdrains, vegetated swales, constructed wetlands, and proprietary biotreatment systems.

### **Santa Ana Regional Water Quality Control Board Dewatering Permit**

On December 6, 2019, the Santa Ana RWQCB issued the General Waste Discharge Requirements for Discharges to Surface Waters Resulting from De Minimis Discharges or Groundwater Dewatering Operations, and/or Groundwater Cleanup/Remediation Operations at Sites within the Newport Bay Watershed Permit (Order No. R8-2019-0061, NPDES No. CAG918002) (Groundwater Discharge Permit). This Permit regulates construction dewatering and discharges of groundwater to surface waters during excavation. This permit specifies the discharge prohibitions, receiving water limitations, monitoring and reporting program requirements, and general compliance determination criteria for groundwater dewatering during construction activities. Dischargers are required to collect and analyze representative groundwater samples for all constituents listed in the Groundwater Discharge Permit. Based on the results, dischargers would be required to provide treatment for any toxic compounds detected above the applicable screening levels. To obtain coverage under the Groundwater Discharge Permit, each permittee must submit a Notice of Intent to begin the application process.

### **County of Orange Drainage Area Management Plan**

The Drainage Area Management Plan (DAMP) is the County's primary policy, planning and implementation document for NPDES Stormwater Permit compliance. The DAMP describes the agreements, structures and programs that:

- Provide the framework for the program management activities and plan development;
- Provide the legal authority for prohibiting unpermitted discharges into the storm drain system and for requiring BMPs in new development and significant redevelopment;
- Ensure that all new development and significant redevelopment incorporates appropriate Site Design, Source Control, and Treatment Control BMPs to address specific water quality issues;
- Ensure that construction sites implement control practices that address construction related pollutants including erosion and sediment control and onsite hazardous materials and waste management.

The DAMP requires that new development and significant redevelopment projects (or priority projects), such as the proposed Project, develop and implement a Preliminary WQMP that includes BMPs and LID design features that would provide onsite treatment of stormwater to prevent pollutants from onsite uses from leaving the site.

### **City of Santa Ana General Plan**

The following objectives and policies from the existing General Plan Update (GPU) Conservation Element are relevant to the proposed Project:

#### ***Mobility Element***

- POLICY M-1.8** Consider air and water quality, noise reduction, neighborhood character, and street-level aesthetics when making improvements to travelways.
- POLICY M-5.4** Leverage opportunities along streets and public rights-of-way to improve water quality through use of landscaping, permeable pavement, and other best management practices.

#### ***Public Services Element***

- POLICY PS-3.5** Incorporate sustainable design and Low Impact Development (LID) techniques for stormwater facilities and new development to achieve multiple benefits, including enhancing, preserving, and creating open space and habitat; reducing flooding; and improving runoff water quality.

#### ***Conservation Element***

- GOAL CN-4:** Conserve and replenish existing and future water resources.
- POLICY CN-4.2** Encourage public and private property owners to plant native or drought-tolerant vegetation.
- POLICY CN-4.4** Promote irrigation and rainwater capture systems that conserve water to support a sustainable community.
- POLICY CN-4.6** Work with public and private property owners to reduce storm water runoff and to protect the water quality percolating into the aquifer and into any established waterway.

#### ***Open Space Element***

- POLICY OS-3.6** Integrate drought tolerant or native plantings, waterwise irrigation, design and maintenance efficiencies, and sustainable development practices to reduce water use and energy consumption.

#### ***Safety Element***

- GOAL S-1:** Protect life and minimize property damage, social and economic disruptions caused by flood and inundation hazards.

**POLICY S-1.7** Encourage site drainage features that reduce impermeable surface area, increase surface water infiltration, and minimize surface water runoff during storm events on private and public developments.

### City of Santa Ana Municipal Code

**Section 18-155; Prohibition on Illicit Connections and Prohibited Discharges:** This code section provides regulations for stormwater connections, prohibits certain discharge, and prohibits illicit connections related to stormwater.

**Section 18-156; Control of Urban Runoff:** This code section states that all new development and significant redevelopment within the City shall be undertaken in accordance with the County DAMP, including but not limited to the development project guidance; and any conditions and requirements established by City agencies related to the reduction or elimination of pollutants in stormwater runoff from the project site. Prior to the issuance by the City of a grading permit, building permit or nonresidential plumbing permit for any new development or significant redevelopment, City agencies are required to review the project plans and impose terms, conditions and requirements on the project. The owner of a new development or significant redevelopment project must implement and adhere to the terms, conditions and requirements on the new development or significant redevelopment project.

## 5.7.3 ENVIRONMENTAL SETTING

### Watershed

The Project site is in the Santa Ana River Watershed and in the Newport Bay sub-watershed (as shown on Figure 5.9-1 of the GPU FEIR). The Santa Ana River Watershed includes much of Orange County, much of western Riverside County, part of southwestern San Bernardino County, and a small portion of Los Angeles County. The watershed is bounded on the south by the Santa Margarita watershed, on the east by the Salton Sea and Southern Mojave watersheds, and on the north and west by the Mojave and San Gabriel watersheds, respectively. The watershed covers approximately 2,800 square miles in area with about 700 miles of rivers. The Santa Ana River extends 96 miles from the San Bernardino Mountains in San Bernardino County to the Pacific Ocean at the boundary between the Cities of Huntington Beach and Newport Beach.

The Santa Ana Watershed is subdivided into several smaller watersheds, and as mentioned above, the Project site is in the Newport Bay sub-watershed. The Newport Bay sub-watershed spans 152 square miles from the foothills of the Santa Ana Mountains in the north to the Pacific Ocean in the south and from the Cities of Santa Ana and Costa Mesa on the west to the City of Lake Forest on the east. The Project site drains to the Santa Ana – Gardens - Delhi Channel and then to the Newport Back Bay.

**Watershed Impairments:** Section 303(d) of the Federal CWA requires states to identify water bodies that are “impaired,” or those that do not meet water quality standards and are not supporting their beneficial uses. Total Maximum Daily Loads (TMDLs) are then designed to serve as pollution control plans for these specific pollutants.

