

# DRAFT ENVIRONMENTAL IMPACT REPORT

## Carpinteria Advanced Purification Project

SCH# 2019011016



**JULY 2019**



**PREPARED FOR:**

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# Draft Environmental Impact Report

## Carpinteria Advanced Purification Project

SCH# 2019011016

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COMMITMENT & INTEGRITY DRIVE RESULTS

July 2019

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- Appendix C Air Quality Technical Study
- Appendix D Biological Resource Assessment
- Appendix E Cultural Resources Assessment
- Appendix F Paleontological Resources Assessment
- Appendix G EnviroStor and GeoTracker Maps
- Appendix H Sea-Level Rise Summary Technical Memorandum
- Appendix I Groundwater Model Information
- Appendix J Dilution Study



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## Acronyms and Abbreviations

<b>Term</b>	<b>Description</b>
µg/L	micrograms per liter
AB	Assembly Bill
ACS	American Community Survey
ADT	average daily trips
AF	acre-feet (foot)
AFY	acre-feet per year
AOP	advanced oxidation process
APE	Area of Potential Effect
ASCE	American Society of Civil Engineers
ATC	Authority to Construct
AWPF	Advanced Water Purification Facility
bgs	below ground surface
BMP	best management practice
CAAQS	California Ambient Air Quality Standards
Cal/OSHA	California Occupational Safety and Health Administration
CalFire	California Department of Forestry and Fire Protection
California Register	California Register of Historical Resources
Caltrans	California Department of Transportation
CA-NFMP	Nearshore Fishery Management Plan
CAPP	Carpinteria Advanced Purification Project
CARB	California Air Resources Board
CA-SBA-7	Prehistoric Archeological Site CA-SBA-7
CCR	California Code of Regulations
CDFFP	California Department of Forestry and Fire Protection
CDFW	California Department of Fish and Wildlife
CDP	Coastal Development Permit
CEC	constituents of emerging concern
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangers Species Act
CFCG	California Fish and Game Code

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## Acronyms and Abbreviations

<b>Term</b>	<b>Description</b>
CFR	Code of Federal Regulations
CGS	California Geological Survey
CIDH	cast-in-drilled-hole
CIP	capital improvement program
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMU	concrete masonry unit
CNDDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CPSMP	Coastal Pelagic Species Fishery Management Plan
CSD	Carpinteria Sanitary District
CVWD	Carpinteria Valley Water District
CWA	Clean Water Act
DCE	dichloroethane
DDW	Division of Drinking Water
DO	dissolved oxygen
DOC	California Department of Conservation
DPS	Distinct Population Segment
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
ECAP	Energy and Climate Action Plan
EIR	Environmental Impact Report
EO	Executive Order
ESHA	Environmentally Sensitive Habitat Area
FE	federally endangered
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FIRM	Flood Insurance Rate Map
FPPA	Farmland Protection Policy Act
FTA	Federal Transit Administration
GHG	greenhouse gas
GMP	Groundfish Management Plan
GRRP	Groundwater Replenishment Reuse Project

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## Acronyms and Abbreviations

<b>Term</b>	<b>Description</b>
GSP	Groundwater Sustainability Plan
GWP	global warming potential
HDD	horizontal directional drilling
HMTA	Federal Hazardous Materials Transportation Act
HMTUSA	Hazardous Materials Transportation Uniform Safety Act
HOV	high-occupancy vehicle
hp	horsepower
HUD	United States Department of Housing and Urban Development
HVAC	heating, ventilation and air conditioning
IUCN	International Union for Conservation of Nature
kWh	kilowatt hour
lbs/day	pounds per day
LCP	Local Coastal Program
LF	linear foot (feet)
LID	low impact development
LOMR	Letter of Map Revision
LOS	level of service
LRA	Local Responsibility Area
LTS	Less Than Significant
LTS-M	Less than Significant with Mitigation
MBTA	Migratory Bird Treaty Act of 1918
MCC	motor control center
MF	microfiltration
MGD	million gallons per day
MHI	median household income
MLMA	Marine Life Management Act
MRZ	Mineral Resource Zone
MS4	Municipal Separate Storm Sewer System
MTD	Santa Barbara Metropolitan Transit District
N/A	Not Applicable
NAAQS	National Ambient Air Quality Standards
NAS	National Academy of Sciences

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## Acronyms and Abbreviations

<b>Term</b>	<b>Description</b>
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act of 1966
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOP	Notice of Preparation
NO <sub>x</sub>	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
OSH Act	Occupational Safety and Health Act of 1970
OHP	Office of Historic Preservation
PCE	tetrachloroethylene
PM	particulate matter
PPV	peak particle velocity
PRC	Public Resources Code
Proposed Project	Carpinteria Advanced Purification Project
PTO	Permit to Operate
PVC	polyvinyl chloride
PWPS	purified water pump station
RCRA	Resource Conservation and Recovery Act
RHNA	Regional Housing Needs Allocation
RO	reverse osmosis
ROC	reactive organic compound
ROW	right-of-way
RPS	Renewables Portfolio Standard
RTP	Regional Transit Plan
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SBCAG	Santa Barbara County Association of Governments
SBCAPCD	Santa Barbara County Air Pollution Control District
SBCIRWMP	Santa Barbara County Integrated Regional Water Management Plan
SBCOEM	Santa Barbara County Office of Emergency Management
SCADA	supervisory control and data acquisition
SCE	Southern California Edison

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## Acronyms and Abbreviations

<b>Term</b>	<b>Description</b>
SFA	Sustainable Fisheries Act
SGMA	Sustainable Groundwater Management Act
SO <sub>x</sub>	sulfur oxide
SRA	State Responsibility Area
SSC	species of special concern
SU	Significant and Unavoidable
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TCA	1,1,1-trichloroethane
TCE	trichloroethylene
TDS	total dissolved solids
TMDL	total maximum daily load
TPZ	Tree Protection Zone
U.S.	United States
U.S.C.	United States Code
UCR Program	Uniform Crime Reporting Program
UF	ultrafiltration
UFC	Uniform Fire Code
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
UV	ultraviolet
UWMP	Urban Water Management Plan
VHFHSZ	Very High Fire Hazard Severity Zone
VMT	vehicle miles traveled
VOC	volatile organic compound
WWTP	wastewater treatment plant

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## EXECUTIVE SUMMARY

This Environmental Impact Report (EIR) assess the potential environmental impacts of Carpinteria Valley Water District's (CVWD's) Carpinteria Advanced Purification Project (CAPP or Proposed Project). This document has been prepared in accordance with California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) statues and guidelines. CVWD is the lead agency for the CEQA process. Inquiries regarding this document and project should be directed to:

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### Project Overview

The proposed CAPP involves the construction and operation an advanced water purification facility (AWPF), injection wells, and pipelines to create up to 1.2 million gallons per day (mgd) of new water suitable for groundwater recharge and later recovery for potable use. Proposed Project components include additional treatment facilities at the Carpinteria Wastewater Treatment Plant (WWTP), pipelines, injection and monitoring wells, pump stations, storage tanks, and other facilities create advanced treated recycled water and recharge it into the Carpinteria Groundwater Basin.

