

4. ENVIRONMENTAL IMPACT ANALYSIS

H. HYDROLOGY AND WATER QUALITY

1. INTRODUCTION

This section of the EIR evaluates the potential impacts to hydrology and water quality conditions in the City of Newport Beach from implementation of the proposed project. The analysis in this section is based, in part, upon the following technical analyses: 1) *Preliminary Water Quality Management Plan (WQMP) for the Back Bay Landing Redevelopment Project*, prepared by Fuscoe Engineering, Inc. (Fuscoe) in August 2012 (last revision date); and 2) *Back Bay Landing Hydrology/ Hydromodification/Utilities Technical Memorandum ("Technical Hydro Memo")*, prepared by Fuscoe on July 3, 2012. These documents are included in Appendix H and Appendix L, respectively, of this Draft EIR.

2. ENVIRONMENTAL SETTING

a. Regulatory Framework

(1) Federal

(a) Clean Water Act

In 1972, the Federal Water Pollution Control Act (Clean Water Act) was amended to require National Pollutant Discharge Elimination System (NPDES) permits for the discharge of pollutants to "Waters of the U.S."¹ from any point source.² In 1987, the Clean Water Act was further amended to require that the U.S. Environmental Protection Agency (USEPA) establish regulations for permitting municipal and industrial storm water discharges under the NPDES permit program. Final regulations regarding storm water discharges were issued on November 16, 1990, and require that municipal separate storm sewer system (MS4) discharges and industrial (including construction) storm water discharges to surface waters be regulated by an NPDES permit. NPDES permit requirements relevant to the project are discussed later in this section.

The Clean Water Act also requires states to adopt water quality standards for receiving water bodies and to have those standards approved by the USEPA. Water quality standards consist of designated beneficial uses for a particular receiving water body (e.g., wildlife habitat, agricultural supply, fishing), along with the 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 support a particular use. Because the State of California was unable to develop these standards for priority toxic pollutants, the USEPA promulgated the California Toxics Rule in 1992 (40 Code of Federal Regulations [CFR] 131.38), which fills this gap. As a separate Rule, the California Toxics Rule is discussed further below under State regulations.

¹ "Waters of the U.S." include all waters that have, are, or may be used in interstate or foreign commerce (including sightseeing or hunting), including all waters subject to the ebb and flow of the tide and all interstate waters including interstate wetlands (33 CFR 328.3).

² Point sources are discrete water conveyances such as pipes or man-made ditches.

When water quality issues compromise the designated beneficial uses of a particular receiving water body, Section 303(d) of the Clean Water Act requires the identification and listing of that water body as “impaired”. Once a water body has been deemed impaired, a Total Maximum Daily Load (TMDL) must be developed for the impairing pollutant(s). A TMDL is an estimate of the total load of pollutants from point, non-point, and natural sources that a water body may receive without exceeding applicable water quality standards (plus a “margin of safety”). Once established, the TMDL allocates the loads among the water body’s current and future pollutant sources.

Section 404 of the Clean Water Act is a program administered by the U.S. Army Corps of Engineers (USACE) that regulates the discharge of dredged and fill material into “Waters of the U.S.”, including wetlands. Activities that affect “Waters of the U.S.” that are regulated under this program include fills for development (including physical alterations to drainages to accommodate storm drainage, stabilization, and flood-control improvements); water resource projects (such as dams and levees); infrastructure development (such as highways and airports); and conversion of wetlands to uplands for farming and forestry. The USEPA and the USACE have issued Section 404(b)(1) Guidelines (40 CFR 230) that regulate dredge and fill activities, including water quality aspects of such activities.

Section 401 of the Clean Water Act requires that any person applying for a federal permit or license that may result in a discharge of pollutants into “Waters of the U.S.” must obtain a State water quality certification ensuring that the activity complies with all applicable water quality standards, limitations, and restrictions. Section 404 permits and authorizations are subject to a Section 401 certification by the local Regional Water Quality Control Board (RWQCB).

(b) Federal Antidegradation Policy

The federal Antidegradation Policy was released in 1968 and was included in the USEPA’s first Water Quality Standards Regulation. The Antidegradation Policy represents a three-tiered approach to maintaining and protecting water quality. First, all existing beneficial uses and levels of water quality necessary to protect those uses must be preserved and protected from degradation. Second, water quality must be protected in areas where the quality cannot support the propagation of fish, shellfish, and wildlife and recreation (“fishable/swimmable”). Third, the policy provides special protection of waters for which the ordinary water quality criteria are not sufficient. These waters are called “Outstanding National Resources Waters” and have been designated as unique or ecologically sensitive.

If an activity is going to be allowed to degrade or lower water quality (in situations where existing water quality is higher than that needed to maintain established beneficial uses), the Antidegradation Policy requires that proposed projects meet the criteria below:

- The activity is necessary to accommodate important economic or social development in the area.
- Water quality is adequate to protect and fully maintain existing beneficial uses.

(c) National Flood Insurance Act

The National Flood Insurance Act of 1968 established the National Flood Insurance Program, which is based on the minimal requirements for floodplain management and is designed to minimize flood damage within

Special Flood Hazard Areas. The Federal Emergency Management Agency (FEMA) is the agency that administers the National Flood Insurance Program. Special Flood Hazard Areas (SFHA) are defined as areas that have a 1 percent chance of flooding within a given year, also referred to as the 100-year flood. Flood Insurance Rate Maps were developed to identify areas of flood hazards within a community.

(2) State

(a) Porter-Cologne Water Quality Act

California's Porter-Cologne Water Quality Control Act of 1970 (Porter-Cologne Act) grants the State Water Resource Control Board (SWRCB) and the RWQCBs power to protect surface water and groundwater quality and is the primary vehicle for implementing California's responsibilities under the federal Clean Water Act. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges of waste to surface and groundwater, to regulate waste disposal sites, and to 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, or oil or petroleum product.

Each RWQCB must formulate and adopt a Water Quality Control Plan (Basin Plan) for its region. The Basin Plan must conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its State Water Policy. The Basin Plan establishes beneficial uses for surface and groundwater in the region, and sets forth narrative and numeric water quality standards to protect those beneficial uses. The Porter-Cologne Act also states that an RWQCB may include water discharge prohibitions applicable to particular conditions, areas, or types of waste within its regional plan.

(b) California Toxics Rule

The California Toxics Rule (40 CFR 131.38) is a USEPA-issued federal regulation that provides water quality criteria for potentially toxic constituents in California surface waters with designated uses related to human health or aquatic life. The rule fills a gap in California water quality standards that was created in 1994 when a State court overturned the State's water quality control plans containing water quality criteria for priority toxic pollutants. These federal criteria are legally applicable in the State of California for inland surface waters, enclosed bays, and estuaries for all purposes and programs under the Clean Water Act.

The California Toxics Rule establishes two types of aquatic life criteria: (1) acute criteria represent the highest concentration of a pollutant to which aquatic life can be exposed for a short period of time³ without harmful effects and (2) chronic criteria equal the highest concentration to which aquatic life can be exposed for an extended period of time (four days) without deleterious effects. Due to the intermittent nature of storm water runoff (especially in Southern California), the acute criteria are considered to be more applicable to storm water conditions than chronic criteria.

³ *The rule does not specify timeframe for "acute". Standard practice would likely imply that any condition that is permanent or semi-permanent is chronic—all else would be short-term.*

(c) State Antidegradation Policy

Under the State's Antidegradation Policy (as set forth in SWRCB Resolution No. 68-16), whenever the existing quality of waters is better than what is needed to protect present and future beneficial uses, such existing quality must be maintained. This State policy has been adopted as a water quality objective in all the State's Basin Plans. The State policy establishes a two-step process to determine if discharges with the potential to degrade the water quality of surface or groundwater will be allowed.

The first step requires that, where a discharge would degrade high-quality water, the discharge may be allowed only if any change in water quality would:

- Be consistent with the maximum benefit to the people of the State;
- Not reasonably affect present and anticipated beneficial uses of such water;
- Result in water quality that is not less than that which is prescribed in State policies (i.e., Basin Plans).

The second step (as set forth in SWRCB Resolution No. 68-16) states that any activity resulting in discharge to high-quality waters is required to use the best practicable treatment or control of the discharge necessary in order to avoid the occurrence of pollution or nuisance and to maintain the "highest water quality consistent with the maximum benefit to the people of the state". The State policy applies to both surface and groundwater, as well as to both existing and potential beneficial uses of the applicable waters.

(d) NPDES Program

The NPDES permit program is administered in the State of California by the RWQCBs, and was first established under the authority of the Clean Water Act to control water pollution by regulating point sources that discharge pollutants into "Waters of the U.S.". If discharges from industrial, municipal, and other facilities go directly to surface waters, those project applicants must obtain permits. An individual NPDES permit is specifically tailored to a facility. A general NPDES permit covers multiple facilities within a specific activity category such as construction activities. A general permit applies the same or similar conditions to all dischargers covered under the general permit.

There are nine RWQCBs in the State of California. These boards have the mandate to develop and enforce water quality objectives and implementation plans within their regions. The project site is located within the jurisdiction of the Santa Ana RWQCB.

General Construction Permit

The SWRCB has issued a statewide general NPDES Permit and Waste Discharge Requirements (WDRs) for storm water discharges from construction sites. Under this General Construction Permit, discharges of storm water from construction sites with a disturbed area of one or more acres are required to either obtain individual NPDES permits for storm water discharges or be covered by the General Construction Permit. Each applicant under the General Construction Permit must file a Notice of Intent (NOI) with the RWQCB and ensure that a Storm Water Pollution Prevention Plan (SWPPP) is prepared prior to grading. Terms of the SWPPP must be implemented during construction. The primary objective of the SWPPP is to identify BMPs

to reduce or eliminate pollutants in storm water discharges and authorized non-storm water discharges from the site during construction.

In 1999, the SWRCB issued and subsequently amended the General Construction Storm Water Permit (Water Quality Order 99-08-DWQ), which governs discharges from construction sites that disturb one acre or more of surface area. Again, on September 2, 2009, the SWRCB adopted a new General Construction Permit that substantially alters the approach taken to regulate construction discharges through (1) requiring the determination of risk levels posed by a project's construction discharges to water quality and (2) establishing numerical water quality thresholds that trigger permit violations. These new permit regulations took effect on July 1, 2010.

Municipal Storm Water Permitting (MS4 Permit)

The State's Municipal Storm Water Permitting Program regulates storm water discharges from MS4s. MS4 Permits were issued in two phases. Phase I was initiated in 1990, under which the RWQCBs adopted NPDES storm water permits for medium (serving between 100,000 and 250,000 people) and large (serving more than 250,000 people) municipalities. As part of Phase II, the SWRCB adopted a General Permit for small MS4s (serving less than 100,000 people) and non-traditional small MS4s including governmental facilities such as military bases, public campuses, and prison and hospital complexes (WQ Order No. 2003-0005-DWQ).

(e) California Coastal Commission

The California Coastal Commission (Coastal Commission) is responsible for protecting water quality in coastal environments as defined under Sections 30230 and 30231 of the California Coastal Act. These water quality provisions provide a broad basis for protecting coastal waters, habitats and biodiversity associated with new development and redevelopment projects. To meet the objectives of Sections 30230 and 30231, the Coastal Commission supports a multi-pronged approach to water quality management, which includes implementing site-design, source-control, and treatment-control BMPs and low impact development (LID) features. New development and redevelopment projects that are within the Coastal Zone are required to apply for a Coastal Development Permit through the Coastal Commission prior to construction. As part of the Coastal Development Permit process, projects must demonstrate water quality protection with the implementation of site-design, source-control, and treatment-control BMPs. The project's consistency with applicable California Coastal Act policies is provided later in this section.

(f) California Ocean Plan

The Water Quality Control Plan for Ocean Waters of California (Ocean Plan), amended through 2001, establishes beneficial uses and water quality objectives for waters of the Pacific Ocean along the California coast outside enclosed bays, estuaries, and coastal lagoons. The Ocean Plan establishes water quality objectives, discharge prohibitions, and management guidelines for safeguarding the Pacific Ocean's water quality.

(3) Regional

(a) Basin Plan

As indicated above, the project site is located within the Santa Ana RWQCB's jurisdiction. The Water Quality Control Plan for the Santa Ana River Basin (Santa Ana River Basin Plan) designates beneficial uses and water quality objectives for water bodies in the region. Narrative water quality criteria contained in the Basin Plan cover a range of both organic and inorganic constituents for both surface and groundwater; the Santa Ana River Basin Plan prohibits the degradation of water quality in a manner that would adversely impact a water body's designated beneficial uses. The Basin Plan incorporates applicable portions of a number of national and statewide water quality plans and policies, including the California Water Code and the Clean Water Act. For certain designated surface water bodies and groundwater management zones, specific numeric water quality objectives have been established for a range of constituents. These water quality criteria apply within receiving waters and do not apply directly to runoff. Within the project area, there are no water bodies (or groundwater management zones) for which numeric objectives have been established.

The Santa Ana RWQCB defines a beneficial use for surface waters in the region as "one of the various ways that water can be used for the benefit of people and/or wildlife." Beneficial uses, along with specific water quality criteria, comprise water quality standards for surface (navigable) waters as defined by Section 303 of the federal Clean Water Act (33 United States Code [USC] §1313). Under the Porter-Cologne Water Quality Control Act (California Water Code §§13050 et seq.), these concepts are separately considered as beneficial uses and water quality objectives. Beneficial uses and water quality objectives are to be established for all "Waters of the State", both surface and subsurface groundwater.

There are 23 beneficial uses defined statewide; of these, 19 are recognized within the Santa Ana Region. One additional beneficial use—Limited Warm Freshwater Habitat—is unique to the Santa Ana Region, bringing the total number of beneficial uses recognized in the Santa Ana Region to 20. The 20 beneficial uses include the following: MUN: municipal and domestic supply; AGR: agricultural supply; IND: industrial service supply; PROC: industrial process supply; GWR: Groundwater Recharge; NAV: navigation; POW: hydropower generation; REC1: water contact recreation; REC2: noncontact water recreation; COMM: commercial and sport fishing; WARM: warm freshwater habitat; LWARM: limited warm freshwater habitat; COLD: cold freshwater habitat; BIOL: biological significance; WILD: wildlife habitat; RARE: rare, threatened, or endangered species; SPWN: spawning, reproduction, and development; MAR: marine habitat; SHEL: shellfish harvesting; EST: estuarine habitat. The beneficial uses identified for Upper and Lower Newport Bays are listed in the Existing Conditions section below.

(b) General Waste Discharge Requirements for Discharges to Surface Waters Which Pose an Insignificant (de minimus) Threat to Water Quality (Dewatering Permit)

The Santa Ana RWQCB issued Order No. R8-2003-0061 and Amendments to NPDES Permit No. CAG998001 (Dewatering Permit) to regulate the discharge of dewatering wastes from construction, subterranean seepage, and other similar types of discharges considered to have "de minimus" impacts on water quality within the jurisdictions covered by the County permit. This permit was updated in March 2009 (by Order No. R8-2009-0003, NPDES NP. CAG998001) and applies to projects located within the City of Newport Beach (City). To obtain coverage under this permit, an applicant must submit an NOI and data establishing the chemical characteristics of the dewatering discharge. A standard monitoring and reporting program is

included as part of the permit. For dewatering activities that are not covered by the General Permit, Waste Discharge Requirements, and an individual NPDES permit must be obtained from the applicable RWQCB.

(c) Orange County Storm Water Program 2003 Drainage Area Management Plan (DAMP)

Section 402(p) of the Clean Water Act, as amended by the Water Quality Act of 1987, requires that municipal NPDES Permits include requirements (1) to essentially prohibit non-storm water discharges into municipal storm sewers and (2) to control the discharge of pollutants from municipal storm drains to the maximum extent practicable. In response to this requirement, the Orange County Drainage Area Management Plan (DAMP) was developed in 1993, which has been updated several times in response to requirements associated with NPDES permit renewals. The City is a permittee covered by the requirements of this permit.

