

4.9 HYDROLOGY AND WATER QUALITY

4.9.1 Introduction

This section evaluates potential impacts concerning hydrology and water quality that could result from the Newport Beach General Plan Housing Implementation Program (Project), including future development on the housing sites facilitated by the 2021-2029 Housing Element. This analysis summarizes existing conditions on the housing sites and the hydrology and water quality regulatory framework that would apply to future housing development. This section also discusses the Project's potential impacts concerning hydrology and water quality, including the degradation of surface or groundwater quality; decrease groundwater supplies; alter drainage patterns; release pollutants in flood, tsunami, or seiche zones, or conflict with a water quality or groundwater management plan.

4.9.2 Regulatory Setting

Federal

Federal Clean Water Act

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

The U.S. EPA has delegated the administrative responsibility for portions of the CWA to state and regional agencies. In California, the State Water Resources Control Board (SWRCB) administers the National Pollutant Discharge Elimination System (NPDES) permitting program and is responsible for developing NPDES permitting requirements. The SWRCB works in coordination with the Regional Water Quality Control Boards (RWQCB) to preserve, protect, enhance, and restore water quality.

Section 303(d) of the CWA requires the SWRCB to list impaired water bodies that are too polluted or otherwise degraded to meet the water quality standards set by states, territories, or authorized tribes. The law requires that these jurisdictions establish priority rankings for waters on the lists and develop Total Maximum Daily Loads (TMDL) for these waters.

Section 404 of the CWA is administered and enforced by the U.S. Army Corps of Engineers (USACE). Section 404 establishes a program to regulate the discharge of dredged and fill material into Waters of the United States, including wetlands and coastal areas below the mean high tide. USACE administers the

day-to-day program, and reviews and considers individual permit decisions and jurisdictional determinations. USACE also develops policy and guidance and enforces Section 404 provisions.

Federal Emergency Management Agency (FEMA)

FEMA is responsible for determining flood elevations and floodplain boundaries based on USACE studies and approved agency studies. FEMA also is responsible for distributing the Flood Insurance Rate Maps (FIRM), which are used in the National Flood Insurance Program. These maps identify the location of special flood hazard areas, including the 100-year flood zone. FEMA allows nonresidential development in special flood hazard areas; however, construction activities are restricted depending upon the potential for flooding within each area. Federal regulations governing development in an Special Flood Hazard Area are set forth in 44 Code of Federal Regulations (CFR) 60. The regulations enable FEMA to require municipalities that participate in the National Flood Insurance Program to adopt certain flood hazard reduction standards for construction and development in 100-year floodplains. Section 60.3(c)(2) of the National Flood Insurance Program regulations requires that the lowest occupied floor of a residential structure be elevated to, or above, the 100-year flood elevation (the base flood elevation). In addition, the Flood Disaster Protection Act of 1973 and the National Flood Insurance Reform Act of 1994 mandate the purchase of flood insurance as a condition of federal or federally related financial assistance for acquisition and/or construction of buildings in special flood hazard areas.

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act (California Water Code §13000 et seq) is the principal law governing water quality regulation in California. It established a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and groundwater and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act, the State's policy is as follows:

- That the quality of all the "waters of the State" shall be protected,
- That all activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason, and
- That the State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation.

The Porter-Cologne Act established nine RWQCB's (based on watershed boundaries as defined by their surrounding mountain chains and ridges) and the SWRCB, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The SWRCB provides program guidance and oversight, allocates funds, and reviews RWQCB decisions. In addition, the SWRCB allocates rights to the use of surface water. The RWQCB have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrology regions. The SWRCB and RWQCBs have numerous nonpoint source¹ pollution-related responsibilities, including monitoring and assessment, planning, financial assistance, and management.

¹ According to the U.S. EPA, "NPS pollution generally results from land runoff, precipitation, atmospheric deposition, drainage, seepage or hydrologic modification." NPS pollution has many diffuse sources whereas point source pollution has a single, identified source. Retrieved from U.S. EPA Website: <https://www.epa.gov/nps/basic-information-about-nonpoint-source-nps-pollution> (accessed January 2024).

The RWQCBs regulate discharges under the Porter-Cologne Act primarily through issuance of NPDES permits for point source discharges for contaminants and waste discharge requirements for nonpoint source discharges. Anyone discharging or proposing to discharge materials that could affect water quality (other than to a community sanitary sewer system regulated by an NPDES permit) must file a report of waste discharge. The SWRCB can make its own investigations or may require dischargers to carry out water quality investigations and report on water quality issues. The Porter-Cologne Act provides several options for enforcing waste discharge requirements and other orders, including cease and desist orders, cleanup and abatement orders, administrative civil liability orders, civil court actions, and criminal prosecutions.

The Porter-Cologne Act also requires adoption of water quality control plans that contain the guiding policies of water pollution management in California. A number of statewide water quality control plans have been adopted by the SWRCB. In addition, regional water quality control plans (basin plans) have been adopted by each of the RWQCBs and are updated as necessary and practical. These plans identify the existing and potential beneficial uses of “waters of the State” and establish water quality objectives to protect these uses. The basin plans also contain implementation, surveillance, and monitoring plans. Statewide and regional water quality control plans include enforceable prohibitions against certain types of discharges, including those that may pertain to nonpoint sources. Portions of water quality control plans, the water quality objectives and beneficial use designations, are subject to review by the U.S. EPA. When approved, they become water quality standards under the CWA. The City of Newport Beach and its Sphere of Influence (inclusively referred herein as the “City”) is located within the jurisdiction of the Santa Ana Regional Water Quality Control Board (Santa Ana RWQCB).

National Pollutant Discharge Elimination System

Under the NPDES program promulgated under Section 402 of the CWA, all facilities that discharge pollutants from any point source into “waters of the U.S.” are required to obtain an NPDES permit. The term pollutant broadly includes any type of industrial, municipal, and agricultural waste discharged into water. Point sources are discharges from publicly owned treatment works (POTWs), from industrial facilities, and associated with urban runoff. Though the NPDES program addresses certain specific types of agricultural activities, the majority of agricultural facilities are defined as nonpoint sources and are exempt from NPDES regulation. Pollutant contributors come from direct and indirect sources. Direct sources discharge directly to receiving waters, and indirect sources discharge wastewater to POTWs, which in turn discharge to receiving waters. Under the national program, NPDES permits are issued only to direct point source discharges. Municipal sources are POTWs that receive primarily domestic sewage from residential and commercial customers. Specific NPDES program areas applicable to municipal sources are the National Pretreatment Program, the Municipal Sewage Sludge Program, Combined Sewer Overflows, and the Municipal Storm Water Program. NPDES issues two basic permit types: individual and general.

The NPDES has a variety of measures designed to minimize and reduce pollutant discharges. All counties with storm drain systems that serve a population of 50,000 or more, as well as construction sites one acre or more in size, must file for and obtain an NPDES permit. Another measure for minimizing and reducing pollutant discharges to a publicly owned conveyance or system of conveyances (including roadways, catch basins, curbs, gutters, ditches, man-made channels and storm drains, designed or used for collecting and conveying storm water) is the U.S. EPA’s Storm Water Phase II Final Rule. The Phase II Final Rule requires an operator (such as a City) of a regulated small MS4 to develop, implement, and enforce a program (e.g.,

best management practices [BMPs], ordinances, or other regulatory mechanisms) to reduce pollutants in postconstruction runoff to the City's storm drain system from new development and redevelopment projects that result in the land disturbance of greater than or equal to one acre. The City Public Works Department is the local enforcing agency of the MS4 NPDES permit.

