4.10 HYDROLOGY AND WATER QUALITY

4.10.1 INTRODUCTION

The California Environmental Quality Act (CEQA) Initial Study Checklist requires that the effects of a project on local and regional hydrology, flooding, and water quality be addressed in a project's impact analysis. The purpose of this section is to address the CEQA checklist requirements by providing (1) a complete discussion of existing hydrology, flooding, and water quality conditions on the Project site and (2) an analysis of how the proposed Project would affect those existing conditions. Mitigation for potential significant impacts identified in the analyses is incorporated through the application of project design features (PDFs), standard conditions and requirements (SCs), and/or mitigation measures (MMs). This analysis considers the effects of the proposed Project on hydrology, water quality, storm water runoff, and potential on- and off-site erosion and sedimentation.

Primary sources for this analysis are the Sunset Ridge Park Preliminary Hydrology Report (Urban Resource Corporation 2009a), the Preliminary Water Quality Management Plan for Sunset Ridge Park (Urban Resource Corporation 2009b), the Santa Ana Regional Water Quality Control Board's Basin Plan (SARWQCB 1995), the Geotechnical Report for the Proposed Sunset Ridge Park Project (Leighton 2009), and the City of Newport Beach's General Plan and General Plan EIR (Newport Beach 2006). These reports were also the source documents for presentation of site design concepts and for Best Management Practice (BMP) identification and selection. The Sunset Ridge Park Preliminary Hydrology Report (Urban Resource Corporation 2009a) and the Preliminary Water Quality Management Plan for Sunset Ridge Park (Urban Resource Corporation 2009b) are provided in Appendix I to this EIR.

4.10.2 REGULATORY SETTING

Federal

Clean Water Act

In 1972, the Federal Water Pollution Control Act (later referred to as the Clean Water Act [CWA]) 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 CWA 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 proposed Project are discussed further below under Regional regulations.

The CWA 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

[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.

sediment, and fecal coliform bacteria) or narrative statements that represent the quality of water that support a particular use. The USEPA also promulgated the California Toxics Rule (CTR) in 1992 (40 *Code of Federal Regulations* [CFR] 131.38), which established numeric water quality criteria for the protection of human health or aquatic life in California surface waters. The CTR is also discussed further below under State regulations.

When water quality issues compromise the designated beneficial uses of a particular receiving water body, Section 303(d) of the CWA 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 CWA 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 in "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 CWA 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 Boards (RWQCBs).

Federal Antidegradation Policy

The Federal Antidegradation Policy was released in 1968 and was included in the USEPA's first Water Quality Standards Regulation. This policy represents a three-tiered approach to maintaining and protecting water quality. If an activity is going to be allowed to degrade or lower water quality, the Federal Antidegradation Policy requires that (1) the activity is necessary to accommodate important economic or social development in the area, (2) water quality is adequate to protect and fully maintain existing beneficial uses, and (3) the highest statutory and regulatory requirements and Best Management Practices (BMPs) for pollution control are achieved.

State

California Porter-Cologne Act

California's Porter-Cologne Water Quality Control Act of 1970 grants the State Water Resource Control Board (SWRCB) and the RWQCBs power to protect surface water and groundwater quality; it is the primary vehicle for implementing California's responsibilities under the federal CWA. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to 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 Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum products. Each RWQCB must formulate and adopt a Water Quality Control Plan (Basin Plan) for its region which establishes beneficial uses for surface and groundwaters and sets forth narrative and numeric water quality standards to protect those beneficial uses.

California Toxics Rule

The California Toxics Rule (CTR, 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 CTR 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 time 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.

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 and establishes a two-step process to determine if discharges with the potential to degrade the water quality of surface or groundwater would be allowed.

NPDES Permit Program

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 Sunset Ridge Park Project is located within the jurisdiction of the Santa Ana RWQCB (Santa Ana RWQCB) (Exhibit 4.10-1).

The NPDES permit program administered in the State of California by the RWQCBs, was first established under the authority of the CWA 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.

Construction General Permit

The SWRCB has issued a statewide general NPDES Permit and Waste Discharge Requirements (WDRs) for storm water discharges from construction sites. Under this Construction General 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 Construction General Permit. Each applicant under the Construction General 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 and is 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. On September 2, 2009, the SWRCB adopted a new Construction General Permit which 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 take effect on July 1, 2010. Projects for which an NOI had been filed prior to adoption of the new permit (September 2, 2009) are grandfathered under the old permit under most circumstances. All other projects are required to file an NOI for coverage under the old permit for construction scheduled to initiate prior to July 1, 2010; for construction projects continuing after July 1, 2010, a new NOI and associated updated permit documentation will be required for NPDES construction compliance.

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).

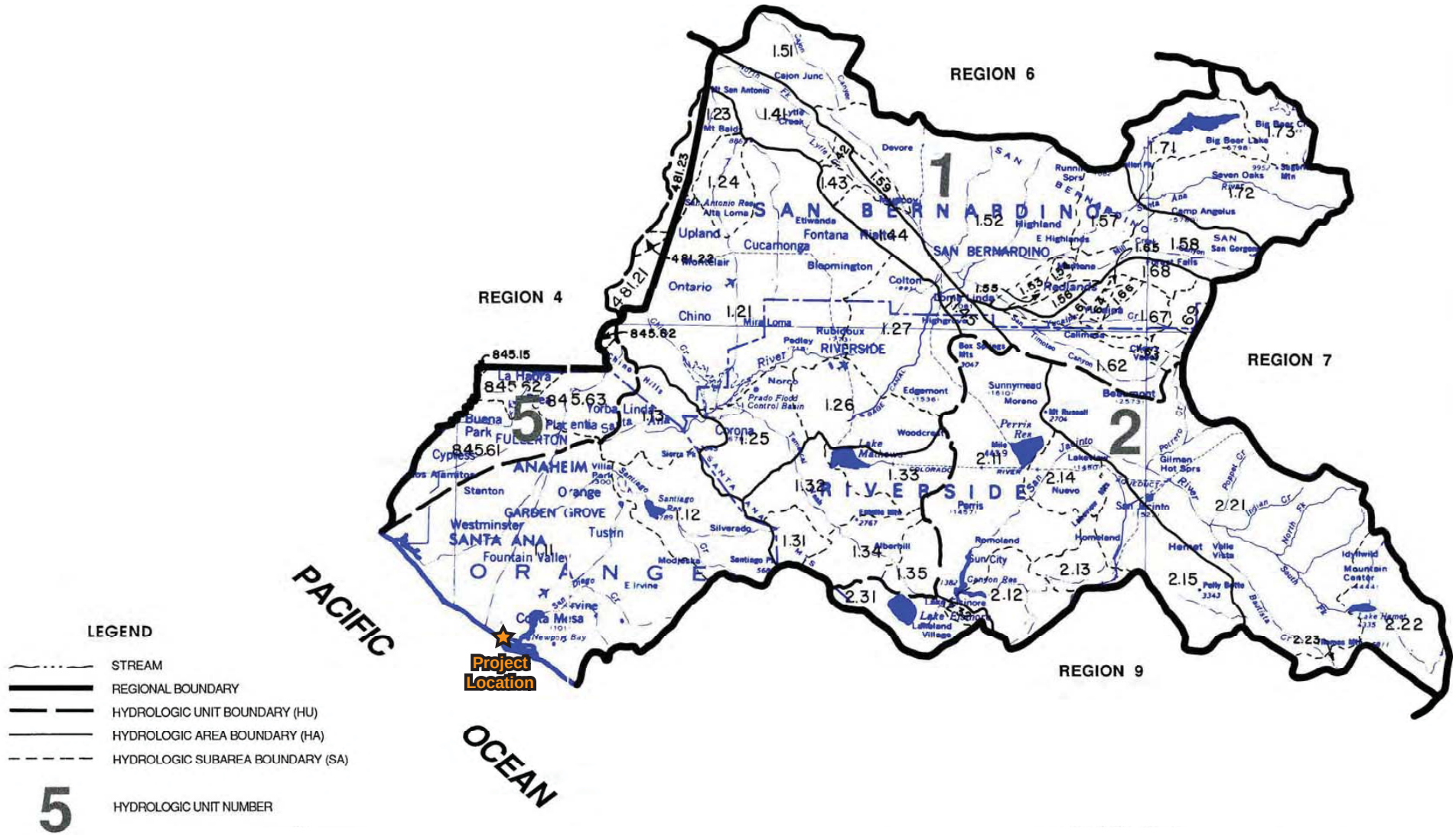
California Ocean Plan

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.

Regional

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 (Basin Plan) (Santa Ana RWQCB 1995) 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 ground waters and prohibit 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 CWA. 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



Source: State Water Resource Control Board Surveillance and Monitoring Section

Regional Water Quality Control Board – Santa Ana Region

Exhibit 4.10-1

Sunset Ridge Park EIR

BonTerra CONSULTING

(Rev 09/21/09 CJS) Projects\Newport\J016\Graphics\WQ_Rpt\Ex4.10-1_RWQCBSA.pdf

D:/Projects/Newport/J016/ex_RWQCBSA_090109.ai

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.

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 NPDES 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. This permit was updated in March 2009 by Order No. R8-2009-0003, NPDES NP. CAG998001. 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, an individual NPDES permit and WDRs must be obtained from the RWQCB.

Maximum constituent concentrations that must be met to qualify for this permit are listed in Table 4.10-1.

TABLE 4.10-1
DEWATERING PERMIT MAXIMUM CONSTITUENT CONCENTRATIONS

Constituent	Maximum Concentration
Total Dissolved Solids	Concentrations will not exceed water quality objectives for receiving waters or groundwater management zone as specified in Basin Plan*
Total Inorganic Nitrogen	Concentrations will not exceed water quality objectives for receiving waters or groundwater management zone as specified in Basin Plan[a]
Oil and Grease	15 mg/L
Sulfides	0.4 mg/L
Total Residual Chlorine	0.1 mg/L
Suspended Solids	75 mg/L
Total Petroleum Hydrocarbons	0.1 mg/L

mg/L: milligrams per liter; µg/L: micrograms per liter; ppb: parts per billion
[a] Depending upon whether groundwater quality will be impacted by the discharge

Source: RWQCB Order No. R8-2009-0003, NPDES No. CAG998001.

In addition, the pH of the discharge must be within 6.5 and 8.5 pH units, and there must be no visible oil and grease in the discharge. Criteria that govern limitations on receiving waters are aimed at ensuring project impacts do not create a nuisance or adversely affect beneficial uses; the limitations include (1) requirements for discoloration; (2) oil/grease/wax deposition that cause a film or that coat objects in the water; (3) the increase of suspended or settleable solid amounts as a result of controllable water quality factors; (4) adverse taste or odor alterations; (5) the presence of radioactive materials; (6) depletion of dissolved oxygen concentrations below stipulated levels; and (7) increase in temperature of receiving waters that cause those water to be raised above 90 degrees Fahrenheit (F) during the period of June to October, to above 78 degrees F during the rest of the year; (6) change in pH levels more than 0.5 pH units; (7) adverse impacts on beneficial uses (Order No. R8-2009-0003, NPDES No. CAG998001).