### Project Objectives

The CAPP will create a new source of water that can ultimately be used for potable municipal supply. It will create a sustainable and locally controlled future water supply that will be address vulnerabilities to CVWD's current water supply systems and sources, such as State Water Project (SWP) conveyance system capacity limitations, decreased reliability of imported water, and increasing costs to sustain reliability; projected yield reductions for the Cachuma Project, increased competition for Lake Cachuma storage, and vulnerability of Cachuma Project conveyance systems; and stricter groundwater management resulting from Sustainable Groundwater Management Act (SGMA) implementation. The objectives of the Proposed Project are:

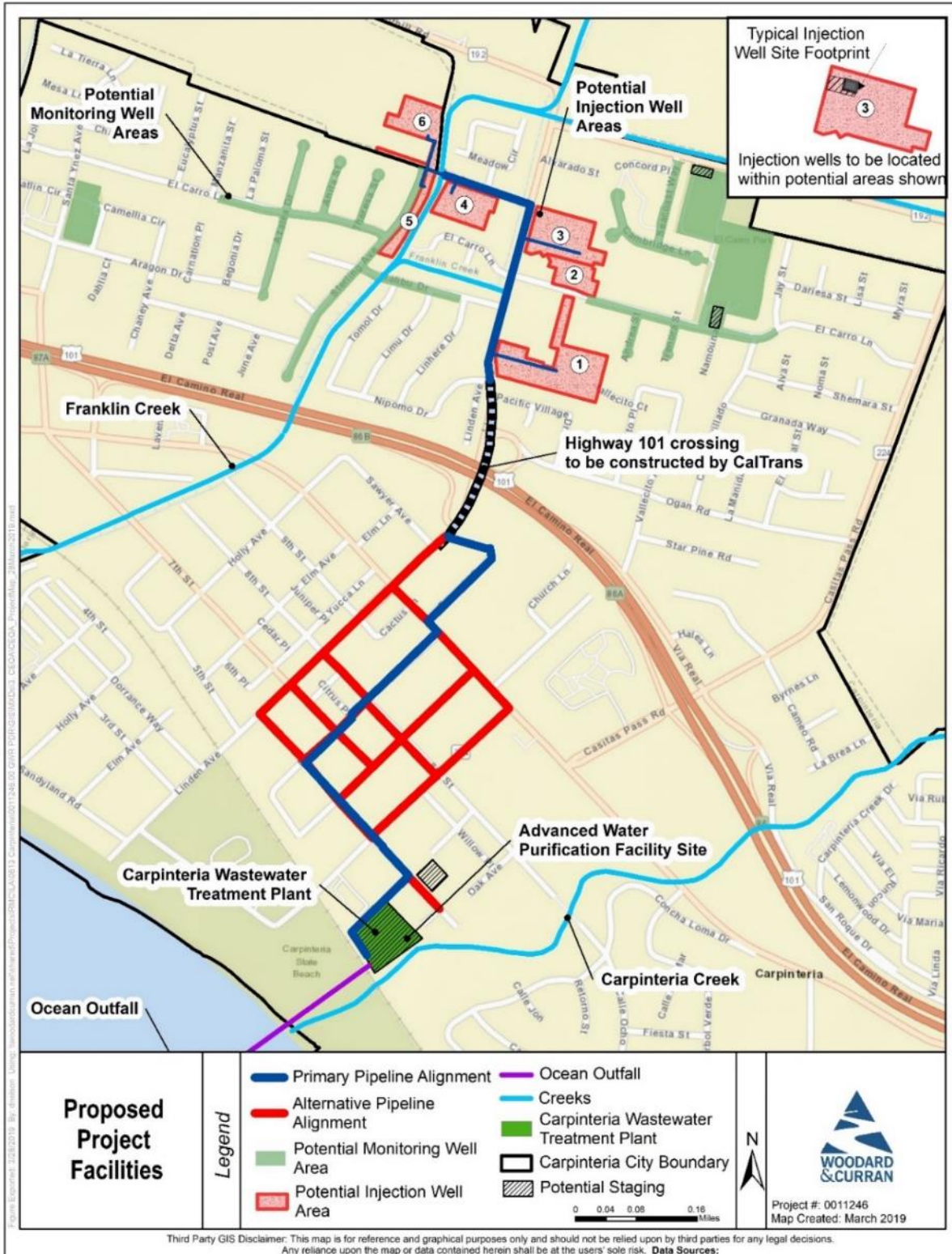
1. Create a new, drought-resistant, reliable supply of local water.
2. Produce approximately 1,000 acre-feet per year (AFY) advanced treated water suitable for groundwater recharge and potable reuse (at 1.0 MGD capacity), with the ability to expand to up to 1,200 AFY (at 1.2 MGD capacity).
3. Reduce CVWD's reliance on imported surface water and storage at Lake Cachuma.

## Project Location

The CAPP is located in the City of Carpinteria and unincorporated Santa Barbara County, California. Carpinteria is located approximately 12 miles south of the City of Santa Barbara, and approximately 80 miles north of the City of Los Angeles. As shown in Figure ES 1, the Proposed Project is primarily located within the City of Carpinteria's municipal boundaries, with the exception of one potential injection well site (Well Site #6) and associated pipeline. The Proposed Project footprint covers an up-to-40-foot wide corridor that follows the conveyance pipeline, the WWTP site at 5351 6th Street, 10,000 square feet at each of up to three injection well sites, 5,000 square feet at each of three monitoring well sites, and the immediate area around the existing ocean outfall. The injection well sites would be located approximately 0.8 to 1.0 miles north of the AWPf. Five potential injection well sites have been identified, though only three would be selected as design continues and property rights are acquired. Conveyance pipelines between the AWPf and the injection wells would generally run within the public roadway rights-of-way (ROWs). The pipeline would cross United States (U.S.) Highway 101 at the Linden Street Overpass.