The main objectives of the Orange County DAMP are to fulfill the Permittees' commitment to present a plan that satisfies NPDES permit requirements and to evaluate the impacts of urban storm water discharges on receiving waters. Orange County DAMP elements include: (1) the establishment of public outreach and educational programs, management strategies, and inter-agency coordination; (2) continuing participation in the Regional Research/Monitoring program that is being conducted with the neighboring counties, the Southern California Coastal Waters Research Project, and three Southern California Regional Boards; (3) the establishment of BMPs aimed at managing project-induced hydrologic effects; and (4) the improvement of water quality throughout the region.

(d) Areas of Special Biological Significance

Areas of Special Biological Significance are areas designated by the SWRCB for the protection of sensitive marine species or biological communities from undesirable alterations in natural water quality. Pursuant to recent revisions to the California Public Resources Code (PRC), Areas of Special Biological Significance are now included within the areas classified as "State Water Quality Protection Areas" where marine species and biological communities are protected from "undesirable alteration[s] in natural water quality" (PRC §36700[f]). The two closest Areas of Special Biological Significance to the project site include the Irvine Coast Marine Life Refuge Areas of Special Biological Significance, located offshore and about seven miles south, and the Newport Beach Marine Life Refuge, also offshore and about five miles to the south.

(4) Local

(a) City of Newport Beach Council Policy Manual

The City of Newport Beach Council Policy Manual stipulates Policies L-18 and L-22 for the protection of water quality within the City, both of which are intended to minimize dry-weather runoff and runoff from small rain events to improve water quality-limited receiving waters, the near-shore ocean environment, and Newport Bay's water quality. Policy L-18 is entitled "Protection of Water Quality: Drainage – Public Rights-of-Way." Policy L-22 is entitled "Protection of Water Quality: Water Quality Management Plans for New Development and Redevelopment."

Policy L-18 states that "Whenever possible, runoff should be retained on private property to prevent the transport of these pollutants... Reduction, detention or diversion of runoff can benefit property owners through water conservation and reuse of water that would otherwise drain to the City's street drainage system and our harbors, bays, and ocean." Policy L-22 states:

New development or redevelopment presents the City and the public with the opportunity to reduce the impacts of runoff that would otherwise drain to the City's street drainage system and our harbors, bays, and ocean. At the time of submittal of an application for a new development or redevelopment project, an applicant shall submit [a] Water Quality Management Plan (WQMP) to the City. The WQMP's purpose is to minimize to the maximum extent practicable dry weather runoff and runoff from small storms (less than 3/4" of rain falling over a 24-hour period) during construction and post-construction from the property."

(b) City of Newport Beach Municipal Code

The City of Newport Beach Municipal Code contains policies relevant to water quality management, specifically to control storm water runoff from development sites. Section 14.36.040, Control of Urban Runoff, requires new development and redevelopment projects to comply with the DAMP as well as conditions and requirements established by the Community Development Department or Building Department to reduce or eliminate pollutants in storm water runoff from a project site.

(c) Local Implementation Plan (LIP)

The City's Local Implementation Plan (LIP) was prepared as part of a compliance program pursuant to the Third Term NPDES Permit. The LIP presents the actions, activities and programs undertaken by the City, as well as current activities and programs, to meet the requirements of the NPDES Permit and to improve urban water quality. Although the LIP is intended to serve as the basis for City compliance during the five-year period of the Third Term NPDES Permit, the LIP is subject to modifications and updates as the City determines necessary, or as directed by the Santa Ana RWQCB.

The LIP, in conjunction with the County DAMP, is the principal policy and guidance document for the City's NPDES Storm Water Program. Sections A.7.0 and A.8.0 of the LIP address new development and significant redevelopment controls for incorporating BMPs into environmental compliance requirements. The LIP also addresses construction requirements for sedimentation and erosion control, as well as on-site hazardous materials and waste management.

On May 22, 2009, the Santa Ana RWQCB re-issued the MS4 Permit for the Santa Ana Region of Orange County (Order R8-2009-0030). Re-issuance of the fourth term of this permit resulted in changes to the 2003 DAMP and City of Newport Beach LIP and storm water program. This updated Fourth Term permit includes new requirements pertaining to hydromodification⁴ and low impact development (LID) features associated with new developments and redevelopment projects. Following the permit adoption, the County of Orange, as the Principal Permittee, prepared a new 2011 Model WQMP that incorporates feasibility criteria for LID and hydromodification requirements. Following the Santa Ana RWQCB's approval of the 2011 Model WQMP, the City will be required to update their LIP and storm water programs and incorporate the new 2011 Model WQMP into their discretionary approval processes for new development and redevelopment projects.

⁴ *Hydromodification is generally defined as the alteration of natural flow characteristics.*

One component of the New Development/Significant Redevelopment Section of the City's LIP is the provision to prepare a WQMP for specified categories of development aimed at reducing pollutants in post-development runoff. Specifically, a project-specific WQMP includes Santa Ana RWQCB-approved BMPs, where applicable, that address post-construction management of storm water runoff water quality. This includes operation and maintenance requirements for all structural or treatment-control BMPs required for specific categories of developments to reduce pollutants in post-development runoff to the Maximum Extent Practicable (MEP). The categories of development that require preparation of a project-specific WQMP include:

- All significant redevelopment projects, where redevelopment is defined as the addition of 5,000 square feet (sf) or more of impervious surface on an already developed site;
- New development projects that create 10,000 sf or more of impervious surface (collectively over the entire site) including commercial, industrial, residential housing subdivisions, mixed use, and public projects;
- Automotive repair shops;
- Restaurants where the land area of development (including parking areas) is 5,000 sf or more;
- Hillside developments on 5,000 sf or more, which are located on areas with known erosive soil conditions or where the natural slope is 25 percent or more;
- Developments of 2,500 sf or more located within, directly adjacent to (within 200 feet), or discharging directly into receiving waters within Environmentally Sensitive Areas (ESA) such as areas designated in the Ocean Plan as Areas of Special Biological Significance or water bodies listed on the Clean Water Act Section 303(d) list of impaired water bodies;
- Parking lots with 5,000 sf or more of impervious surface, or with 15 parking spaces or more exposed to urban storm water runoff;
- Streets, roads, highways and freeways of 5,000 sf or more of paved surface, which shall also incorporate USEPA guidance contained within "Managing Wet Weather with Green Infrastructure: Green Streets" in a manner consistent with the MEP standard; and
- Retail gasoline outlets of 5,000 sf or more with a projected average daily traffic of 100 vehicles or more per day.

As required by the City's municipal ordinances on storm water quality management, a project's WQMP must be submitted to the City for approval prior to the City issuing any building or grading permits. As the project site drains directly to Upper Newport Bay, which is impaired on the 303(d) list and is considered an ESA, the project is subject to the requirements of the City's WQMP. This includes meeting any new requirements of the updated MS4 Permit and associated LIP. Projects that fall into the categories of development listed above that require preparation of a project-specific WQMP are also referred to as "Priority Projects."

(d) General Plan Natural Resources Element, Harbors and Bay Element and Safety Element

The Natural Resources Element and the Harbors and Bay Element of the City of Newport Beach General Plan includes goals and policies related to water quality and water resources that are applicable to the proposed project. The primary goal of the Safety Element is to reduce the potential risk of death, injuries, property damage, and economic and social dislocation resulting from natural and human-induced hazards, including

flooding hazards. The project's consistency with applicable General Plan goals and policies is provided at the end of this EIR section.

(e) Emergency Response

The City has a comprehensive Emergency Management Program which includes elements necessary to respond quickly and effectively to major emergencies, including flooding hazards. These elements include: an Emergency Operations Plan, Emergency Operations Center, Employee Response Program, Public Education Program, and trained Community Emergency Response Team (NBCERT). A variety of activities, programs and projects designed to enhance the City's preparedness are conducted regularly such as training, drills and disaster exercises. The Newport Beach Fire Department is the lead department for coordinating all emergency management activity in the City.

b. Existing Conditions

(1) Existing Uses

As discussed in the WQMP and the Technical Hydro Memo, approximately 6.36-acres of the southwestern portion of Parcel 3 of Parcel Map 93-111 would be redeveloped as part of the project. However, based on County WQMP definitions, for purposes of assessing hydrology and water quality impacts, the separate, narrow 0.5 acre strip of land located east of Bayside Village Mobile Home Park (Planning Area 4) which is also part of the 6.36-acre project, is not subject to the proposed WQMP treatment requirements since the proposed improvements for this area are not considered "redevelopment" as they are not anticipated to result in the replacement of existing impervious surfaces (see footnote for further details).⁵ Thus, only 5.86 acres of the site to be redeveloped is subject to WQMP treatment requirements.⁶ Future use for this strip may include the removal of the existing storage garages and re-striping for additional parking spaces. The existing Orange County Sanitation District (OCSD) sewer pump station located adjacent to the project site off East Coast Highway will remain, and is not a part of the project.

(2) Soil Type, Geology, Groundwater and Infiltration Properties

Soils on-site generally consist of fill to depths that varied from approximately 6 to 8 feet below existing grade. The fill encountered consisted of predominately fine grained sands that exhibited loose to medium relative density. The fill is underlain by native soils comprised of Quaternary estuarine deposits consisting of loose to medium dense relative density sands and silty sands to a depth of 20 to 25 feet, which were underlain by medium dense to dense sands extending to at least depths explored. The native soils included a one- to three-foot thick layer of soft consistency clay at depths ranging from 8 to 10 feet below grade.

⁵ *The 0.5 acre strip will be utilized for access to the existing gravel parking area (not a part of the project), marina and parking/public storage area. This area will undergo the removal of existing garages and be replaced with additional guest parking, tenant storage lockers and upgraded bathroom and laundry facilities. The proposed improvements for this area are not considered "redevelopment" as they are not anticipated to result in the replacement of existing impervious surfaces (i.e., the existing pavement is in good condition and therefore will not be replaced as part of future construction activities). Therefore, this area is not subject to the proposed WQMP treatment requirements.*

⁶ *Please refer to Figure 4.H-2 for an illustration of the project site analyzed in this EIR section.*

Groundwater was encountered at depths of approximately six to eight feet below grade during field exploration in 2009. Due to the coastal location of the project site, groundwater levels will vary in response to tidal fluctuations.

Due to the presence of shallow groundwater, on-site infiltration of storm water runoff is considered infeasible. In addition, the subject site is located in an area that has been identified as being potentially susceptible to liquefaction.

(3) Hydrology

(a) Hydrologic Setting

Orange County encompasses an area of approximately 798 square miles, beginning on the coastal plain and rising to an elevation of over 5,000 feet above mean sea level (msl) in the Puente Hills and Santa Ana Mountains to the north and east. The climate of the Santa Ana Region is classified as Mediterranean, which is generally dry in the summer with mild, wet winters. The average annual rainfall in the region is about 15 inches and under 11 inches in Newport Beach; most of it occurring between November and March.

Watersheds are topographic areas that drain to a single point or receiving water. The City of Newport Beach occupies a portion of four distinct watersheds, all of which are related to the hydrologic areas delineated by the Santa Ana RWQCB in the Basin Plan. The four regional watersheds include the Newport Bay, Newport Coast, Talbert, and San Diego Creek Watersheds. As depicted on **Figure 4.H-1, Regional Watersheds**, the project site is located within the Newport Bay watershed that covers 13.2 square miles along the coast of central Orange County. The watershed includes portions of Costa Mesa and Newport Beach. The East Costa Mesa, Santa Isabel, and other smaller channels drain into Newport Bay.

(b) Site Hydrology and Drainage

Of the total 6.36-acre site (including the storage garages and parking in Planning Area 4), 0.64 acres are pervious and 5.72 acres are impervious. As such, approximately 90% of the project site is impervious area. Under existing conditions, runoff from the site generally flows west and north towards the Upper Newport Bay at three main locations. As illustrated in the **Figure 4.H-2, Existing Hydrology Map**, Area A1 combines with existing off-site flows emanating from East Coast Highway and Bayside Drive, which are then conveyed to a local low point just adjacent to the existing sewer pump station. These flows are tied into an existing 30-inch storm drain within East Coast Highway that flows westerly through the project site before discharging into the Upper Newport Bay.

Area A2 sheet flows to a low point within this sub area, which collects flows utilizing two grate inlets that convey the on-site run off into the Back Bay via an 8" high-density polyethylene (HDPE) pipe.

Area A3 is the portion of the project beneath East Coast Highway, and currently sheet flows into the Upper Newport Bay. Based upon field surveys and site inspections, drainage facilities do not appear to exist within this area.

Flow rates for 25- and 100-year storm events from the site are shown in **Table 4.H-1, Existing Flow Rates**. As shown in the table, the runoff flow for the entire site during a 25- and 100-year storm event would be 20.1 and 30.9 cubic feet per second (cfs), respectively.

Table 4.H-1
Existing Flow Rates

Drainage ID	Acres	25-year / 100-year cfs^a
A1	1.3	4.6 / 7
A2	2.7	9.5 / 14.6
A3	1.7	6 / 9
Total	5.7	20.1 / 30.9

^a cfs = cubic feet per second

Source: *Back Bay Landing Hydrology/ Hydromodification/Utilities Technical Memorandum ("Technical Hydro Memo")*, prepared by Fuscoe on July 3, 2012

(4) Water Quality

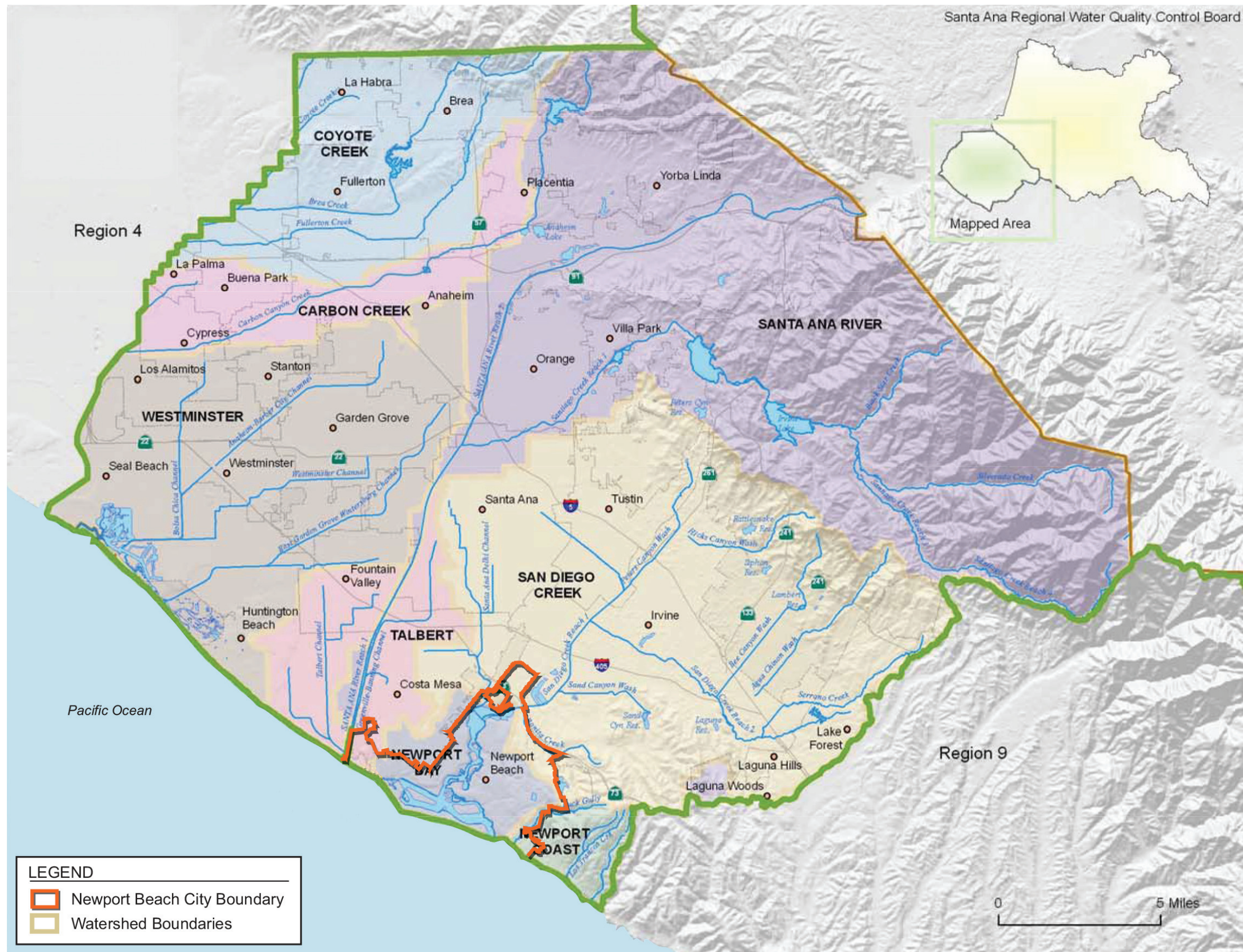
Water quality impairments for Upper Newport Bay and Lower Newport Bay, and Total Maximum Daily Loads (TMDLs) for pollutants for which each of those two water bodies are listed, are shown in **Table 4.H-2, Water Quality Impairments and Total Maximum Daily Loads for Receiving Waters**. Each of the pollutants listed in the table are discussed in further detail in the impact analysis below.