Storm Water Permitting (MS4 Permit)/Storm Water Quality Management Program

Prior to the USEPA's promulgation of storm water permit regulations, the three counties of Orange, Riverside, and San Bernardino and the incorporated cities within the jurisdiction of the Santa Ana RWQCB requested areawide NPDES permits for urban runoff associated with their respective Municipal Separate Storm Sewer Systems (MS4s). The Regional Board adopted Order No. 90-71 for urban storm water runoff in Orange County within the Santa Ana Region (first term Permit) on July 13, 1990. Orders No. 96-31 (second term Permit) and R8-2002-0010 (third term Permit)—issued on March 8, 1996, and January 18, 2002, respectively—renewed the Orange County MS4 – NPDES permit. On February 20, 2007, Order No. 2002-0010 (NPDES No. CAS618030) was administratively extended in accordance with Title 23 of the *California Code of Regulations* (CCR) (Division 3, Chapter 9, Section 2235.4). The area covered by the permit includes the northern portions of Orange County, including 26 incorporated cities. The permittees serve a population of approximately 3.1 million, occupying an area of approximately 789 square miles (Santa Ana RWQCB 2009).

The conditions of this permit and the associated local Drainage Area Management Plan (DAMP) require the permittees to implement a Water Quality Management Program (WQMP). The WQMP summarizes the program components that the Co-Permittees would implement to reduce discharges of pollutants in storm water to the maximum extent practicable (MEP). For new or significant re-development, Section 7 of the DAMP provides a model WQMP and guidelines for WQMP development.

Area of Special Biological Significance

Areas of Special Biological Significance (ASBS) 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), ASBS 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". (*California Public Resources Code* [PRC] §36700[f]) The two closest ASBS to the project site include the Irvine Coast Marine Life Refuge ASBS, located offshore and about seven miles south, and the Newport Beach Marine Life Refuge, also offshore and about five miles to the south.

Local

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 of Newport Bay, water quality-limited receiving waters, and the near-shore ocean environment (Newport Beach 2002). 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" (City of Newport Beach 2002). Policy L-22 states that "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" (Newport Beach 2002).

City of Newport Beach Municipal Code

The City of Newport Beach Municipal Code contains policies relevant to water quality management, specifically control of 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 (see below) as well as conditions and requirements established by the Planning Department, Public Works Department, or Building Department to reduce or eliminate pollutants in storm water runoff from a project site.

Orange County Stormwater Program 2003 Drainage Area Management Plan

Section 402(p) of the CWA, as amended by the Water Quality Act of 1987, requires that municipal NPDES Permits include requirements to essentially prohibit non-storm water discharges into municipal storm sewers, and 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 was developed in 1993, which has been updated several times in response to requirements associated with NPDES permit renewals (County of Orange et al. 2003).

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 (SCCWRP), 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 (County of Orange et al. 2003).

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 Regional Board.

The LIP, in conjunction with the DAMP, is the principal policy and guidance document for the City's NPDES Storm Water Program. Sections A.7.0 and A.8.0 cover new development and significant redevelopment controls for BMP incorporation 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.

General Plan Natural Resources Element and Harbors and Bay 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. These goals and policies are provided in Table 4.1-2 in Section 4.1, Land Use and Related Planning Programs, with a Project consistency analysis.

Local Coastal Program Coastal Land Use Plan (CLUP)

Chapter 4, Coastal Resource Protection

Chapter 4 incorporates policies related to water quality that are relevant to Newport Beach. The intent of CLUP water quality policies applicable to the Project include but are not limited to requirements associated with construction and operational activities, and site development to protect and preserve natural and sensitive resources. CLUP and California Coastal Act policies applicable to the Project are identified in Tables 4.1-3 and 4.1-4, respectively, in Section 4.1, Land Use and Related Planning Programs, with a Project consistency analysis.

4.10.3 EXISTING CONDITIONS

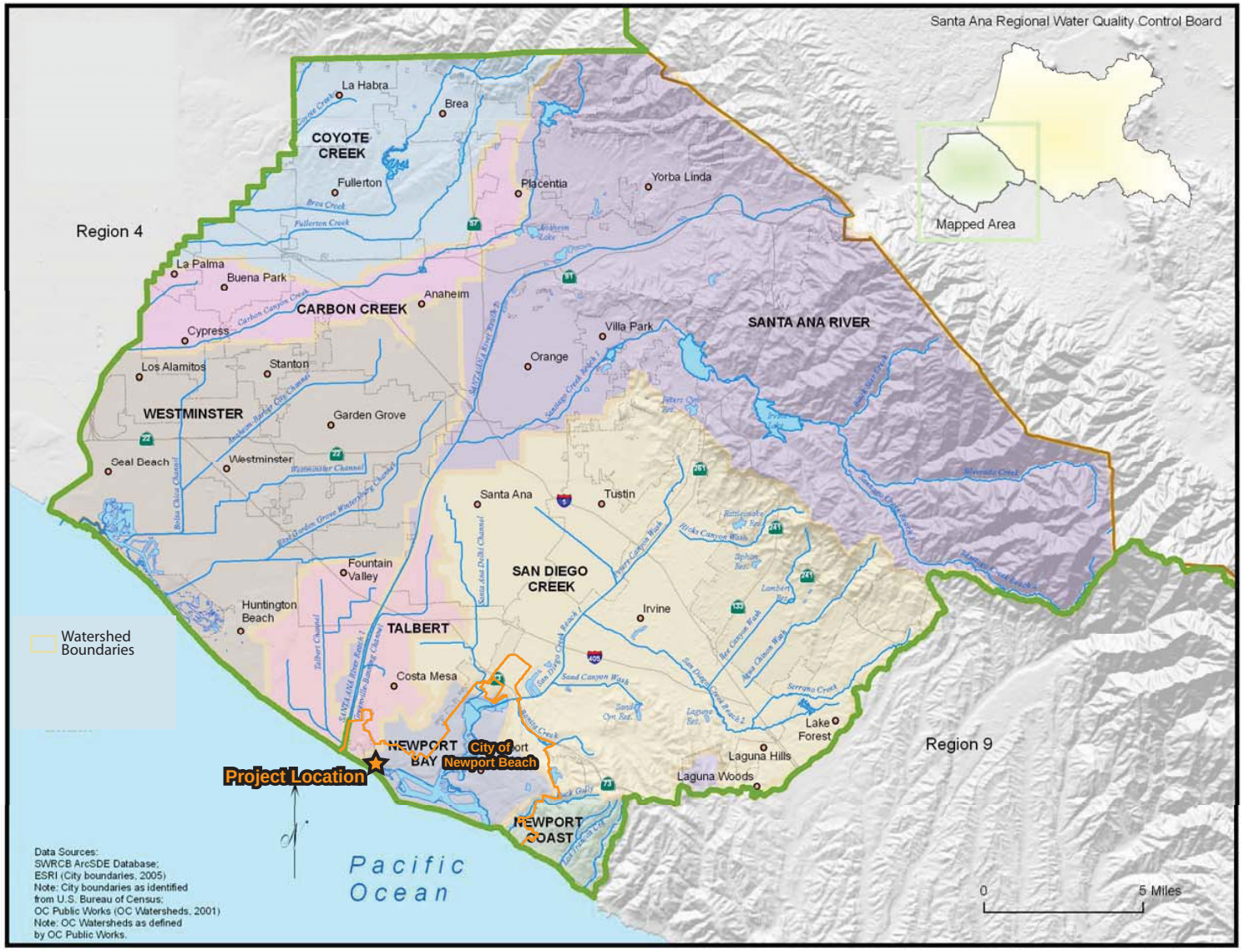
Hydrologic Setting

Orange County encompasses an area of approximately 500,000 acres, 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 (DAMP 2003). 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, most of it occurring between November and March (Santa Ana RWQCB 2009).

The Project site is located in western portion of Newport Beach in an urban environment consisting of multi-family residential, commercial, institutional, and open space uses. The site is approximately 18.9 acres and is currently vacant and undeveloped. The Project site is irregularly shaped, and ranges in elevation from approximately 76 feet above msl in the northeastern portion of the site, 44 feet above msl in the northwestern portion of the site, to approximately 10 feet above msl at the intersection of West Coast Highway and Superior Avenue. The Project site has been previously graded, and the City-owned portion (13.7 acres) is subject to regular maintenance activities for fuel modification and weed abatement.

Regional Watershed

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 (Exhibit 4.10-2). Although most of the City is located within the Newport Bay and Newport Coast Watersheds, the Project site is located within the Talbert Watershed, which covers 21.4 square miles and drains into the Pacific Ocean on either side of the Santa Ana River mouth and the tidal reaches of the Santa Ana River. Two main tributaries drain the Talbert Watershed: the Greenville–Banning Channel in the portion of the watershed to the east of the Santa Ana River mouth, and the Talbert and Huntington Beach Channels on the western side of the river mouth. As shown on the County of Orange's Environmentally Sensitive Area



Source: Santa Ana Regional Water Quality Control Board 2009

Watershed Boundaries, City of Newport Beach

Exhibit 4.10-2

Sunset Ridge Park EIR

BonTerra CONSULTING

(Rev 09/21/09 CJS) Projects/Newport/J016/Graphics/EIR/Ex4.10-2_Watershed.pdf

D:/Projects/Newport/j016/Graphics/Ex_Watershed.ai

Watershed Maps, the Project site is located within Watershed D (Talbert-Greenville Banning Channel). The Project site is located within the Lower Santa Ana River Hydrologic Area and the East Coast Plain Hydrologic Sub-Area (HSA) 801.11 per the Basin Plan (Santa Ana RWQCB 1995).

On-Site Hydrology and Drainage

The existing drainage patterns of the Project site route runoff to the south and west via existing concrete V-ditches and terrace drains (Exhibit 4.10-3). All runoff from the site currently flows into an 8-foot by 5-foot concrete box culvert maintained by the California Department of Transportation (Caltrans) located in West Coast Highway (Exhibit 4.10-4). The existing capacity of this 8-foot by 5-foot box culvert is 330.34 cubic feet per second (cfs) under full flow conditions (Urban Resources 2009a). This box culvert eventually transitions into a larger cross-section downstream and daylights into the Semeniuk Slough west of the Project site (Exhibit 4.10-5). The Semeniuk Slough, also known as the Oxbow Loop Channel, consists of a meandering drainage channel that receives area runoff and drains generally to the west and north. Flows passing through the Semeniuk Slough generally pond in that area and mix with tidal waters entering the Slough through tide gates that connect the channel with the Santa Ana River.