Figure ES 1. Proposed Carpinteria Advanced Purification Project



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## Proposed Project

When completed, the Proposed Project would produce approximately 1,100 AFY (1 million gallons per day (MGD)) of purified water from the Carpinteria Sanitary District (CSD) WWTP for injection into the local groundwater basin, where it ultimately would be used for CVWD potable water supply. Existing CVWD production wells would be used to recover treated water from the groundwater basin. The ultimate project assumes an expansion from 1.0 MGD to 1.2 MGD based on projected future increases in WWTP flows. The ultimate CAPP includes the following facilities:

- Advanced Water Purification Facility (AWPF) consisting of equalization tank, microfiltration (MF), reverse osmosis (RO), and an advanced oxidation process (AOP), to be located on the WWTP site
- Purified Water Pump Station (PWPS), to be located on the WWTP site
- 6,100 linear feet (LF) of 12-inch conveyance pipeline from the PWPS to a well lateral split point, including Caltrans installation for the Linden Avenue overpass over U.S. Highway 101
- 2,000 LF of 8-inch conveyance pipeline from the well lateral split point to individual injection wells
- Up to three 14-inch injection wells with backwash pumps and one 42,000-gallon tank
- Either 1,400 LF of 12-inch well backwash discharge piping to existing sanitary sewers, or 600 LF of 12-inch to existing storm drain culverts
- Six monitoring wells
- Modifications to the CSD WWTP ocean outfall

## Proposed Schedule

Construction is expected to take approximately 1.5 years for the 1.0 MGD initial project, with construction beginning in January 2021. Construction would be completed in 2022, with full operation of the initial 1.0 MGD capacity expected by late 2022 or early 2023.

## Summary of Impacts

Table ES-1 provides a summary of potential impact by topic area. The table does not include impacts or criteria that were deemed not applicable to actions associated with the CAPP.

Findings presented in the table are indicated using the following abbreviations:

- NA: Not Applicable
- LTS: Less than Significant (does not require mitigation)
- LTS-M: Less than Significant with Mitigation
- SU: Significant and Unavoidable

Table ES-1. CAPP Impact Summary			
Impact Statement	Level of Significance After Mitigation <sup>1</sup>	Mitigation Measure	Relevant CAPP Components
<b>Section 3.1, Aesthetics</b>			
<b>Impact 3.1-1:</b> Potential to have a substantial adverse effect on a scenic vista?	LTS-M	<b>MM 3.1-1 Minimize Tank Size and Install Screening.</b> CVWD shall initially install a temporary backflush tank as part of the Proposed Project. This backflush tank shall be used to determine the minimum size requirement for a permanent backflush tank necessary to serve the Proposed Project. Once a minimum tank size is determined (anticipated up to five years of CAPP operation), a permanent backflush tank would be constructed that reflects the determined minimum size. Once construction on the permanent tank is completed, CVWD shall install vegetation screening to reduce the visual impact of the backflush tank. Landscaping will be selected as determined appropriate and feasible for its compatibility with the surroundings and subject to review and approval by the City of Carpinteria's Architectural Review Board. Large container size plantings and/or fast-growing vegetation shall be used for screening around the backflush tanks. Lighting shall be low intensity and located and designed to minimize direct view of light sources and diffusers and to minimize halo and spillover effects. After construction is complete, CVWD shall restore all landscaped areas effected by construction, access, and equipment staging.	<b>Mitigation Measure MM 3.1-1</b> shall apply to the injection wells and backflush tank.
<b>Impact 3.1-3:</b> Substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?	LTS-M	<b>Mitigation Measure MM 3.1-1</b> shall apply to the injection well sites.	<b>Mitigation Measure MM 3.1-1</b> shall apply to injection well sites.
<b>Impact 3.1-4:</b> Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	LTS-M	<b>MM 3.1-4 Minimize Light and Glare.</b> CVWD shall ensure that all construction and operational lighting is the lowest intensity necessary for public safety purposes. Lighting shall be of low intensity, shall be directed downward and at the immediate work area, and shall be shielded to minimize halo and spillover effects. Lighting shall also be directed away from sensitive habitats and receptors, and away from neighboring residential areas. Additional protective measures, such as light glare shields, may be used if light sources are still directly visible from neighboring residential areas or interferes with scenic views after lighting is installed and oriented as described in this mitigation measure.	<b>Mitigation Measure MM 3.1-4</b> shall apply to areas all construction and operational activities in the Proposed Project.
<b>Section 3.2, Agricultural and Forestry Resources</b>			
<b>Impact 3.2-1:</b> Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	LTS	No mitigation is required.	N/A
<b>Impact 3.2-2:</b> Conflict with existing zoning for agricultural use, or a Williamson Act contract?	LTS	No mitigation is required.	N/A
<b>Impact 3.2-5:</b> Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	LTS	No mitigation is required.	N/A
<b>Impact 3.2-6:</b> Meet or exceed the agricultural thresholds identified in the City's	LTS	No mitigation is required.	N/A

Table ES-1. CAPP Impact Summary			
Impact Statement	Level of Significance After Mitigation <sup>1</sup>	Mitigation Measure	Relevant CAPP Components
Environmental Review Guidelines: i) Development proposed on any property 5 acres or greater in size with Prime Agricultural Soils designation? ii) Development proposed in an Agricultural Preserve? iii) Development proposed on any property which in the past five years has been in agricultural production and is agriculturally zoned? iv) Development of 10 or more acres on non-prime parcels, which may be significant due to historical use or surroundings (conversion may make adjacent agricultural lands ripe for conversion)?			
<b>Section 3.3, Air Quality</b>			
<b>Impact 3.3-1:</b> Conflict with or obstruct implementation of the applicable air quality plan?	LTS	No mitigation is required.	N/A
<b>Impact 3.3-2:</b> Result in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment?	LTS	No mitigation is required.	N/A
<b>Impact 3.3-3:</b> Expose sensitive receptors to substantial pollutant concentrations?	LTS	No mitigation is required.	N/A
<b>Impact 3.3-4:</b> Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	LTS	No mitigation is required.	N/A
<b>Section 3.4, Biological Resources</b>			
<b>Impact 3.4-1:</b> Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service (USFWS)?	LTS-M	<p>In addition to the Mitigation Measures identified here, <b>Mitigation Measure MM 3.1-4</b>, under <i>3.1 Aesthetics</i>, above, shall apply to the Proposed Project to mitigate for potential light-related impacts to sensitive species.</p> <p><b>MM 3.4-1a Worker Environmental Awareness Program.</b> Prior to initiation of all construction activities (including staging and mobilization), all personnel associated with project construction shall attend a Worker Environmental Awareness Program training, conducted by a qualified biologist, to assist workers in recognizing special status biological resources that may occur in the Area of Potential Effect (APE). This training will include information about southern California steelhead, tidewater goby, protected nesting birds, marine mammals, as well as other special status species potentially occurring in the APE.</p> <p>The specifics of this program shall include identification of special status species and habitats, a description of the regulatory status and general ecological characteristics of special status resources, and review of the limits of construction and measures required to avoid and minimize impacts to biological resources within the work area. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employees, and other personnel involved with construction of the project. All employees shall sign a form provided by the trainer documenting they have attended the WEAP and understand the information presented to them. The crew foreman shall be responsible for ensuring crew members adhere to the guidelines and restrictions designed to avoid impacts to special status species. If new construction personnel are added to the project, the crew foreman shall ensure that the new personnel receive the WEAP training before starting work. The</p>	<p><b>Mitigation Measures MM 3.4-1a, MM 3.4-1b, and MM 3.4-1c</b> shall apply to all construction activities occurring on land.</p> <p><b>Mitigation Measure MM 3.1-4</b> shall apply to any nighttime construction within 500 feet of habitat areas.</p>