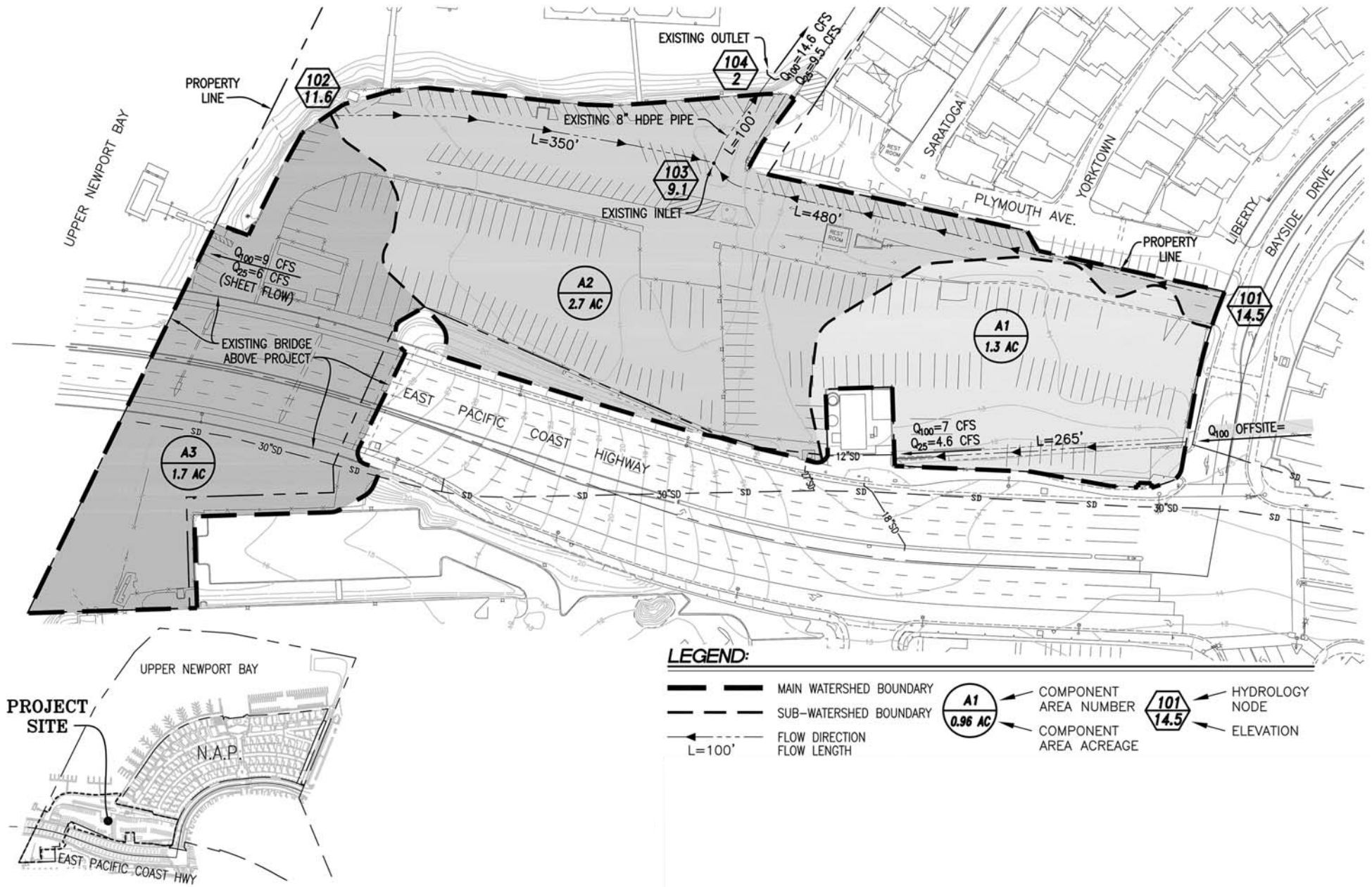
No groundwater sampling has occurred within the project site. However, as discussed in Section 4.G, *Hazards and Hazardous Materials*, groundwater beneath the site could be adversely impacted by a previously installed (Year 1955) underground storage tank (UST). A geophysical survey of the site confirmed that this 550 gallon gasoline UST still exists beneath the site. As such, it potentially could have leaked and resulted in contaminated groundwater.

(5) Beneficial Uses

As discussed in the Regulatory Framework section above, the Santa Ana RWQCB has indentified beneficial uses for Upper and Lower Newport Bay. The beneficial uses identified for Upper and Lower Newport Bays are listed below:⁷

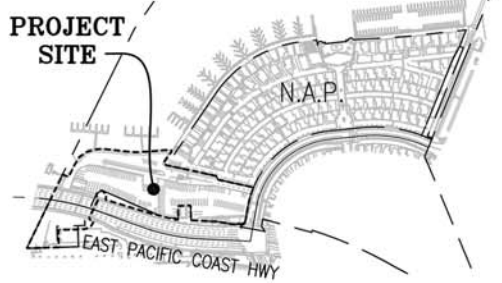
⁷ *Santa Ana Region Basin Plan, SARWQCB, 2008 (update)*.





LEGEND:

- MAIN WATERSHED BOUNDARY
- SUB-WATERSHED BOUNDARY
- FLOW DIRECTION
 FLOW LENGTH
- A1
0.96 AC COMPONENT AREA NUMBER
- 101
14.5 HYDROLOGY NODE
- A3
1.7 AC COMPONENT AREA ACREAGE
- 102
11.6 ELEVATION



Existing Hydrology

Back Bay Landing
Source: Fuscoe Engineering, 2012.

FIGURE
4.H-2

Table 4.H-2

Water Quality Impairments and Total Maximum Daily Loads for Receiving Waters

Water Body	Water Quality Impairments Listed on Section 303(d) List of Water Quality Limited	
	Segments	Total Maximum Daily Loads ^a
Upper Newport Bay	Chlordane (organochlorine insecticide)	Required, expected completion 2019
	Copper	Required, expected completion 2007
	DDT (organochlorine insecticide)	Required, expected completion 2019
	Indicator Bacteria (pathogens)	Approved
	Metals	Required, expected completion 2019
	Nutrients	Approved
	PCBs (Polychlorinated biphenyls; formerly used as coolants in electrical equipment)	Required, expected completion 2019
	Pesticides	Approved
	Sediment Toxicity	Required, expected completion 2019
	Sedimentation/Siltation	Approved
Lower Newport Bay	Chlordane (organochlorine insecticide)	Required, expected completion 2019
	Copper	Required, expected completion 2007
	DDT (organochlorine insecticide)	Required, expected completion 2019
	Indicator Bacteria (pathogens)	Approved
	Nutrients	Approved
	PCBs (Polychlorinated biphenyls; formerly used as coolants in electrical equipment)	Required, expected completion 2019
	Pesticides	Approved
	Sediment Toxicity	Required, expected completion 2019

^a "Approved" means that a TMDL approved by the EPA is in place for that pollutant.
 Source: SWRCB 2012.

- Upper Newport Bay - REC1 (water contact recreation); REC2 (noncontact water recreation); COMM (commercial and sport fishing); BIOL (biological significance); WILD (wildlife habitat); RARE (rare, threatened, or endangered species); SPWN (spawning, reproduction, and development); MAR (marine habitat); SHEL (shellfish harvesting); and EST (estuarine habitat).
- Lower Newport Bay (including the Rhine Channel) – NAV (navigation), REC1, REC2, COMM, WILD, RARE, SPWN, MAR, and SHEL.

(6) Flooding

A seiche is an oscillation of a body of water in an enclosed or semi-enclosed basin, such as a reservoir, harbor, lake, or storage tank. A tsunami is a great sea wave, commonly referred to as a tidal wave, produced by a significant undersea disturbance such as tectonic displacement of the sea floor associated with large, shallow earthquakes. Mudflows result from the downslope movement of soil and/or rock under the influence of gravity.

The Federal Emergency Management Agency (FEMA) maintains and updates the National Flood Insurance Program (NFIP) maps, which identify community flood hazard zone designations. The project site has been designated as Zone X, meaning that it is outside of 100-year and 500-year flood zones. However, the project area is subject to flooding from a tsunami given the site's proximity to the Pacific Ocean and low elevation of the project area relative to sea level.⁸ While no open reservoirs or other large water bodies are located within or upstream of the project area, the site is adjacent to Upper Newport Bay. Therefore, the project could be subject to flooding hazards associated with seiches during large seismic events. Also, the site is located within the Prado Dam failure inundation pathway.⁹

Additionally, given the lack of steep hillsides near the project site, the potential for mudflows to affect the proposed uses would be negligible given the distance of significant hillsides from the project and amount of intervening development. Furthermore, the gently sloping topography of the project area is not conducive to sustaining mudflows.

3. PROJECT IMPACTS

a. Methodology

(1) Water Quality

Water quality impacts were assessed by considering the types of pollutants and/or effects on water quality likely to be associated with construction and operation of the project, project design features to treat contaminants, and expected contaminant flows with project implementation. Project consistency with relevant regulatory permits/requirements, including BMPs and applicable plans, is evaluated to demonstrate how compliance would ensure that the project would not significantly degrade existing water quality.

(2) Hydrology

The analysis of hydrology impacts includes a calculation of pre-project and post-project runoff rates during storm events. Potential impacts to the storm drain system were analyzed by comparing the calculated pre-project runoff rates to the calculated post-project runoff rates, taking into consideration the capacity of the existing storm drain systems serving the site.

(3) Flooding

Flooding impacts were addressed in consideration of applicable safety policies of the City's General Plan Safety Element, the policies and procedures in the City's Emergency Management Plan, and the design requirements within the City's Municipal Code. A determination was made as to whether such policies, procedures, and regulatory requirements would adequately address potential flooding hazards on the site.

⁸ *City of Newport Beach website, Tsunami Inundation and Potential Tsunami Runup Inundation Maps, Plates H-10 and H-11, prepared by Earth Consultants International, 2008. <http://www.newportbeachca.gov/index.aspx?page=1495>*

⁹ *City of Newport Beach Emergency Management Plan, Plate H-9, Dam Failure Inundation Map, prepared in 2008.*

b. Significance Thresholds

Appendix G of the *CEQA Guidelines* provides a checklist of questions to assist in determining whether a proposed project would have a significant impact related to various environmental issues including hydrology and water quality. Based on the following issue areas identified in Appendix G of the *CEQA Guidelines*, a significant impact to hydrology and water quality would occur if the project would result in one or more of the following:

- Threshold 1: Violate any water quality standards or waste discharge requirements (refer to Impact Statement 4.H-1 below);
- Threshold 2: Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted (refer to Chapter 6, *Other Mandatory CEQA Considerations*, and the Initial Study contained in Appendix A of this Draft EIR. A less than significant impact would occur in this regard.);
- Threshold 3: Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site (refer to Impact Statement 4.H-1 below);
- Threshold 4: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site (refer to Impact Statement 4.H-1 below);
- Threshold 5: Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff (refer to Impact Statement 4.H-1 below);
- Threshold 6: Otherwise substantially degrade water quality (refer to Impact Statement 4.H-1 below);
- Threshold 7: Place housing within a 100-year flood plain as mapped on federal Flood Hazard Boundary or Flood Insurance Rate Maps or other flood hazard delineation maps ((refer to Chapter 6, *Other Mandatory CEQA Considerations*, and the Initial Study contained in Appendix A of this Draft EIR. No impact would occur in this regard.);
- Threshold 8: Place within a 100-year flood plain structures which would impede or redirect flood flows (refer to Chapter 6, *Other Mandatory CEQA Considerations*, and the Initial Study contained in Appendix A of this Draft EIR. No impact would occur in this regard.);

Threshold 9: Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam (refer to Impact Statement 4.H-3 below); or

Threshold 10: Inundation by seiche, tsunami, or mudflow (refer to Impact Statement 4.H-3 below).

Threshold 11: Comply with any applicable plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan and municipal code) adopted for the purpose of avoiding or mitigating an environmental effect (refer to Impact Statement 4.H-4 below).

c. Project Design Features

A Conceptual WQMP has been prepared for the project which is intended to comply with the requirements of the County and City NPDES Stormwater Program requirements pertaining to the preparation of the plan. The WQMP included in Appendix H of this Draft EIR is a preliminary plan intended to provide necessary information adequate for CEQA purposes. The final, design-level WQMP will reflect up-to-date conditions on the site based on final engineered site plans.

As listed in the WQMP, the project would include, but may not be limited to, the following BMPs (BMP numbers correspond to those identified in the WQMP, where available):

(1) Site Design BMPs

- BMP-SD1 Minimize Impervious Area - Impervious surfaces would be minimized by incorporating landscaped areas throughout the site including common areas, parking lot islands, medians and larger courtyard areas. The streets and sidewalks would be designed with minimum width requirements to minimize impervious surfaces where feasible.
- BMP-SD2 Preserve Existing Drainage Patterns and Time of Concentration - Runoff patterns and flow rates will be consistent with existing conditions and continue to discharge to the bay utilizing existing outlets or new outlets placed in similar locations.
- BMP-SD3 Disconnect Impervious Areas - Landscaping will be incorporated throughout the site as planters in common areas, parking lot islands, adjacent to buildings, and around the site perimeter. Runoff will drain to landscaped bioretention areas for filtration and treatment prior to discharging off-site.
- BMP-SD4 Protect Existing Vegetation and Sensitive Areas, and Revegetate Disturbed Areas - The project site is developed under existing conditions. All disturbed areas will be paved or landscaped with native and/or tolerant landscaping consistent with City and CA Coastal Commission Guidelines.
- BMP-SD5 Xeriscape Landscaping - Native and/or tolerant landscaping will be incorporated into the site design consistent with City and CA Coastal Commission guidelines.

It is acknowledged that due to the presence of high, tidally influenced groundwater within the vicinity of the project and presence of soils subject to liquefaction, infiltration of runoff would not be utilized on-site.