Approximately 3.9 acres of the Newport Crest Condominium development to the north of the Project site drain to the east into Superior Avenue, which is collected by existing catch basins that collect the flows before they enter the on-site storm drain and the reinforced concrete box (RCB) culvert in West Coast Highway. A portion of street runoff from Superior Avenue is also collected and routed into these conveyances (Exhibit 4.10-3). Portions of the Newport Banning Ranch property to the west also contribute flows to the existing RCB culvert.

Surface Water Quality and Designated Beneficial Uses of Receiving Waters

Beneficial Uses of Receiving Waters. A beneficial use is defined as "one of the various ways that water can be used for the benefit of people and/or wildlife" (Santa Ana RWQCB 1995). Beneficial uses and specific water quality criteria for discharges comprise water quality standards for surface (navigable) waters as defined by Section 303 of the federal CWA (33 *United States Code* [USC] §1313). Under the Porter-Cologne Act (*California Water Code,* §13050) these concepts are separately considered as beneficial uses and water quality objectives. Twenty-three beneficial uses are now defined statewide; of these, 20 apply within the Santa Ana Region. These beneficial uses are: municipal and domestic supply (MUN); agricultural supply (AGR); industrial service supply (IND); industrial process supply (PROC); groundwater recharge (GWR); navigation (NAV); hydropower generation (POW); water contact recreation (REC1); non-contact water recreation (REC2); commercial and sportfishing (COMM); warm freshwater habitat (WARM); limited warm freshwater habitat (LWRM); cold freshwater habitat (COLD); preservation of biological habitats of special significance (BIOL); wildlife habitat (WILD); rare, threatened or endangered species (RARE); spawning, reproduction and development (SPWN); marine habitat (MAR); shellfish harvesting (SHEL); and estuarine habitat (EST).

The surface water bodies with designated beneficial uses in the general vicinity of the Project site include the Santa Ana River and estuary, Sunset Bay-Huntington Harbour, the Bolsa Chica Ecological Reserve, the Santa Ana River Salt Marsh, Lower and Upper Newport Bay, San Diego Creek, and the nearshore zone of the Pacific Ocean. Of these, the tidal reach of the Santa Ana River and its estuary (Santa Ana River tidal prism) constitute receiving waters for the proposed Project. The beneficial uses of the Santa Ana River Tidal Prism, into which flows from

the Project site ultimately discharge after passing through the Semeniuk Slough, include REC1, REC2, COMM, WILD, RARE, and MAR.

Surface Water Quality Objectives. As stated above, the point at which Project drainage in the Semeniuk Slough connects to the Santa Ana River via the existing tide gates is within the river's tidal prism. Although the Santa Ana RWQCB has not set specific water quality objectives for the tidal prism of the Santa Ana River, the Basin Plan (discussed above under Local Regulations in Section 4.10-2) does contain general water quality objectives for all bays and estuaries within its boundaries. The applicable objectives are summarized in Table 4.10-2.

TABLE 4.10-2
WATER QUALITY OBJECTIVES FOR SANTA ANA RWQCB'S ENCLOSED BAYS AND ESTUARIES

Constituent	Water Quality Objective
Algae:	Waste discharges shall not contribute to excessive algal growth in receiving waters.
Bacteria, Coliform:	In waters designated for REC for fecal coliform: log mean less than 200 organisms/100 mL based on 5 or more samples/30 day period, and not more than 10% of the samples exceed 400 organisms/100 mL for any 30-day period.
Chlorine, Total Residual:	The chlorine residual in wastewater discharged to enclosed bays and estuaries shall not exceed 0.1 mg/L.
Color:	Waste discharges shall not result in coloration of the receiving waters which causes a nuisance or adversely affects beneficial uses. The natural color of fish, shellfish, or other bay and estuarine water resources used for human consumption shall not be impaired.
Floating Materials:	Waste discharges shall not contain floating materials, including solids, liquids, foam or scum, which cause a nuisance or adversely affect beneficial uses.
Oil and Grease:	Waste discharges shall not result in deposition of oil, grease, wax, or other materials in concentrations that result in a visible film or in coating objects in the water, or which cause a nuisance or adversely affect beneficial uses.
Oxygen, Dissolved:	The dissolved oxygen content of enclosed bays and estuaries shall not be depressed to levels that adversely affect beneficial uses as a result of controllable water quality factors.
pH:	The pH of bay or estuary waters shall not be raised above 8.6 or depressed below 7.0 as a result of controllable water quality factors; ambient pH levels shall not be changed more than 0.2 unit.
Radioactivity:	Radioactive materials shall not be present in the bay or estuarine waters of the region in concentrations which are deleterious to human, plant, or animal life.
Solids, Suspended and Settleable:	Enclosed bays and estuaries shall not contain suspended or settleable solids in amounts that cause a nuisance or that adversely affect beneficial uses as a result of controllable water quality factors.
Sulfides:	The dissolved sulfide content of enclosed bays and estuaries shall not be increased as a result of controllable water quality factors.
Surfactants:	Waste discharges shall not contain concentrations of surfactants that result in foam in the course of flow or use of the receiving water, or which adversely affect aquatic life.
Taste and Odor:	The enclosed bays and estuaries of the region shall not contain, as a result of controllable water quality factors, taste- or odor-producing substances at concentrations that cause a nuisance or adversely affect beneficial uses. The natural taste and odor of fish, shellfish, or other enclosed bay and estuarine water resources used for human consumption shall not be impaired.

Reinforced
Concrete Box/Culvert

West Coast Highway

Superior Ave

Water Flow

Concrete Drainage Feature

D:\Projects\Newport\J016\MXD\Existing_Site_Hydrology.mxd

Existing Site Hydrology

Exhibit 4.10-3

Sunset Ridge Park EIR

N
W E
S

150 75 0 150

Feet

BonTerra CONSULTING

(rev 092109 CJS) Projects\Newport\J016\Graphics\EIR\Ex4.10-3_Existing_Site_Hydro.pdf

Existing on-site V-ditch conveyance.

Reinforced concrete box drainage location, Semeniuk Slough.

Existing reinforced concrete box culvert, West Coast Highway.

Semeniuk Slough.

D:/Projects/Newport/J016/Graphics/Ex_sp4_092209.ai

Site Photographs

Exhibit 4.10-4

Sunset Ridge Park EIR

Bonterra CONSULTING

R:/Projects/Newport/J016/Graphics/EIR/Ex4.10-4_sp4_092209.pdf

Off-Site Drainage Path, Reinforced Concrete Box/Culvert

Exhibit 4.10-5

Sunset Ridge Park EIR

N
W E
S

500 250 0 500 Feet

BonTerra CONSULTING

(Rev 101209 JFG) Projects\Newport\J016\Graphics\EIR\Ex4.10-5_Drainage_Path.pdf

D:\Projects\Newport\J016\MXD\Ex_Drainage_Path.mxd

TABLE 4.10-2 (Continued)
WATER QUALITY OBJECTIVES FOR SANTA ANA REGION ENCLOSED BAYS AND ESTUARIES

Constituent	Water Quality Objective
Temperature:	The maximum temperature shall not exceed the natural receiving water temperature by more than 20°F. Elevated temperature waste discharges (either individually or combined with other discharges) shall not create a "zone" that (1) can be defined by water temperatures of more than 1°F above natural receiving water temperature and/or (2) exceeds 25% of the cross-sectional area of a main river channel at any point. No discharge shall cause a surface water temperature rise greater than 4°F above the natural temperature of the receiving waters at any time or place.
Toxicity:	Toxic substances shall not be discharged at levels that will bioaccumulate in aquatic resources to levels that are harmful to human health. The concentrations of toxic substances in the water column, sediments, or biota shall not adversely affect beneficial uses.
Turbidity:	All enclosed bays and estuaries of the region shall be free of changes in turbidity which adversely affect beneficial uses. Increases in turbidity shall not exceed natural levels by more than 20 percent where natural turbidity is between 0 and 50 NTU, and shall not exceed natural levels by more than 10% where natural turbidity is greater than 100 NTU.
mL: milliliter; mg/L: milligram per liter; °F: degrees Fahrenheit; NTU: nephelometric turbidity unit Source: Basin Plan 1995.	

Existing Surface Water Quality Conditions. The Santa Ana River has been divided into six reaches representing hydrologic and water quality units. Reach 1 extends almost ½ mile from 17th Street to the river's outlet at the ocean. The Tidal Prism and Reach 1 of the Santa Ana River are not listed as impaired according to the 2006 303(d) list approved by the USEPA (USEPA 2007) and do not have any TMDLs in place. The closest 303(d)-listed water body is the Pacific Ocean – Huntington Beach State Park, which extends from Beach Boulevard south to Brookhurst Avenue, about 1.5 miles north of the Project site. Potential pollutants that may be associated with the Project include, but are not limited to, Bacteria/Virus, Heavy Metals, Nutrients, Pesticides, Organic Compounds, Sediments, Trash and Debris, Oxygen Demanding Substances, and Oil and Grease.

Storm water runoff from the Project site indirectly discharges into Semeniuk Slough. The Orange County Health Care Agency, Environmental Health's Ocean Water Protection Program protects the public from exposure to ocean and bay water that may be contaminated with sewage or urban runoff and may cause illness due to elevated bacteria levels along the County's coastline, as well as the harbor and bay shoreline (Newport Beach 2006) Water quality monitoring efforts are conducted each week at 2 locations in Semeniuk Slough (as well as 31 locations in Newport Bay). Table 4.10-3 provides information on the number of postings and beach closures for bacteriological violations of water quality standards.

TABLE 4.10-3
POSTINGS AND BEACH CLOSURES ASSOCIATED WITH WATER QUALITY VIOLATIONS: SEMENIUK SLOUGH

Year	Number of Postings	Beach Closure (Days)
2004	3	96
2005	8	57
2006	12	134
2007	3	10
Source: 2007 Annual Ocean and Bay Water Quality Report, County of Orange Health Care Agency, 2008.		