Table ES-1. CAPP Impact Summary

Impact Statement	Level of Significance After Mitigation <sup>1</sup>	Mitigation Measure	Relevant CAPP Components
		<p>subsequent training of personnel can include videotape of the initial training and/or the use of written materials rather than in-person training by a biologist.</p> <p><b>MM 3.4-1b Nesting Bird Surveys.</b> To avoid disturbance of nesting and special status birds, including raptor species protected by the Migratory Bird Treaty Act of 1918 (MBTA) and CFGC 3503, activities related to the project including, but not limited to, vegetation removal, ground disturbance, and construction and demolition shall occur outside of the bird breeding season for migratory birds (February 1 through August 31), if practicable.</p> <p>If construction must begin during the breeding season, then a pre-construction nesting bird survey shall be conducted no more than seven days prior to initiation of ground disturbance and vegetation removal activities. The nesting bird pre-construction survey shall be conducted on foot inside the project footprint, including a 100-foot buffer (300-foot for raptors), and in inaccessible areas (e.g., private lands) from afar using binoculars to the extent practicable. The survey shall be conducted by a biologist familiar with the identification of avian species known to occur in southern California coastal communities. If nests are found, an avoidance buffer (dependent upon the species, the proposed work activity, and existing disturbances associated with land uses outside of the site) shall be determined and demarcated by the biologist with bright orange construction fencing, flagging, construction lathe, or other means to mark the boundary. All construction personnel shall be notified as to the existence of the buffer zone and to avoid entering the buffer zone during the nesting season. No ground-disturbing activities shall occur inside this buffer until the avian biologist has confirmed that breeding/nesting is completed, and the young have fledged the nest. Encroachment into the buffer shall occur only at the discretion of the qualified biologist</p> <p><b>MM 3.4-1c Avoidance of Monarch Butterfly Winter Roost Sites.</b> To minimize indirect project impacts to potential monarch butterfly roosts, monarch butterfly roosts shall be avoided during all construction activities related to project activities, tree removal/trimming, vegetation clearing, and grading activities (collectively, "land clearing activities"). This can be accomplished by implementing either one of the following options:</p> <ol style="list-style-type: none"> <li>1. Prohibit land clearing activities during the monarch wintering season (October 1 through March 1); or,</li> <li>2. Conduct site-specific surveys prior to land clearing activities during the monarch wintering season (October 1 through March 1) and avoid monarch roosts.</li> </ol> <p>If Option 2 is selected, surveys (described below) shall be conducted to identify any monarch roosts in the area proposed for disturbance. Monarch roosts shall be avoided during the wintering season by establishing a 50-foot buffer between land clearing activity and the roost. An initial monarch survey shall be conducted of all potentially suitable habitat areas within the APE 30-days prior to the initiation of land clearing activities. The project site must continue to be surveyed on a weekly basis with the last survey completed no more than 7 days prior to the initiation of land clearing activities. The monarch butterfly survey must cover monarch wintering habitat within the APE. If monarch roosts are found, land clearing activities within 50 feet surrounding the roost shall be postponed or halted while the monarchs are present (typically October 1 through March 1). Construction activities may occur outside of the 50-foot setback areas during this time.</p>	

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<p><b>Impact 3.4-2:</b> Have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or USFWS?</p>	LTS-M	<p><b>Mitigation Measure MM 3.4-1a</b>, above, Mitigation Measure MM 3.4-3c, below, and Mitigation Measure MM 3.10-1b under <i>3.10 Hazards and Hazardous Materials</i>, below, shall apply.</p> <p><b>Mitigation Measure MM 3.4-2a Sensitive Habitat Fencing.</b> Prior to project mobilization, where the project is adjacent to native habitat (i.e., environmentally sensitive habitat area [ESHA], riparian habitat, wetland, sensitive natural communities), a certified biologist would identify native habitat to avoid, and temporary construction fencing shall be erected by the contractor at the edge of the temporary construction easement to avoid impacts to the habitat throughout the duration of construction.</p>	<p><b>Mitigation Measures MM 3.4-1a</b> and <b>MM 3.4-2</b> shall apply to open cut trenching along Olive Avenue in the vicinity of the arroyo willow thicket.</p> <p><b>Mitigation Measures MM 3.4-3c</b> and <b>MM 3.10-1b</b> shall apply to all Proposed Project construction activities.</p>
<p><b>Impact 3.4-3:</b> Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?</p>	LTS-M	<p><b>Mitigation Measure MM 3.11-1</b>, under <i>3.11 Hydrology and Water Quality</i>, shall apply if HDD construction methods are selected for a Franklin Creek crossing.</p> <p><b>Mitigation Measure MM 3.4-3a Disturbance Area and Staging.</b> Areas of temporary disturbance shall be minimized to the extent practicable. Staging and laydown areas shall be limited to sites unvegetated, previously disturbed (e.g., rights-of-way [ROWs], parking lots), and community parks (areas consisting of ruderal vegetation, ornamental landscaping, and outside of the Tree Protection Zone [TPZ; dripline plus 6 feet] of protected trees).</p> <p><b>Mitigation Measure MM 3.4-3b Material Storage.</b> Materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage. Material storage shall be at least 50 feet from Franklin Creek, Carpinteria Creek, and Carpinteria State Beach. Any material/spoils from project activities shall be located and stored 50 feet from potential jurisdictional areas (Franklin Creek, Carpinteria Creek, and Carpinteria State Beach). Construction materials and spoils shall be protected from stormwater runoff using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate.</p> <p><b>Mitigation Measure MM 3.4-3c Construction Best Management Practices.</b> To avoid and/or minimize potential indirect impacts to jurisdictional waters and water quality, the following Best Management Practices shall be implemented within 50 feet of Franklin Creek, Carpinteria Creek, and the stormwater drain:</p> <ol style="list-style-type: none"> <li>Prevent the off-site tracking of loose construction and landscape materials by implementing street sweeping, vacuuming, and rumble plates, as appropriate.</li> <li>Prevent the discharge of silt or pollutants off of the site when working adjacent to potentially jurisdictional waters. Install best management practices (BMPs) (i.e., silt barriers, sand bags, straw bales) as appropriate.</li> <li>Work adjacent to Franklin and Carpinteria Creeks shall ensure no wash water enters the receiving water bodies, through measures that may include locating site washout areas at least 50 feet from a storm drain, open ditch or surface water or implementation of barriers to control runoff, such that runoff flows from such activities do not enter receiving water bodies.</li> <li>All vehicles and equipment shall be in good working condition and free of leaks. The contractor shall prevent oil, petroleum products, or any other pollutants from contaminating the soil or entering a watercourse (dry or otherwise). When vehicles or equipment are stationary, mats or drip pans shall be placed below vehicles to contain fluid leaks.</li> </ol>	<p><b>Mitigation Measure MM 3.4-3a</b> and <b>MM 3.4-3c</b> shall apply to all components of the Proposed Project.</p> <p><b>Mitigation Measure MM 3.4-3b</b> shall apply to all components of the Proposed Project, except within the floodwall boundary of the CSD WWTP site.</p> <p><b>Mitigation Measure MM 3.11-1</b> shall apply if HDD construction methods are selected for a Franklin Creek crossing.</p>