The Santa Ana – Gardens - Delhi Channel and the Newport Back Bay are included on the Section 303(d) List of Water Quality Impairments for: chlordane, DDT, nutrients, PCBs, sedimentation, malathion, toxicity, copper, indicator bacteria (WQMP Appendix M).

### Groundwater Basin

The Orange County Basin underlies an area of approximately 350 square miles, bordered by the Coyote and Chino Hills to the north, the Santa Ana Mountains to the northeast, the Pacific Ocean to the southwest,

and terminates at the Orange County line to the northwest, where the aquifer system continues to the Central Basin in Los Angeles County (2020 Santa Ana Urban Water Management Plan [UWMP 2020]). The OC Basin is recharged primarily by four sources; local rainfall, storm and base flows from the Santa Ana River, purchased MWD imported water; and highly treated recycled wastewater. Basin recharge occurs largely in four recharge basins that are in or adjacent to the City of Anaheim.

The Orange County Water District (OCWD) manages the Orange County Basin through a Basin Production Percentage (BPP) that is determined each water year based on groundwater conditions, availability of imported water supplies, water year precipitation, Santa Ana River runoff, and basin management objectives. While there is no legal limit as to how much an agency pumps from the Orange County Basin, there is a financial disincentive to pump above the BPP. For example, if the BPP is set at 75 percent, all pumpers within the Basin, including the City, can supply 75 percent of their water needs from groundwater supplies at a cost significantly less than the cost of imported water. If groundwater production is equal to or less than the BPP (i.e., less than 75 percent in the example above), all producers within the Basin pay a replenishment assessment (RA) fee which is used to fund groundwater replenishment and recharge programs aimed at ensuring the long-term viability and stability of the Basin. In the 2021-22 water year, the BPP was 77 percent. The 2020 Santa Ana Urban Water Management Plan (UWMP 2020) describes that OCWD anticipates being able to sustain the BPP at 85 percent starting in 2025.

The Orange County Basin is designated as a medium-priority basin, primarily due to heavy reliance on the Basin's groundwater as a source of water supply. The Basin has operated within its sustainable yield over a period of at least 10 years without experiencing significant and unreasonable (1) lowering of groundwater levels, (2) reduction in storage, (3) water quality degradation, (4) seawater intrusion, (5) inelastic land subsidence, or (6) depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water. In addition, the Orange County Basin has not been in conditions of critical overdraft, and stored groundwater increased by 36,000 acre-feet (AF) between June 2019 and June 2020 (UWMP 2020).

### **Groundwater Supply**

Groundwater from the Orange County Basin provides approximately 76 percent of the City's water supply (2019-2020). The remaining supply comes from the Metropolitan Water District (23 percent) and recycled water (1 percent). As described by the UWMP, the water production capability of the basin has increased as a result of operation of the Groundwater Replenishment System in Fountain Valley, which turns wastewater into potable drinking water that is used for basin replenishment. The system increases local low-cost water supply reliability. The eastern portion of the Project site is located within the South Basin Groundwater Protection Project.

### **Groundwater Conditions**

Per the Preliminary Geotechnical Investigation Report (Appendix G), the historic highest groundwater at the site has been mapped at a depth of about 5 feet below ground surface (bgs). Groundwater in August 2022 was encountered between a depth of 12 feet and 16 feet bgs.

The Phase II Environmental Site Assessments conducted groundwater testing, which identified Methyl tert-butyl ether that exceeded the corresponding residential Maximum Contaminant Level in one sample located at the northeast corner of the Project site at approximately 23.2 feet bgs, which is likely attributable to an offsite and upgradient LUST cleanup site, located offsite and northeast of the Project site. In addition, a groundwater sample from the southern central portion of the Project site identified a Total Petroleum Hydrocarbons - diesel concentration from an offsite source that exceeds the corresponding screening levels for "tap water" (drinking water).

### Storm Drainage Facilities

The Project site is currently 90 percent impervious and 10 percent pervious (WQMP Appendix M). The existing topography of the project site is relatively flat, with storm water draining via surface-flow to existing gutters and onsite area drain systems. Drainage from the Project site currently flows to storm drains in South Plaza Drive, Sunflower Avenue, Bristol Street, and MacArthur Boulevard; and then to the Orange County Flood Control District Santa Ana – Gardens - Delhi Channel that drains to Newport Bay and the Pacific Ocean.

### Soil Infiltration

Onsite soils infiltration testing was performed during preparation of the Preliminary Geotechnical Investigation Report (Appendix G), which determined that the upper 25 to 30 feet of soils consist predominantly of medium to stiff lean clay (CL) and fat clay (CH) and based on percolation tests results are not suitable for infiltration. The testing identified infiltration rates of <0.10 inches per hour which is a low infiltration rate and considered infeasible to support drainage on the Project site. The eastern portion of the Project site is located within the South Basin Groundwater Protection Project, which prohibits infiltration on the Project site.

### Flood Zone, Tsunami, Seiche

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) for the Project area (06059C0279J) shows that the Project site is located within “Zone X,” which is an area of minimal flood hazard potential outside of the 0.2 percent annual chance flood.

A tsunami is a series of ocean waves caused by a sudden displacement of the ocean floor, most often due to earthquakes. The Project site is over 5.9 miles from the Pacific Ocean, and outside of the Tsunami Hazard Zone identified by the California Department of Conservation (DOC 2023).

A seiche is a surface wave created when a body of water is shaken, usually by earthquake activity. 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 wall of a reservoir, water storage tank, dam, or other artificial body of water. There are no water bodies in the vicinity of the Project site, and no existing risks related to seiche flood hazards exist on or near the site.