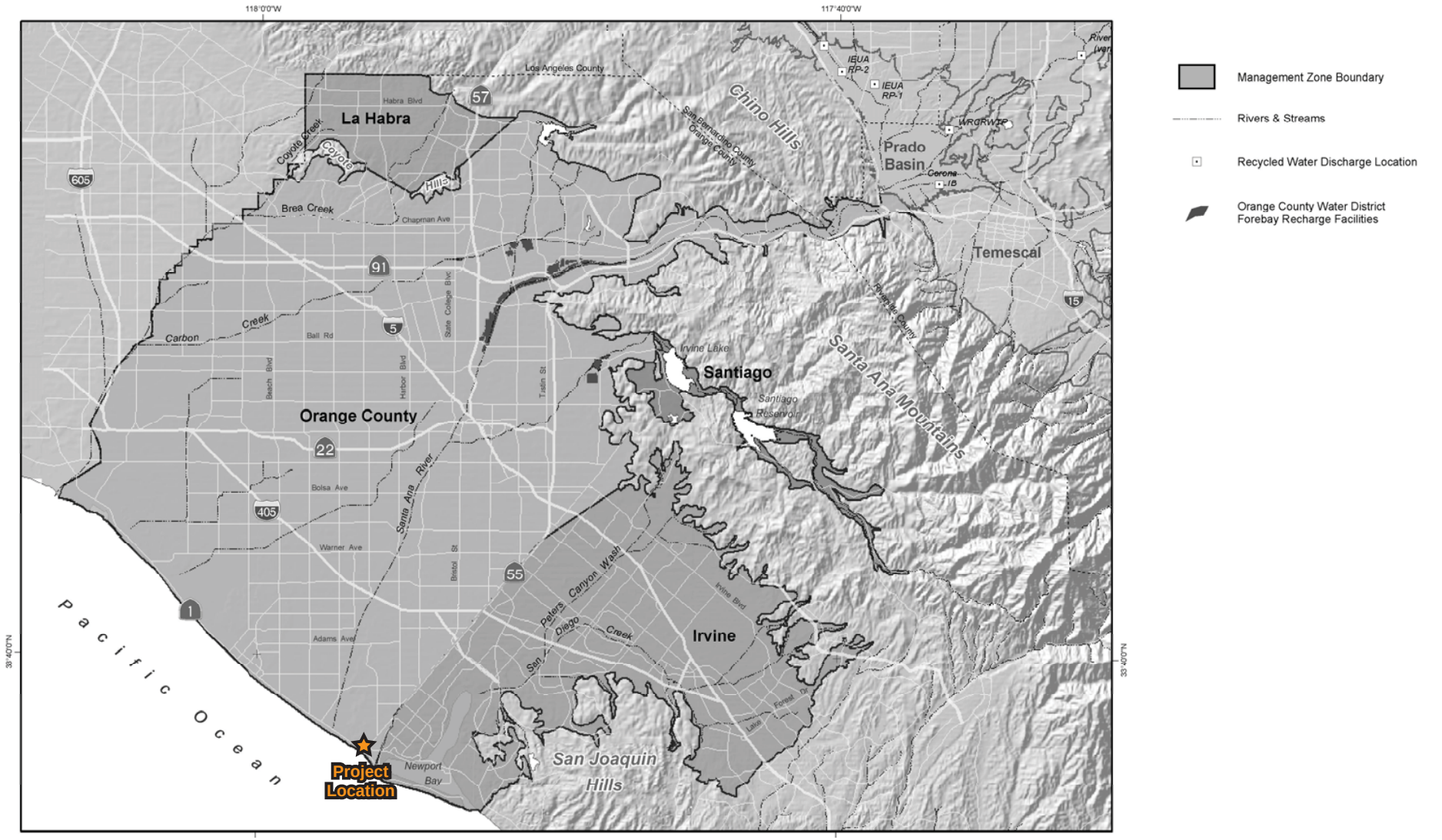
Groundwater Resources

Shallow groundwater levels (less than 50 feet below the ground surface [bgs]) are known to occur along the coast, around Newport Bay, and along the major drainages in the Newport Beach area; these levels are achieved from percolation of Santa Ana River flow, infiltration of precipitation, and injection into wells. There are no designated groundwater recharge areas in the City of Newport Beach (Newport Beach 2006).

The Santa Ana RWQCB created a comprehensive database of water level and water quality data and well drilling logs, from which groundwater subbasin boundaries were delineated; these are now designated as "Groundwater Management Zones" (Santa Ana RWQCB 1995). The Project site is located within the boundaries of the Orange County Groundwater Management Zone (OCGMZ, see Exhibit 4.10-6), which consists primarily of three intra-connected confined aquifers: the Lower, Middle, and Upper Aquifers.

Groundwater within the OCGMZ is affected by salt water intrusion near the coast and colored water from natural organic materials in the Lower Aquifer system. The most typical source of groundwater contamination in the area is the erosion of natural deposits, which could deliver chemicals such as arsenic, barium, fluoride, nickel, and selenium along with radiologicals such as radium and uranium into the groundwater. Nitrates are also problematic owing to the extensive use of fertilizers within Orange County (Newport Beach 2006). The SARWQCB has identified water quality objectives for the OCGMZ for total dissolved solids (TDS) and nitrates. In general, groundwater quality beneath the Project site is of poor quality and is not considered a resource for municipal drinking water.

The Middle Aquifer is the primary source of groundwater supply for Orange County. The elevation of the groundwater table at the Project site is between 0 and -10 feet msl (Leighton 2009). Based upon the topography of the Project site, this translates into groundwater levels that are approximately 40–70 feet below existing ground surface elevations. Given the depth to groundwater, and the site's drainage patterns, surface flows do not infiltrate or affect groundwater levels or quality at the Project site (Sinacori 2009).



Source: Water Quality Control Plan (Basin Plan) Santa Ana Region

D:/Projects/Newport/J016/ex_ocgmz_090109.ai

Orange County Groundwater Management Zone

Exhibit 4.10-6

Sunset Ridge Park EIR

BonTerra CONSULTING

(Rev 09/21/09 CJS) Projects\Newport\J016\Graphics\WQ_Rpt\Ex4.10-6_ocgmz.pdf

4.10.4 PROJECT DESIGN FEATURES AND STANDARD CONDITIONS

Project Design Features

Project Design Features (PDFs) applicable to the proposed Project are summarized below. The entire text of the PDFs is included in Section 4.10.8, Mitigation Program.

PDF 4.10-1 ***Construction Best Management Practices:*** The Project shall incorporate a combination of best management practices (BMPs) for erosion control, sediment control, wind erosion, tracking control, storm water and non-storm water management, and waste management/pollution control. These BMPs shall be implemented to ensure potential effects on local site hydrology, runoff and water quality remain in compliance with all appropriate permits, City policies, and the Project's Water Quality Management Plan (WQMP) and Storm Water Pollution Prevention Plan (SWPPP). These BMPs shall include appropriate measures as identified in Appendix I of this EIR.

PDF 4.10-2 ***Structural BMPs for Post-Construction/Project Operation:*** Structural BMPs shall be implemented to ensure that the long-term effects of Project operation on local hydrology, drainage patterns, and water quality remain less than significant and in compliance with Project permits, City policies, and the Project's WQMP and SWPPP. These BMPs include storm drain stenciling and signage, smart trash storage area design, installment of efficient irrigation systems and landscaping practices, and slope protection measures (e.g., vegetation, terrace drains, and energy dissipaters) as identified in Appendix I of this EIR.

PDF 4.10-3 ***Non-Structural BMPs for the Post-Project Construction:*** Non-Structural BMPs shall be implemented to ensure that the long-term effects of Project operation on local hydrology, drainage patterns, and water quality remain less than significant and in compliance with Project permits, City policies, and the Project's WQMP and SWPPP. These non-structural measures would be implemented along with the structural measures identified in PDF 4.10-2 to ensure Project effects are minimized. Non-structural BMPs shall include education and outreach, activity restrictions for the site, landscape and pesticide management, BMP maintenance, litter control, and other appropriate measures as described in Appendix I of this EIR.

PDF 4.10-4 ***Site-Design BMPs:*** Site-design BMPs were developed early in the planning process for the Sunset Ridge Park Project in order to reduce environmental impacts and to minimize or avoid hydrologic and water quality effects. These concepts are focused on minimizing (1) storm water runoff, (2) the impervious surface area of Project features, (3) the conservation of natural areas, (4) contiguous impervious areas. Additional detail on these Site Design BMPs can be found in Appendix I of this EIR.

PDF 4.10-5 ***Stormwater Routing and Treatment-Control BMPs:*** Stormwater routing and treatment-control BMPs shall be incorporated into the Project design to ensure that pollutant constituents contained within site runoff and drainage for both storm water and non-storm water discharges are adequately treated, such that all flows discharging into the reinforced concrete box (RCB) culvert at West Coast Highway are in compliance with water quality objectives and preserve the beneficial uses of the Santa Ana River Tidal Prism. These stormwater routing and treatment-control BMPs shall include:

1. A bioswale would be located adjacent to the park access road to detain and treat storm water flows from the access road and adjacent slope.
2. Interceptor drains would be located between the bioswale and proposed parking lot to collect runoff from the preserved nature area and adjacent slope.
3. A flow basin would be located at the intersection of West Coast Highway and the access road to collect flows from the road, preserved open space, and slopes. This basin would be located and sized based on the ultimate alignment of the access road.
4. Off-site flow basins would be located at the northern corner of the site, to the west of the existing housing development bordering the Project to collect off-site flows.
5. An on-site vegetated dry creek would be located within the parking lot and would be routed to drain beneath a portion of the parking lot via culvert crossing. This dry creek would collect and treat flows from the parking lot.
6. RCP storm drains would be located throughout the site to collect on-site and off-site runoff and route these flows into the subdrain system and the RCB in West Coast Highway.
7. A polyvinyl chloride (PVC) storm drain would be located throughout park to collect on-site flows.
8. An underground corrugated metal pipe (CMP) detention system is proposed to reduce future flows to the level of existing flows. Flows would enter the system via the area drain line(s) and would outlet via a smaller pipe sized accordingly in order to allow for storage in the system; this would provide the reduction in peak flows in the proposed condition.
9. A gravel subdrain system would be located across the southern edge of the park at the top of the slope to collect ground water flows. This system would collect groundwater seepage from the apartment site to the north, as well as any percolated runoff from the park, keeping seepage from outletting to the slope along West Coast Highway.
10. An underground filter facility that would both retain flows and treat up to 1.06 cfs of post-construction discharge traversing the site. This facility shall treat the poorest quality flows originating as runoff within the condominium development to the north. This discharge flow rate is equivalent to the increase in discharge associated with project implementation.

PDF 4.10-6 ***Inspection/Maintenance Responsibilities for BMPs:*** Inspection and maintenance of BMPs shall be implemented by the City of Newport Beach prior to completion of the Project. These responsibilities are presented in Appendix I of this EIR for structural and non-structural BMPs. Upon final design of treatment-control BMPs, a similar matrix shall be developed that specifies maintenance responsibilities for treatment-control measures.

The City of Newport Beach shall retain all maintenance records for a period of at least five years from the date generated. Those records shall be available for review by government agencies. The methods used for inspection and maintenance shall conform to the guidelines outlined in the Orange County Drainage Area Management Plan.

Standard Conditions and Requirements

SC 4.10-1 All landscape materials and irrigation systems shall be maintained in accordance with the approved Landscape Plan (see Appendix I of this EIR for more information). All landscaped areas shall be maintained in a healthy and growing condition and shall receive regular pruning, fertilizing, mowing, and trimming. All landscaped areas shall be kept free of weeds and debris. All irrigation systems shall be kept operable, including adjustments, replacements, repairs, and cleanings as part of regular maintenance.