(2) LID BMPs

Low Impact Development BMPs are required in addition to site design measures and source controls to reduce pollutants in storm water discharges. LID BMPs are engineered facilities that are designed to retain or biotreat runoff on the project site. The 4th Term MS4 Storm Water Permit (Order R9-2009-0009) requires the evaluation and use of LID features using the following hierarchy of treatment: infiltration, evapotranspiration, harvest/reuse, and biotreatment. The following sections summarize the LID BMPs proposed for the project in accordance with the permit hierarchy.

(a) Hydrologic Source Controls

Hydrologic source controls (HSCs) can be considered to be a hybrid between site design practices and LID BMPs. HSCs are distinguished from site design BMPs in that they do not reduce the tributary area or reduce the imperviousness of a drainage area; rather they reduce the runoff volume that would result from a drainage area with a given imperviousness compared to what would result if HSCs were not used. HSC's will be accounted for during final design and the cumulative volume of the HSC's will be subtracted from the required treatment volume in the Final WQMP.

(b) Infiltration BMPs

Infiltration BMPs are LID BMPs that capture, store and infiltrate storm water runoff. These BMPs are engineered to store a specified volume of water and have no design surface discharge (underdrain or outlet structure) until this volume is exceeded. Examples of infiltration BMPs include infiltration trenches, bioretention without underdrains, drywells, permeable pavement, and underground infiltration galleries.

Due to the presence of shallow groundwater, on-site infiltration of storm water runoff is considered infeasible. In addition, the project site is located in an area that has been identified as being potentially susceptible to liquefaction. Further, the native soils included a one- to three-foot thick layer of soft consistency clay at depths ranging from eight to ten feet below grade that restricts infiltration. Therefore, infiltration BMPs would not be utilized on-site.

(c) Evapotranspiration, Rainwater Harvesting BMPs

Evapotranspiration (ET) BMPs are a class of retention BMPs that discharges stored volume predominately to ET, though some infiltration may occur. ET includes both evaporation and transpiration, and ET BMPs may incorporate one or more of these processes. BMPs must be designed to achieve the maximum feasible ET, where required to demonstrate that the maximum amount of water has been retained on-site. Since ET is not the sole process in these BMPs, specific design and sizing criteria have not been developed for ET-based BMPs. However, bioretention BMPs are proposed which utilize evapotranspiration as physical process for runoff volume reduction. These BMPs are discussed below.

(d) Harvest and Use BMPs

Harvest and use (aka. Rainwater Harvesting) BMPs are LID BMPs that capture and store storm water runoff for later use. These BMPs are engineered to store a specified volume of water and have no design surface discharge until this volume is exceeded. Harvest and use BMPs include both aboveground and below-ground cisterns. Examples of uses for harvested water include irrigation, toilet and urinal flushing, vehicle washing, evaporative cooling, industrial processes and other non-potable uses. As discussed in detail within the WQMP, Harvest and Use BMPs are not feasible on the project site based on the minimum harvest demand thresholds described in the 2011 Model WQMP. Please refer to the WQMP for further details of the harvest water demand calculations based on the 2011 Model WQMP.

(e) Biotreatment BMPs

Biotreatment BMPs are a broad class of LID BMPs that reduce storm water volume to the maximum extent practicable, treat storm water 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 (through 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. The following biotreatment BMPs would be utilized on-site for water quality treatment:

BMP-BT1 Bioretention with underdrains - A combination of proprietary bioretention units (Filterra® or equivalent) and biofiltration cells with underdrains shall be integrated within the landscaping areas (where feasible) and will filter/treat runoff from the proposed buildings and hardscape prior to discharging into the storm drain system.

The above systems were selected based on their ability to treat the project's pollutants of concerns to a medium or high effectiveness, in accordance with Table 4.2 of the Model WQMP Technical Guidance Document.

Filterra® units by Kristar are structural media filtration device that also utilize bioretention processes for storm water treatment (functional equivalents are also acceptable). Filterra units feature a specially designed media filter mixture within a below-grade concrete box. One tree or large shrub is planted within the media to provide additional pollutant removal, and function similar to bioretention cells. The filter media is designed to capture and filter pollutants during the first-flush storm event, while biological processes degrade, metabolize, detoxify, and volatilize the pollutants during and between storms.

Bioretention cells with underdrains are plant-based biotreatment systems that typically consist of a ponding area, mulch layer, planting soils and plants. As storm water passes down through the planting soil, pollutants are filtered, adsorbed, biodegraded and sequestered by the soil and plants. Underdrains collect the treated water and return it back into the storm drain system.

In accordance with the Model WQMP, the biotreatment BMPs would be sized to capture and treat the volume of runoff produced from a 24-hour, 85th percentile storm event (termed Design Capture Volume [DCV]). Please refer to the project's WQMP for DCV calculations.

In the event biofiltration enhancements within the programmed landscaping are not feasible for a particular drainage area, Filterra Units (or equivalent) would be implemented within the storm drain system for those areas. The use of Filterra Units in lieu of harvest and use and/or bioretention landscaping is an acceptable alternative BMP based on prior entitlements received by the proposed project. Further details on design of the LID BMPs will be provided in the Final WQMP. Maintenance requirements and frequencies for the LID BMPs are discussed in the impact analysis below.

(f) Hydromodification BMPs

As discussed in the impact analysis below, the project site is not located in an area susceptible to hydromodification impacts. Thus, no hydromodification control BMPs are required.

(g) Regional/Sub-Regional LID BMPs

LID BMPs would be utilized for water quality treatment on-site in accordance with the MS4 Permit. As such, regional/sub-regional LID BMPs are not necessary.

(h) Treatment Control BMPs

Treatment control BMPs can only be considered if the project conformance analysis indicates that it is not feasible to retain the full design capture volume with LID BMPs. It is anticipated that LID BMPs would be utilized for water quality treatment on-site in accordance with the MS4 Permit. As such, Treatment Control BMPs are not necessary.

(i) Non-Structural Source Control BMPs

The following non-structural BMPs would be implemented by the project:

- | | |
|--------|--|
| BMP-N1 | <u>Education for Property Owners, Tenants and Occupants</u> - Educational materials and training will be provided to property owners, residents and tenants, including education materials and restrictions to reduce pollutants from reaching the storm drain system. |
| BMP-N2 | <u>Activity Restrictions</u> - The owner shall develop activity restrictions (via CC&Rs or equivalent) that include language to restrict activities that have the potential to create adverse impacts on water quality. Activities include but are not limited to: the handling and disposal of contaminants, trash management and litter control, irrigation and landscaping practices, fertilizer applications and household waste management practices, prohibition of vehicle washing on-site, prohibiting washing or hosing of walkways and driveways, etc. |
| BMP-N3 | <u>Common Area Landscape Management</u> - Management programs will be designed and implemented by the Owner/POA, which will maintain all the common areas within the project site (via landscape contractor). These programs will cover how to reduce the |

potential pollutant sources of fertilizer and pesticide uses, utilization of water-efficient landscaping practices and proper disposal of landscape wastes in accordance with city requirements.

- BMP-N4 BMP Maintenance - The Owner/POA will be responsible for the implementation and maintenance of each applicable nonstructural BMP, as well as scheduling inspections and maintenance of all applicable structural BMP facilities through its landscape contractor and any other necessary maintenance contractors.
- BMP-N11 Common Area Litter Control - The Owner/POA will be responsible for performing trash pickup and sweeping of littered common areas on a weekly basis or whenever necessary. Responsibilities will also include noting improper disposal materials by homeowners and reporting such violations for investigation.
- BMP-N12 Employee Training - All employees of the POA and any contractors will require training to ensure that employees are aware of maintenance activities that may result in pollutants reaching the storm drain.
- BMP-N14 Common Area Catch Basin Inspection - All private catch basins will be maintained and cleaned by the POA. All public catch basins will be maintained by the City of Newport Beach. These activities will be done prior to the rainy season, no later than October 1st of each year.
- BMP-N15 Street Sweeping Private Streets and Parking Lots - The POA shall be responsible for the street sweeping of all drive aisles and parking areas within the project quarterly, and prior to the rainy season, no later than October 1st of each year.

(j) Structural Source Control BMPs

The following structural BMPs would be implemented by the project:

- BMP-S1/SD-13 Provide Storm Drain System Stenciling and Signage - The developer will be responsible for the stenciling of all catch basins to include a legible message such as “No Dumping - Drains to Ocean” or an equally effective phrase. The Owner will be responsible for maintaining and replacement of signage when necessary.
- BMP-S3/SD-32 Design and Construct Trash and Waste Storage Areas to Reduce Pollution Introduction - All trash and waste shall be stored in containers that have lids or tarps to minimize direct precipitation into the containers. The site operator shall ensure trash is stored properly and does not come into contact with runoff.
- BMP-S4/SD-12 Use Efficient Irrigation Systems & Landscape Design, Water Conservation, Smart Controllers, and Source Control - The owner/operator will be responsible for the installation and maintenance of all common landscape areas utilizing similar planting materials with similar water requirements to reduce excess irrigation runoff. The owner/operator will be responsible for implementing all efficient irrigation systems for common area landscaping

including but not limited to provisions for water sensors and programmable irrigation cycles. The irrigation systems shall be in conformance with water use efficiency guidelines.

BMP-S13 Properly Design: Wash Water Control for Food Preparation Areas - All wash water from food prep areas will be controlled and proper staff training conducted by the site operator. Food preparation facilities shall meet all health and safety, building and safety and any other applicable regulations, codes requirements.

d. Analysis of Project Impacts

(1) Water Quality

Threshold	Would the project violate any water quality standards or waste discharge requirements?
Threshold	Would the project otherwise substantially degrade water quality?

4.H-1 Construction and operation of the project would comply with all applicable regulatory requirements regarding water quality. Compliance with applicable regulatory requirements and implementation of the project design features, including BMPs as part of the project’s WQMP, would ensure that construction and operational water quality impacts are less than significant.

(a) Construction

Water Contaminates

Construction activities would include the use of heavy equipment and construction-related chemicals, such as fuels, oils, grease, solvents and paints that would be stored in limited quantities on-site. In the absence of proper controls, these construction activities could result in accidental spills or disposal of potentially harmful materials used during construction that could wash into and pollute surface waters or groundwater.

However, the project would be subject to existing regulations associated with the protection of water quality. The applicable WDRs, the NPDES Construction General Permit for construction activities, and SWPPP (with associated BMPs) are considered protective of water quality during construction and would, therefore, prevent a substantial violation of water quality standards and minimize the potential for contributing additional sources of polluted runoff during construction of the project. These existing regulations, programs, and policies would ensure that the potential for discharge of stormwater from construction sites that may affect beneficial uses of receiving waters and water quality standards, where applicable, would not be substantial. Compliance with regulatory requirements would ensure that construction of the project would not result in the exceedance of water quality standards during construction, including TMDL limits applicable to Upper and Lower Newport Bays. Based on the above, construction-related impacts would be less than significant.

Erosion and Sedimentation

During construction, the project site would be subject to ground-disturbing activities (e.g., removal of the existing structures and pavement, excavation and grading, foundation and infrastructure construction, the

installation of utilities). These activities would expose soils for a limited time, allowing for possible erosion and sediments to enter into runoff.

Although future project development pursuant to the legislative approvals has the potential to result in the erosion of soils, this potential would be reduced through standard erosion controls imposed during site preparation and grading activities. For instance, the project would be subject to existing regulations associated with the protection of water quality. Specifically, construction activities would be carried out in accordance with the requirements of the NPDES General Construction Permit issued by the RWQCB and in accordance with the project's SWPPP. The SWPPP would incorporate BMPs in accordance with State, regional and local regulations to control erosion during the project's construction period. BMPs could include, but are not limited to, the use of or implementation of: water bars, silt fences, staked straw bales, and avoidance of water bodies during construction. Lastly, the project would implement standard erosion control construction practices as required by the City to reduce the potential for erosion during construction. With the implementation of standard erosion controls, impact with respect to erosion and sedimentation would be less than significant.

Construction Dewatering

Based on the depths to groundwater within the project site, when a specific development project is proposed, construction dewatering may be required. Should groundwater be encountered that would require dewatering, the project would apply for coverage and adhere to the monitoring and reporting program under Order No. R8-2009-0003. Dewatering may also be performed as part of localized soil remediation efforts, as guided by the regulatory agencies with appropriate jurisdiction. If this activity is required, it would be performed in accordance with the appropriate NPDES requirements under the Clean Water Act and the Dewatering Permit. Mitigation Measure G-3 in Section 4.G, *Hazards and Hazardous Materials*, of this Draft EIR requires that any dewatered groundwater be sampled and analyzed for contaminants and, if necessary, that a dewatering plan be prepared and submitted to the RWQCB to address contaminated groundwater prior to discharge. Implementation of Mitigation Measure G-3 and compliance with regulatory requirements would ensure that dewatering activities would not result in the exceedance of water quality standards during construction, including TMDL limits applicable to Upper and Lower Newport Bays. Based on the above, construction-related dewatering impacts would be less than significant.

(b) Operation

Stormwater discharge is generated by rainfall that runs off the land and impervious surfaces such as paved streets, parking lots, and rooftops. Stormwater discharge may include pollutants of concern, which are those that are expected to be generated by future development pursuant to the legislative approvals and that could impact stormwater. During operation of the project, pollutants of concern within runoff may include, but are not limited to, suspended solids/sediment, nutrients, heavy metals, pathogens (bacteria/virus), pesticides, oil and grease, toxic organic compounds, and trash and debris. Expected pollutants of concern are described in **Table 4.H-3, *Pollutants of Concern***.

This runoff can flow directly into storm drains and continue through pipes until it is released, untreated, into Upper Newport Bay. Untreated stormwater runoff degrades water quality in surface waters and groundwater and can affect drinking water, human health, and plant and animal habitats.

Table 4.H-3

Pollutants of Concern

Pollutant	Description	Sources in Future Construction and Development
Suspended Solids/Sediment	Sediments are solid materials that are eroded from the land surface. Sediments can increase the turbidity (cloudiness) of water, clog fish gills, reduce spawning habitat, lower survival rates of young aquatic organisms, mother bottom dwelling organisms, and suppress aquatic vegetation growth.	Attached Residential, Retail/Commercial, Restaurants, Parking, and Street project components. Construction of marine features and dredging, if any in the future.
Nutrients	Nutrients are inorganic substances such as nitrogen and phosphorous; the primary sources of these substances in urban runoff are fertilizers and eroded soils. Excessive discharge of nutrients to water bodies and streams causes eutrophication, where overgrowth of aquatic plants and algae can lead to excessive decay of organic matter in the water, loss of oxygen in the water, and eventual death of aquatic organisms.	Attached Residential, Retail/Commercial, Restaurants, Parking, and Street project components. Construction of marine features and dredging, if any in the future.
Heavy Metals	Metals of concern as water contaminants include cadmium, chromium, copper, lead, mercury, and zinc. Lead and chromium have been used as corrosion inhibitors; metals are also raw materials used in nonmetal products such as fuels, adhesives, and paints. At low concentrations naturally occurring in soil, metals may not be toxic. However, certain metals at higher concentrations can be harmful to aquatic life and to humans. Humans can be impacted from groundwater contaminated with metals. Metals can become concentrated in fish and shellfish, and can subsequently harm humans who consume those animals. Environmental concerns have already led to restrictions on some uses of metals.	Retail/Commercial, Restaurants, Parking and Street project components. Construction of marine features and dredging, if any in the future.
Pathogens (Bacteria/Virus)	Bacteria and viruses are microorganisms that thrive under certain environmental conditions. Water contamination by animal or human fecal wastes and contamination by excess organic wastes are common causes of proliferation of these microorganisms. Water containing excessive bacteria and viruses can alter the aquatic habitat and harm humans and aquatic life.	Attached Residential, Retail/Commercial, Restaurants, Parking, and Street project components
Pesticides	Relatively low concentrations of the active ingredients in pesticides can be toxic in water. Excessive or improper use of pesticides can cause toxic contamination in runoff.	Attached Residential, Retail/Commercial, Restaurants, Parking, and Street project components
Oil And Grease	Oil and grease in water bodies decrease their aesthetic value as well as water quality; one of the most important sources of oil and grease is leakage from motor vehicles.	Attached Residential, Retail/Commercial, Restaurants, Parking, and Street project components. Construction of marine features and dredging, if any in the future.