## 5.7.4 THRESHOLDS OF SIGNIFICANCE

Appendix G of State CEQA Guidelines indicates that a project could have a significant effect if it were to:

- WQ-1 Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality;
- WQ-2 Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;
- WQ-3 Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in a substantial erosion or siltation on- or off-site;
- WQ-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 through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;



- WQ-5 Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would 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;
- WQ-6 Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows;
- WQ-7 In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation; or
- WQ-8 Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

### 5.7.5 METHODOLOGY

This evaluation of the significance of potential impacts related to hydrology and water quality is based on a review of published information and reports regarding regional hydrology, groundwater conditions, and surface water quality. The potential impacts on hydrology and water quality were evaluated by considering the general type of pollutants that the proposed Project would generate during construction and operation. In determining the level of significance, the analysis recognizes that development under the proposed Project would be required to comply with relevant Federal, State, and regional laws and regulations that are designed to ensure compliance with applicable water quality standards and waste discharge requirements. Because the regional and local regulations related to water quality standards have been developed to reduce the potential of pollutants in the water resources (as described in the Regulatory Setting Section above), and are implemented to specific waterbodies, such as 303(d) TMDL requirements, or development projects such as grading and construction permit regulations, implementation of all relevant water quality and hydrology requirements would limit the potential of the proposed Project to a less than significant impact.

### 5.7.6 ENVIRONMENTAL IMPACTS

#### Summary of Impacts Identified in the GPU FEIR

The GPU FEIR addressed impacts related to hydrology and water quality in Chapter 5.9. The GPU FEIR describes that the South Bristol Street focus area is within the Newport Bay Watershed. The GPU FEIR discussed that projects built pursuant to the GPU would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality, due to compliance with the Construction General Permit Water Quality Order 2009-0009-DWQ. Under this permit, projects must prepare a SWPPP which requires implementation of BMPs to control runoff; therefore, impacts to water quality would be less than significant. Development pursuant to the GPU would increase the demand on groundwater use but would not impede sustainable groundwater management of the basin. The OCWD manages groundwater extraction and recharge; and has mechanisms in place to prevent overdraft. Additionally, population growth projections and the subsequent increase in water demand are within the projected water demands determined by OCWD. The GPU FEIR determined that development pursuant to the GPU would increase the amount of pervious surfaces in the plan area, and could increase the rate or amount of surface runoff in some focus areas in a manner which would result in flooding offsite or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems. However, development projects can be required install onsite detention systems as to not result in substantial increases

in runoff. In addition, GPU policies include expansion and maintenance of existing storm drain facilities; therefore, impacts related to stormwater drainage capacity would be less than significant.

The GPU FEIR determined that in flood hazard, tsunami, or seiche zones, development pursuant to the GPU would not risk release of pollutants due to project inundation or impede or redirect flood flows, with compliance to applicable Municipal Code requirements and maintenance of flood control infrastructure. In addition, the GPU FEIR determined that development pursuant to the GPU would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. No conflicts would arise with the Santa Ana River Basin Water Quality Control Plan, as development projects must comply with provisions of the Orange County MS4 Permit, General Industrial Permit, and applicable state and Municipal Code requirements. The GPU FEIR also determined that no conflicts would arise with the Orange County Groundwater Basin as the City would manage withdrawals so as to not overdraft groundwater supplies.

### Proposed Specific Plan Project

#### **IMPACTS WQ-1: THE PROJECT WOULD NOT VIOLATE ANY WATER QUALITY STANDARDS OR WASTE DISCHARGE REQUIREMENTS OR OTHERWISE SUBSTANTIALLY DEGRADE SURFACE OR GROUND WATER QUALITY.**

##### **Less than Significant Impact.**

##### **Construction**

Implementation of the proposed Project includes the phased demolition of the existing structures and pavement, site preparation, grading and excavation of subterranean parking structures, stockpiling of materials, import and export of soils and debris, construction of new buildings, and infrastructure improvements, and landscaping activities would expose and loosen sediment and building materials, which have the potential to mix with stormwater and urban runoff and degrade surface and receiving water quality.

Also, construction generally requires the use of heavy equipment and construction-related materials and chemicals, such as concrete, cement, asphalt, fuels, oils, antifreeze, transmission fluid, grease, solvents, and paints. In the absence of proper controls, these potentially harmful materials could be accidentally spilled or improperly disposed of during construction activities and could wash into and pollute surface waters or groundwater, resulting in a significant impact to water quality.

Pollutants of concern during construction activities generally include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. Each of these pollutants on its own or in combination with other pollutants can have a detrimental effect on water quality. In addition, chemicals, liquid products, petroleum products (such as paints, solvents, and fuels), and concrete-related waste may be spilled or leaked during construction, which would have the potential to be transported via storm runoff into nearby receiving waters and eventually may affect surface or groundwater quality. During construction activities, excavated soil would be exposed, thereby increasing the potential for soil erosion and sedimentation to occur compared to existing conditions. In addition, during construction, vehicles and equipment are prone to tracking soil and/or spoil from work areas to paved roadways, which is another form of erosion that could affect water quality.

However, the use of BMPs during construction implemented as part of a SWPPP as required by the NPDES General Construction Permit and included as PPP WQ-1 would serve to ensure that Project impacts related to construction activities resulting in a degradation of water quality would be less than significant. Furthermore, an Erosion and Sediment Transport Control Plan prepared by a qualified SWPPP developer

(QSD) is required to be included in the SWPPP for the proposed Project, and would include the following types of erosion control methods (BMPs) that are designed to minimize potential pollutants entering stormwater during construction:

- Prompt revegetation of proposed landscaped areas;
- Perimeter gravel bags or silt fences to prevent off-site transport of sediment;
- Storm drain inlet protection (filter fabric gravel bags and straw wattles), with gravel bag check dams within paved roadways;
- Regular sprinkling of exposed soils to control dust during construction and soil binders for forecasted wind storms;
- Specifications for construction waste handling and disposal;
- Contained equipment wash-out and vehicle maintenance areas;
- Erosion control measures including soil binders, hydro mulch, geotextiles, and hydro seeding of disturbed areas ahead of forecasted storms;
- Construction of stabilized construction entry/exits to prevent trucks from tracking sediment on City roadways;
- Construction timing to minimize soil exposure to storm events; and
- Training of subcontractors on general site housekeeping.