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		<ul style="list-style-type: none"> <li>e. All re-fueling, cleaning, and maintenance of equipment will occur at least 50 feet from potentially jurisdictional waters (Franklin Creek, Carpinteria Creek, and the roadside storm water drain).</li> <li>f. Any spillage of material will be stopped if it can be done safely. The contaminated area will be cleaned, and any contaminated materials properly disposed. For all spills, the project foreman or other designated liaison will notify CVWD immediately.</li> <li>g. Adequate spill prevention and response equipment shall be maintained on site and readily available to implement to ensure minimal impacts to the aquatic and marine environments.</li> </ul>	
<b>Impact 3.4-4:</b> Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?	LTS	No mitigation required.	N/A
<b>Impact 3.4-5:</b> Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	LTS-M	<p><b>Mitigation Measures MM 3.4-1a, MM 3.4-1b, MM 3.4-1c, MM 3.4-2, MM 3.4-3a, MM 3.4-3b, MM 3.4-3c, MM 3.4-3d</b>, above, shall apply.</p> <p><b>Mitigation Measure MM 3.4-5 Tree Protection Zone Restrictions.</b> Components of the project footprint that occur within 20 feet of the canopy drip line of protected trees shall be subject to the following:</p> <ul style="list-style-type: none"> <li>a. No ground disturbance, grading, trenching, construction activities or structural development shall occur within the tree protection zone (TPZ; dripline plus 6 feet).</li> <li>b. No equipment, soil, or construction materials shall be placed within the TPZ. No oil, gasoline, chemicals, paints, solvents, or other damaging materials may be deposited within the TPZ or in drainage channels, swales or areas that may lead to the TPZ.</li> <li>c. If work within the TPZ cannot be avoided, a qualified arborist shall monitor all activities within the TPZ of protected trees.</li> <li>d. Unless otherwise directed by the arborist, all work within the TPZ, including brush clearance, digging, trenching and planting, shall be done with hand tools or small hand-held power tools that are of a depth and design that will not cause root damage.</li> <li>e. Where trenching or digging within the TPZ is specifically permitted, the work shall be conducted in a manner that minimizes root damage, as directed by an arborist.</li> <li>f. Grade changes outside of the TPZ shall not significantly alter drainage to protected trees. Grading within the TPZ shall use methods that minimize root damage and ensure that roots are not cut off from air. Where erosion may be a factor return and protect the original grade or otherwise stabilize the soil.</li> <li>g. Protected trees shall not be used for posting signs, electrical wires or pulleys; for supporting structures; and shall be kept free of nails, screws, rope, wires, stakes and other unauthorized fastening devices or attachments.</li> </ul>	<p><b>Mitigation Measures MM 3.4-1a, MM 3.4-1b, MM3.4-1c, MM 3.4-2, MM 3.4-3a, MM 3.4-3b, MM 3.4-3c, and MM 3.4-5</b> shall apply to all terrestrial components of the Proposed Project.</p>
<b>Section 3.5, Marine Biological Resources</b>			
<b>Impact 3.5-1:</b> Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California	LTS-M	<p><b>Mitigation Measure MM 3.1-4</b>, under <i>3.1 Aesthetics</i>, and <b>Mitigation Measures MM 3.4-1a and MM 3.4-1b</b>, under <i>3.4 Biological Resources</i>, shall apply.</p> <p><b>Mitigation Measure MM 3.5-1a Avoidance Measures for Marine Mammal and Sea Turtle</b></p>	<p><b>Mitigation Measures MM 3.1-4, MM 3.4-1a, MM 3.4-1b, MM 3.5-1a and MM 3.5-1b</b> shall apply to the Proposed Project activities associated with the ocean outfall</p>