Table 4.H-3 (Continued)

Pollutants of Concern

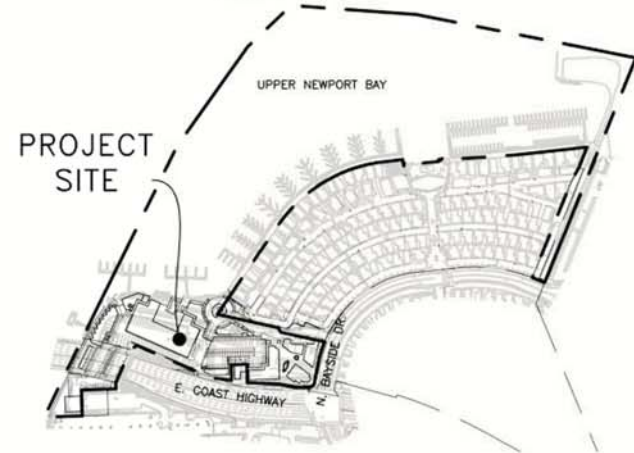
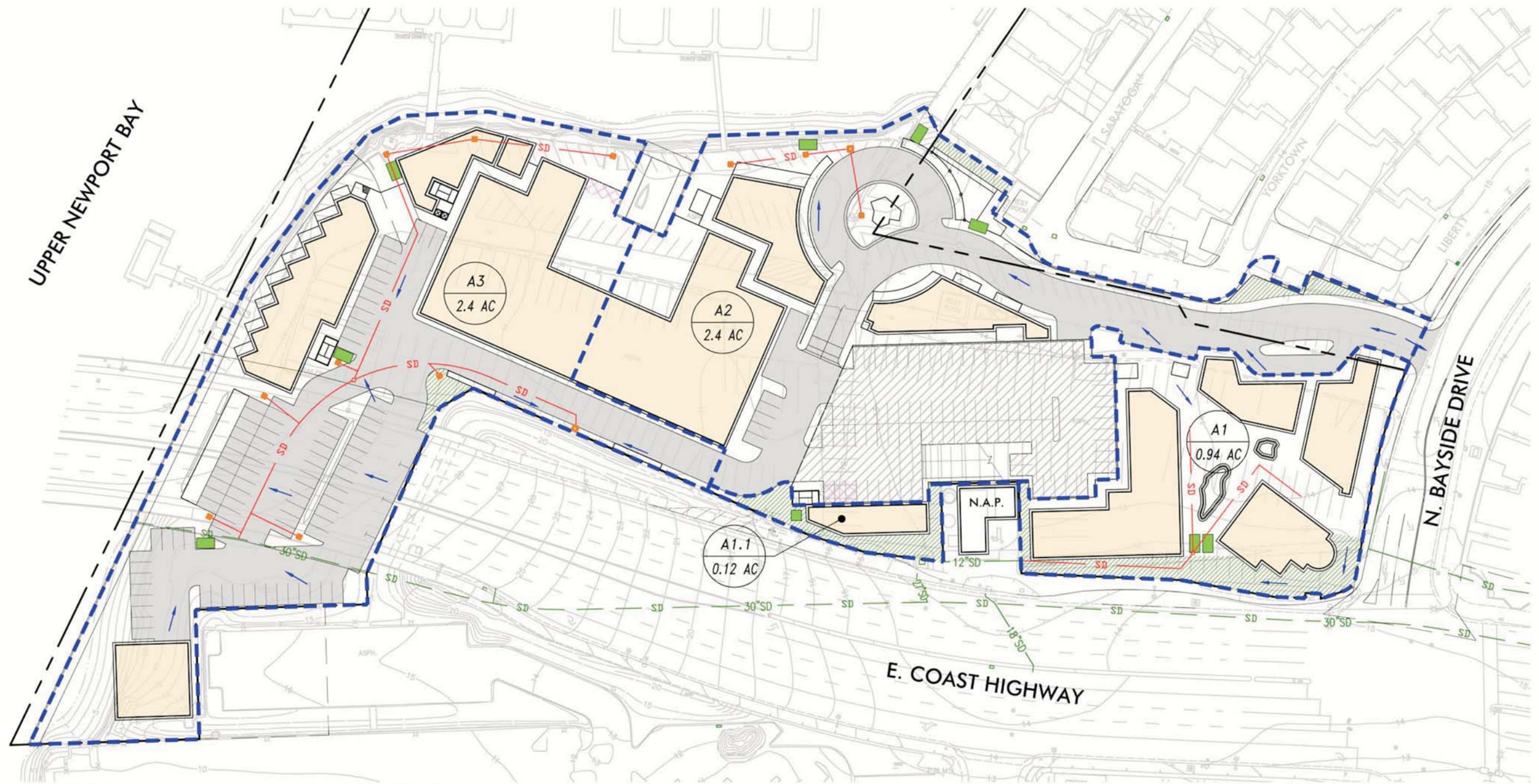
Pollutant	Description	Sources in Future Construction and Development
Toxic Organic Compounds	Organic compounds are carbon based. Commercially available or naturally occurring organic compounds are found in pesticides, solvents, and hydrocarbons. Organic compounds at certain concentrations can be hazardous to life or health. Toxic levels of solvents and cleaning compounds can be discharged to storm drains during cleaning and rinsing operations.	Retail/Commercial, Parking, and Street project components
Trash And Debris	Trash and debris, such as paper, plastic, polystyrene foam, aluminum, and biodegradable organic matter such as leaves, grass cuttings, and food waste, may significantly impair aquatic habitat and the recreational value of a water body. In addition, trash impacts water quality by increasing biochemical oxygen demand.	Attached Residential, Retail/Commercial, Restaurants, Parking, and Street project components

Source: The above table was derived from Table 2 of the Countywide Model WQMP Technical Guidance Document, May 2011.

The project’s design features, including operational BMPs, listed under the Project Features section above would be implemented in a manner consistent with applicable Municipal NPDES Permit, DAMP, City of Newport Beach Council Polices, and City LIP requirements to ensure less than significant water quality impacts. A Preliminary WQMP has been prepared for the project in accordance with the *Countywide Model WQMP Technical Guidance Document* (May 2011) for purposes of this CEQA analysis to identify appropriate stormwater BMPs and water quality management practices to be implemented during operation of the project. Since the project is defined as a Priority Project, the WQMP includes both source control and treatment control BMPs, as well as site design BMPs, and would implement LID principles, where applicable and feasible. A Final WQMP, subject to approval by the City, would update the project’s Preliminary WQMP based on the project’s final design and would include the design features and BMPs identified in the Preliminary WQMP. An illustration of the project’s BMPs is provided in **Figure 4.H-3, Preliminary WQMP**.

Based on the 2011 Countywide Model WQMP requirements, the LID performance criteria applicable to priority projects, such as the project, requires a project to infiltrate, harvest and use, evapotranspire, or biotreat/biofilter, the 85th percentile, 24-hour storm event [Design Capture Volume (DCV)]. LID BMPs must be designed to retain, on-site, (infiltrate, harvest and use, or evapotranspire) storm water runoff up to 80 percent average annual capture efficiency. According to the Model WQMP, if it is not feasible to meet LID performance criteria through retention and/or biotreatment provided on-site or at a sub-regional/regional scale, then treatment control BMPs shall be provided on-site or offsite prior to discharge to waters of the US. Sizing of treatment control BMP(s) shall be based on either the unmet volume after claiming applicable water quality credits, if appropriate.

As detailed in the WQMP and in the discussion of Project Features above, the project would include site design BMPs (BMP-SD1 to BMP-SD5) that would minimize impervious area (BMP-SD1), preserve existing



LEGEND

- PROPERTY LINE
- EXISTING STORM DRAIN
- PROPOSED STORM DRAIN
- DRAINAGE AREA BOUNDARY
- PROPOSED BUILDING
- PROPOSED PARKING STRUCTURE
- STREET SWEEPING PRIVATE PARKING LOTS & DRIVE AISLES
- LOADING/DELIVERY AREA (AT GROUND LEVEL, PENDING DEVELOPMENT OF SITE PLAN)
- PROPOSED FILTERRA UNIT
- PROPOSED BIO-TREATMENT BMPs
- FLOW DIRECTION
- CATCH BASIN STENCILING
- (ENTIRE SITE) COMMON AREA LANDSCAPE MANAGEMENT
EFFICIENT IRRIGATION SYSTEMS & LANDSCAPE DESIGN



Preliminary WQMP

Back Bay Landing
Source: Fuscoe Engineering, 2012.

FIGURE
4.H-3



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drainage patterns and time of concentration (BMP-SD2), disconnect impervious areas (BMP-SD3), protect existing vegetation and sensitive areas, and revegetate disturbed areas (BMP-SD4), and incorporate xeriscape landscaping (BMP-SD5).

In addition to the site design BMPs, the project would include LID BMPs, which are engineered facilities that are designed to retain or biotreat runoff on the project site. The 4th Term MS4 Storm Water Permit (Order R9-2009-0009) requires the evaluation and use of LID features using the following hierarchy of treatment: (1) infiltration; (2) ET; (3) harvest/reuse; and (4) biotreatment. The LID BMPs proposed for the project in accordance with the permit hierarchy are listed in the Project Features section above.

Infiltration BMPs. As discussed therein, due to the presence of shallow groundwater, on-site infiltration of storm water runoff is considered infeasible. Therefore, infiltration BMPs would not be utilized on-site.

ET BMPs. With regards to ET, bioretention BMPs are proposed which utilize ET as physical process for runoff volume reduction. These BMPs are discussed below.

Harvest/Use BMPs. Harvest and Use BMPs are not feasible on the project site based on the minimum harvest demand thresholds described in the 2011 Model WQMP. Please refer to the WQMP for further details of the harvest water demand calculations based on the 2011 Model WQMP.

Biotreatment BMPs. The project would implement BMP-BT1 (Bioretention with underdrains), which involves a combination of proprietary bioretention units (Filterra® or equivalent) and biofiltration cells with underdrains integrated within the landscaping areas (where feasible) to filter/treat runoff from the proposed buildings and hardscape prior to discharging into the storm drain system. In accordance with the Model WQMP, the biotreatment BMPs would be sized to capture and treat the volume of runoff produced from a 24-hour, 85th percentile storm event (termed DCV).

Hydromodification BMPs. As discussed under Impact Statement 4.H-2 below, the project site is not located in an area susceptible to hydromodification impacts. Thus, no hydromodification control BMPs are required.

Regional/Sub-Regional LID BMPs. LID BMPs would be utilized for water quality treatment on-site in accordance with the MS4 Permit. As such, regional/sub-regional LID BMPs are not necessary.

Treatment Control BMPs. Treatment control BMPs can only be considered if the project conformance analysis indicates that it is not feasible to retain the full design capture volume with LID BMPs. It is anticipated that LID BMPs would be utilized for water quality treatment on-site in accordance with the MS4 Permit. As such, Treatment Control BMPs are not necessary.

Non-Structural Source Control BMPs. The project would implement numerous non-structural BMPs (BMP-N1 through BMP N15). Each of the non-structural BMPs would serve to minimize the potential for pollutants to enter into site runoff.

Structural Source Control BMPs. The project would implement numerous structural BMPs (BMP-S1/SD13 to BMP-S13). As with the non-structural BMPs, each of the structural BMPs would also serve to minimize the potential for pollutants to enter into site runoff.

Water Quality Credit Program. It is noted that local jurisdictions may develop a water quality credit program (“Alternative Compliance Plan”) that applies to certain types of development projects after they first evaluate the feasibility of meeting LID requirements on-site. If it is not feasible to meet the requirements for on-site LID, project proponents for specific project types can apply credits that would reduce project obligations for selecting and sizing other treatment BMPs or participating in other alternative programs. At this time, no water quality credits have been applied to the project. However, the project meets many of the water quality credit objectives indicated in the Model WQMP (i.e., reduces overall impervious footprint, high density projects, mixed-use projects with environmental benefits, live-work developments, and in-fill projects) and has been identified for potential credits in the future. Should any credits be applied, they shall be documented in the Final WQMP and applied to the overall DCV for the project.

Inspection/Maintenance Responsibility for BMPs. A Property Owners Association (POA) would be formed upon project completion. The POA would be responsible for inspecting and maintaining all BMPs prescribed for Back Bay Landing. Until a POA is formally established, Bayside Village Marina, LLC would assume all BMP maintenance and inspection responsibilities for the project. Should the maintenance responsibility be transferred at any time during the operational life of Back Bay Landing, such as when an HOA or POA is formed for a project, a formal notice of transfer would be submitted to the City of Newport Beach at the time responsibility of the property subject to this WQMP is transferred. The transfer of responsibility would be incorporated into the Final WQMP as an amendment.

The POA would verify BMP implementation and ongoing maintenance through inspection, self-certification, survey, or other equally effective measure. The certification shall verify that, at a minimum, the inspection and maintenance of all structural BMPs including inspection and performance of any required maintenance in the late summer/early fall, prior to the start of the rainy season.

The City of Newport Beach may conduct verifications to assure that implementation and appropriate maintenance of structural and non-structural BMPs prescribed within the Final WQMP is taking place at the project site. The POA would retain operations, inspections and maintenance records of these BMPs and they will be made available to the City or County upon request. All records would be maintained for at least five (5) years after the recorded inspection date for the lifetime of the project. The long-term maintenance funding for the project would originate from the lease agreements and executed through the POA.

Compliance with applicable regulatory requirements, as well as implementation of the project design features and BMPs identified in the WQMP, would ensure that operation of the project would not adversely affect the receiving waters of Upper Newport Bay, result in the violation of water quality standards, and minimize the potential for contributing sources of polluted runoff. Further, given the lack of BMPs currently on the project site, the implementation of the project would improve the water quality of runoff into Upper Newport Bay when compared to existing conditions. Based on the above, water quality impacts would be less than significant.

(2) Hydrology and Drainage

Threshold	Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off-site?
Threshold	Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount or surface runoff in a manner which would result in flooding on or off-site?
Threshold	Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

4.H-2 The project would be designed to maintain existing drainage patterns of the site and area. Post development runoff would be consistent with applicable regulatory requirements and the post-project site would not result in significant hydrology impacts downstream such that flooding or erosion would occur on- or off-site. Furthermore, the project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage. Overall, impacts regarding changes in drainage patterns and stormwater flows would be less than significant.

As discussed in the Existing Conditions section above, the entire site currently generally drains into the Upper Newport Bay at three main locations. As defined in the Existing Hydrology map (see Figure 4.H-2), Area A1 combines with existing off-site flows emanating from East Coast Highway and Bayside Drive, which are then conveyed to a local low point just adjacent to the existing sewer pump station. These flows are tied into an existing 30- inch storm drain within PCH that flows westerly through the project site before discharging into the Upper Newport Bay. Area A2 sheet flows to a low point within this sub area, which collects flows utilizing two grate inlets that convey the on-site run off into the Back Bay via an 8-inch diameter HDPE Pipe. Area A3 is the portion of the project beneath PCH, and currently sheet flows into the Upper Newport Bay. Based upon field surveys and site inspections, drainage facilities do not appear to exist within this area.

The proposed condition would be designed to maintain the overall existing drainage pattern in which the entire site would convey its runoff directly into the Upper Newport Bay. The off-site flows as described in the existing condition would be routed around the project and tied into the existing 30-inch storm drain within East Coast Highway, approximately 350 feet upstream of the current tie in location.