Compliance with the Statewide General Construction Activity Stormwater Permit requirements, included as PPP WQ-1, which would be verified during the City's construction permitting process, would ensure that Project impacts related to construction activities resulting in a degradation of water quality would be less than significant.

As detailed in the Preliminary Geotechnical Investigation Report (Appendix G), the historic highest groundwater at the site has been mapped at a depth of about 5 feet bgs and groundwater in 2022 was encountered between depths of 12 feet and 16 feet bgs. Groundwater depth can fluctuate due to factors such as rainfall and presence of water near the Project site. Because excavation is anticipated to reach depths of 30 feet bgs for construction of up to two levels of subterranean parking, there is a potential for groundwater to be encountered during construction and for groundwater dewatering to be required. If contaminated, release of dewatered groundwater to surface waters can introduce total dissolved solids, Methyl tert-butyl ether, Total Petroleum Hydrocarbons - diesel, and other constituents to surface waters.

In the event that groundwater or perched groundwater is encountered during construction and groundwater dewatering is necessary, it would be completed in compliance with the Groundwater Discharge Permit, as specified PPP WQ-2. The Groundwater Discharge Permit would require testing and treatment as necessary of groundwater encountered during groundwater dewatering prior to release to surface waters to ensure that discharges do not contain pollutants. Compliance with the requirements of the Groundwater Discharge Permit, as specified in PPP WQ-2, would ensure impacts related to waste discharge requirements and water quality standards would be less than significant during dewatering activities, and no mitigation would be required.

## Operation

The proposed Project includes operation of retail, restaurant, commercial, hotel, recreation, and multi-family residential uses. Potential pollutants associated with the proposed uses include various chemicals from cleaners, pathogens from pet wastes, nutrients from fertilizer, pesticides and sediment from landscaping, trash and debris, and oil and grease from vehicles. If these pollutants discharge into surface waters, it could result in degradation of water quality. As described previously, the Newport Back Bay, to which the Project site ultimately drains, is listed as impaired on the USEPA's 303(d) list for various pollutants. Therefore,

additional pollutant discharge could create new or exacerbate existing impairments within these waterbodies, which could result in a significant impact related to water quality.

However, operation of the proposed Project would be required to comply with the requirements of the Santa Ana Regional MS4 Permit and Orange County DAMP to develop of a project-specific WQMP (included as PPP WQ-3) that would describe implementation of LID infrastructure and non-structural, structural, and source control and treatment control BMPs to protect surface water quality. A Preliminary WQMP has been developed (included as Appendix M) per these requirements and recommends various BMPs to be incorporated into the proposed Project. A Project WQMP is required to be approved prior to the issuance of a building or grading permit.

The MS4 Permit identifies the use of infiltration BMPs to assist in recharge of groundwater. However, as described previously, the onsite soils have a low infiltration rate and are considered infeasible to support drainage on the Project site (Appendix G). Therefore, the proposed Project would install vegetated biotreatment systems for water quality treatment via bio-filtration that have been sized to treat runoff from the Design Capture Storm (85th percentile, 24-hour) from the proposed Project. The vegetated biotreatment systems are devices that are manufactured to mimic natural systems such as bioretention areas by incorporating plants, soil, and microbes engineered to provide treatment at higher flow rates or volumes and with smaller footprints than their natural counterparts.

The vegetated biotreatment systems proposed for the Project consist of biotreatment systems that utilize multi-stage treatment processes including screening media filtration, settling, and biofiltration. The pre-treatment chamber contains a filter to capture trash, debris, gross solids and sediments, a settling chamber for separating out larger solids, and a media filter cartridge for capturing fine silts, metals, nutrients, and bacteria. Runoff then flows through the wetland chamber where treatment of the water is done through a variety of physical, chemical, and biological processes. As stormwater passes down through the planting soil, pollutants are filtered, adsorbed, biodegraded, and sequestered by the soil and plants, functioning similar to bioretention systems. The discharge chambers at the end of the units collect treated flows and discharge it into the existing and upsized storm drains.

As described previously, the WQMP is required to be approved prior to the issuance of a building or grading permit. The Project's WQMP would be reviewed and approved by the City to ensure it complies with the Santa Ana RWQCB MS4 Permit and Orange County DAMP regulations. In addition, the City's permitting process would ensure that all BMPs in the WQMP would be implemented with the proposed Project. Overall, implementation of the WQMP pursuant to the existing regulations would ensure that operation of the proposed Project would not violate any water quality standards, waste discharge requirements, or otherwise degrade water quality; and impacts would be less than significant.

**IMPACT WQ-2: THE PROJECT WOULD NOT 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.**

**Construction**

As described previously, there is a potential for groundwater to be encountered during construction. Any groundwater dewatering would be temporary and limited to the excavation area. Because of the relative size of the Project site, as compared to the water basin, and the limited scope of excavation that would be deep enough to encroach into groundwater, the volume of groundwater removed would not be substantial and would not decrease groundwater supplies or impede groundwater management. The proposed Project would comply with the requirements of Groundwater Discharge Permit, including testing and treatment, if

necessary, that would be implemented through the RWQCB and the City’s development permitting process (and included as PPP WQ-2). Thus, any dewatering activities during construction would result in less than significant impacts to groundwater.

**Operation**

As described previously, the Orange County Basin provides approximately 76 percent of the City’s water supply. The remaining supply comes from the Metropolitan Water District (23 percent) and recycled water (1 percent) (UWMP 2020). The OCWD manages basin water supply through the Basin Production Percentage (BPP), which is set based on groundwater conditions, availability of imported supplies, and precipitation. As shown on Table 5.7-1, the City’s UWMP shows that the anticipated production of groundwater would remain steady from 2025 through 2045 and that in 2045 approximately 84.4 percent of supply would be from the Orange County Basin and 14.9 percent from imported/purchased sources.

**Table 5.7-1: City of Santa Ana Projected Water Supply Projections (acre-feet)**

Source	2025	2030	2035	2040	2045	2045 Percentage
OC Groundwater Basin	25,588	29,024	28,799	28,551	28,541	84.4%
Imported/Purchased	5,045	5,122	5,082	5,083	5,037	14.9%
Recycled	249	249	249	249	249	0.7%
<b>Total</b>	<b>33,882</b>	<b>34,395</b>	<b>34,130</b>	<b>33,838</b>	<b>33,827</b>	<b>100%</b>

Source: 2020 UWMP.