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Department of Fish and Wildlife or USFWS?		<p><b>Species.</b> To minimize disturbance to species status marine mammal and sea turtle species, general guidelines set forth in the Marine Mammal Protection Act shall be implemented. Vessels under power shall remain at least 100 yards (300 feet) away from whales and 50 yards (150 feet) from dolphins, porpoises, seals, sea lions and sea turtles. When encountering marine mammals, the vessel shall slow down, operate at no-wake speed and the vessel shall be put in neutral to let the individual pass.</p> <p><b>Mitigation Measure MM 3.5-1b Subtidal Biological Survey.</b> To minimize direct project impacts to special status abalone species and offshore ESHA including rocky points, intertidal areas, subtidal reefs and kelp beds, at least 45 days prior to the start of in-water project activities, a subtidal biological survey shall be completed by a qualified biologist to document areas of kelp, special status species, and rocky reef within the Marine APE and a 100-foot buffer. If the survey identifies rocky reefs, kelp bed, or special status species, project activities shall avoid and anchor project-related vessels at least 50 feet away from special status species and habitat, if feasible. If the area cannot be avoided, the project shall utilize techniques that minimize turbidity (i.e. installation of a turbidity curtain), scarring on rocky habitat, and down cast sand excavated at or near the outfall into sand channels away from rocky habitat. For consistency with Policy OSC-4 of the <i>City's General Plan/Local Coastal Land Use Plan</i>, a post construction survey shall be completed by a qualified biologist to document final conditions.</p>	improvements.
<b>Impact 3.5-2:</b> Have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or USFWS?	LTS-M	<b>Mitigation Measures MM 3.4-1a, MM 3.5-1a, MM 3.5-1b, and MM 3.4-3c</b> above, shall apply.	<b>Mitigation Measures MM 3.4-1a, MM 3.5-1a, MM 3.5-1b, and MM 3.4-3c</b> shall apply to the Proposed Project activities associated with the ocean outfall improvements.
<b>Impact 3.5-3:</b> Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	LTS-M	<b>Mitigation Measures MM 3.4-3c</b> , above, shall apply.	<b>Mitigation Measure MM 3.4-3c</b> shall apply to the Proposed Project activities associated with the ocean outfall improvements.
<b>Impact 3.5-4:</b> Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	LTS-M	<b>Mitigation Measures MM3.4-1a</b> under <i>3.4 Biological Resources</i> , and <b>MM 3.5-1a</b> , above, shall apply.	<b>Mitigation Measures MM 3.4-1a</b> and <b>MM 3.5-1a</b> shall apply to all Proposed Project activities associated with the ocean outfall improvements.
<b>Impact 3.5-4:</b> Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	LTS-M	<b>Mitigation Measures MM 3.4-1a, MM 3.5-1a, and MM 3.5-1b</b> above, shall apply.	<b>Mitigation Measure MM 3.4-1a, MM 3.5-1a, and MM 3.5-1b</b> shall apply to the Proposed Project activities associated with the ocean outfall improvements
<b>Section 3.6, Cultural Resources</b>			
<b>Impact 3.6-1:</b> Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	LTS	No mitigation is required.	N/A
<b>Impact 3.6-2:</b> Cause a substantial adverse change in the significance of a unique archeological resource pursuant to Section 15064.5?	LTS-M	<b>MM 3.6-2a Archaeological and Native American Monitoring.</b> CVWD shall retain a qualified archaeological and Native American monitor to be present during ground disturbing activities such as grading, trenching, or excavation within the vicinity of Prehistoric Archeological Site CA-SBA-7 (CA-SBA-7) (the AWPf and directly adjacent conveyance pipelines). Archeological monitoring shall be performed during initial ground disturbance only (not entire construction	<p><b>Mitigation Measure MM 3.6-2a</b> shall apply to initial ground disturbance up to a depth of 10 feet within the vicinity of CA-SBA-7</p> <p><b>Mitigation Measure MM 3.6-2b</b> shall apply to all Proposed Project-related ground disturbing activities.</p>



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		<p>timeframe) under the direction of an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archeology (National Park Service, 1983). Native American monitoring should be provided by a locally affiliated tribal member. Monitors shall have the authority to halt and redirect work should any archaeological resources be identified during monitoring. If archaeological resources are encountered during ground-disturbing activities, work in the immediate vicinity area must halt and the find evaluated for listing in the California Register of Historical Resources (California Register) and the National Register of Historic Places. Archaeological or Native American monitoring or both may be reduced or halted at the discretion of the monitors, in consultation with CVWD, as warranted by conditions such as encountering bedrock, sediments being excavated are fill, or negative findings during the first 60% of rough grading. If monitoring is reduced to spot-checking, spot-checking shall occur when ground-disturbances moves to a new location within the project site and when ground disturbance will extend to depths not previously reached (unless those depths are within bedrock)</p> <p><b>MM 3.6-2b Unanticipated Discovery of Cultural Resources.</b> If cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt and an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983) shall be contacted immediately to evaluate the find. If the discovery proves to be significant under the National Historic Preservation Act of 1966 (NHPA) and/or CEQA, additional work such as data recovery excavation and Native American consultation shall occur, as necessary, to mitigate any significant impacts or adverse effects.</p>	
<b>Impact 3.6-3:</b> Disturb any human remains, including those interred outside of formal cemeteries.	LTS-M	<p><b>MM 3.6-3 Unanticipated Discovery of Human Remains.</b> In the event of an unanticipated discovery of human remains, the County Coroner shall be notified immediately, and no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code (PRC) Section 5097.98 in accordance with the State of California Health and Safety Code Section 7050.5. If the human remains are determined to be prehistoric, the coroner will notify the Native American Heritage Commission, which will determine and notify a most likely descendant. The most likely descendant has 48 hours from being granted access to the site to make recommendations for the disposition of the remains. If the most likely descendant does not make recommendations within 48 hours, the landowner shall reinter the remains in an area of the property secure from subsequent disturbance.</p>	<b>Mitigation Measure MM 3.6-3</b> shall apply to all Proposed Project-related ground disturbing activities.
<b>Section 3.7, Energy</b>			
<b>Impact 3.7-1:</b> Result in wasteful, inefficient, or unnecessary consumption of energy?	LTS	No mitigation is required.	N/A
<b>Impact 3.7-2:</b> Require the development of new sources of energy?	LTS	No mitigation is required.	N/A
<b>Impact 3.7-3:</b> Conflict with renewable energy plan?	LTS	No mitigation is required.	N/A
<b>Section 3.8, Geology and Soils</b>			
<b>Impact 3.8-1:</b> Directly or indirectly cause potential substantial adverse effects, including	LTS-M	<b>MM 3.8-1 Complete a Geotechnical Analysis, Assess Potential for Liquefaction and Expansive Soils and Incorporate Protective Measures.</b> All of the Proposed Project's	<b>Mitigation Measure 3.8-1</b> shall apply to all components of the Proposed Project.