California Coastal Act

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 (Coastal Act). These water quality provisions provide a broad basis for protecting coastal waters, habitats, and biodiversity associated with new development and redevelopment projects. New development and redevelopment projects that are within the Coastal Zone are required to apply for a Coastal Development Permit (CDP) with the City prior to construction. The Coastal Act is implemented in the City through its the certified City of Newport Beach Local Coastal Program (LCP).

Regional

Santa Ana Regional Water Quality Control Board

As previously noted, the City is located within the jurisdiction of the Santa Ana RWQCB (Region 8). The Santa Ana RWQCB is required by law to develop, adopt, and implement a water quality control plan for the entire region. The principal elements of the water quality control plan are a statement of beneficial water uses that the Santa Ana RWQCB will protect; water quality objectives needed to protect the designated beneficial water uses; and strategies and time schedules for achieving water quality objectives. The water quality objectives are achieved primarily through the establishment and enforcement of waste discharge requirements. Both beneficial uses and water quality objectives comprise the relevant water quality standards. The Santa Ana RWQCB Water Quality Control Plan or Basin Plan specifically: (1) designates beneficial uses for surface waters and groundwaters; (2) sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the State's anti-degradation policy; and (3) describes implementation programs to protect all waters in the region. In cases where the Basin Plan does not contain a criterion for a particular pollutant, other criteria are used to establish a water quality objective. These may be applied from SWRCB documents (e.g., the Inland Surface Waters Plan and the Pollutant Policy Document) or from water quality criteria developed under Section 304(a) of the Clean Water Act (e.g., California Toxics Rule). The Santa Ana RWQCB has set water quality objectives for all surface waters in the region. Chemical constituents are regulated depending upon the beneficial use of the water body. Water quality objectives also are set for groundwater and enclosed bays and estuaries.

Orange County Stormwater Program

The City of Newport Beach is a member of the Orange County Stormwater Program, which coordinates all cities and the county government in Orange County to regulate and control storm water and urban runoff into all Orange County waterways, and ultimately, into the Pacific Ocean. The Orange County Stormwater Program administers the current NPDES MS4 Permit and the 2003 Drainage Area Management Plan (DAMP) for the County of Orange and the 34 incorporated cities within the region.

As a result of the NPDES MS4 Permits for Orange County, adopted by the Santa Ana and San Diego Regional Water Quality Control Boards in early 2002, the cities and County (collectively called Permittees) subsequently prepared a DAMP. The DAMP was prepared to meet the requirements of the storm water

permit by describing the overall storm water management strategies planned by the County to protect the beneficial uses of the receiving waters in the Santa Ana drainage area. Thus, developments within the City are subject to the provisions of the DAMP.

Local

City of Newport Beach General Plan

The *City of Newport Beach General Plan 2006 Update* (General Plan) includes goals and policies related to water quality and hydrology within the City. The following General Plan goals and policies that have been adopted by the City for the purpose of avoiding or mitigating an environmental effect are applicable to future development projects associated with the proposed Project.

Natural Resources Element

- Goal NR 1** **Minimize water consumption through conservation methods and other techniques.**
- Policy NR 1.1** **Water Conservation in New Development.** Enforce water conservation measures that limit water usage, prohibit activities that waste water or cause runoff, and require the use of water-efficient landscaping and irrigation in conjunction with new construction projects.
- Goal NR 3** **Enhancement and protection of water quality of all-natural water bodies, including coastal waters, creeks, bays, harbors, and wetlands.**
- 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.
- Policy NR 3.5** **Natural Water Bodies.** Require that development does not degrade natural water bodies.
- Policy NR 3.7** **Newport Beach Water Quality Ordinance.** Update and enforce the Newport Beach Water Quality Ordinance.
- 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.
- 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.
- 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.
- 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.

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.

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.

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.

Goal NR 4 **Maintenance of water quality standards through compliance with the total maximum daily loads (TMDLs) standards.**

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).

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.

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.

Land Use Element

Goal LU 6 **Banning Ranch. If acquisition for open space is not successful, a high-quality residential community with supporting uses that provides revenue to restore and protect wetlands and important habitats.**

Policy LU 6.4.10 **Sustainable Development Practices.** Require that any development of Banning Ranch achieve high levels of environmental sustainability that reduce pollution and consumption of energy, water, and natural resources to be accomplished through land use patterns and densities, site planning, building location and design, transportation and utility infrastructure design, and other techniques. Among the strategies that should be considered are the concentration of development, reduction of vehicle trips, use of alternative transportation modes, maximized walkability, use of recycled materials, capture and re-use of storm water on-site, water conserving fixtures and landscapes, architectural elements that reduce heat gain and loss, and preservation of wetlands and other habitats.

Safety Element

Goal S 2 **Protection of people and property from the adverse effects of coastal hazards related to storm surges and seiches.**

- 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.
- Goal S 3** **Protection of people and property from the adverse effects of coastal erosion.**
- Policy S 3.9** **Shoreline Protection for New Development.** Require property owners to record a waiver of future shoreline protection for new development during the economic life of the structure (75 years) as a condition of approval of a coastal development permit for new development on a beach or shoreline that is subject to wave action, erosion, flooding, landslides, or other hazards associated with development on a beach or bluff. Shoreline protection may be permitted to protect existing structures that were legally constructed prior to the certification of the LCP, unless a waiver of future shoreline protection was required by a previous coastal development permit.
- Policy S 3.10** **Bluff Stabilization.** Site and design new structures to avoid the need for shoreline and bluff protective devices during the economic life of the structure (75 years), unless an environmentally acceptable design to stabilize the bluff and prevent bluff retreat is devised.
- Policy S 3.11** **New Development Impact on Coastal Erosion.** Require that applications for new development with the potential to be impacted or impact coastal erosion include slope stability analyses and erosion rate estimates provided by a licensed Certified Engineering Geologist or Geotechnical Engineer.
- Policy S 3.12** **Minimization of Coastal Bluff Recession.** Require new development adjacent to the edge of coastal bluffs to incorporate drainage improvements, irrigation systems, and/or native or drought-tolerant vegetation into the design to minimize coastal bluff recession.
- Goal S 5** **Protection of human life and public and private property from the risks of flooding.**
- Policy S 5.1** **New Development Design within 100-year Floodplains.** Require that all new development within 100-year floodplains incorporate sufficient measures to mitigate flood hazards including the design of onsite drainage systems that are connected with the City's storm drainage system, gradation of the site such that runoff does not impact adjacent properties, and buildings are elevated.
- Policy S 5.3** **Minimization of Flood Hazard Risk.** Require stormwater detention basins, where appropriate, to reduce the potential risk of flood hazards.

City of Newport Beach Local Coastal Program: Coastal Land Use Plan

The Coastal Act requires each local jurisdiction wholly or partly within the Coastal Zone to prepare a Local Coastal Program (LCP) which are used to carry out the polices and requirements of the Coastal Act. A certified LCP allows for Coastal Development Permit issuance by the local jurisdiction for all areas outside of the purvey of the California Coastal Commission (Coastal Commission). A LCP typically consists of two parts: (1) a coastal element consisting of a land use plan and policies for development and conservation within the coastal zone, and (2) an implementation program consisting of ordinances, maps, and implementing actions for the land use plan and policies.

Pursuant to Newport Beach Municipal Code (Municipal Code) Section 21.10.030, any conflict between the policies set forth in any element of the City's General Plan, Zoning, or any ordinance and those of the

Coastal Land Use Plan, policies of the Coastal Land Use Plan shall take precedence. However, in no case are the policies of the Coastal Land Use Plan be interpreted to allow a development to exceed a development limit established by the General Plan or its implementing ordinances. As noted above, the City lies partly within the Coastal Zone boundary. The City received certification of its LCP with an effective date of January 30, 2017.² The City's Coastal Land Use Plan includes the following goals, objectives, and policies applicable to hydrologic resources:

Water Quality³

- Policy 4.3.1-5:** Require development on steep slopes or steep slopes with erosive soils to implement structural best management practices (BMPs) to prevent or minimize erosion consistent with any load allocation of the TMDLs adopted for Newport Bay.
- Policy 4.3.1-6:** Require grading/erosion control plans to include soil stabilization on graded or disturbed areas.
- 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.
- Policy 4.3.1-8:** Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.