As detailed in Section 5.15, *Utilities and Service Systems*, the supply of water listed in Table 5.7-1 would be sufficient during both normal years and multiple dry year conditions between 2025 and 2045 to meet all of the City’s estimated needs, including the proposed Project. Therefore, the proposed Project would not result in changes to the projected groundwater pumping that would decrease groundwater supplies. Thus, impacts related to groundwater supplies would be less than significant.

In addition, as described previously the onsite soils have a low infiltration rate and do not currently provide onsite infiltration. As such, infiltration of water to the existing groundwater basin is neither currently occurring, nor would occur by the proposed Project. Therefore, impacts related to interference with groundwater recharge would be less than significant.

**IMPACT WQ-3: THE PROJECT WOULD NOT SUBSTANTIALLY ALTER THE EXISTING DRAINAGE PATTERN OF THE AREA, INCLUDING THROUGH THE ALTERATION OF THE COURSE OF A STREAM OR RIVER, IN A MANNER WHICH WOULD RESULT IN SUBSTANTIAL EROSION OR SILTATION ON- OR OFF-SITE.**

**Less than Significant Impact.** The Project site does not include, and is not adjacent to, a stream or river. Implementation of the proposed Project would not alter the course of a stream or river.

**Construction**

Construction of the proposed Project would require demolition of the existing building structures, including foundations and floor slabs, and excavation for construction of subterranean parking that would expose and loosen building materials and sediment, which has the potential to mix with storm water runoff and result in erosion or siltation offsite. However, the Project site does not include any slopes, which reduces the erosion potential.

The existing NPDES Construction General Permit and Orange County DAMP require preparation and implementation of a SWPPP by a Qualified SWPPP Developer for the proposed construction activities

(included as PPP WQ-1). The SWPPP is required to address site specific conditions related to potential sources of sedimentation and erosion and would list the required BMPs that are necessary to reduce or eliminate the potential of erosion or alteration of a drainage pattern during construction activities. Common types of construction BMPs include:

- Silt fencing, fiber rolls, or gravel bags
- Street sweeping and vacuuming
- Storm drain inlet protection
- Stabilized construction entrance/exit
- Vehicle and equipment maintenance, cleaning, and fueling
- Hydroseeding
- Material delivery and storage
- Stockpile management
- Spill prevention and control
- Solid waste management
- Concrete waste management

In addition, a QSP is required to ensure compliance with the SWPPP through regular monitoring and visual inspections during construction activities. The SWPPP would be amended and BMPs revised, as determined necessary through field inspections, in order to protect against substantial soil erosion, the loss of topsoil, or alteration of the drainage pattern. Compliance with the Construction General Permit and a SWPPP prepared by a QSD and implemented by a QSP (per PPP WQ-1) would prevent construction-related impacts related to potential alteration of a drainage pattern or erosion from development activities. Overall, with implementation of the existing construction regulations that would be verified by the City during the permitting approval process, impacts related to alteration of an existing drainage pattern during construction that could result in substantial erosion, siltation, and increases in stormwater runoff would be less than significant.

**Operation**

The Project-specific Preliminary WQMP describes that the Project site currently includes 37.02 acres of impermeable surfaces, which equates to 90 percent of the site. After completion of Project construction, the site would have a 4 percent reduction in impermeable surfaces (i.e., 35.37 acres or 86 percent of the site would have impermeable surfaces). As shown on Table 5.7-2, the reduction in impervious surfaces would result in a reduction in the 2-year, 24-hour storm volume by 6.3 percent.

**Table 5.7-2: Two-Year Storm Runoff Rate**

<b>Storm Drain</b>	<b>Existing Condition</b>	<b>Proposed Condition</b>
MacArthur Boulevard	18.3	17.8
Bristol Street	9.4	7.3
South Plaza Drive	2.2	1.4
Sunflower Avenue	27.3	27.1
<b>Totals</b>	<b>57.2</b>	<b>53.6</b>
<b>Change</b>	<b>-6.3%</b>	

Source: Preliminary Hydrology Report, Appendix L

The proposed Project would maintain the existing drainage pattern. The Project includes offsite storm drain improvements pursuant to the City’s Storm Drain Master Plan that involve replacing 2,230 lineal feet of the 54/60-inch storm drain with a 72-inch lateral in Sunflower Avenue and replacing a 42-inch lateral in Plaza drive with a 60-inch lateral. The runoff from the Project area would be collected by roof drains, surface

flow designed pavement, curbs, and area drains and conveyed to vegetated biotreatment systems (described previously) for treatment. Treated runoff would be conveyed to the existing and upsized City of Santa Ana storm drains in the roadways adjacent to the site. From there, flows would travel to the Orange County Flood Control District Santa Ana – Gardens and then the Delhi Channel that drains to Newport Bay and the Pacific Ocean.

The Project-related runoff conditions (flow rates) would decrease from existing conditions (shown in Table 5.7-1), and the proposed Project would manage the runoff with vegetated biotreatment systems that have been designed to accommodate stormwater associated with the proposed Project. As described previously the vegetated biotreatment systems contain catch basin inlet filters to capture trash, debris, gross solids and sediments, a settling chamber for separating out larger solids, and a media filter cartridge for capturing fine silts, metals, nutrients, and bacteria.

The MS4 Permit and DAMP require new development projects to prepare a WQMP (included as PPP WQ-3) that is required to include BMPs to reduce the potential of erosion and/or sedimentation through site design and structural treatment control BMPs. The Preliminary WQMP has been completed and is included as Appendix M. As part of the permitting approval process, the proposed drainage and water quality design and engineering plans would be reviewed by the City's Engineering Division to ensure that the site specific design limits the potential for erosion and siltation. Overall, the proposed drainage system and adherence to the existing regulations would ensure that Project impacts related to alteration of a drainage pattern and erosion/siltation from operational activities would be less than significant.