SC 4.10-2 A Storm Water Pollution Prevention Plan (SWPPP) and Notice of Intent (NOI) shall be prepared to comply with the General Permit for Construction Activities, submitted to the State Water Resources Control Board (SWRCB) for approval, and made part of the construction program. The City shall maintain a copy of the NOI and application check as proof of filing with the SWRCB. The SWPPP shall detail measures and practices that will be in effect during construction to minimize the Project's impact on water quality.

SC-4.10-3 The City shall prepare and submit a Water Quality Management Plan (WQMP) for the proposed Project, subject to the approval of the Building Department, Code and Water Quality Enforcement Division. The WQMP shall provide appropriate BMPs to ensure that no violations of water quality standards or waste discharge requirements occur; it shall also identify the entity responsible for the long-term inspection, maintenance, and funding for all BMPs.

SC 4.10-4 A list of "good housekeeping" practices shall be incorporated into the long-term (post-construction) operation of the site in order to minimize the likelihood that pollutants that could impair water quality will be used, stored, or spilled on the site. These may include frequent parking area vacuum sweeping, removal of wastes or spills, limited use of harmful fertilizers or pesticides, and the diversion of storm water away from potential sources of pollution (e.g., trash receptacles and parking structures).

4.10.5 METHODOLOGY

Methodology

The thresholds contained within Appendix G of the CEQA Guidelines were used to assess the level of significance for impacts associated with the proposed Project, along with a comparison of proposed Project's effects against the water quality objectives set by the RWQCB in the Basin Plan, and further developed in the Orange County DAMP. Effects on beneficial uses of receiving waters were also considered in the impact region.

Peak flows were developed for both the 10- and 25-year flood existing and proposed Project conditions using the Advance Engineering Software (AES) package for Orange County. This software package is in compliance with the County of Orange Hydrology Manual (1996 Addendum No. 1, 85 percent Upper Confidence Level Procedure). Existing drainage patterns are divided into smaller subareas to more accurately model existing drainage on the Project site. Project conditions were developed using existing Project plans to ascertain post-construction site drainage patterns. The detailed parameters used in applying the hydrology analysis for the existing and proposed Project conditions can be found in the Sunset Ridge Park Preliminary Hydrology Report (Urban Resource Corporation 2009a).

All Project impervious areas were considered in determining the storm water runoff to be treated for water quality purposes. The proposed Project resulted in an increase of impervious surface area over existing conditions of 14.4 percent associated with proposed hardscape features; this calculation was used, along with other pervious surface area changes, to calculate the water quality treatment runoff for the proposed Project. Project runoff discharges from the site that would require treatment were calculated at 1.06 cubic feet per second (cfs, Urban Resources 2009a).

Upon Project implementation, all existing concrete V-ditches and terrace drains on site would be removed, and all off-site flows would be routed through proposed reinforced concrete pipe (RCP) storm drain lines into the existing RCB culvert at West Coast Highway. Details of the storm water routing systems to be implemented as part of the Project for on- and off-site flows are listed below and are presented in Exhibit 4.10-7.

4.10.6 THRESHOLDS OF SIGNIFICANCE

Threshold criteria for evaluating hydrologic impacts have been developed based on a review of applicable provisions of the City of Newport Beach Initial Study Checklist, the Regional MS4 Permit, and the DAMP. Significant adverse impacts to natural drainage systems created by altered hydrologic conditions of concern would occur if the proposed Project would:

Threshold 4.10-1 Violate any water quality standards or waste discharge requirements.

Threshold 4.10-2 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).

Threshold 4.10-3 Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.

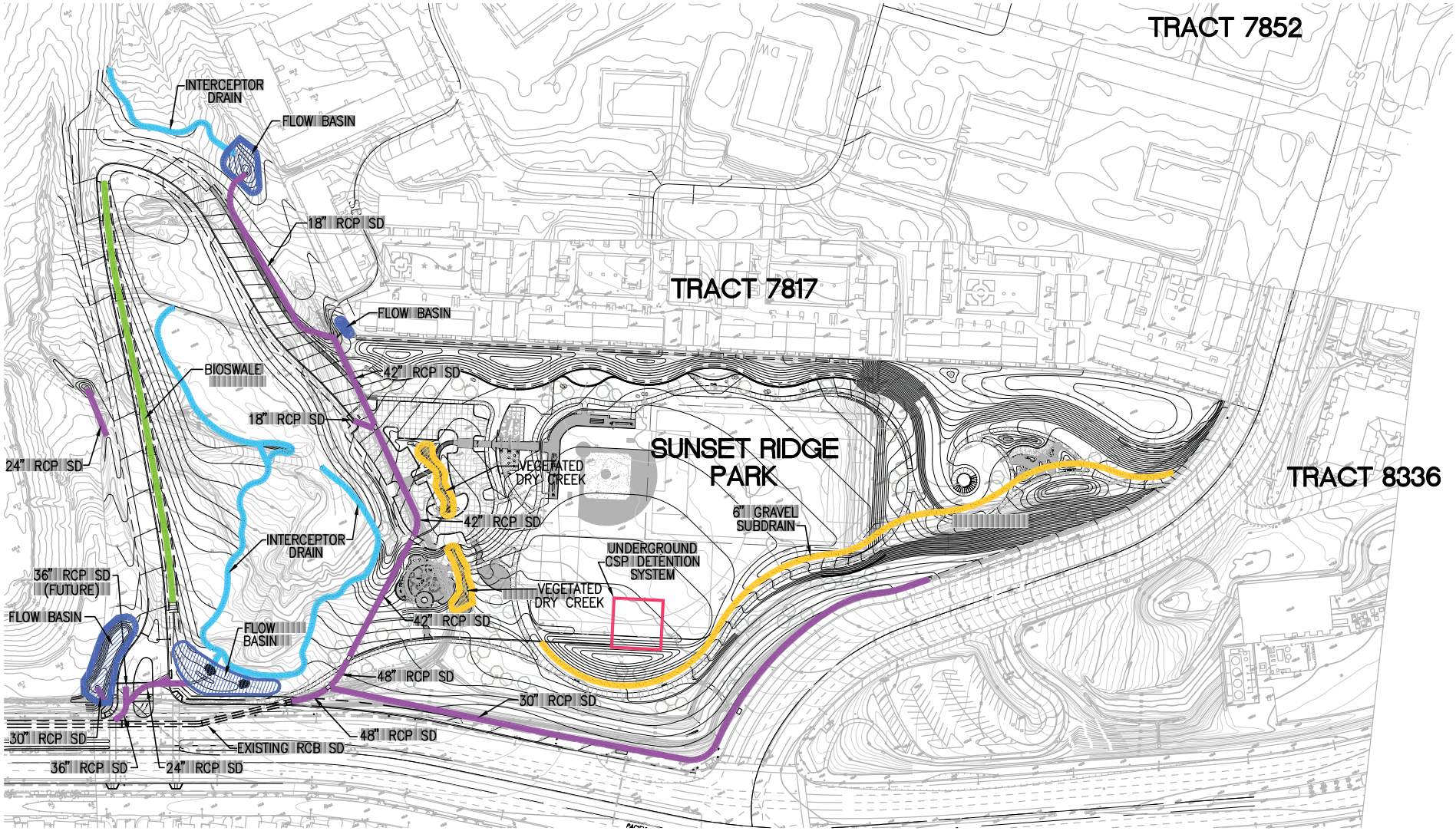
Threshold 4.10-4 Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner in which would result in flooding on- or off-site.

Threshold 4.10-5 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.

Threshold 4.10-6 Otherwise substantially degrade water quality.

Threshold 4.10-7 Result in significant alteration of receiving water quality during or following construction.

Threshold 4.10-8 Result in a potential for discharge of stormwater pollutants from areas of material storage, vehicle or equipment fueling, vehicle or equipment



Source: Urban Resource

D:/Projects/Newport/J016/ex_ppswr_090109.ai

Proposed Project Storm Water Routing Features

Exhibit 4.10-7

Sunset Ridge Park EIR

BonTerra CONSULTING

(REV: JFG 10-21-09) R:Projects\Newport\J016\Graphics\WQ_Rpt\Ex4.10-7_ppswr.pdf

maintenance (including washing), waste handling, or storage, delivery areas, loading docks or other outdoor work areas.

Threshold 4.10-9 Result in the potential for discharge of stormwater to affect the beneficial uses of the receiving waters.

Threshold 4.10-10 Create the potential for significant changes in the flow velocity or volume of stormwater runoff to cause environmental harm.

Threshold 4.10-11 Create significant increases in erosion of the project site or surrounding areas.

As previously discussed in Section 2.3.3, Effects Found Not to be Significant, the City through the preparation of the Initial Study determined that the proposed Project would not have a significant impact for the following thresholds and that no further analysis was required:

- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map. Place within a 100-year flood hazard area structures which would impede or redirect flood flows.

- 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. Inundation by seiche, tsunami, or mudflow.

  The Project site is not located within the 100- and 500-year flood zones, nor is it in a designated Special Flood Hazard Area or in Zone VE (coastal flood zone with velocity flood hazard). There is no existing housing at the park site and housing is not proposed as a part of the Project. Therefore, Project implementation would not place permanently habitable structures in a 100-year floodplain. Due to its location, the Project site would not be subject to inundation by a tsunami even with extreme high tide conditions. The site would also not be subject to inundation as a result of dam failure since there is no dam in the vicinity of the Project site. Therefore, no impacts would occur.

4.10.7 ENVIRONMENTAL IMPACTS

Threshold 4.10-1 ***Would the project violate any water quality standards or waste discharge requirements?***

Threshold 4.10-6 ***Would the project otherwise substantially degrade water quality?***

Threshold 4.10-7 ***Would the project result in significant alteration of receiving water quality during or following construction?***

Threshold 4.10-8 ***Would the project result in a potential for discharge of storm water pollutants from areas of material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, or storage, delivery areas, loading docks or other outdoor work areas?***

Threshold 4.10-9 Would the project result in the potential for discharge of storm water to affect the beneficial uses of the receiving waters?

Construction Activities

Project construction impacts to water quality could occur from construction grading/excavation, access and haul roads construction and use, West Coast Highway improvements, equipment staging, operation and fueling, stockpiling, and/or material dewatering. These impacts would include activities associated with on-site Project grading and construction, as well as material export and stockpiling on the adjacent Newport Banning Ranch property. Impacts associated with site preparation and construction can result in sediment-laden runoff and mobilization of pollutants associated with vehicle staging and operation. The City proposes that all the exported soil would go to the adjacent Newport Banning Ranch property (see Exhibit 3-12 in Section 3.0, Project Description). Export material would be transported from the park site across the Newport Banning Ranch property to be deposited in two proposed locations on the property. This export material would be used as engineered fill. Vegetation would be removed and the sites prepared for the engineered fill.