NPDES⁴

- 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.
- 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.
- Policy 4.3.2-6:** Implement and improve upon best management practices (BMPs) for residences, businesses, new development and significant redevelopment, and City operations.
- Policy 4.3.2-7:** Incorporate BMPs into the project design in the following progression:
- Site Design BMPs.
 - Source Control BMPs.
 - Treatment Control BMPs.

² City of Newport Beach. *Local Coastal Program Frequently Asked Questions (FAQ)*. <https://www.newportbeachca.gov/government/departments/community-development-/planning-division/local-coastal-program-launch-page/faq#Q3>. Accessed Jan. 2024.

³ City of Newport Beach (2016). *City of Newport Beach Coastal Land Use Plan – Coastal Resource Protection. Pages 4-64 – 4-65*. https://www.newportbeachca.gov/PLN/LCP/Internet%20PDFs/CLUP_Part%204_Coastal%20Resource_Protection.pdf. Accessed Jan. 2024.

⁴ City of Newport Beach (2016). *City of Newport Beach Coastal Land Use Plan – Coastal Resource Protection. Pages 4-65 – 4-68*. https://www.newportbeachca.gov/PLN/LCP/Internet%20PDFs/CLUP_Part%204_Coastal%20Resource_Protection.pdf. Accessed Jan. 2024.

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.

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.

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.

Policy 4.3.2-10: Provide storm drain stenciling and signage for new storm drain construction in order to discourage dumping into drains.

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.

Policy 4.3.2-12: Require development to protect the absorption, purification, and retention functions of natural drainage systems that exist on the site, to the maximum extent practicable. Where feasible, design drainage and project plans to complement and utilize existing drainage patterns and systems, conveying drainage from the developed area of the site in a non-erosive manner. Disturbed or degraded natural drainage systems should be restored, where feasible.

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:

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, wetlands, and other environmentally sensitive habitat areas;

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

G. Utilizing design features that meet water quality goals established in site design policies.

- 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.
- Policy 4.3.2-15:** Where infiltration of runoff would exacerbate geologic hazards, include equivalent BMPs that do not require infiltration.
- Policy 4.3.2-17:** Utilize permeable surfaces that permit the percolation of urban runoff in non-sidewalk areas within the City's parkway areas, to the maximum extent practicable.
- 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.
- 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.
- 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.

*Newport Beach 2020 Urban Water Management Plan*⁵

The 2020 Urban Water Management Plan (UWMP) provides information on the City's water supply reliability and water use efficiency measures. The UWMP is intended to serve as a general, flexible, and open-ended document that periodically can be updated to reflect changes in the City's water supply trends, and conservation and water use efficiency policies. The UWMP, along with the City's Water Master Plan and other City planning documents, is used by City staff to guide the City water use and management efforts through the year 2045.

*Newport Beach Municipal Code*⁶

To comply with NPDES permit requirements, the City has codified requirements in its Municipal Code. The following sections of the City's Municipal Code would be applicable to all future housing development facilitated by the Project.

Title 14, Chapter 14.17 Water Efficient Landscape Requirement. Municipal Code Chapter 1417 establishes standards for water efficiency without waste by setting maximum applied water allowances and to encourage economic incentives to promote efficient use of water.

Title 14, Chapter 14.36 Water Quality. Municipal Code Chapter 14.36 addresses improvements to water quality to comply with federal requirements for the control of urban pollutants to storm water runoff,

⁵ City of Newport Beach (2021). *2020 Urban Water Management Plan*. <https://www.newportbeachca.gov/home/showpublisheddocument/69858/637563360496100000> Accessed Feb. 28, 2023.

⁶ City of Newport Beach. *City of Newport Beach Municipal Code*. <https://www.codepublishing.com/CA/NewportBeach>. Accessed Feb. 27, 2023.

which enters the network of storm drains throughout Orange County. Control of Urban Runoff requirements are set forth in Chapter 14.36.040.

Title 15, Chapter 15.10 Excavation and Grading Code. Municipal Code Chapter 15.10 safeguards life, limb, property and the public welfare by regulating grading, drainage and hillside construction on private property and for similar improvement proposed by private interests on City rights-of-way where regulations are not otherwise exercised. Grading permit requirements and erosion control requirements are contained within this chapter.

Title 15, Chapter 15.50 Floodplain Management. Municipal Code Chapter 15.50 provides standards for construction for development in special flood hazard areas.

4.9.3 Existing Conditions

Hydrology

Watersheds

The City is located within the boundaries of four watersheds: the Newport Bay, Newport Coast, Talbert, and San Diego Creek Watersheds. The Newport Bay and Newport Coast Watersheds cover a majority of the City with the remaining smaller portions covered by the Talbert and San Diego Creek Watersheds. See **Figure 4.3-1: Watershed Map** in **Section 4.3: Biological Resources** of this EIR.

- The Newport Bay Watershed covers 13.2 square miles along the coast of central Orange County. This watershed encompasses most of the western portion of the City in addition to the eastern portion of the City of Costa Mesa. The East Costa Mesa, Santa Isabel, and other smaller channels of this watershed drain into Newport Bay.
- The Newport Coast Watershed covers 11.2 square miles, mainly the Newport Coast area in the City north of Laguna Beach. Buck Gully, Los Trancos, and Muddy Creek, which are the main tributaries of this watershed, which drain the San Joaquin Hills.
- The Talbert Watershed, which encompasses a small northwestern portion of the City in the vicinity of Banning Ranch, covers 21.4 square miles straddling the mouth of the Santa Ana River, and has two main tributaries that drain into it. On the western side, the Talbert and Huntington Beach Channels drain through the Talbert Marsh before emptying into the Pacific Ocean. On the eastern side, the Greenville-Banning Channel empties into the Santa Ana River. The Santa Ana River outlets into the Pacific Ocean near West Newport.
- The San Diego Creek Watershed, which encompasses the northern portion of the City, covers 112.2 square miles in central Orange County, with its main tributary – San Diego Creek – draining into Upper Newport Bay. Smaller tributaries of this watershed include Serrano Creek, Borrego Canyon Wash, Agua Chinon Wash, Bee Canyon Wash, Peters Canyon Wash, Sand Canyon Wash, Bonita Canyon Creek, and the Santa Ana Delhi Channel.

Surface Water Resources

Approximately 47 percent of the City is in the coastal zone. Surface water resources such as freshwater wetlands, estuaries, tideland and submerged lands, reservoirs, and waterways are also located in the City. Upper Newport Bay extends south of State Route 73 to the Pacific Ocean and contains tidelands and

submerged lands in the City. Small amounts of freshwater wetlands are scattered throughout the central portion of the City east of Upper Newport Bay and North Star Beach.

The City contains two above-ground reservoirs: Big Canyon and San Joaquin Reservoirs, which are located in the eastern portion of the City. Big Canyon Reservoir is located approximately 0.25 mile north of San Joaquin Hills Road and San Joaquin Reservoir is located approximately 0.75-mile northeast of Big Canyon Reservoir. The main tributaries within the City are the Santa Ana River, San Diego Creek, and Big Canyon Wash.

Groundwater Resources

The Coastal Plain of the Orange County Groundwater Basin (Basin) underlies the northwestern portion of the City and provides groundwater for much of central and north Orange County, including the City. The Basin underlies the lower Santa Ana River watershed. The Basin is recharged from percolation of Santa Ana River flow, infiltration of precipitation, and injection into wells.