**IMPACT WQ-4: THE PROJECT WOULD NOT SUBSTANTIALLY ALTER THE EXISTING DRAINAGE PATTERN OF THE SITE OR AREA, INCLUDING THROUGH THE ALTERATION OF THE COURSE OF A STREAM OR RIVER, OR THROUGH THE ADDITION OF IMPERVIOUS SURFACES, IN A MANNER WHICH WOULD SUBSTANTIALLY INCREASE THE RATE OR AMOUNT OF SURFACE RUNOFF IN A MANNER WHICH WOULD RESULT IN FLOODING ON- OR OFF-SITE.**

**Less than Significant Impact.** As described previously, the Project site does not include, and is not adjacent to, a stream or river. Implementation of the proposed Project would not alter the course of a stream or river.

### **Construction**

Construction of the proposed Project would require demolition of the existing building structures, including foundations, floor slabs, and utilities systems. In addition, excavation for subterranean parking structures would occur. These activities could temporarily alter the existing drainage pattern of the site and could result in flooding on- or offsite if drainage is not properly controlled. However, as described previously, implementation of the proposed Project requires a SWPPP (included as PPP WQ-1) that would address site specific drainage issues related to construction of the proposed Project and include BMPs to eliminate the potential of flooding or alteration of a drainage pattern during construction activities. This includes regular monitoring and visual inspections during construction activities. Compliance with the Construction General Permit and a SWPPP prepared by a QSD and implemented by a QSP (per PPP WQ-1) as verified by the City through the construction permitting process would prevent construction-related impacts related to potential alteration of a drainage pattern or flooding onsite or offsite from development activities. Therefore, impacts would be less than significant.

### **Operation**

As described previously, and detailed in Table 5.7-2, the proposed Project would result in a decrease of impervious surfaces that would result in a decrease the 2-year storm runoff flowrate by 6.3 percent and the proposed Project would maintain the existing drainage pattern by collecting runoff via roof drains, curbs,

and area drains and conveying it to vegetated biotreatment systems (described previously) for treatment. Treated runoff would be conveyed to the existing and upsized storm drains that are adjacent to the Project site.

The Project related runoff conditions (flow rates) would decrease from existing conditions (shown in Table 5.7-2), and the proposed Project would manage the runoff with the vegetated biotreatment systems that have been designed to accommodate the proposed Project pursuant to the MS4 Permit and DAMP requirements. The Preliminary Water Quality Management Plan that was prepared for the proposed Project (Appendix M) details that the biotreatment system would meet the design capture volume of 92,425.5 cubic feet (cf) and 8.827 cubic feet per second (cfs). The vegetated biotreatment systems would filter, and discharge runoff into the existing offsite storm drains. As part of the permitting approval process, the proposed drainage design and engineering plans would be reviewed by the City's Engineering Division to ensure that the proposed drainage would accommodate the appropriate design flows. Overall, the proposed drainage system and adherence to the existing MS4 Permit and DAMP regulations would ensure that Project impacts related to alteration of a drainage pattern or flooding from operational activities would be less than significant.

**IMPACT WQ-5: THE PROJECT WOULD NOT SUBSTANTIALLY ALTER THE EXISTING DRAINAGE PATTERN OF THE SITE OR AREA, INCLUDING THROUGH THE ALTERATION OF THE COURSE OF A STREAM OR RIVER OR THROUGH THE ADDITION OF IMPERVIOUS SURFACES, IN A MANNER WHICH WOULD 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.**

**Less than Significant Impact.** As described previously, the Project site does not include, and is not adjacent to, a stream or river. Implementation of the proposed Project would not alter the course of a stream or river.

### **Construction**

As described in the previous response, construction of the proposed Project would require demolition and excavation activities that could temporarily alter the existing drainage pattern of the site and could result in increased runoff and polluted runoff if drainage is not properly controlled. However, as described previously, implementation of the proposed Project requires a SWPPP (included as PPP WQ-1) that would address site specific pollutant and drainage issues related to construction of the proposed Project and include BMPs to eliminate the potential of polluted runoff and increased runoff during construction activities. This includes regular monitoring and visual inspections during construction activities. Compliance with the Construction General Permit and a SWPPP prepared by a QSD and implemented by a QSP (per PPP WQ-1) as verified by the City through the construction permitting process would prevent construction-related impacts related to increases in run-off and pollution from development activities.

In addition, any groundwater extracted during groundwater dewatering activities that is discharged to surface waters would be tested and treated (if necessary) to ensure that any discharges meet the water quality limits specified in the required Groundwater Discharge Permit (as specified in PPP WQ-2). The Groundwater Discharge Permit would prevent substantial additional sources of polluted runoff being discharged to the storm drain system through implementation of construction BMPs that target pollutants of concern in runoff from the Project site as well as testing and treatment (if required) of groundwater prior to its discharge to surface waters. Therefore, impacts would be less than significant.



## Operation

As described previously and detailed in Table 5.7-2, the proposed Project would result in a decrease of the 2-year, 24-hour storm runoff flowrate by 6.3 percent and the proposed Project would manage runoff with vegetated biotreatment systems that have been designed to accommodate the proposed Project design pursuant to the MS4 Permit and DAMP requirements. The units would filter, treat, and discharge runoff into the existing and upsized offsite storm drains.

As part of the permitting approval process, the proposed drainage design and engineering plans would be reviewed by the City's Engineering Division to ensure that the proposed drainage would accommodate the appropriate design flows. Additionally, the City permitting process would ensure that the drainage system specifications adhere to the existing MS4 Permit and DAMP regulations, which would ensure that pollutants are removed prior to discharge. Overall, with compliance to the existing regulations as verified by the City's permitting process, Project impacts related to the capacity of the drainage system and polluted runoff would be less than significant.