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the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? ii) Strong seismic ground shaking? iii) Seismic-related ground failure, including liquefaction? iv) Landslides?		components would be located within an area of high expansive soils or an area at risk for liquefaction. During design for all project components, CVWD shall complete an engineering geotechnical and soils report that assesses potential for seismic-related risks and liquefaction. CVWD shall incorporate protective measures as necessary, based on the findings of the geotechnical and soils report. Pipelines shall be installed within consolidated engineered backfill. Protective measures may include the use of specific materials (e.g., pvc instead of cement pipes), design features such as thickness of pipes or foundations, methods that comply with standards and regulations for areas with potential for liquefaction, or selection of materials resistant to the effects of liquefaction.	
<b>Impact 3.8-2:</b> Result in substantial soil erosion or the loss of topsoil?	LTS	No mitigation is required.	N/A
<b>Impact 3.8-3:</b> Be located on geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	LTS-M	<b>Mitigation Measure MM 3.8-1</b> , above, shall apply.	<b>Mitigation Measure 3.8-1</b> shall apply to all components of the Proposed Project.
<b>Impact 3.8-4:</b> Be located on expansive soil, as defined in Table 18 1 B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	LTS-M	<b>Mitigation Measure MM 3.8-1</b> , above, shall apply.	<b>Mitigation Measure 3.8-1</b> shall apply to all components of the Proposed Project.
<b>Impact 3.8-6:</b> Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	LTS-M	<b>MM 3.8-6 Fossil Discovery, Preparation, and Curation.</b> In the event an unanticipated fossil discovery is made during the course of the project development, then in accordance with SVP (2010) guidelines, a qualified professional paleontologist should be retained in order to examine the find and to determine if further paleontological resources mitigation is warranted. The paleontologist shall have the authority to temporarily direct, divert or halt construction activity to ensure fossil(s) can be assessed for scientific significance and if necessary, removed in a safe and timely manner. Once salvaged, significant fossils shall be identified to the lowest possible taxonomic level, prepared to a curation-ready condition and curated in a scientific institution with a permanent paleontological collection (such as the Natural History Museum of Los Angeles County) along with all pertinent field notes, photos, data, and maps.	<b>Mitigation Measure MM 3.8-6</b> shall apply if paleontological resources are encountered during construction of the AWPF.
<b>Impact 3.8-7:</b> Exceed the City of Carpinteria's thresholds of significance for erosion or siltation?	LTS	No mitigation is required.	N/A
<b>Section 3.9, Greenhouse Gas Emissions</b>			
<b>Impact 3.9-1:</b> Generate greenhouse gas emissions that may have a significant impact?	LTS	No mitigation is required.	N/A
<b>Impact 3.9-2:</b> Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	LTS	No mitigation is required.	N/A
<b>Section 3.10, Hazards and Hazardous Materials</b>			
<b>Impact 3.10-1:</b> Potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	LTS-M	<b>MM 3.10-1a Preparation of Hazardous Materials Business Plan.</b> CSD shall amend its existing Hazardous Materials Business Plan (HMBP) for the WWTP to address the addition of the AWPF and pump station. The HMBP shall include, at a minimum, a hazardous materials inventory, site plan, emergency response plan, and requirements for employee training. The HMBP shall be amended prior to the use and storage of chemicals during construction or	<b>Mitigation Measure MM 3.10-1a</b> shall apply to the routine use and storage of hazardous materials and chemicals required for operation of the AWPF and associated facilities. <b>Mitigation Measure MM 3.10-1b</b> shall apply to

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		<p>operation of the Proposed Project. The HMBP shall inform staff and contractors of the chemicals that may be used at the site and how to respond to potential hazardous material emergencies or exposure. CSD shall confirm training and signage included in the HMBP are completed and posted at the AWPF and associated chemical storage. CSD shall confirm that the hazardous materials inventory is consistent with chemicals ordered by contractors during construction and by CSD for operation and maintenance of the AWPF, pump station, and associated facilities.</p> <p><b>MM 3.10-1b Hazardous Materials Management and Spill Prevention and Control Plan.</b> Before construction begins, CVWD and CSD shall require its construction contractor to prepare a Hazardous Materials Management Spill Prevention and Control Plan that includes a project-specific contingency plan for hazardous materials and waste operations. The Plan will be applicable to construction activities and will establish policies and procedures according to applicable codes and regulations, including but not limited to the California Building and Fire Codes, and federal and California Occupational Safety and Health Administration (Cal/OSHA) regulations, to minimize risks associated with hazardous materials spills. Elements of the Plan will include, but not be limited to the following:</p> <ul style="list-style-type: none"> <li>• A discussion of hazardous materials management, including delineation of hazardous material storage areas, access and egress routes, waterways, emergency assembly areas, and temporary hazardous waste storage areas;</li> <li>• Notification and documentation of procedures; and</li> <li>• Spill control and countermeasures, including employee spill prevention/response training.</li> </ul>	<p>construction of the Proposed Project, as it relates to routine use and transport of hazardous materials.</p>
<p><b>Impact 3.10-2:</b> Potential to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?</p>	LTS-M	<p><b>Mitigation Measure MM 3.10-1b</b>, above, shall apply.</p>	<p><b>Mitigation Measure MM 3.10-1b</b> shall apply to construction of the Proposed Project, as it relates to use and transport of hazardous materials.</p>
<p><b>Impact 3.10-3:</b> Potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?</p>	LTS-M	<p><b>Mitigation Measures MM 10.3-1a</b> and <b>MM 3.10-1b</b>, above, shall apply.</p>	<p><b>Mitigation Measure MM 3.10-1a</b> shall apply to operation of the AWPF and associated facilities at the WWTP site. <b>Mitigation Measure MM 3.10-1b</b> shall apply to construction of the Proposed Project, as it relates to routine use and transport of hazardous materials.</p>
<p><b>Impact 3.10-4:</b> Potential to be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?</p>	LTS-M	<p><b>MM 3.10-4 Contingency Plan for Contaminated Soil and/or Groundwater.</b> If Well Site #6 or the Southern Potential Pipeline Alignment along 6th Street at Linden Avenue are selected as components of the Proposed Project, CVWD shall conduct a Phase I Environmental Site Assessment to evaluate the potential for contaminated soils within the Proposed Project footprint. If the Phase I Environmental Site Assessment is positive, CVWD shall conduct soils testing prior to excavation activities in those sites to evaluate the risk of encountering contaminated soils. If soils testing finds contaminated soils or groundwater, construction will be halted in the area and the type and extent of the contamination shall be evaluated. CVWD will develop a contingency plan to dispose of contaminated soils or groundwater through consultation with appropriate regulatory agencies prior to continuation of work. The contingency plan may include, but not be limited to, a plan for safe handling of contaminated soils, a description of the required personal protective equipment for workers during</p>	<p><b>Mitigation Measure MM 3.10-4</b> shall apply to construction of Well Site #6 and the Southern Potential Pipeline Alignment along 6th Street at Linden Avenue.</p>