Shallow ground water levels (less than 50 feet from the ground surface) are known to occur along the coast, around Newport Bay, and along the major drainages in the Newport Beach area.

Water Quality

Surface Water Quality

Newport Bay is designated as “water quality-limited” for four impairments under the federal CWA’s Section 303(d) List, meaning that it is “not reasonably expected to attain or maintain water quality standards” due to these impairments without additional regulation. Section 303(d) of the CWA requires the City to develop lists of impaired waters, and requires jurisdictions establish priority rankings for waters on the lists and develop Total Maximum Daily Loads (TMDLs) for these waters.⁷ The Santa Ana RWQCB and the U.S. EPA have developed TMDLs for the following substances in Newport Beach: sediment, nutrients, fecal coliform, and toxic pollutants.

Additionally, a municipal separate storm sewer system (MS4) permit is provided to the City by the Santa Ana RWQCB under the NPDES to regulate the amount of storm water contaminants that are delivered into the City’s waterways.

Stormwater Drainage

Regional Facilities

The Orange County Flood Control District (OCFCD) operates and maintains flood control channels, dams, retarding basins, pump stations, and other flood control infrastructure. Within the City, OCFCD is responsible for maintaining the regional drainage facilities such as the Santa Ana River, San Diego Creek, and Buck Gully. These structures help regulate flow in the Santa Ana River, San Diego Creek, and smaller streams and retain storm water flows during intense rainfall periods.

Local Facilities

The City’s existing storm drain system consists of approximately 95 miles of pipelines, 3,224 catch basins, manholes, 86 tide valves, open channels and retention basins located throughout the system. Pipelines

⁷ Generally, a TMDL specifies the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and requires a jurisdiction to allocate pollutant loadings among point and nonpoint pollutant sources to achieve that amount.

range from three to 120 inches in diameter, and are constructed of materials such as reinforced concrete, corrugated metal, plastic, ductile iron, steel, clay, and asbestos cement.

Flood and Tsunami Hazards

The City contains 100- and 500-year flood zones, which include the low-lying areas in West Newport at the base of the bluffs, the coastal areas which surround Newport Bay, and all low-lying areas adjacent to Upper Newport Bay. Flooding in the coastal areas of the City can impact residential and commercial zones along West Newport, the Balboa Peninsula and Balboa Island, and the seaward side of Coast Highway.

The City is susceptible to low probability but high-risk events such as tsunamis and isolated hazards such as storm surges. West Newport, Balboa Peninsula, Lido Isle, Balboa Island, and Upper Newport Bay are susceptible to tsunami impacts due to proximity to the coastline and Pacific Ocean.

4.9.4 Thresholds of Significance

The City uses thresholds of significance specified in *State CEQA Guidelines, Appendix G*. Impacts concerning hydrology and water quality would be significant if the Project would:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
 - Result in substantial erosion or siltation on-or off-site.
 - Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.
 - 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.
 - Impede or redirect flood flows.
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation.
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

4.9.5 Methodology

This analysis considers the *State CEQA Guidelines, Appendix G* thresholds, as described above, in determining whether the Project would result in a substantial temporary or permanent impact to hydrology and water quality. The evaluation was based on a review of regulations and determining their applicability to future residential development on housing sites throughout the City. The determination that the Project would or would not result in "substantial" temporary or permanent impacts concerning hydrology and water quality considers the relevant federal, State, and local (i.e., General Plan and

Municipal Code) laws, ordinances, and regulations and the future residential development's compliance with such laws, ordinances, and regulations. Secondary source information includes the General Plan EIR.

4.9.6 Project Impacts and Mitigation

Threshold 4.9-1: Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Future residential development facilitated by the Project (both by-right and those that require discretionary actions) would be subject to the City's development review process. Future projects would be required to demonstrate consistency with General Plan, Municipal Code, and LCP requirements, including those intended to protect water quality. Future development could result in potential impacts related to water quality over three different periods:

- During the earthwork and construction phase, where the potential for erosion, siltation, and sedimentation would be the greatest;
- Following construction, before the establishment of ground cover, when the erosion potential may remain relatively high; and
- After project completion, when impacts related to sedimentation would decrease markedly but those associated with urban runoff would increase.

Urban runoff, both dry and wet weather, discharges into storm drains, and in most cases, flows directly to creeks, rivers, lakes, and the ocean. Polluted runoff can have harmful effects on drinking water, recreational water, and wildlife. Storm water characteristics depend on site conditions (e.g., land use, impervious cover, and pollution prevention practices), rain events (duration, amount of rainfall, intensity, and time between events), soil type and particle sizes, the amount of vehicular traffic, and atmospheric deposition. Major pollutants typically found in runoff from urban areas include sediments, nutrients, oxygen-demanding substances, heavy metals, petroleum hydrocarbons, pathogens, and bacteria. Most urban storm water discharges are considered non-point sources.

Construction

Short-term impacts related to water quality can occur during the earthwork and construction phases of future residential development projects. During this phase, the potential for erosion, siltation, and sedimentation would be the greatest. Additionally, impacts could occur prior to the establishment of ground cover, when the erosion potential may remain relatively high. Future development on the housing sites facilitated by the 2021-2029 Housing Element would be subject to compliance with the established regulatory framework pertaining to water quality. If future developments disturb more than one acre of land surface, they would be required to obtain coverage under the NPDES storm water program. The NPDES Construction General Permit program requires the implementation of BMPs to reduce or prevent pollutant discharge from these activities to the Maximum Extent Practicable for urban runoff for construction storm water. Construction activities would be required to comply with a project-specific Stormwater Pollution Prevention Plan (SWPPP) that identifies erosion-control and sediment-control BMPs that would meet or exceed measures required by the Construction Activity General Permit to control

potential construction-related pollutants. Erosion-control BMPs are designed to prevent erosion, whereas sediment controls are designed to trap sediment once it has been mobilized.

Additionally, the future housing projects would be required to comply with applicable local and regional storm water and urban runoff pollution and conveyance requirements including those outlined in the Orange County Stormwater Management Program and the City's General Plan and Municipal Code. These regulations would manage storm water flows from development projects, both to prevent erosion and to protect and enhance existing water-dependent habitats. These requirements would ensure that potential impacts from construction of developments facilitated by the Project related to soil erosion, siltation, and sedimentation remain less than significant and avoid violation to any water quality standards or waste discharge requirements.

Further, future housing construction would also be subject to General Plan policies designed to minimize storm water and erosional impacts during construction. Natural Resources Element Policy NR 3.9 requires new development applications to include a Water Quality Management Plan (WQMP) to minimize runoff during construction. The WQMP would identify BMPs that would avoid or minimize storm water pollution during project operation. These BMPs would be included in project design and carried out during project operation. Further, Policy NR 3.11 requires site design and source control BMPs to be included in all developments, which would further enhance water quality and reduced polluted runoff. Policy NR 4.4 requires erosion minimization for developments on steep slopes, graded, or disturbed areas. Municipal Code Section 15.10.130 (Erosion Control) requires developments to limit soil erosion through design of erosion control devices, which minimize erosion and sediment from storm water and non-storm water runoff from construction sites. Compliance with policies and regulations discussed above would reduce the risk of water degradation within the City from soil erosion and construction activities. Since violations of water quality standards would be minimized, impacts to water quality from construction activities from Project implementation would be less than significant.

Operations

Future housing projects would be required to adhere to all federal, State, and local requirements for avoiding violation of water quality standards during construction and operations. General Plan Natural Resources Element Policies NR 3.7, 3.9, and 3.11 aim to enforce the City's Water Quality Ordinance, require new developments to prepare WQMPs, and implement BMPs to improve water quality throughout the City. Municipal Code Chapter 14.36, Water Quality, sets forth regulations to improve water quality and comply with federal requirements for the control of urban pollutants to storm water runoff.