Generally, the proposed project would be designed to convey storm flows in general conformance to the existing drainage patterns. However, all on-site flows would be directed to on-site areas where water quality measures would be provided to encourage filtration and treatment of the low flows. Curb and gutter, grate inlets, and storm drain pipe would be proposed to help convey flows to areas of treatment and discharge, as shown in **Figure 4.H-4, Proposed Hydrology**.

The proposed site would implement a design to protect against a 100-year storm event. Figure 4.H-4 conceptually demonstrates the location for the proposed storm drain facilities and models the post project

condition for a 25- and 100-year storm event. Flow rates and discharge points are defined on this conceptual figure as well, and summarized in **Table 4.H-4, Summary of Proposed Hydrologic Conditions**.

Table 4.H-4**Summary of Proposed Hydrologic Conditions**

25-year Q (Cfs)				
Drainage ID	Existing Conditions		Proposed Conditions	
	Acres	CFS	Acres	CFS
A1	1.3	4.6	1.1	3.7
A2	2.7	9.5	2.4	8.4
A3	1.7	6	2.4	8.4
Total	5.7 acres	20.1 cfs	5.9 acres	20.5 cfs
Net Change			<1 CFS	

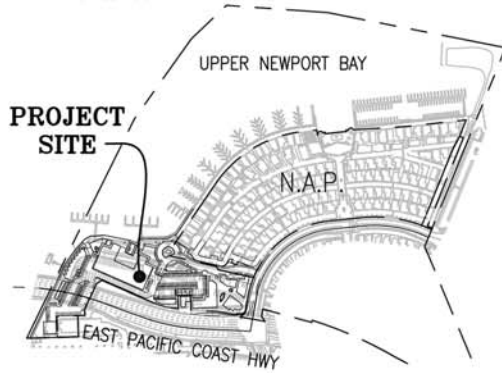
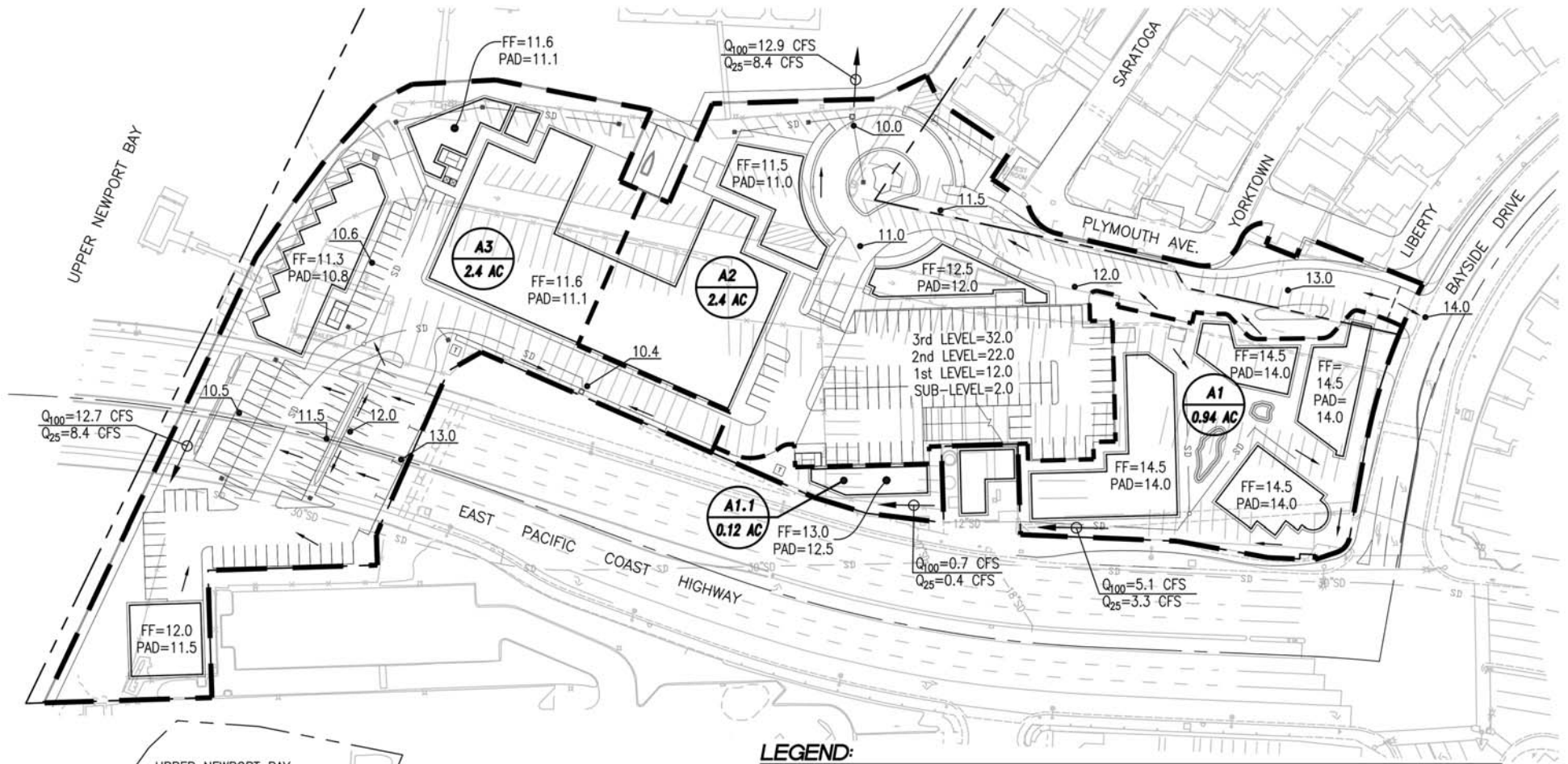
100-year Q (Cfs)				
Drainage ID	Existing Conditions		Proposed Conditions	
	Acres	CFS	Acres	CFS
A1	1.3	7	1.1	5.7
A2	2.7	14.6	2.4	12.9
A3	1.7	9	2.4	12.7
Total	5.7 acres	30.9 cfs	5.9 acres	31.3 cfs
Net Change			<1 CFS	

cfs = cubic feet per second

Source: Back Bay Landing Hydrology/ Hydromodification/Utilities Technical Memorandum ("Technical Hydro Memo"), prepared by Fuscoe on July 3, 2012.

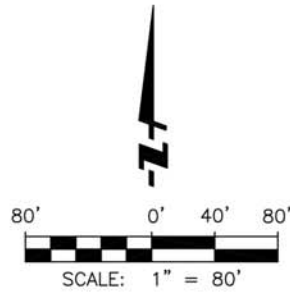
Under the proposed conditions, the drainage patterns and discharge rates would be largely preserved. The southeastern portion of the site would continue to discharge into the existing 30- inch storm drain system via a new on-site storm drain collection system. The middle interior portion of the site would be collected in a new on-site system and continue to discharge into the Bay via a new outlet through the bulkhead in a similar location as the existing 8-inch HDPE pipe outlet. The western portion of the site would be picked up in a new storm drain system and either tie into the existing 30-inch reinforced concrete pipe (RCP) under PCH, or discharge via a new outlet into the Bay through the proposed bulkhead along the western portion of the site. With implementation of the proposed drainage system, as shown in Table 4.H-4, the net change under the proposed conditions compared to existing conditions during a 25- and 100-year storm event would be less than one cfs.

The Preliminary WQMP for the project also included an analysis as to whether any hydrology conditions of concern (HCOC) would occur on the site with respect to downstream flooding, erosion potential of natural channels downstream, impacts of increased flows on natural habitat, etc. As specified in Section 2.3.3 of the 2011 Model WQMP, projects must identify and mitigate any HCOCs. A HCOC is a combination of upland hydrologic conditions and stream biological and physical conditions that presents a condition of concern for physical and/or biological degradation of streams.



LEGEND:

- MAIN WATERSHED BOUNDARY
 - SUB-WATERSHED BOUNDARY
 - PROPOSED STORM DRAIN
 - FLOW DIRECTION
 - FLOW LENGTH
 - COMPONENT AREA NUMBER
COMPONENT AREA ACREAGE
 - HYDROLOGY NODE
ELEVATION
- L=100'



Proposed Hydrology

Back Bay Landing
Source: Fuscoe Engineering, 2012.

FIGURE
4.H-4

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In the North Orange County permit area, HCOCs are considered to exist if any streams located downstream from the project are determined to be potentially susceptible to hydromodification impacts and either of the following conditions exists:

1. Post-development runoff volume for the 2-yr, 24-hr storm exceeds the pre-development runoff volume for the 2-yr, 24-hr storm by more than 5 percent
- or
2. 2. Time of concentration (Tc) of post-development runoff for the 2-yr, 24-hr storm event exceeds the time of concentration of the pre-development condition for the 2-yr, 24-hr storm event by more than 5 percent.

If these conditions do not exist or streams are not potentially susceptible to hydromodification impacts, an HCOC does not exist and hydromodification does not need to be considered further. In the North Orange County permit area, downstream channels are considered not susceptible to hydromodification, and therefore do not have the potential for a HCOC, if all downstream conveyance channels that will receive runoff from the project are engineered, hardened, and regularly maintained to ensure design flow capacity, and no sensitive habitat areas will be affected. The project site is located adjacent to the Upper Newport Bay, a tidally influenced area. Figure XVI- 3d of the Technical Guidance Document (May 2011) demonstrates that the project location does not fall within an area susceptible to hydromodification.

Overall, due to the nature of the high imperviousness associated with the existing conditions, proposed runoff rates would remain consistent or decrease due to the minor increase in landscaping under the proposed condition, as discussed above. Accordingly, the post-project site would not result in significant hydrology impacts downstream such that flooding or erosion would occur on- or off-site. Furthermore, the project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage. As such, impacts regarding changes in drainage patterns and stormwater flows would be less than significant in these regards.

(3) Flooding Hazards

Threshold	<p>Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?</p> <p>Would the project be subject to inundation by seiche, tsunami, or mudflow?</p>
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Impact 4.H-3 Implementation of the project could expose people and structures to flood hazards from dam failure, seiches and tsunamis. However, with implementation of the policies and procedures set forth in the City's Emergency Management Plan, Safety Element of the General Plan, and Municipal Code, risks associated with inundation by dam failure, seiche, and tsunami are considered to be less than significant.

As indicated in the existing conditions section above, based on FEMA flood maps, the project site has been designated as Zone X, meaning that it is outside of 100-year and 500-year flood zones. However, the site is

located within an area that could be subject flooding as a result of tsunami inundation or a seiche within Newport Bay.¹⁰ Also, the site is within the Prado Dam failure inundation pathway.

The potential for flooding hazards are well known in the coastal areas in the City of Newport Beach, as documented in the City of Newport Beach Emergency Management Plan. As discussed in the Safety Element of the City's General Plan, Newport Beach is generally protected from most distantly generated tsunamis by the Channel Islands and Point Arguello, except for those generated in the Aleutian Islands, off the coast of Chile, and possibly off the coast of Central America. Nevertheless, since the early 1800s, more than thirty tsunamis have been recorded in Southern California, and at least six of these caused damage in the area, although not necessarily in Newport Beach. Tsunamis generated in the Alaskan region take approximately six hours to arrive in the Southern California area, while tsunamis generated off the Chilean coast take 12 to 15 hours. Given those timeframes, coastal communities in Southern California can receive adequate warning, allowing them to implement evacuation procedures. In the event a tsunami, or a dam failure at Prado Dam, the City has an Emergency Management Plan, which includes procedures and evacuation plans to be implemented in the unlikely event of a dam failure or tsunami. The City also provides residents, visitors and workers within coastal areas with educational materials and programs to inform people of potential to flooding hazards.

The Safety Element also includes a goals and policies to minimize adverse effects of coastal hazards related to storm surges and seiches. Implementation of Policies S2.1 through S2.7 by the City and development within coastal areas would achieve this goal by preparing impact reports for shoreline and coastal bluff areas that would be made available to applicants for new development, developing and implementing shoreline management plans, using sand dunes as shoreline protective structures, maintaining storm drains in low-lying areas such that flood waters can be effectively conveyed away from structures, requiring residential structures to raise floor elevations, and enforcing policies that prohibit the construction of hard devices for protection of public property from storm surges. Implementation of the City's Emergency Management Plan and Safety Element policies described above would help minimize the impact of flooding, including flooding as a result of dam failure, seiche and tsunami inundation. Furthermore, all new development in the City occurring in areas that are subject to flood hazards would be required to comply with the flood damage prevention provisions of the City's Municipal Code.

Overall, in consideration of the City's policies and regulatory requirements described above, risks associated with inundation by dam failure, seiche, and tsunami are considered to be less than significant.

(4) Consistency with Regulatory Framework

Threshold	Would the project conflict with any applicable plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan and municipal code) adopted for the purpose of avoiding or mitigating an environmental effect?
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Impact 4.H-4 Implementation of the proposed project would not conflict with any applicable plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the General Plan and Municipal Code). This impact is considered less than significant.

¹⁰ City of Newport Beach website, *Tsunami Inundation and Potential Tsunami Runup Inundation Maps, Plates H-10 and H-11, prepared by Earth Consultants International, 2008.* <http://www.newportbeachca.gov/index.aspx?page=1495>

As discussed above, the project would comply with all applicable federal, state, and local laws and regulations related to hydrology, drainage, flooding, and water quality. The City of Newport Beach General Plan contains various policies related to hydrology, drainage, flooding, and water quality, including policies from the Harbor and Bay Element, Public Natural Resources Element, Safety Element. In addition, the City’s Local Coastal Program Coastal Land Use Plan (CLUP) and the California Coastal Act also contain policies relevant to hydrology and water quality that are applicable to the project. As shown in **Table 4.H-5, General Plan Consistency Analysis**, **Table 4.H-6, Coastal Land Use Plan Consistency Analysis**, and **Table 4.H-7, California Coastal Act Consistency Analysis**, the project would be consistent with the applicable policies of the City’s General Plan and CLUP and the California Coastal Act, respectively, and therefore impacts in this regard would be less than significant.