### **IMPACT WQ-6: THE PROJECT WOULD NOT SUBSTANTIALLY ALTER THE EXISTING DRAINAGE PATTERN OF THE SITE OR AREA, INCLUDING THROUGH THE ALTERATION OF THE COURSE OF A STREAM OR RIVER OR THROUGH THE ADDITION OF IMPERVIOUS SURFACES, IN A MANNER WHICH WOULD IMPEDE OR REDIRECT FLOOD FLOWS.**

**Less than Significant Impact.** As described previously, the Project site does not include, and is not adjacent to, a stream or river. Implementation of the proposed Project would not alter the course of a stream or river. In addition, according to the FEMA FIRM for the Project area (06059C0279J), the Project site is located within "Zone X," which is an area determined to be outside of the 0.2 percent annual chance flood. Therefore, the Project site is not located within a flood hazard area that could be inundated with flood flows.

As detailed in the previous responses, implementation of the proposed Project would result in a decrease of impermeable surfaces from 90 percent of the site to 86 percent of the site. Also, the proposed Project would maintain the existing drainage pattern and drainage would be accommodated by vegetated biotreatment systems that have been sized to accommodate the DAMP required design storm. Therefore, the proposed Project would not result in impeding or redirecting flood flows by the addition of the impervious surfaces. As detailed previously, the City's permitting process would ensure that the drainage system specifications adhere to the existing MS4 Permit and DAMP regulations, and compliance with existing regulations would ensure that impacts would be less than significant.

### **IMPACT WQ-7: THE PROJECT IS NOT IN A FLOOD HAZARD, TSUNAMI, OR SEICHE ZONE THAT COULD RISK RELEASE OF POLLUTANTS DUE TO PROJECT INNUNDATION.**

**No Impact.** As described previously, the FEMA FIRM for the Project area (06059C0279J) shows that the Project site is located within "Zone X," which is an area of minimal flood hazard potential outside of the 0.2 percent annual chance flood. Thus, the Project site is not located within a flood hazard area that could be inundated with flood flows and result in release of pollutants. Impacts related to flood hazards and pollutants would not occur from the proposed Project.

Also, as detailed previously, the Project site is over 5.9 miles from the Pacific Ocean, and outside of the Tsunami Hazard Zone identified by the California Department of Conservation (DOC 2023). Thus, the Project site would not be inundated by a tsunami that could result in the release of pollutants, and impacts would not occur. Additionally, because the Project site is not within the vicinity of a water body, it is not at risk for seiche flood hazards. Therefore, the release of pollutants on the Project site resulting from a seiche inundation would not occur.

**IMPACT WQ-8: THE PROJECT WOULD NOT CONFLICT WITH OR OBSTRUCT IMPLEMENTATION OF A WATER QUALITY CONTROL PLAN OR SUSTAINABLE GROUNDWATER MANAGEMENT PLAN.**

**Less than Significant Impact.** As described previously, use of BMPs during construction implemented as part of a SWPPP as required by the NPDES Construction General Permit (implemented through PPP WQ-1) and a RWQCB Groundwater Discharge Permit (implemented through PPP WQ-2) would serve to ensure that Project impacts related to construction activities resulting in a degradation of water quality would be less than significant. Thus, construction of the proposed Project would not conflict or obstruct implementation of a water quality control plan.

Also, as described previously, new development projects are required to implement a WQMP (per the Regional MS4 Permit and PPP WQ-3) that would comply with the Orange County DAMP. The WQMP and applicable BMPs are verified as part of the City's permitting approval process, and construction plans would be required to demonstrate compliance with these regulations. Therefore, operation of the proposed Project would not conflict with or obstruct implementation of a water quality control plan.

In addition, as detailed previously, the OCWD manages basin water supply through the BPP, such that the anticipated production of groundwater would remain steady from 2025 through 2045 (as shown in Table 5.7-1). As described previously and further detailed in Section 5.1.5, *Utilities and Service Systems*, the City's supply of water, as listed in Table 5.7-1, would be sufficient during both normal years and multiple dry year conditions between 2025 and 2045 to meet all of the City's estimated needs, including the proposed Project. Therefore, the proposed Project would be consistent with the groundwater management plan and would not conflict with or obstruct its implementation. Thus, impacts related to water quality control plan or sustainable groundwater management plan would be less than significant.

### 5.7.7 CUMULATIVE IMPACTS

**Water Quality:** The geographic scope for cumulative impacts related to hydrology and water quality includes the Santa Ana Watershed and the Newport Back Bay because cumulative projects and developments pursuant to the proposed Project could incrementally exacerbate the existing impaired conditions and could result in new pollutant related impairments.

Related developments within the watershed would be required to implement water quality control measures pursuant to the same NPDES General Construction Permit that requires implementation of a SWPPP (for construction), a WQMP (for operation) and BMPs to eliminate or reduce the discharge of pollutants in stormwater discharges, reduce runoff, reduce erosion and sedimentation, and increase filtration and infiltration, in areas permitted. The NPDES permit requirements have been set by the State Water Board and implemented by the RWQCB and the Orange County DAMP to reduce incremental effects of individual projects so that they would not become cumulatively considerable. Therefore, overall potential impacts to water quality associated with present and future development in the watershed would not be cumulatively considerable with compliance with all applicable laws, permits, ordinances and plans. As detailed previously, the proposed Project would be implemented in compliance with all regulations, as would be verified during the permitting process. Therefore, cumulative impacts related to water quality would be less than significant.

**Drainage:** The geographic scope for cumulative impacts related to stormwater drainage includes the geographic area served by the existing stormwater infrastructure for the Project area, from capture of runoff through final discharge points. As described above the proposed Project would result in a reduction in storm water runoff and includes installation of vegetated biotreatment systems that would filter and discharge runoff through storm drain connections to the offsite drainage infrastructure. The vegetated biotreatment systems would retain runoff and control drainage, pursuant to the required design storm. As a

result, the proposed Project would not generate runoff that could combine with additional runoff from cumulative projects that could cumulatively combine to impact drainage. Thus, cumulative impacts related to drainage would be less than significant.