Future development facilitated by the Project would be subject to implement post-construction BMPs in project design to capture and treat runoff. BMPs include, but not limited to erosion management; materials storage; inspection, maintenance, repair, upgrade of BMPs; and minimum BMPs specified for landscaping, property maintenance, and motor vehicle maintenance. Further, WQMPs are required for private and public new development and significant redevelopment projects. The City requires the project applicants to submit a project WQMP at the project processing and permitting stages. In general, the WQMPs shall follow guidelines set forth in Model WQMP, provided in the Orange County Drainage Area Management Plan. Additionally, the future development would be required to comply with Municipal Code Chapter 14.36, Water Quality. Compliance with the local standards would ensure water quality impacts associated with operation to be less than significant.

Impact Summary: **Less than Significant Impact.** The Project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

Threshold 4.9-2: Would the Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?

The City is underlain by the Orange County Groundwater Basin which is managed by the Orange County Water District; however, it is not located within an identified recharge area.⁸ Basin recharge occurs primarily in upper portions of the Basin in the cities of Anaheim and Orange. Further, of the 227 of the 247 housing sites are developed with impervious surfaces that limit groundwater infiltration. Future development and intensification on previously impervious surfaces and developed housing sites would not interfere with groundwater recharge.

However, new development on vacant lands would reduce the amount of pervious surfaces within the City and could impact ground recharge. Future housing development facilitated by the Project would be required to incorporate features that would reduce impervious area, as feasible, and promote water infiltration. Treatment control and hydromodification management facilities would promote storm water retention and infiltration, which would assist with groundwater recharge. Future development on housing sites would be subject to comply with NPDES and City standards intended to reduce runoff and increase infiltration. Future housing development facilitated by the Project would be required to adhere to Municipal Code standards for avoiding and minimizing construction and operations impacts to groundwater supplies, including Municipal Code Section 14.36.040 (Control of Urban Runoff), Section 15.10.130 (Erosion Control), and the Citywide Urban Runoff Management Plan NPDES Municipal Stormwater MS4 Permit. Therefore, the Project would not interfere substantially with groundwater recharge.

Future housing development facilitated by the Project would result in increased demand for groundwater as supplied by the City, Irvine Ranch Water District,⁹ and Mesa Consolidated Water District.¹⁰ According to the City's 2020 UWMP, 10,237 acre-feet (AF) or 68 percent of the City's water supply came from groundwater sources. Similarly, the Irvine Ranch Water District 2020 UWMP identifies that 42,427 AF or 48 percent of the District's supply comes from groundwater sources.¹¹

The Project does not propose the use of any wells or other groundwater extraction activities. Therefore, the Project would not directly draw water from the groundwater table. Further, General Plan Natural Resources Element Policy 3.6 requires that development not result in the degradation of natural water bodies. Policy 3.19 requires incorporation of natural drainage systems and storm water detention facilities into new developments, where appropriate and feasible, to retain storm water in order to increase

⁸ Orange County Water District. (2020). *Groundwater Management Plan 2015 Update, Figure ES-5: GWRS Facilities (p. ES 5)*.

⁹ IRWD's total service area encompasses 133 square miles, with the service area in the City of Newport beach accounting for approximately 6 percent of IRWD's total service area boundaries

¹⁰ CMSD's total service area encompasses 19 square miles, with the service area in the City of Newport beach accounting for approximately 2 percent of IRWD's total service area boundaries.

¹¹ IRWD, 2020 Urban Water Management Plan, Table 6-8. DWR Submittal Table IRWD 2020 Actual Supplies, Available at: https://www.irwd.com/images/pdf/doing-business/environmental-documents/UWMP/2020_urban_water_management_plan_irwd_adopted_june2021.pdf, accessed February 27, 2023.

groundwater recharge. These policies are consistent with the intent of the Groundwater Management Plan for the Orange County Groundwater Basin. Therefore, although future development on housing sites could decrease groundwater supplies or interfere with groundwater recharge, compliance with General Plan Natural Resources policies would ensure water conservation and reduce potential impacts to groundwater supply. Impacts were considered less than significant.

The Newport Beach 2020 UWMP found that the City's supply capabilities are expected to balance anticipated total water use and supply and to accommodate normal years, single dry years, and multiple dry-year events. Therefore, the proposed Project would not degrade groundwater quality, substantially decrease groundwater supplies, or interfere substantially with groundwater recharge.

Impact Summary: **Less than Significant Impact.** The Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

Threshold 4.9-3: **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 through the addition of impervious surfaces, in a manner which would:**

- i) result in substantial erosion or siltation on-or off-site;**
- ii) increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;**
- iii) create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or**
- iv) impede or redirect flood flows.**

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

Development on a majority of housing sites would occur in areas that are already developed and as such would not alter the existing course of a stream or river. Only 21 of the 247 housing sites are currently undeveloped and vacant (see **Figure 3-9: Vacant Housing Sites Within Banning Ranch and West Newport Mesa Focus Areas** and **Figure 3-10: Vacant Housing Sites Within Coyote Canyon** in **Section 3.0: Project Description**). Future residential development facilitated by the Project could involve earth-disturbing activities resulting in the alteration of existing drainage patterns and potential soil erosion. However, all future development, regardless of existing conditions, would be subject to the NPDES Construction General Permit program which requires implementation of BMPs to reduce or prevent pollutant discharge from construction activities. Specifically, project-specific SWPPPs would identify erosion-control and sediment-control BMPs that would meet or exceed measures required by the Construction Activity General Permit. The General Plan also contains policies designed to minimize storm water and erosional impacts during construction. Policy NR 3.10 requires new development applications to include a WQMP to minimize runoff during construction. Policies NR 3.11, NR 3.12, and NR 4.4 require improvement and implementation of BMPs to prevent or minimize erosion during construction.

Compliance with the existing regulatory framework and General Plan policies would reduce, prevent, or minimize soil erosion from Project-related grading and construction activities. Therefore, impacts related to substantial soil erosion or siltation would be less than significant.

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

As discussed above, on currently developed sites, future residential development facilitated by the Project would not substantially alter drainage patterns because these areas are already developed with existing uses and impervious surfaces. However, development of undeveloped sites with permeable surfaces, such as bare soil or vegetation may occur. Increased impervious surfaces would increase storm water runoff in the City. This increased runoff could exceed the capacity of existing and planned infrastructure and cause downstream flooding impacts.

Several General Plan Natural Resources Element policies designed to minimize storm water runoff would also apply to runoff-related flooding impacts. These policies require preparation of a WQMP (Policy NR 3.9), implementation of BMPs (Policy NR 3.10), incorporation of storm water detention facilities in new developments (NR Policy 3.19), and minimize increases in impervious areas (Policy NR 3.20). These policies would apply to future development facilitated by the Project and would reduce the volume of runoff generated, and potential for flooding.

Additionally, General Plan Safety Element Policies S 2.6, S 5.1, and S 5.3 would require storm drain maintenance; mitigation of flood hazards by including on-site drainage systems that are connected to the City's storm drain system, grading of sites such that runoff does not impact adjacent properties, or elevating buildings above flood levels; and incorporation of storm water detention basins.

Future housing development facilitated by the Project would be required to adhere to all federal, State, and local requirements for avoiding construction and operations impacts that could substantially alter the existing drainage pattern or alter the course of a stream or river, including the City's Erosion Control requirements codified under Municipal Code Section 15.10.130.