Table 4.H-5

General Plan Consistency Analysis

<u>General Plan Policy</u>	<u>Project Consistency Statement</u>
Harbor and Bay Element	
<p>Policy HB-8.1: Chemical Uses Impacting Water Quality. Support regulations limiting or banning the use of insecticides, fertilizers, and other chemicals which are shown to be detrimental to water quality.</p>	<p>Consistent. BNP B-3 requires management programs to be designed and implemented by the Owner/POA, which will maintain all the common areas within the project site (via landscape contractor). These programs will cover how to reduce the potential pollutant sources of fertilizer and pesticide uses. Further, the project’s other non-structural BMPs (BMPs N-1, N-2, N-12) would serve to limit the use of insecticides and fertilizers on the project site. In addition, specific restrictions are included when applying these chemicals regarding the occurrence of rainfall events, application techniques, and qualifications of the individual performing the application.</p>
<p>Policy HB-8.2: Water Pollution Prevention. Promote pollution prevention and elimination methods that minimize the introduction of pollutants into natural water bodies.</p>	<p>Consistent. Construction management BMPs would be developed that ensure the risks from discharge and transport of pollutants from the construction site are minimized. Post-construction BMPs include source controls and a well-designed water quality program that reduce the likelihood of initial pollutant discharge and treats all runoff from the project site prior to discharge into Upper Newport Bay. Site design and LID BMPs further address storm water pollution prevention through site planning features and landscaping elements. The project would comply with all requirements set forth in the current NPDES General Construction Permit and the MS4 Permit, which includes preparation of a SWPPP. The project would also comply with the updated General Construction Permit and 2011 County Model WQMP guidelines. PDFs have been incorporated into the project design including Site Design and LID features and good housekeeping procedures consistent with the overall goal of preventing pollution occurrences and/or pollutant transport off the project site.</p>

Table 4.H-5 (Continued)

General Plan Consistency Analysis

<u>General Plan Policy</u>	<u>Project Consistency Statement</u>
<p>Policy HB-8.3: Ground Water Contamination. Suspend activities and implement appropriate health and safety procedures in the event that previously unknown groundwater contamination is encountered during construction. Where site contamination is identified, implement an appropriate remediation strategy that is approved by the City and state agency with appropriate jurisdictions.</p>	<p>Consistent. Groundwater levels beneath the project site are at depths of approximately six to eight feet below grade, which relatively close to the ground surface. Project construction could encounter groundwater and require dewatering activities. As discussed in Section 4.G, <i>Hazards and Hazardous Materials</i>, of this Draft EIR, the project would implement Mitigation Measures 4.G-1 and 4.G-3 and comply with applicable regulatory requirements to ensure that groundwater contamination does not result in hazards to human health or the environment. If dewatering is required, it would be performed in accordance with the appropriate NPDES requirements under the Clean Water Act and the Dewatering Permit. Compliance with regulatory requirements would ensure that dewatering activities would not result in the exceedance of water quality standards during construction, including TMDL limits applicable to Upper and Lower Newport Bays. In addition, construction BMPs have been incorporated into the project including waste management and materials pollution control BMPs. Implementation of these measures would further reduce any risk of negatively impacting groundwater quality.</p>
<p>Policy HB-8.4: Storm Drain Sewer System Permit. Require all development to comply with the regulations under the City’s municipal separate storm sewer system permit under the National Pollutant Discharge Elimination System.</p>	<p>Consistent. As addressed in this section, the project requires an NPDES permit. The project would comply with all requirements of the Orange County DAMP through the development of the project’s WQMP.</p>
<p>Policy HB-8.5: Natural Water Bodies. Require that development not result in the degradation of natural water bodies.</p>	<p>Consistent. Future development pursuant to the proposed project would be required to prepare and implement a project-specific WQMP that would preclude the potential for degradation of natural water bodies, including Upper and Lower Newport Bay.</p>
<p>Policy HB-8.9: Water Quality Management Plan. Require new development applications to include a Water Quality Management Plan (WQMP) to minimize runoff from rainfall events during construction and post-construction.</p>	<p>Consistent. A Conceptual WQMP has been prepared for the project which identifies the operational BMPs for the project. A Final WQMP, which provides additional detail on water quality management features, would be prepared as final design proceeds.</p>

Table 4.H-5 (Continued)

General Plan Consistency Analysis

<u>General Plan Policy</u>	<u>Project Consistency Statement</u>
<p>Policy HB-8.10: Best Management Practices. Implement and improve upon Best Management Practices (BMPs) for residences, businesses, development projects, and City operations.</p>	<p>Consistent. The project proposes to implement a water quality program to protect existing water quality by treating site runoff and incorporating LID features as BMPs into project design. This EIR section identifies the proposed BMPs that would be implemented as a part of the project.</p>
<p>Policy HB-8.11: Site Design and Source Control. Include site design and source control BMPs in all developments. When the combination of site design and source control BMPs are not sufficient to protect water quality as required by the National Pollutant Elimination System, structural treatment BMPs will be implemented along with site design and source control measures.</p>	<p>Consistent. Site Design and Source Control BMPs have been incorporated into project conceptual development and site design. This EIR section identifies the proposed BMPs, including structural and non-structural BMPs, which would be implemented as a part of the project.</p>
<p>Policy HB-8.12: Reduction of Infiltration. Include equivalent BMPs that do not require infiltration, where infiltration of runoff would exacerbate geologic hazards.</p>	<p>Consistent. As discussed in this EIR section, due to the presence of shallow groundwater, on-site infiltration of storm water runoff is considered infeasible. However, the implementation of the numerous Site Design features and LID BMPs described in this EIR section would effectively treat runoff from the site such that adverse water quality impacts do not occur as a result on project implementation.</p>
<p>Policy HB-8.14: Runoff Reduction on Private Property. Retain runoff on private property to prevent the transport of pollutants into recreational waters, to the maximum extent practicable.</p>	<p>Consistent. As discussed in this EIR section, due to the presence of shallow groundwater, on-site infiltration of storm water runoff is considered infeasible. However, the project would incorporate structural and non-structural BMPs to reduce or and treat runoff from the project site. Water quality in Upper Newport Bay would be maintained by the project through ensuring the provision of continued adequate runoff discharge volumes.</p>
<p>Policy HB-8.15: Street Drainage Systems. Require all street drainage systems and other physical improvements created by the City, or developers of new subdivisions, to be designed, constructed, and maintained to minimize adverse impacts on water quality. Investigate the possibility of treating or diverting street drainage to minimize impacts to water bodies.</p>	<p>Consistent. The project provides for the incorporation of Site Design and LID features that treat, infiltrate, and provide source controls for both construction and post-construction site runoff. Curb designs would direct site runoff to landscaped bioretention areas for filtration and treatment prior to discharging off-site.</p>

Table 4.H-5 (Continued)

General Plan Consistency Analysis

<u>General Plan Policy</u>	<u>Project Consistency Statement</u>
<p>Policy HB-8.16: Siting of New Development. Require that development be located on the most suitable portion of the site and designed to ensure the protection and preservation of natural and sensitive site resources that provide important water quality benefits.</p>	<p>Consistent. The site is currently improved with urbanized uses and does not include any sensitive site resources. However, Upper Newport Bay is located immediately adjacent to the project site. As discussed throughout this EIR section, the implementation of the numerous Site Design features and LID BMPs by the project would effectively treat runoff from the site such that adverse water quality impacts do not occur as a result on project implementation.</p>
<p>Policy HB-8.17: Parking Lots and Rights-of-Ways. Require that parking lots and public and private rights-of-way be maintained and cleaned frequently to remove debris and contaminated residue.</p>	<p>Consistent. The City would be responsible for the maintenance of public roads and parking lots; the Applicant would be responsible for the maintenance of private rights-of-way, roads, parking lots, etc. Typical maintenance activities include, but are not limited to, street sweeping, parking lot vacuuming, and removing trash. This EIR identifies the proposed BMPs (BMP-N15) that would be implemented as a part of the project to remove debris and contaminated residue.</p>
<p>Policy HB-8.18: Water Quality Education. Effectively communicate water quality education to residents and businesses, including the development of a water quality testing lab and educational exhibits at various educational facilities.</p>	<p>Consistent. The project would implement non-structural BMP to effectively communicate water quality education to residents and businesses (BMP-N1 and BMP-N12).</p>
<p>Policy HB-8.19: Natural Drainage Systems. Require incorporation of natural drainage systems and stormwater detention facilities into new developments, where appropriate and feasible, to retain stormwater in order to increase groundwater recharge.</p>	<p>Consistent. The project would maintain existing drainage patterns which ultimately convey runoff into Upper Newport Bay. No natural drainage features exist on the site. The project site is developed under existing conditions and as such does not currently function as a significant groundwater recharge site. All disturbed areas would be paved or landscaped with native and/or tolerant landscaping consistent with City and CA Coastal Commission Guidelines.</p>
<p>Policy HB-8.20: Impervious Surfaces. Require new development and public improvements to minimize the creation of and increases in impervious surfaces, especially directly connected impervious areas, to the maximum extent practicable. Require redevelopment to increase area of pervious surfaces, where feasible.</p>	<p>Consistent. The project incorporates Site Design BMPs that would effectively minimize impervious areas. Per BMP-SD-1, impervious surfaces would be minimized by incorporating landscaped areas throughout the site including common areas, parking lot islands, medians and larger courtyard areas. The streets and sidewalks would be designed with minimum width requirements to minimize impervious surfaces where feasible. Overall, due to the nature of the high imperviousness associated with the existing conditions, proposed runoff rates would remain consistent or decrease due to the minor increase in landscaping under the proposed condition.</p>

Table 4.H-5 (Continued)

General Plan Consistency Analysis

<u>General Plan Policy</u>	<u>Project Consistency Statement</u>
<i>Natural Resources Element</i>	
Policy NR-3.1: Chemical Uses Impacting Water Quality. Support regulations limiting or banning the use of insecticides, fertilizers, and other chemicals which are shown to be detrimental to water quality.	Consistent. Please refer to the response to Policy HB-8.1.
Policy NR-3.2: Water Pollution Prevention. Promote pollution prevention and elimination methods that minimize the introduction of pollutants into natural water bodies.	Consistent. Please refer to the response to Policy HB-8.2.
Policy NR-3.3: Ground Water Contamination. Suspend activities and implement appropriate health and safety procedures in the event that previously unknown groundwater contamination is encountered during construction. Where site contamination is identified, implement an appropriate remediation strategy that is approved by the City and the state agency with appropriate jurisdiction.	Consistent. Please refer to the response to Policy HB-8.3.
Policy NR-3.4: Storm Drain Sewer System Permit. Require all development to comply with the regulations under the City's municipal separate storm drain system permit under the National Pollutant Discharge Elimination System.	Consistent. Please refer to the response to Policy HB-8.4.
Policy NR-3.5: Natural Water Bodies. Require that development does not degrade natural water bodies.	Consistent. Please refer to the response to Policy HB-8.5.
Policy NR-3.9: Water Quality Management Plan. Require new development applications to include a Water Quality Management Plan (WQMP) to minimize runoff from rainfall events during construction and post-construction.	Consistent. Please refer to the response to Policy HB-8.9.
Policy NR-3.10: Best Management Practices. Implement and improve upon Best Management Practices (BMPs) for residences, businesses, development projects, and City operations.	Consistent. Please refer to the response to Policy HB-8.10.

Table 4.H-5 (Continued)

General Plan Consistency Analysis

<u>General Plan Policy</u>	<u>Project Consistency Statement</u>
<p>Policy NR-3.11: Site Design and Source Control. Include site design and source control BMPs in all developments. When the combination of site design and source control BMPs are not sufficient to protect water quality as required by the National Pollutant Discharge Elimination System (NPDES), structural treatment BMPs will be implemented along with site design and source control measures.</p>	<p>Consistent. Please refer to the response to Policy HB-8.11.</p>
<p>Policy NR-3.12: Reduction of Infiltration. Include equivalent BMPs that do not require infiltration, where infiltration of runoff would exacerbate geologic hazards.</p>	<p>Consistent. Please refer to the response to Policy HB-8.12.</p>
<p>Policy NR-3.14: Runoff Reduction on Private Property. Retain runoff on private property to prevent the transport of pollutants into natural water bodies, to the maximum extent practicable.</p>	<p>Consistent. Please refer to the response to Policy HB-8.14.</p>
<p>Policy NR-3.15: Street Drainage Systems. Require all street drainage systems and other physical improvements created by the City, or developers of new subdivisions, to be designed, constructed, and maintained to minimize adverse impacts on water quality. Investigate the possibility of treating or diverting street drainage to minimize impacts to water bodies.</p>	<p>Consistent. Please refer to the response to Policy HB-8.15.</p>
<p>Policy NR-3.16: Siting of New Development. Require that development be located on the most suitable portion of the site and designed to ensure the protection and preservation of natural and sensitive site resources that provide important water quality benefits.</p>	<p>Consistent. Please refer to the response to Policy HB-8.16.</p>
<p>Policy NR-3.17: Parking Lots and Rights-of-Way. Require that parking lots and public and private rights-of-way be maintained and cleaned frequently to remove debris and contaminated residue.</p>	<p>Consistent. Please refer to the response to Policy HB-8.17.</p>
<p>Policy NR-3.18: Water Quality Education. Effectively communicate water quality education to residents and businesses, including the development of a water quality testing lab and educational exhibits at various educational facilities.</p>	<p>Consistent. Please refer to the response to Policy HB-8.18.</p>

Table 4.H-5 (Continued)

General Plan Consistency Analysis

<u>General Plan Policy</u>	<u>Project Consistency Statement</u>
<p>Policy NR-3.19: Natural Drainage Systems. Require incorporation of natural drainage systems and stormwater detention facilities into new developments, where appropriate and feasible, to retain stormwater in order to increase groundwater recharge.</p>	<p>Consistent. Please refer to the response to Policy HB-8.19.</p>
<p>Policy NR-3.20: Impervious Surfaces. Require new development and public improvements to minimize the creation of and increases in impervious surfaces, especially directly connected impervious areas, to the maximum extent practicable. Require redevelopment to increase area of pervious surfaces, where feasible.</p>	<p>Consistent. Please refer to the response to Policy HB-8.20.</p>
<p>Policy NR-4.1: Total Maximum Daily Loads. Develop and implement the TMDLs established by the RWQCB, Santa Ana Region and guided by the Newport Bay Watershed Executive Committee (WEC).</p>	<p>Consistent. Compliance with regulatory requirements would ensure that construction and operation of a future development on-site would not result in the exceedance of water quality standards during construction, including TMDL limits applicable to Upper and Lower Newport Bays.</p>
<p>Policy NR-4.3: Restore Natural Hydrologic Conditions. Preserve, or where feasible, restore natural hydrologic conditions such that downstream erosion, natural sedimentation rates, surface flow, and groundwater recharge function near natural equilibrium states.</p>	<p>Consistent. Site-design concepts for the project would maintain existing site drainage patterns which ultimately flow into Upper Newport Bay. Under natural conditions, runoff from the site would flow into Upper Newport Bay. Implementation of the project’s Site Design and LID BMPs would ensure that flow rates and runoff volumes leaving the site in the post-project condition are treated and do not result in exacerbation of either erosion or sedimentation in Upper Newport Bay. Also, the project site is developed under existing conditions and as such does not currently function as a significant groundwater recharge site.</p>
<p>Policy NR-4.4: Erosion Minimization. Require grading/erosion control plans with structural BMPs that prevent or minimize erosion during and after construction for development on steep slopes, graded, or disturbed areas.</p>	<p>Consistent. The project would comply with the requirements of the new General Construction Permit, which would require the implementation of Construction BMPs to minimize soil to minimize soil erosion. Site-design concepts for the project would maintain existing site drainage patterns which ultimately flow into Upper Newport Bay. Under natural conditions, runoff from the site would flow into Upper Newport Bay. Implementation of the project’s Site Design and LID BMPs would ensure that flow rates and runoff volumes leaving the site in the post-project condition are treated and do not result in exacerbation of either erosion or sedimentation in Upper Newport Bay.</p>

Table 4.H-5 (Continued)

General Plan Consistency Analysis

General Plan Policy	Project Consistency Statement
Policy NR-5.2: Waste Discharge Permits. Require waste discharge permits for all food preparation facilities that produce grease.	Consistent. The City would require a waste discharge permit for any project restaurants and other food preparation facilities that may be proposed on the project site.
Safety Element	
Policy S-2.6: Maintenance of Storm Drains. Maintain and regularly clean out storm drains in low lying areas, as necessary, such that flood waters can be effectively conveyed away from structures.	Consistent. Storm drains would be maintained and regularly cleaned in low lying areas, as necessary, such that flood waters can be effectively conveyed away from structures, as prescribed by BMP-N-4 and BMP-N14.
Policy S-2.7: Residential Design. Require new or remodeled residential structures in areas susceptible to storm surge to raise floor elevations as required by building codes.	Consistent. Per applicable City building codes, the residential uses proposed on the site would be raised to an elevation that would minimize the potential for flooding hazards associated with storm surges (and tsunami inundation).
Policy S-5.3: Minimization of Flood Hazard Risk. Require stormwater detention basins, where appropriate, to reduce the potential risk of flood hazards.	Consistent. As part of the project BMPs, bioretention cells with underdrains would be implemented to capture and treat storm flows. In accordance with the Model WQMP, the biotreatment BMPs would be sized to capture and treat the volume of runoff produced from a 24-hour, 85 th percentile storm event (termed Design Capture Volume [DCV]). Due to the nature of the high imperviousness associated with the existing conditions, proposed runoff rates would remain consistent or decrease due to the minor increase in landscaping under the proposed condition. Further, as discussed in the hydrology and drainage analysis above in this EIR section, the project's proposed drainage system would accommodate 100-year storm flows and would not create any new flood hazard or exacerbate existing conditions.