Construction impacts would be minimized through compliance with the Construction General Permit and the Dewatering Permit. These permits require development and implementation of an SWPPP, which must include erosion- and sediment-control BMPs that would meet or exceed measures required by the Construction General Permit and BMPs that control other 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. An SWPPP would be developed as required by, and in compliance with, the Construction General Permit.

If perched groundwater or seepage is encountered during construction, dewatering of excavated material may be required. Any construction dewatering activities are required to comply with specific water quality objectives as discussed above in Section 4.10.2. Construction BMPs shall be implemented to ensure dewatering activities do not negatively affect waste discharge, water quality, or the beneficial uses of receiving waters.

PDF 4.10-1 and Appendix I of this EIR present the BMPs that would be implemented to ensure construction-related impacts are in compliance with these permits and the City Council Policies. With implementation of these BMPs, impacts to water quality from construction would be less than significant.

Operational Activities

Runoff associated with the post-Project condition at the site is estimated at 1.06 cfs (Urban Resource 2009a). Consistent with the requirements of the current NPDES permit, DAMP, and City of Newport Beach Council policies, a WQMP has been developed for the proposed Project. This WQMP identifies and establishes both structural and non-structural BMPs that would be used on site to control predictable pollutant runoff and to treat a minimum of 1.06 cfs. These BMPs would be located on site to treat the poorest quality flows traversing the site (i.e., runoff entering the site from the condominium development to the north). All “routine” structural and non-structural measures specified in the DAMP are incorporated into PDFs 4.10-2 and 4.10-3, as are the assignment of long-term maintenance responsibilities. The locations of all structural BMPs have been tentatively identified and presented in two Optional BMP Site Plans (Exhibits 4.10-9 and 4.10-10). These two site plans present potential design information and locations of BMP facilities.

Structural BMPs

Structural BMPs for water quality protection (PDF 4.10-2, Appendix I of this EIR) that have been incorporated into the Project include the use of natural drainage systems such as bioswales and a vegetated 'dry' creek for water quality improvement. All site runoff would be diverted via drain lines or natural drainage features to the appropriate treatment-control system prior to discharge into the RCB culvert at West Coast Highway. Groundwater seepage would be captured by the Project's subdrain system and would have no effect on existing groundwater quality.

Non-structural BMPs

Non-structural BMPs (PDF 4.10-3) designed to ensure that water quality objectives are met would include: (1) activity restrictions which limit activities that can result in the discharge of pollutants; (2) landscape management procedures that govern the use of chemical and pesticide use on site; (3) common area litter control; (4) catch basin inspection and clean-out; and (5) street sweeping. Appendix I of this EIR contains an inventory of potential BMPs that may be applied to the Project.

Site-Design BMPs

Site-design BMPs (PDF 4.10-4, Appendix I of this EIR) have been incorporated into the Project to avoid or reduce Project-related water quality effects. These concepts are based on minimizing storm water runoff and the impervious footprint of the Project, coupled with conservation of natural areas. The Project has been designed to minimize the direct connection of impervious areas, thereby reducing runoff flow rates.

Water Quality Treatment BMPs

Water quality treatment BMPs (PDF 4.10-5) would be provided with the use of proprietary control measures, bioswales, and other measures to treat the required 'first flush' after the initial precipitation event of the rainy season. A storm filter vault system will be used to address silt as a primary pollutant, and total nutrients and metals, oil and grease, and trash as secondary pollutants. Water quality treatment system design will continue to evolve during Project design, but all systems would be designed to treat constituents in 1.06 cfs of site runoff to ensure that beneficial uses are maintained for the receiving waters of the Santa Ana River Tidal Prism.

The proposed Project incorporates a comprehensive system of water quality features involving site-design BMPs, storm water runoff BMPs, and water quality treatment BMPs for construction, post-construction/operation, and long-term BMP maintenance. These BMPs would ensure that the increase in discharge flow rates associated with project implementation would meet or exceed the requirements set by the Santa Ana RWQCB (see Tables 4.10-1 and 4.10-2), the Regional MS4 NPDES permit, the General Construction and Dewatering Permits, and the DAMP; they would also protect the quality and beneficial uses of receiving waters of the Santa Ana River Tidal Prism. Therefore, no significant impacts are anticipated from the Project to groundwater levels or quality.

Impact Summary: ***Less than Significant.*** The proposed Project has been developed in concert with site-design BMPs aimed at avoiding or reducing the water quality impacts of the Project. In addition, the Project shall use all applicable BMPs for construction, post-construction/operation, and water quality treatment to ensure compliance with the NPDES MS4 permit, Construction General Permit, the DAMP, the Project's WQMP, and the

City's water quality policies. With the incorporation of these measures, impacts to water quality would be less than significant.

Threshold 4.10-2 ***Would the project 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)?***

Construction of the Project would slightly increase the amount of impervious surfaces on the Project site over existing conditions by approximately 2.94 acres, an increase of 14.4 percent over existing conditions (Urban Resources 2009b). The historical groundwater depth in the vicinity of the site was found to be about 30 feet below ground surface (bgs) at the lower southwestern portion of the site, (Leighton 2009). Evidence of groundwater was encountered in all borings taken during the geotechnical exploration on site. Seepage was observed along the sand and clay interface at approximately 5 to 15 feet bgs as well as at the drains near the toe of the slope along Superior Avenue and West Coast Highway. The direction of seepage flow is generally from north to south.

The Middle Aquifer is the primary source of groundwater supply for Orange County. The elevation of the groundwater table at the Project site is between 0 and -10 feet msl (Leighton 2009). Based upon the topography of the Project site, this translates into groundwater levels that are approximately 40–70 feet below existing ground surface elevations. As the site elevation ranges from 44 feet msl at its lowest point to about 76 feet msl at the upper pad area, current groundwater levels range between 54 and 86 feet bgs. Therefore, most of the surface flows that cross the Project site do not infiltrate far enough to reach the groundwater table under existing conditions (Sinacori 2009). Any seepage or shallow groundwater flow at the site after Project construction would be captured by the subsurface drain system and diverted into the RCB at West Coast Highway, consistent with existing conditions. The Project site is not a designated groundwater recharge area. No impacts to groundwater supplies or recharge would occur from Project implementation.

Impact Summary: ***Less than Significant.*** Groundwater levels fluctuate in the area and are currently estimated between 54–86 feet bgs on the Project site, based on the site's topographic variability. Site-design BMPs maintain the use of natural drainage areas to convey surface water runoff, and the subsurface drain system would convey seepage flows to the RCB in West Coast Highway consistent with existing conditions. Therefore, impacts from the Project on groundwater supplies and recharge would be less than significant.

Threshold 4.10-3 ***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, in a manner which would result in substantial erosion or siltation on- or off-site?***

Threshold 4.10-10 ***Would the project create the potential for significant changes in the flow velocity or volume of storm water runoff to cause environmental harm?***

Threshold 4.10-11 Would the project create significant increases in erosion on the Project site or surrounding areas?

There are no perennial streams or watercourses on the Project site that contain large volumes of water year-round. Flows associated with surface runoff trend in southerly and westerly directions on site and are collected by the existing California Department of Transportation (Caltrans) 8-foot by 5-foot RCB in West Coast Highway. The existing site collects drainage via concrete V-ditches and terrace drains. Runoff from approximately 39 acres of residential development to the north of the Project site and surface flows into an existing concrete V-ditch which ties into the RCB. Approximately 3.9 acres of the existing residential development drains easterly into Superior Avenue and is collected by existing catch basins, located on the west side of Superior Avenue, before entering the on-site concrete V-ditch with a portion of Superior Avenue flows and being routed to the concrete box culvert in West Coast Highway. All other Superior Avenue flows are collected by a catch basin on the east side of Superior Avenue and routed to the east of the road.

As identified in Table 4.10-4, an analysis of existing and proposed Project conditions indicates an increase in peak flow runoff at the point where flows exit the site of 10.84 cfs and 13.27 cfs, for the 10-year and 25-year storm events respectively, due to the addition of impervious surfaces and modified land use. Flow volumes off the Project site are expected to increase slightly due to the increase in impervious surfaces; however these volume increases are expected to be negligible and have a less than significant impact on existing storm drain facilities. Flow velocities under existing conditions have been calculated to be 6.60 feet per second feet per second at the RCB; post-project velocities at this location are anticipated to be 6.80 feet per second, a negligible increase. Flows throughout the site would follow the same flow path as in the existing condition (Exhibit 4.10-8), but would be diverted into BMPs (such as the vegetated dry creek, on-site bioswales, or PVC drainage piping) that would either reduce flow velocities or transfer flows to a facility that is not susceptible to erosion or sedimentation (Exhibits 4.10-9 and 4.10-10). To ensure that peak flow rates are not increased over existing conditions, , an underground detention system would be used to temporarily retain flows and release them at a rate equal to or less than the existing condition.

TABLE 4.10-4
10- AND 25-YEAR PEAK FLOW VELOCITIES

Description	Q10 (cfs)	Q25 (cfs)
Existing Condition - Node 35	144.72	175.50
Proposed Condition - Node 67	155.56	188.77
Flow Increase/Decrease	**+10.84**	**+13.27**
Source: Urban Resources 2009a (Hydrology Report).		

With the incorporation of PDF 4.10-4, drainage improvements would include removal of existing concrete V-ditches and terrace drains and installation of RCP storm drain lines, PVC storm drain lines, a detention basin, a bioswale, a vegetated dry creek, a proposed underground detention system, interceptor drains, and a gravel subdrain. The terrace drains would be provided to daylight at existing grades to prevent existing runoff from draining through newly graded slopes, causing erosion. All site runoff would be collected and routed with the use of RCP and PVC piping, and would ultimately drain into the existing RCB storm drain in West Coast Highway as in the existing condition. The on-site storm drain system would also collect existing runoff from the condominium community to the north of the Project, flows from Superior

Avenue, as well as runoff from the adjacent undeveloped area to the west in order to maintain existing condition drainage patterns.

Construction BMPs are incorporated into the Project in PDF 4.10-1. These BMPs include measures to reduce on-site erosion during construction, such as scheduling, preservation of existing vegetation, use of hydraulic mulch and hydroseeding, geotextiles, wood mulching, earth dikes, and swales as appropriate. BMPs incorporated into the Project to reduce sedimentation during construction include the use of silt fencing, sediment basins, fiber rolls, gravel bags, sweeping, sand bags, and storm drain inlet protectors.

Since BMPs (on-site detention systems) would be implemented to ensure that Project-induced increases of storm water flow rates remain equivalent to or less than existing conditions, there would be no Project-induced environmental harm to biological resources located downstream of the Project site. Flow velocities experience a negligible increase from 6.60 feet per second to 6.80 feet per second, and overall runoff volumes are anticipated to be minor; there would be a less than significant effect on the risk of erosion at the site or surrounding area. Water quality improvement BMPs would likely have a positive effect on environmental resources in the vicinity due to the improved character of flows entering the Semeniuk Slough and the Santa Ana River Tidal Prism.