Municipal Code Chapter 15.50 (Floodplain Management) contains regulations that would minimize flood hazards resulting from drainage alterations. Specifically, Municipal Code Section 15.50.135 requires review of all development permits to determine that sites are reasonably safe from flooding and that future development does not adversely affect the carrying capacity of areas where base flood elevations have been determined but a floodway has not been designated. The City's development review process would also ensure that future developments facilitated by the Project comply with City design requirements and specifications for urban runoff control. Therefore, compliance with General Plan policies and Municipal Code regulations would not increase the rate or amount of surface runoff in a manner which would result in flooding. Impacts would be considered less than significant.

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

Future residential development facilitated by the Project could potentially exceed existing capacities of storm water drainage systems due to increased population growth and storm water generation. Several General Plan Natural Resources Element policies designed to minimize storm water runoff would apply to future development on housing sites. Policy NR 3.11 requires implementation of BMPs in all developments to treat storm water runoff, Policy NR 3.19 requires incorporation of natural systems and storm water detention facilities to retain storm water and increase groundwater recharge, and Policy NR 3.20 requires minimize the creation of impervious surfaces and increase pervious surfaces where possible, which would reduce downstream impacts to the City's storm water drainage infrastructure. Implementation of these

policies would also reduce the volume of runoff generated, and further reduce impacts to existing or planned storm water drainage systems.

Further, new development and significant redevelopment are subject to Municipal Code Section 14.36.040 (Control of Urban Runoff), which enables the Community Development Department and/or Public Works Department to issue conditions and requirements reasonably related to the reduction or elimination of pollutants in storm water runoff from a development site.

There is a potential that upgrades to the existing storm drain system in the City would be required as result of new development and redevelopment that could occur under the Project. However, future development would require the study of localized conditions and construction of additional storm drains based on site-specific conditions and proposed development plans. If constraints are identified, the applicant would be required to construct or contribute a fair-share toward the storm drain improvement.

Compliance with General Plan policies identified above and Municipal Code sections would minimize storm water runoff and would not exceed the capacity of existing or planned storm water drainage systems. Therefore, impacts would be less than significant and no mitigation is required.

iv) impede or redirect flood flows.

According to the General Plan, the 100-year flood zone is primarily contained in and along the edges of Newport Bay and along the coastline. Specifically, Mariners Mile, the western portion of Banning Ranch, Balboa Village, Balboa Peninsula, Balboa Island, and West Newport Highway are susceptible to 100-year flood conditions. As shown in **Figure 4.9-1: Housing Sites Within Flood Zones** and identified within **Table 4.9-1: Housing Sites Within Flood Zones**, 28 housing sites are within a Flood Hazard Zone.

Housing Site	Parcel Number	Focus Area	Flood Zone
23	119 300 17	Airport Area	1 Percent Annual Chance Flood Hazard
24	119 310 04	Airport Area	1 Percent Annual Chance Flood Hazard
25	119 300 15	Airport Area	1 Percent Annual Chance Flood Hazard
26	119 300 16	Airport Area	1 Percent Annual Chance Flood Hazard
334	423 111 01	Dover-Westcliff	0.2 Percent Annual Chance Flood Hazard
361	049 191 30	Dover-Westcliff	0.2 Percent Annual Chance Flood Hazard
133	047 041 05	Dover-Westcliff	0.2 Percent Annual Chance Flood Hazard
134	047 041 25	Dover-Westcliff	0.2 Percent Annual Chance Flood Hazard
B	050 442 05	Newport Center	0.2 Percent Annual Chance Flood Hazard
131	120-571-12	Coyote Canyon	Regulatory Floodway
110	114 170 72	Banning Ranch	Area with Reduced Flood Risk Due to Levee
111	114 170 52	Banning Ranch	Area with Reduced Flood Risk Due to Levee
112	114 170 50	Banning Ranch	Area with Reduced Flood Risk Due to Levee
113	114 170 52	Banning Ranch	Area with Reduced Flood Risk Due to Levee, 0.2 Percent Annual Chance Flood Hazard
114	114 170 83	Banning Ranch	0.2 Percent Annual Chance Flood Hazard
115	114 170 71	Banning Ranch	Area with Reduced Flood Risk Due to Levee
116	114 170 76	Banning Ranch	Area with Reduced Flood Risk Due to Levee
117	No APN	Banning Ranch	Area with Reduced Flood Risk Due to Levee, 0.2 Percent Annual Chance Flood Hazard
118	114 170 74	Banning Ranch	Area with Reduced Flood Risk Due to Levee
120	114 170 78	Banning Ranch	Area with Reduced Flood Risk Due to Levee
121	424 041 04	Banning Ranch	0.2 Percent Annual Chance Flood Hazard
122	114 170 43	Banning Ranch	0.2 Percent Annual Chance Flood Hazard
123	114 170 65	Banning Ranch	Area with Reduced Flood Risk Due to Levee
124	114 170 80	Banning Ranch	Area with Reduced Flood Risk Due to Levee, 0.2 Percent Annual Chance Flood Hazard
126	114 170 24	Banning Ranch	0.2 Percent Annual Chance Flood Hazard
127	114 170 81	Banning Ranch	0.2 Percent Annual Chance Flood Hazard
128	114 170 75	Banning Ranch	0.2 Percent Annual Chance Flood Hazard
130	114 170 66	Banning Ranch	0.2 Percent Annual Chance Flood Hazard

Source: GIS mapping modified by Kimley-Horn, 2023.



Figure 4.9-1: Housing Sites Within Flood Zones
 City of Newport Beach General Plan Housing Implementation
 Program Environmental Impact Report

The General Plan Safety Element establishes a goal to protect human life and public and private property from the risks of flooding under Goal S5. Flood related policies including Policy S 5.1 require that all new development within 100-year floodplains incorporate sufficient measures to mitigate flood hazards including the design of on-site drainage systems that are connected with the City’s storm drainage system, gradation of the site such that runoff does not impact adjacent properties, and buildings are elevated. If building pads are elevated out of the floodplain, a Letter of Map Revision (LOMR) would be required from FEMA that certifies the land has been elevated out of the floodplain. Further, Policy S 5.3 requires storm water detention basins to reduce potential risk of flood hazards.

Municipal Code Chapter 15.50 (Floodplain Management) establishes methods and provisions that would minimize flood damage to residential development. In particular, Municipal Code Section 15.50.200 specifies standards for construction for all new construction and substantial improvements of structures within special flood hazard areas. These requirements include that the lowest floor of residential structures and structures within subdivisions to be elevated to or above the base flood level. Compliance with General Plan policies and Municipal Code regulations would reduce impacts related to flood flows. Impact would be less than significant and no mitigation is required.

Impact Summary: **Less than Significant Impact.** Future housing development associated with the Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: result in substantial on-site or off-site erosion or siltation; substantially increase the rate or amount of surface runoff in a manner which would result in on-site or off-site flooding; create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or impeded or redirect flood flows.

Threshold 4.9-4: Would the Project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?
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Tsunamis and Seiches

There are potential risks from tsunamis in the City given the proximity to the Pacific Ocean. As identified in **Figure 4.9-2: Housing Sites Within Tsunami Evacuation Zone**, three housing sites are in tsunami evacuation areas – sites 133, 134, and 334 – all of which are within the Dover-Westcliff Focus Area.

Tsunamis are ocean waves produced by earthquakes or underwater landslides. They are a series of waves that can travel at speeds averaging 450 (and up to 600) miles per hour in the open ocean. Tsunamis are extremely rare and the City has a tsunami watch and a tsunami warning program. A tsunami watch is an alert issued to areas that might be impacted by a tsunami. An area included in the watch is based on the magnitude of the earthquake. A tsunami watch is either upgraded to a warning or canceled depending on the severity of the tsunami. A tsunami warning Indicates that a tsunami is imminent and that coastal locations in the warned area should be prepared. The initial warning is typically based on seismic information alone.