Source: PCR Services Corporation, 2013.

Table 4.H-6

Coastal Land Use Plan Consistency Analysis

<u>CLUP Policy</u>	<u>Project Consistency Statement</u>
4.3 Water Quality	
4.3.1 TMDLs	
<p>Policy 4.3.1-4. Preserve, or where feasible, restore natural hydrologic conditions such that downstream erosion, natural sedimentation rates, surface flow, and groundwater recharge function near natural equilibrium states.</p>	<p>Consistent. Site-design concepts for the project would maintain existing site drainage patterns which ultimately flow into Upper Newport Bay. Under natural conditions, runoff from the site would flow into Upper Newport Bay. Implementation of the project’s Site Design and LID BMPs would ensure that flow rates and runoff volumes leaving the site in the post-project condition are treated and do not result in exacerbation of either erosion or sedimentation in Upper Newport Bay. Also, the project site is developed under existing conditions and as such does not currently function as a significant groundwater recharge site.</p>
<p>Policy 4.3.1-6. Require grading/erosion control plans to include soil stabilization on graded or disturbed areas.</p>	<p>Consistent. The project would comply with the requirements of the new General Construction Permit, which would require the implementation of Construction BMPs to minimize soil to minimize soil erosion. Site-design concepts for the project would maintain existing site drainage patterns which ultimately flow into Upper Newport Bay. Under natural conditions, runoff from the site would flow into Upper Newport Bay. Implementation of the project’s Site Design and LID BMPs would ensure that flow rates and runoff volumes leaving the site in the post-project condition are treated and do not result in exacerbation of either erosion or sedimentation in Upper Newport Bay.</p>
<p>Policy 4.3.1-7. Require measures be taken during construction to limit land disturbance activities such as clearing and grading, limiting cut-and-fill to reduce erosion and sediment loss, and avoiding steep slopes, unstable areas, and erosive soils. Require construction to minimize disturbance of natural vegetation, including significant trees, native vegetation, root structures, and other physical or biological features important for preventing erosion or sedimentation.</p>	<p>Consistent. Please refer to the response to Policy 4.3.1-6. All future on-site construction activities, including site clearing and grading, would be conducted in accordance with the requirements of the Construction General Permit, which would minimize the potential for adverse impacts related to erosion and sedimentation.</p>
4.3.2 NPDES	
<p>Policy 4.3.2-1. Promote pollution prevention and elimination methods that minimize the introduction of pollutants into coastal waters, as well as the generation and impacts of dry weather and polluted runoff.</p>	<p>Consistent. Construction management BMPs would be developed that ensure the risks from discharge and transport of pollutants from the construction site are minimized. Post-construction BMPs include source controls and a well-designed water quality program that reduce the likelihood of initial pollutant discharge and treats all runoff from the project site prior to discharge</p>

Table 4.H-6 (Continued)

Coastal Land Use Plan Consistency Analysis

<u>CLUP Policy</u>	<u>Project Consistency Statement</u>
	<p>into Upper Newport Bay. Site design and LID BMPs further address storm water pollution prevention through site planning features and landscaping elements.</p> <p>The project would comply with all requirements set forth in the current NPDES General Construction Permit and the MS4 Permit, which includes preparation of a SWPPP. The project would also comply with the updated General Construction Permit and 2011 County Model WQMP guidelines. PDFs have been incorporated into the project design including Site Design and LID features and good housekeeping procedures consistent with the overall goal of preventing pollution occurrences and/or pollutant transport off the project site.</p>
<p>Policy 4.3.2-2. Require that development not result in the degradation of coastal waters (including the ocean, estuaries and lakes) caused by changes to the hydrologic landscape.</p>	<p>Consistent. Future development pursuant to the proposed project would be required to prepare and implement a project-specific WQMP that would preclude the potential for degradation of natural water bodies, including Upper and Lower Newport Bay.</p>
<p>Policy 4.3.2-7. Incorporate BMPs into the project design in the following progression:</p> <ul style="list-style-type: none"> ▪ Site Design BMPs. ▪ Source Control BMPs. ▪ Treatment Control BMPs. <p>Include site design and source control BMPs in all developments. When the combination of site design and source control BMPs are not sufficient to protect water quality as required by the LCP or Coastal Act, structural treatment BMPs will be implemented along with site design and source control measures.</p>	<p>Consistent. The project proposes to implement a water quality program to protect existing water quality by treating site runoff and incorporating LID features as BMPs into project design. This EIR section identifies the proposed BMPs, including Site Design BMPs, Source Control BMPs, and Treatment Control BMPs, that would be implemented as a part of the project.</p>
<p>Policy 4.3.2-8. To the maximum extent practicable, runoff should be retained on private property to prevent the transport of bacteria, pesticides, fertilizers, pet waste, oil, engine coolant, gasoline, hydrocarbons, brake dust, tire residue, and other pollutants into recreational waters.</p>	<p>Consistent. As discussed in this EIR section, due to the presence of shallow groundwater, on-site infiltration of storm water runoff is considered infeasible. However, the project would incorporate structural and non-structural BMPs to reduce or and treat runoff from the project site. Water quality in Upper Newport Bay would be maintained by the project through ensuring the provision of continued adequate runoff discharge volumes.</p>

Table 4.H-6 (Continued)

Coastal Land Use Plan Consistency Analysis

CLUP Policy	Project Consistency Statement
<p>Policy 4.3.2-9. To the maximum extent practicable, limit the use of curb drains to avoid conveying runoff directly to the City’s street drainage system without the benefit of absorption by permeable surfaces and natural treatments such as landscaped areas and planters.</p>	<p>Consistent. The project provides for the incorporation of Site Design and LID features that treat, infiltrate, and provide source controls for both construction and post-construction site runoff. Curb designs would direct site runoff to landscaped bioretention areas for filtration and treatment prior to discharging off-site.</p>
<p>Policy 4.3.2-10. Provide storm drain stenciling and signage for new storm drain construction in order to discourage dumping into drains.</p>	<p>Consistent. As discussed above, the Conceptual WQMP for a future on-site development would include BMPs such as BMP-S1/SD-13, which requires storm drain stenciling and signage for new storm drain catch basins.</p>
<p>Policy 4.3.2-11. Require new development to minimize the creation of and increases in impervious surfaces, especially directly connected impervious areas, to the maximum extent practicable. Require redevelopment to increase area of pervious surfaces, where feasible.</p>	<p>Consistent. The project incorporates Site Design BMPs that would effectively minimize impervious areas. Per BMP-SD-1, impervious surfaces would be minimized by incorporating landscaped areas throughout the site including common areas, parking lot islands, medians and larger courtyard areas. The streets and sidewalks would be designed with minimum width requirements to minimize impervious surfaces where feasible. Overall, due to the nature of the high imperviousness associated with the existing conditions, proposed runoff rates would remain consistent or decrease due to the minor increase in landscaping under the proposed condition.</p>
<p>Policy 4.3.2-13. Site development on the most suitable portion of the site and design to ensure the protection and preservation of natural and sensitive site resources by providing for the following:</p> <ul style="list-style-type: none"> A. Protecting areas that provide important water quality benefits, areas necessary to maintain riparian and aquatic biota and/or that are susceptible to erosion and sediment loss; B. Analyzing the natural resources and hazardous constraints of planning areas and individual development sites to determine locations most suitable for development; C. Preserving and protecting riparian corridors, wetlands, and buffer zones; D. Minimizing disturbance of natural areas, including vegetation, significant trees, native vegetation, and root structures; E. Ensuring adequate setbacks from creeks, 	<p>Consistent. The site is currently improved with urbanized uses and does not include any sensitive site resources. However, Upper Newport Bay is located immediately adjacent to the project site. As discussed throughout this EIR section, the implementation of the numerous Site Design features and LID BMPs by the project would effectively treat runoff from the site such that adverse water quality impacts do not occur as a result on project implementation.</p>

Table 4.H-6 (Continued)

Coastal Land Use Plan Consistency Analysis

CLUP Policy	Project Consistency Statement
<p>wetlands, and other environmentally sensitive habitat areas;</p> <p>F. Promoting clustering of development on the most suitable portions of a site by taking into account geologic constraints, sensitive resources, and natural drainage features;</p> <p>G. Utilizing design features that meet water quality goals established in site design policies.</p>	
<p>Policy 4.3.2-14. Whenever possible, divert runoff through planted areas or sumps that recharge the groundwater dry wells and use the natural filtration properties of the earth to prevent the transport of harmful materials directly into receiving waters.</p>	<p>Consistent. Refer to response to Policy 4.3.2-9, above.</p>
<p>Policy 4.3.2-16. Require structural BMPs to be inspected, cleaned, and repaired as necessary to ensure proper functioning for the life of the development. Condition coastal development permits to require ongoing application and maintenance as is necessary for effective operation of all BMPs (including site design, source control, and treatment control).</p>	<p>Consistent. BMPs to be implemented on-site as part of a future development project would include ongoing maintenance of such features and facilities, as required by BMP-N4 above. The project-specific WQMP to be developed and implemented for a future on-site project would specify the nature and timing of all BMPs maintenance activities.</p>
<p>Policy 4.3.2-19. Require parking lots and vehicle traffic areas to incorporate BMPs designed to prevent or minimize runoff of oils and grease, car battery acid, coolant, gasoline, sediments, trash, and other pollutants to receiving waters.</p>	<p>Consistent. The Project Applicant/Property Owner would be responsible for the maintenance of private rights-of-way, roads, parking lots, etc. Typical maintenance activities include, but are not limited to, street sweeping, parking lot vacuuming, and removing trash. This EIR identifies the proposed BMPs (BMP-N15) that would be implemented as a part of the project to remove debris and contaminated residue.</p>
<p>Policy 4.3.2-20. Require commercial development to incorporate BMPs designed to prevent or minimize the runoff of pollutants from structures, landscaping, parking areas, loading and unloading dock areas, repair and maintenance bays, and vehicle/equipment wash areas.</p>	<p>Consistent. Future on-site uses to be developed pursuant to the proposed PCDP, including commercial components, would be required to implement a number of water quality BMPs to minimize pollutant generation and transport. Post-construction BMPs include source controls and a well-designed water quality program that reduce the likelihood of initial pollutant discharge and treats all runoff from the project site prior to discharge into Upper Newport Bay. Site design and LID BMPs further address storm water pollution prevention through site planning features and landscaping elements.</p>
<p>Policy 4.3.2-22. Require beachfront and waterfront development to incorporate BMPs designed to prevent or minimize polluted runoff to beach and coastal waters.</p>	<p>Consistent. Refer to response to Policy 4.3.2-2, above.</p>

Table 4.H-6 (Continued)

Coastal Land Use Plan Consistency Analysis

CLUP Policy	Project Consistency Statement
<p>Policy 4.3.2-23. Require new development applications to include a Water Quality Management Plan (WQMP). The WQMP's purpose is to minimize to the maximum extent practicable dry weather runoff, runoff from small storms (less than 3/4" of rain falling over a 24-hour period) and the concentration of pollutants in such runoff during construction and post-construction from the property.</p>	<p>Consistent. A Conceptual WQMP has been prepared for the project which identifies the operational BMPs for the project. A Final WQMP, which provides additional detail on water quality management features, would be prepared as final design proceeds.</p>
<p>Policy 4.3.2-24. To further reduce runoff, direct and encourage water conservation via the use of weather- and moisture-based irrigation controls, tiered water consumption rates, and native or drought-tolerant plantings in residential, commercial, and municipal properties to the maximum extent practicable.</p>	<p>Consistent. The Conceptual WQMP prepared for the proposed project requires implementation of BMP-S4/SD-12 and BMP-SD-5, which require use of efficient irrigation systems and low-moisture landscaping materials, respectively, as part of a future development on-site.</p>

Source: PCR Services Corporation, 2013.

Table 4.H-7

California Coastal Act Consistency Analysis

Coastal Act Policy	Project Consistency Statement
<p>Marine Environment</p>	
<p>Section 30230 Marine resources; maintenance. Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.</p>	<p>Consistent. The project site is located directly adjacent to Upper Newport Bay, which includes valued marine resources. As discussed in Section 4.C, Biological Resources, of this Draft EIR, impacts to biological resources would be less than significant with implementation of the prescribed mitigation measures. With respect to water quality, this section of the EIR addresses the proposed water quality treatment program for the project site which would include water quality features and best management practices to be implemented at the project site. As concluded within this section, water quality impacts, including those to Upper Newport Bay, would be less than significant.</p>
<p>Section 30231 Biological productivity; water quality. The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow,</p>	<p>Consistent. As discussed above and in Section 4.B, Biological Resources, of this Draft EIR, water quality BMPs would be implemented on-site as part of future project implementation, which would preclude the potential for adverse water quality effects that could hinder biological productivity in adjacent water bodies.</p>

Table 4.H-7 (Continued)

California Coastal Act Consistency Analysis

<u>Coastal Act Policy</u>	<u>Project Consistency Statement</u>
encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.	
Development	
<p>Section 30253 Minimization of adverse impacts. New development shall do all of the following:</p> <p>(a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.</p> <p>(b) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.</p> <p>(c) Be consistent with requirements imposed by an air pollution control district or the State Air Resources Board as to each particular development.</p> <p>(d) Minimize energy consumption and vehicle miles traveled.</p> <p>(e) Where appropriate, protect special communities and neighborhoods that, because of their unique characteristics, are popular visitor destination points for recreational uses.</p>	<p>Consistent. The applicable provision of the Coastal Act is Section 30253(a) with respect to minimizing risks to life and property from flood hazards. Please refer to response to Policy S.5-3 in Table 4.H-5 for a discussion of flood risks. Also, as concluded in Section 4.E, Geology and Soils, potentially significant geologic hazards would be less than significant with implementation of the prescribed mitigation measures and compliance to applicable regulatory requirements. Also, the project site is an urbanized setting and is not in a high fire hazard area.</p>

Source: PCR Services Corporation, 2013.

4. CUMULATIVE IMPACTS

As identified in Chapter 3, *Basis for Cumulative Analysis*, of this Draft EIR, there are forty three (43) related projects within the City of Newport Beach, which include both approved projects and future cumulative development. These projects could potentially increase the volume of stormwater runoff and contribute to pollutant loading in stormwater runoff, and are also located within the same watershed as the project site, and therefore could contribute to cumulative impacts relative to hydrology and water quality. However, as with the project, the related projects would be subject to State and local NPDES permit requirements for both construction and operation. Each individual development project greater than one-acre in size would be required to develop SWPPPs and would be evaluated individually to determine appropriate BMPs and treatment measures to avoid impacts to water quality. In addition, the related projects will be required to submit a project-specific WQMP, as necessary, to ensure all requirements of the City of Newport Beach’s Storm Water Program/LIP and ordinances on storm water quality are addressed for each project. Thus,

cumulative impacts to hydrology and water quality would be less than significant and the project's contribution to such impacts would not be considerable. Further, with regards to flooding, as discussed in the analysis above, the proposed project site runoff rates would remain consistent or decrease due to the minor increase in landscaping under the proposed condition. As such, the project would not substantially contribute to potential cumulative flooding hazards on-or off-site.

5. MITIGATION MEASURES

Compliance with applicable regulatory requirements, in addition to implementation of the project design features outlined above, would ensure that impacts to hydrology and water quality are less than significant. No mitigation measures are necessary.

6. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts related to hydrology and water quality would be less than significant.