With the incorporation of these measures and PDFs 4.10-1 through 4.10-6, Project impacts associated with disruption of site drainage patterns and potential erosion and sedimentation would be less than significant.

Impact Summary: ***Less than Significant.*** Although peak flow rates slightly increase for flows exiting the site, the incorporation of on-site detention systems and treatment-control BMPs contained within PDFs 4.10-1 through 4.10-6 would reduce peak flow rates so they are equal or less than those under existing conditions. Increases in peak flow velocities and volumes are expected to be minor. Project impacts would be less than significant***.***

Threshold 4.10-4 ***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 of surface runoff in a manner in which would result in flooding on- or off-site?***

Drainage patterns for the developed site would be similar to the existing condition, and flows would ultimately be conveyed into the existing 8-foot by 5-foot RCB at West Coast Highway by Project drainage features (Exhibit 4.10-8). Peak flow rates would be increased by approximately 10.84 cfs and 13.27 cfs for the 10-year and 25-year storm events, respectively, at the point where flows exit the site. However, detention basin(s) and the underground CMP treatment facility would be sized to ensure that the proposed Project's peak flows are detained on site and released at a flow rate equal to that which occurs under existing conditions. The increase in peak flow velocity at the 8-foot by 5-foot RCB in the post-project conditions is 0.20 feet per second, and would not have an impact on potential downstream flooding. Overall runoff volume increases associated with the additional time needed to release detained flows is expected to be minor and would not result in creation or exacerbation of any downstream risk of flooding. The incorporation of BMP measures contained in PDFs 4.10-1 through 4.10-6 would ensure that the risks of on-site flooding would be minimized during construction and operation. Therefore, impacts associated with flooding on site or off site are less than significant.

D:\Projects\Newport\J016\MXD\Post_Project_Site_Hydrology.mxd

Site Hydrology Post-Project Condition

Exhibit 4.10-8

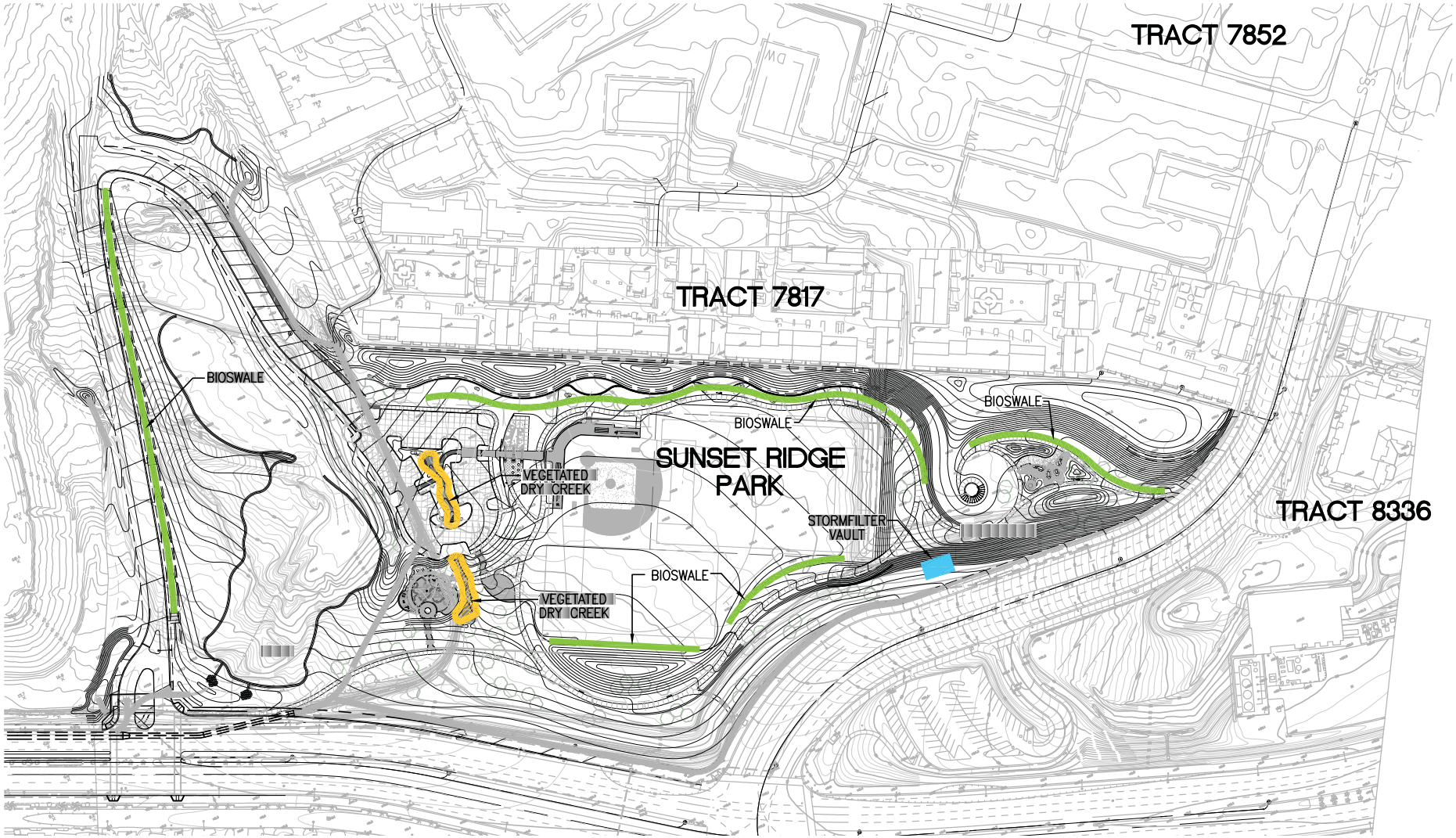
Sunset Ridge Park EIR

N W E S

150 75 0 150 Feet

Bonterra CONSULTING

(Rev 092909 JFG) R:\Projects\Newport\J016\Graphics\EIR\ex4.10-8_Post_Project_Site_Hydro.pdf



Source: Urban Resource

Treatment Control Best Management Practices – Option 1

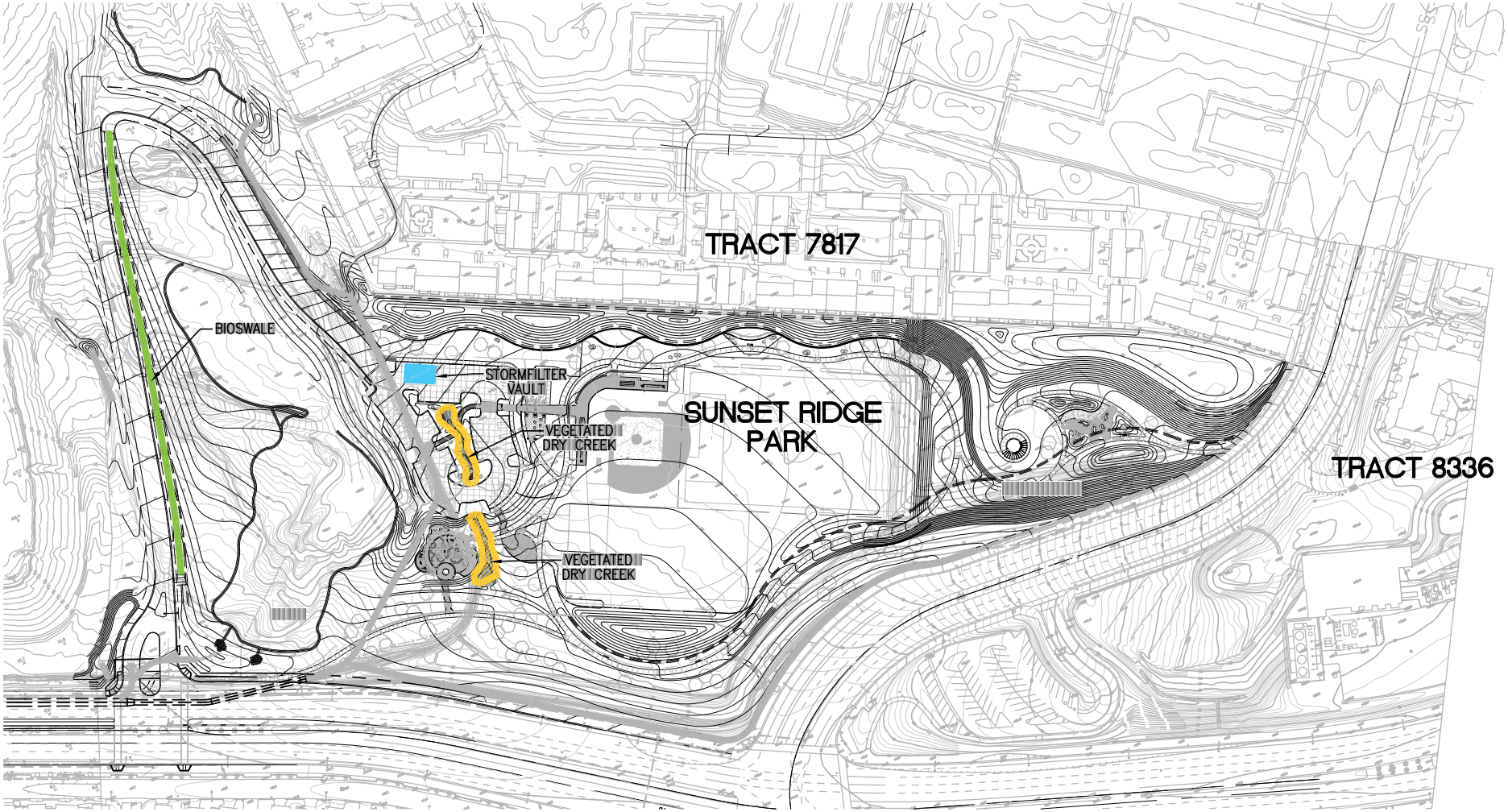
Exhibit 4.10-9

Sunset Ridge Park EIR

BonTerra CONSULTING

(REV: JFG 102009)R:Projects\Newport\J016\Graphics\EIR\Ex4.10-9_WQT-1 .pdf

D:/Projects/Newport/J016/ex_WQT-1_090109.ai



Source: Urban Resource

Treatment Control Best Management Practices – Option 2

Exhibit 4.10-10

Sunset Ridge Park EIR

BonTerra CONSULTING

(REV: JFG 102109)R:Projects\Newport\J016\Graphics\EIR\Ex4.10-10_WQT-2.pdf

D:/Projects/Newport/J016/ex_WQT-2_090109.ai

Impact Summary: ***Less than Significant.*** Although peak flow rates slightly increase for flows exiting the site, the incorporation of BMPs contained within PDFs 4.10-1 through 4.10-6 would reduce peak flow rates commensurate with existing conditions. Post-project increase in peak flow velocity is negligible (0.2 feet per second), and volume increases are expected to be minor. Site drainage patterns would be similar with the Project to existing conditions. Project impacts would be less than significant.