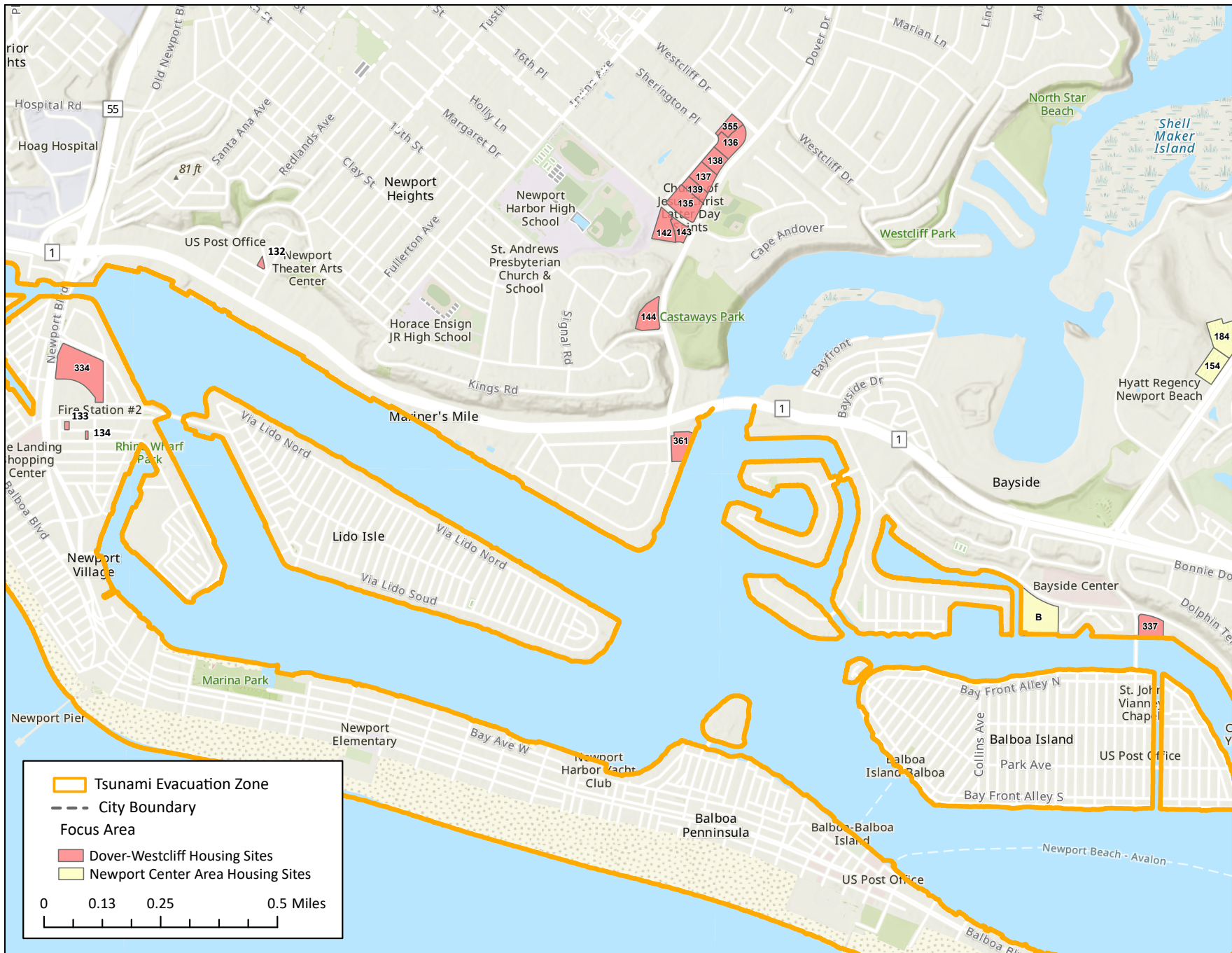


Figure 4.9-2: Housing Sites Within Tsunami Evacuation Zone
 City of Newport Beach General Plan Housing Implementation
 Program Environmental Impact Report

Earthquakes over magnitude 7.0 trigger a warning covering the coastal regions within a two-hour tsunami travel time from the epicenter. When the magnitude is over 7.5, the warned area is increased to a three-hour tsunami travel time. As water-level data showing the tsunami is recorded, the warning will either be canceled, restricted, expanded incrementally or expanded in the event of a major tsunami.¹²

The General Plan Safety Element establishes goals to minimize adverse effects of coastal hazards including tsunamis. In accordance with Policies S 1.1 and S 1.2, the City has identified evacuation routes in areas susceptible to tsunami inundation and developed and implemented response plans for the City's emergency services. All future housing development within tsunami evacuation areas would be covered by the established evacuation plan, including routes along the Balboa Peninsula and Mariner's Mile.

Seiches occur in large, enclosed bodies of water, such as the reservoirs in the City and, to an extent, Newport Harbor and Newport Bay. As discussed in the General Plan, other portions of the City, including Mariners Mile, Balboa Peninsula, and Balboa Village would be at risk of inundation resulting from seiche in Newport Harbor. Coastal flood hazards, such as tsunamis and rogue waves, would inundate primarily the low-lying areas of the City's coastline, including, but not limited to, the West Newport Highway, Mariners Mile, Balboa Peninsula, Balboa Island, and Balboa Village areas.

The Safety Element also includes a goal to minimize adverse effects of coastal hazards related to storm surges and seiches. Future housing development would be required to demonstrate consistency with Policies S 2.6 through S 2.7 which require maintenance of storm drains in low-lying areas such that flood waters can be effectively conveyed away from structures and construction of residential structures to raise floor elevations.

100-year Floodplain

There are 28 housing sites located with an identified Flood Hazard Zone (**Figure 4.9-1**). Future development facilitated by the Project could place housing and structures within a 100-year flood hazard area and/or dam inundation area. According to the General Plan EIR, portions of the City are threatened by flooding from Prado Dam, Santiago Creek Reservoir, Villa Park Reservoir, San Joaquin Reservoir, Big Canyon Reservoir, and Harbor View Reservoir. Dam failure inundation zones in the Planning Area are similar to the 100-year flood zones. FEMA requires municipalities that participate in the National Flood Insurance Program to adopt certain flood hazard reduction standards for construction and development in 100-year floodplains.

Several General Plan Safety Element Policies are aimed at reducing impacts related to flooding and storm surge events. Policy S 2.7 requires new or remodeled residential structures in area susceptible to storm surges to raise floor elevations as required by building codes. Policy S 5.1, which require that all new development within 100-year floodplains incorporate sufficient measures to mitigate flood hazards including the design of on-site drainage systems that are connected to the City's storm drainage system.

Accordingly, the City requires all new development within a 100-year flood hazard area to obtain all necessary permits from applicable governmental agencies, and implement specific construction standards codified under Municipal Code Section 15.50.200. These requirements include that the lowest floor of residential structures and structures within subdivisions to be elevated to or above the base flood level. If a proposed building site is in a flood-prone area, all new construction and substantial improvements must be designed (or modified) and adequately anchored to prevent the structure's flotation, collapse, or

¹² <https://www.newportbeachca.gov/how-do-i/find/disaster-preparedness-information/tsunamis>. Accessed January 2024.

lateral movement resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy. Compliance with the Municipal Code would ensure that proposed housing sites would be reasonably safe from flooding hazards.

Future development facilitated by the Project would be required to adhere to all federal, State, and local requirements for avoiding and minimizing impacts related to flood hazards, tsunami, or seiches, including General Plan policies and Municipal Code regulations. Considering these requirements, future development facilitated by the Project would not result in significant increased risk concerning release of pollutants due to inundation, tsunami, or seiche zones. Therefore, impacts would be less than significant and no mitigation is required.