**Groundwater Basin:** The geographic scope for cumulative impacts related to the groundwater basin is the Orange County Basin. The cumulative impacts are evaluated in light of development projections in the recent City General Plan update and GPU FEIR that evaluates conditions contributing to the cumulative effects to the groundwater basin. As described previously, the volume of water that would be needed by the proposed Project is within the anticipated groundwater pumping volumes. Therefore, the proposed Project would not result in changes to the projected groundwater pumping that would decrease groundwater supplies. As a result, the proposed Project would not generate impacts related to the groundwater basin that have the potential to combine with effects from other projects to become cumulatively considerable. Therefore, cumulative impacts related to the groundwater basin would be less than significant.

### 5.7.8 EXISTING STANDARD CONDITIONS AND PLANS, PROGRAMS, OR POLICIES

- Construction General Permit, Order No. 2009-0009-DWQ, as amended by 2010-0014-DWQ, 2012-0006-DWQ, and 2022-0057-DWQ
- California Water Resources Control Board Low Impact Development (LID) Policy
- Santa Ana Region MS4 Permit; NPDES Permit No. CAS618030 (Order R8-2009-0030 as amended by Order No. R8-2010-0062)
- Orange County Drainage Area Management Plan (DAMP)
- Municipal Code Section 18-155, Prohibition on Illicit Connections and Prohibited Discharges
- Municipal Code Section 18-156, Control of Urban Runoff

#### Plans, Program and Policies

The following Plans, Programs, and Policies (PPP) related to hydrology and water quality are incorporated into the proposed Project and would reduce impacts related to hazards and hazardous materials. These actions will be included in the proposed Project's mitigation monitoring and reporting program (MMRP):

**PPP WQ-1: NPDES/SWPPP.** Prior to issuance of any grading or demolition permits, the applicant shall provide the City Building and Safety Division evidence of compliance with the NPDES (National Pollutant Discharge Elimination System) requirement to obtain a construction permit from the State Water Resource Control Board (SWRCB). The permit requirement applies to grading and construction sites of one acre or larger. The Project applicant/proponent shall comply by submitting a Notice of Intent (NOI) and by developing and implementing a Stormwater Pollution Prevention Plan (SWPPP) and a monitoring program and reporting plan for the construction site.

**PPP WQ-2: Groundwater Dewatering Permits.** Prior to initiation of excavation activities, the Project applicant shall obtain coverage under the Santa Ana RWQCB General Waste Discharge Requirements for Discharges to Surface Waters Resulting from De Minimis Discharges or Groundwater Dewatering Operations, and/or Groundwater Cleanup/Remediation Operations at Sites within the Newport Bay Watershed Permit (Order No. R8-2019-0061, NPDES No. CAG918002), or any other subsequent permit for dewatering activities, and provide evidence of coverage to the City of Santa Ana Building and Safety Division designee. This shall include submission of a Notice of Intent (NOI) for coverage under the permit to

the Santa Ana Regional Water Quality Control Board (RWQCB) at least 60 days prior to the start of excavation activities and anticipated discharge of dewatered groundwater to surface waters. Groundwater dewatering activities shall comply with all applicable provisions in the permit, including water sampling, analysis, treatment (if required), and reporting of dewatering-related discharges. Upon completion of groundwater dewatering activities, a Notice of Termination shall be submitted to the Santa Ana RWQCB.

**PPP WQ-3: WQMP.** Prior to the approval of the Grading Plan and issuance of Grading Permits a completed Water Quality Management Plan (WQMP) shall be submitted to and approved by the City Public Works Agency. The WQMP shall identify all Post-Construction, Site Design, Source Control, and Treatment Control Best Management Practices (BMPs) that will be incorporated into the development project in order to minimize the adverse effects on receiving waters.

### 5.7.9 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements Impacts WQ-1 through WQ-8 would be less than significant.

### 5.7.10 MITIGATION MEASURES

#### GPU FEIR Mitigation Measures

No mitigation measures were included.

#### Proposed Specific Plan Project Mitigation Measures

No new mitigation measures are required for the proposed Project.

### 5.7.11 LEVEL OF SIGNIFICANCE AFTER MITIGATION

No significant unavoidable adverse impacts related to hydrology and water quality have been identified and impacts would be less than significant.

## REFERENCES

- California Department of Conservation California Official Tsunami Inundation Maps (DOC 2023). Accessed: <https://www.conservation.ca.gov/cgs/tsunami/maps>
- City of Santa Ana General Plan Update. April 2022. Accessed: <https://www.santa-ana.org/general-plan-documents/>
- City of Santa Ana General Plan Update Final Recirculated Draft Program Environmental Impact Report. October 2021. Accessed: <https://www.santa-ana.org/general-plan-environmental-documents/>
- City of Santa Ana Municipal Code. Accessed: [https://library.municode.com/ca/santa\\_ana/codes/code\\_of\\_ordinances?nodeld=SAANMUCO](https://library.municode.com/ca/santa_ana/codes/code_of_ordinances?nodeld=SAANMUCO)
- City of Santa Ana Storm Drain Master Plan. December 2018. Accessed: <https://www.santa-ana.org/documents/storm-drain-master-plan/>
- City of Santa Ana 2020 Urban Water Management Plan. Accessed: <https://www.santa-ana.org/urban-water-management-plan/>
- FEMA Flood Map Service Center. Accessed: <https://msc.fema.gov/portal/search>
- Phase I Environmental Site Assessment Report (Phase I). Revised April 2023. Prepared by ENGEO. (Appendix J)
- Phase II Environmental Site Assessment Report (Phase II North). Revised April 2023. Prepared by ENGEO. (Appendix K1)
- Phase II Environmental Site Assessment Report (Phase II South). Revised April 2023. Prepared by ENGEO. (Appendix K2)
- Preliminary Investigation Report Related Bristol Project. August 2022. Prepared by Group Delta Consultants, Inc. (Appendix G)
- Preliminary Hydrology Report. Revised March 2023. Prepared by Fuscoe Engineering. (Appendix L)
- Preliminary Water Quality Management Plan. Revised March 2023. Prepared by Fuscoe Engineering. (Appendix M)
- Storm Drain Master Plan Drainage Assessment. February 2023. Prepared by Fuscoe Engineering, Inc. (Appendix R)

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