Threshold 4.10-5 ***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?***

The proposed storm drain system would route all on-site and off-site flows currently traversing the site to the existing concrete box culvert with the use of multiple storm routing systems. This 8-foot by 5-foot RCB currently provides a maximum capacity of 330.34 cfs (Urban Resource 2009a). The 25-year discharge flow rate from the Project site under existing conditions is 175.50 cfs, representing about 54 percent of the existing 8-foot by 5-foot RCB capacity. As stated above, the proposed Project would detain flows on site using detention basins and an underground CMP detention facility to ensure that flow rates leaving the site are equal or slightly lower than flow rates under the existing condition. Flow volumes off the Project site are expected to increase slightly due to the increase in impervious surfaces of the Project features; however these volume increases are expected to be negligible and have a less than significant impact on existing storm drain facilities. Since the percent utilization of the RCB under West Coast Highway from off-site flows would not significantly change and since the culvert is operating within capacity, impacts on the facility would be less than significant. With the implementation of BMPs as contained within PDFs 4.10-1 through 4.10-6 and Appendix I, there is no change from existing conditions, and impacts associated the Project on existing storm drain facilities would be less than significant.

Impact Summary: ***Less than Significant.*** Although peak flow velocities and runoff volumes slightly increase for flows exiting the site under post-Project conditions, the incorporation of BMPs and detention systems contained within PDFs 4.10-1 through 4.10-6 and Appendix I of this EIR would reduce peak velocities and retain flows commensurate with existing conditions. This would ensure that flows through the existing RCB as they leave the site would not change from existing conditions. Project impacts to area drainage systems are less than significant.

4.10.8 CUMULATIVE IMPACTS

Cumulative impact analyses consider reasonably foreseeable projects in the proposed Project vicinity. These projects are in various stages of the application and approval process, but have not yet been approved. The City has provided a list of cumulative projects in the area, which includes the proposed Newport Banning Ranch project and the Coast Community College project, both located within the Talbert Watershed.

The Sunset Ridge Park Project site drains into an RCB discharging into the Semeniuk Slough. Project BMPs provide surface and sub-surface drainage conveyances that are sized to handle all off- and on-site flows over and through the Project site. Sub-surface storage facilities would be designed to maintain flow rates occurring under existing conditions. The most significant proposed cumulative project contributing to the Semeniuk Slough system is the proposed

Newport Banning Ranch project. However, the Sunset Ridge Park Project would not change flow conditions entering the Slough over existing conditions; therefore, cumulative impacts are considered less than significant.

4.10.9 MITIGATION PROGRAM

Project Design Features

PDF 4.10-1 ***Construction Best Management Practices:*** The Project shall incorporate a combination of best management practices (BMPs) for erosion control, sediment control, wind erosion, tracking control, storm water and non-storm water management, and waste management/pollution control. These BMPs shall be implemented to ensure potential effects on local site hydrology, runoff and water quality remain in compliance with all appropriate permits, City policies, and the Project's Water Quality Management Plan (WQMP) and Storm Water Pollution Prevention Plan (SWPPP). These BMPs shall include appropriate measures as identified in Appendix I of this EIR.

PDF 4.10-2 ***Structural BMPs for Post-Construction/Project Operation:*** Structural BMPs shall be implemented to ensure that the long-term effects of Project operation on local hydrology, drainage patterns, and water quality remain less than significant and in compliance with Project permits, City policies, and the Project's WQMP and SWPPP. These BMPs include storm drain stenciling and signage, smart trash storage area design, installment of efficient irrigation systems and landscaping practices, and slope protection measures (e.g., vegetation, terrace drains, and energy dissipaters) as identified in Appendix I of this EIR.

PDF 4.10-3 ***Non-Structural BMPs for the Post-Project Construction:*** Non-Structural BMPs shall be implemented to ensure that the long-term effects of Project operation on local hydrology, drainage patterns, and water quality remain less than significant and in compliance with Project permits, City policies, and the Project's WQMP and SWPPP. These non-structural measures would be implemented along with the structural measures identified in PDF 4.10-2 to ensure Project effects are minimized. Non-structural BMPs shall include education and outreach, activity restrictions for the site, landscape and pesticide management, BMP maintenance, litter control, and other appropriate measures as described in Appendix I of this EIR.

PDF 4.10-4 ***Site-Design BMPs:*** Site-design BMPs were developed early in the planning process for the Sunset Ridge Park Project in order to reduce environmental impacts and to minimize or avoid hydrologic and water quality effects. These concepts are focused on minimizing (1) storm water runoff, (2) the impervious surface area of Project features, (3) the conservation of natural areas, (4) contiguous impervious areas. Additional detail on these Site Design BMPs can be found in Appendix I of this EIR.

PDF 4.10-5 ***Stormwater Routing and Treatment-Control BMPs:*** Stormwater routing and treatment-control BMPs shall be incorporated into the Project design to ensure that pollutant constituents contained within site runoff and drainage for both storm water and non-storm water discharges are adequately treated, such that all flows discharging into the reinforced concrete box (RCB) culvert at West Coast Highway are in compliance with water quality objectives and preserve the

beneficial uses of the Santa Ana River Tidal Prism. These stormwater routing and treatment-control BMPs shall include:

1. A bioswale would be located adjacent to the park access road to detain and treat storm water flows from the access road and adjacent slope.
2. Interceptor drains would be located between the bioswale and proposed parking lot to collect runoff from the preserved nature area and adjacent slope.
3. A flow basin would be located at the intersection of West Coast Highway and the access road to collect flows from the road, preserved open space, and slopes. This basin would be located and sized based on the ultimate alignment of the access road.
4. Off-site flow basins would be located at the northern corner of the site, to the west of the existing housing development bordering the Project to collect off-site flows.
5. An on-site vegetated dry creek would be located within the parking lot and would be routed to drain beneath a portion of the parking lot via culvert crossing. This dry creek would collect and treat flows from the parking lot.
6. RCP storm drains would be located throughout the site to collect on-site and off-site runoff and route these flows into the subdrain system and the RCB in West Coast Highway.
7. A polyvinyl chloride (PVC) storm drain would be located throughout park to collect on-site flows.
8. An underground corrugated metal pipe (CMP) detention system is proposed to reduce future flows to the level of existing flows. Flows would enter the system via the area drain line(s) and would outlet via a smaller pipe sized accordingly in order to allow for storage in the system; this would provide the reduction in peak flows in the proposed condition.
9. A gravel subdrain system would be located across the southern edge of the park at the top of the slope to collect ground water flows. This system would collect groundwater seepage from the apartment site to the north, as well as any percolated runoff from the park, keeping seepage from outletting to the slope along West Coast Highway.
10. An underground filter facility that would both retain flows and treat up to 1.06 cfs of post-construction discharge traversing the site. This facility shall treat the poorest quality flows originating as runoff within the condominium complex to the north. This discharge flow rate is equivalent to the increase in discharge associated with project implementation.

PDF 4.10-6 ***Inspection/Maintenance Responsibilities for BMPs:*** Inspection and maintenance of BMPs shall be implemented by the City of Newport Beach prior to completion of the Project. These responsibilities are presented in Appendix I of this EIR for structural and non-structural BMPs. Upon final design of treatment-control BMPs, a similar matrix shall be developed that specifies maintenance responsibilities for treatment-control measures.

The City of Newport Beach shall retain all maintenance records for a period of at least five years from the date generated. Those records shall be available for review by government agencies. The methods used for inspection and maintenance shall conform to the guidelines outlined in the Orange County Drainage Area Management Plan.

Standard Conditions and Requirements

SC 4.10-1 All landscape materials and irrigation systems shall be maintained in accordance with the approved Landscape Plan (see Appendix I of this EIR for more information). All landscaped areas shall be maintained in a healthy and growing condition and shall receive regular pruning, fertilizing, mowing, and trimming. All landscaped areas shall be kept free of weeds and debris. All irrigation systems shall be kept operable, including adjustments, replacements, repairs, and cleanings as part of regular maintenance.

SC 4.10-2 A Storm Water Pollution Prevention Plan (SWPPP) and Notice of Intent (NOI) to comply with the General Permit for Construction Activities shall be prepared, submitted to the State Water Resources Control Board (SWRCB) for approval, and made part of the construction program. The City shall maintain a copy of the NOI and application check as proof of filing with the SWRCB. The SWPPP shall detail measures and practices that will be in effect during construction to minimize the Project's impact on water quality.

SC-4.10-3 The City shall prepare and submit a Water Quality Management Plan (WQMP) for the proposed Project, subject to the approval of the Building Department, Code and Water Quality Enforcement Division. The WQMP shall provide appropriate BMPs to ensure that no violations of water quality standards or waste discharge requirements occur; it shall also identify the entity responsible for the long-term inspection, maintenance, and funding for all BMPs.

SC 4.10-4 A list of "good housekeeping" practices shall be incorporated into the long-term (post-construction) operation of the site in order to minimize the likelihood that pollutants that could impair water quality will be used, stored, or spilled on the site. These may include frequent parking area vacuum sweeping, removal of wastes or spills, limited use of harmful fertilizers or pesticides, and the diversion of storm water away from potential sources of pollution (e.g., trash receptacles and parking structures).

Mitigation Measures

Although all impacts are less than significant with PDFs and SCs, the measures below would further reduce such impacts.

MM 4.10-1 The City shall comply with applicable provisions of the Construction General Permit; Dewatering General Permit; the regional NPDES permit requirements, including the DAMP; and any other federal, State, or local requirements have been incorporated into construction-phase BMPs. The required BMPs shall be specified in terms and conditions of Project Managers' contract specifications. The City shall be responsible for ensuring the implementation of required BMPs.

MM 4.10-2 In accordance with NPDES, DAMP, and WQMP requirements, appropriate and effective storm water BMPs shall be implemented on the Project site to accommodate storm water runoff from developed areas and to ensure that applicable water quality standards are met. Site-design and treatment-control BMPs shall be implemented during proposed Project construction in accordance with final plans and specifications. Treatment-control BMPs would be maintained by the City of Newport Beach.

MM 4.10-3 The final approved Project Plans and Specifications shall include implementation of the WQMP requirements and Project Design Features. The final approved Project plans and specifications shall include implementation of all relevant BMPs and the approved drainage concept plan contained in either Site Design Option 1 or Option 2.

MM 4.10-4 The City shall comply with California's General Permit of Storm Water Discharges Associated with Construction Activity by: (1) providing a copy of the Notice of Intent submitted to the State Water Resources Control Board and a copy of the subsequent notification of the issuance of a Waste Discharge Identification (WDID) Number or other proof of filing and (2) preparing a Storm Water Pollution Prevention Plan (SWPPP).

4.10.10 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project impacts and the Project's contribution to cumulative impacts related to surface water runoff and water quality can be mitigated to a less than significant level.