Impact Summary: **Less than Significant Impact.** The Project, in flood hazard, tsunami, or seiche zones, would not risk release of pollutants due to Project inundation.

Threshold 4.9-5: Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The City is under the jurisdiction of the Santa Ana RWQCB, which establishes water quality objectives and standards for both surface and groundwater of the region, and water quality discharge requirements. Under the Santa Ana RWQCB's NPDES permit system, all existing and future municipal discharges to surface waters within the City would be subject to regulations. NPDES permits are required for operators of MS4s, construction projects, and industrial facilities. Developments within the City would also be subject to the provisions in Municipal Code Chapter 14.36, Water Quality. Under the provisions of Chapter 14.36, any discharge that would result in or contribute to degradation of water quality via storm water runoff is prohibited. Operation of new development or redevelopment projects are required comply with provisions set forth in the DAMP, including the implementation of appropriate BMPs identified in the DAMP, to control storm water runoff to prevent any deterioration of water quality that would impair subsequent or competing beneficial uses of the water.

As discussed above, the City is underlain by the Orange County Groundwater Basin. Orange County Water District is responsible for management of the Orange County Groundwater Basin. The Orange County Water District adopted its most recent groundwater management plan in 2015. This plan sets basin management goals and objectives and describes how the basin is managed.

According to the 2020 UWMP, there is adequate existing and planned water supply to accommodate future development accounted for in the General Plan inclusive of the City's Regional Housing Needs Assessment (RHNA) allocation for the 6th Cycle planning period of 2021-2029 and its associated water demands.

Future development by the Project would be required to comply with NPDES standards and implement environmentally sustainable practices including but not limited to water-efficient landscaping; energy efficient water fixtures; and water quality BMPs to treat surface runoff from the future development sites. Future development facilitated by the Project would not obstruct implementation of applicable plans, and impacts would be less than significant and no mitigation is required.

Impact Summary: **Less than Significant Impact.** The Project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

4.9.7 Cumulative Impacts

The anticipated Project-related impacts, in conjunction with cumulative development in the City, could result in impacts related to hydrology and water quality. Potential impacts would be site-specific and would require evaluation on a case-by-case basis at the project level when future development is proposed in accordance with the City’s 2021-2029 Housing Element and the proposed Project. Future residential projects would be subject to the City’s development review process and would be required to demonstrate compliance with applicable General Plan policies, Municipal Code regulations, and regulatory requirements. Compliance with these policies and regulations would ensure that potential hydrology impacts would not result in cumulatively considerable significant impacts

Cumulative projects would be required to adhere to similar General Plan Policies to ensure that impacts to water quality are reduced to a less than significant level. Consequently, future housing development facilitated by the Project and cumulative development would not result in significant cumulative impacts concerning violation of water quality standards or waste discharge requirements, decreased groundwater supplies or interference with groundwater recharge, alterations to existing drainage patterns, or conflicts with water quality or groundwater plans.

4.9.8 Mitigation Program

General Plan Policies

See **Section 4.9.2: Regulatory Setting** for complete policy text.

- Policy NR 1.1
- Policy NR 3.4
- Policy NR 3.5
- Policy NR 3.7
- Policy NR 3.9
- Policy NR 3.11
- Policy NR 3.14
- Policy NR 3.15
- Policy NR 3.16
- Policy NR 3.19
- Policy NR 3.20
- Policy NR 4.1
- Policy NR 4.3
- Policy NR 4.4
- Policy LU 6.4.10
- Policy S 2.7
- Policy S 3.9
- Policy S 3.10
- Policy S 3.11
- Policy S 3.12
- Policy S 5.1
- Policy S 5.3

Coastal Land Use Plan Policies

See **Section 4.9.2: Regulatory Setting** for complete policy text.

- Policy 4.3.1-5
- Policy 4.3.1-6
- Policy 4.3.1-7
- Policy 4.3.1-8
- Policy 4.3.2-1
- Policy 4.3.2-2
- Policy 4.3.2-6
- Policy 4.3.2-7
- Policy 4.3.2-8
- Policy 4.3.2-9
- Policy 4.3.2-10
- Policy 4.3.2-11
- Policy 4.3.2-12
- Policy 4.3.2-13
- Policy 4.3.2-14
- Policy 4.3.2-15
- Policy 4.3.2-17
- Policy 4.3.2-22
- Policy 4.3.2-23
- Policy 4.3.2-24

Mitigation Measures

No additional mitigation is required.

4.9.9 Level of Significance After Mitigation

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

4.9.10 References

Arcadis U.S., Inc. (2021). *City of Newport Beach 2020 Urban Water Management Plan*. Retrieved from <https://newportbeachca.gov/home/showpublisheddocument/69858/637563360496100000>.

City of Newport Beach (2006). *City of Newport Beach General Plan – Natural Resources Element*. Retrieved from https://www.newportbeachca.gov/PLN/General_Plan/11_Ch10_NaturalResources_web.pdf.

City of Newport Beach (2006). *City of Newport Beach General Plan – Land Use Element*. Retrieved from https://www.newportbeachca.gov/PLN/General_Plan/04_Ch3_LandUse_web.pdf.

City of Newport Beach (2006). *City of Newport Beach General Plan – Safety Element*. Retrieved from https://www.newportbeachca.gov/PLN/General_Plan/12_Ch11_Safety_web.pdf.

City of Newport Beach. (2006). *City of Newport Beach General Plan Update Draft Environmental Impact Report*. Retrieved from <https://www.newportbeachca.gov/government/departments/community-development/planning-division/general-plan-codes-and-regulations/general-plan/general-plan-environmental-impact-repor>.

City of Newport Beach (2016). *City of Newport Beach Coastal Land Use Plan – Coastal Resource Protection. Pages 4-64 – 4-65*. Retrieved from https://www.newportbeachca.gov/PLN/LCP/Internet%20PDFs/CLUP_Part%204_Coastal%20Resource_Protection.pdf.

- City of Newport Beach (2016). *City of Newport Beach Coastal Land Use Plan – Coastal Resource Protection*. Pages 4-65 – 4-68. Retrieved from https://www.newportbeachca.gov/PLN/LCP/Internet%20PDFs/CLUP_Part%204_Coastal%20Resource_Protection.pdf.
- City of Newport Beach (2016). *City of Newport Beach Local Coastal Program Implementation Plan*. Retrieved from <https://www.codepublishing.com/CA/NewportBeach/html/pdfs/NewportBeach21.pdf>.
- City of Newport Beach (2021). *City of Newport Beach Municipal Code – Chapter 15.50 Floodplain Management*. Retrieved from <https://www.codepublishing.com/CA/NewportBeach/#!/NewportBeach15/NewportBeach1550.html#15.50>.
- City of Newport Beach (2021). *City of Newport Beach Municipal Code*. Retrieved from <https://www.codepublishing.com/CA/NewportBeach>.
- City of Newport Beach. *Local Coastal Program Frequently Asked Questions (FAQ)*. Retrieved from <https://www.newportbeachca.gov/government/departments/community-development/planning-division/local-coastal-program-launch-page/faq#Q3>.
- Moffat & Nichol. (2019). *City of Newport Beach – Public Trust Lands Sea Level Rise Vulnerability Assessment*. Retrieved from <https://www.newportbeachca.gov/home/showpublisheddocument/64029/636911131788170000>.
- Orange County Water District. (2020). *Groundwater Management Plan 2015 Update*. Retrieved from https://www.ocwd.com/media/3622/groundwatermanagementplan2015update_20150624.pdf.
- United States Environmental Protection Agency. *Basic Information about Nonpoint Source (NPS) Pollution*. Retrieved from <https://www.epa.gov/nps/basic-information-about-nonpoint-source-nps-pollution>.