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		excavation of contaminated soils, and identification of proper disposal sites and methods. CVWD will designate a monitor to confirm compliance with the contingency plan during excavation activities in the contaminated area.	
<b>Impact 3.10-6:</b> Potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	LTS-M	<b>Mitigation Measure MM 3.18-1</b> , in Section 3.18, <i>Transportation</i> , below, shall apply.	<b>Mitigation Measure MM 3.18-1</b> shall apply to construction of all components of the Proposed Project.
<b>Impact 3.10-7:</b> Potential to expose people or structures either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	LTS-M	<b>MM 3.10-7 Implement Construction Equipment and Staging Area BMPs.</b> CVWD and CSD contractors shall be required to clear construction staging areas of dried vegetation and other material that could ignite, and store equipment that heats up only in cleared areas. CVWD and CSD contractors shall be required to keep all construction equipment in good working order and equipped with spark arrestors to prevent potential sparks. CVWD and CSD shall require its contractor to use a spotter during welding activities, and shall require that fire extinguishers are available at all construction sites. Confirmation of these practices will be made by CVWD or CSD staff or their designated representative through periodic site visits.	<b>Mitigation Measure MM 3.10-7</b> shall apply to construction of all components of the Proposed Project.
<b>Section 3.11, Hydrology and Water Quality</b>			
<b>Impact 3.11-1:</b> Potential to violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	LTS-M	<b>Mitigation Measures MM 3.4-3a, MM 3.4-3b, and MM 3.4-3c</b> , in 3.4 <i>Biological Resources</i> , above, shall apply to all construction within 50 feet for Franklin Creek and Carpinteria Creek. <b>Mitigation Measure MM 3.10-1a</b> shall apply to any trenchless crossings. <b>MM 3.11-1 Frac-Out Prevention and Contingency Plan.</b> Prior to constructing a trenchless crossing of Franklin Creek, a <i>Frac-Out Prevention and Contingency Plan</i> shall be developed. At minimum the plan shall prescribe the following measures to ensure protection of aquatic resources, special status plants and wildlife: <ul style="list-style-type: none"> <li>• Procedures to minimize the potential for a frac-out associated with horizontal directional drilling;</li> <li>• Procedures for timely detection of frac-outs;</li> <li>• Procedures for timely response and remediation in the event a frac-out; and</li> <li>• Monitoring of drilling and frac-out response activities by a qualified biologist</li> </ul>	<b>Mitigation Measures MM 3.4-3a, MM 3.4-3b, and MM 3.4-3c</b> shall apply to all construction within 50 feet for Franklin Creek and Carpinteria Creek. <b>Mitigation Measure MM 3.11-1</b> shall be apply to all trenchless crossings.
<b>Impact 3.11-3:</b> Potential to substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: <ul style="list-style-type: none"> <li>i) result in substantial erosion or siltation?</li> <li>ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding?</li> <li>iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff ?</li> <li>iv) Impede or redirect flood flows?</li> <li>v) risk release of pollutants due to Project inundation (if in flood hazard, tsunami, or seiche zones)?</li> </ul>	LTS	No mitigation is required.	N/A

Table ES-1. CAPP Impact Summary			
Impact Statement	Level of Significance After Mitigation <sup>1</sup>	Mitigation Measure	Relevant CAPP Components
vi) conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			
<b>Section 3.12, Land Use and Planning</b>			
<b>Impact 3.12-2.</b> Potential to cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program [LCP], or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	LTS-M	<b>Mitigation Measures MM 3.14-1a, MM 3.14-1b, and MM 3.14-1c</b> , in Section 3.14, <i>Noise</i> below, and <b>Mitigation Measure MM 3.18-1</b> in Section 3.18, <i>Transportation</i> , below, shall apply.	<b>Mitigation Measures MM 3.14-1a, MM 3.14-1b, MM 3.14-1c, and MM 3.18-1</b> shall apply to construction of injection and monitoring wells that generate noise, vibration, or transportation impacts that substantially interfere with existing residential uses.
<b>Section 3.13, Mineral Resources</b>			
<b>Impact 3.13-1:</b> Potential to result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	LTS	No mitigation is required.	N/A
<b>Section 3.14, Noise</b>			
<b>Impact 3.14.1:</b> Temporary or permanent increase in ambient noise levels in excess of applicable standards?	LTS-M	<p><b>MM 3.14-1a. Noise Control Measures to Reduce Construction Noise.</b> To comply with the affected City and County Municipal Codes, the following measures shall be implemented:</p> <ul style="list-style-type: none"> <li>• <b>Limit Construction Hours:</b> Construction hours shall be limited to times authorized under the City and County Municipal Codes and as allowed by applicable permits. For the City of Carpinteria, construction is limited to the hours of 7:00 a.m. to 8:00 p.m. Monday through Friday, 8:00 a.m. to 8:00 p.m. on Saturday, and 10:00 a.m. to 8:00 p.m. on Sunday. After-hours permits may be acquired if determined that it is required and serves the public interest. For the County of Santa Barbara, construction-related noise is restricted between 10:00 p.m. and 7:00 a.m. Sunday through Thursday, and midnight and 7:00 a.m. Friday and Saturday to levels less than 60 dB at the edge of the property line, or those that are not clearly discernable 100 feet from the property line.</li> <li>• <b>After-Hours Construction:</b> If construction outside of the City and County restricted hours is required, CVWD and CSD shall obtain CUP approval for such activities prior to initiation of construction. For each site requiring after-hours construction within 1,000 feet of residential areas, CVWD or its contractor shall install a temporary sound wall barrier around the site of construction activities. The sound wall barrier shall be 24 feet in nominal height with blanketed wall panels having a minimum Sound Transmission Class (STC) rating of 25 to mitigate noise levels to less than 75 dBA Community Noise Equivalent Level (CNEL) at the property line of the receptor. Sound levels shall be continuously monitored throughout construction activities to ensure adequate noise reduction.</li> <li>• <b>Equipment Location and Shielding:</b> CVWD and CSD shall require its contractors to locate stationary noise-generating construction equipment such as air compressors and generators as far as possible from homes and businesses within the City of Carpinteria. At the well sites, the contractor shall install a temporary sound barrier between the construction site and potential sensitive receptors such as residential areas or schools during construction to mitigate elevated noise levels. Sound barriers may include sound blankets or sound walls, or other appropriate features. The final selection of noise barriers</li> </ul>	<p><b>Mitigation Measure MM 3.14-1a</b> shall apply to all Proposed Project construction activities.</p> <p><b>Mitigation Measures MM 3.4-1a, MM 3.5-1a and MM 3.5-1b</b> shall apply to the Proposed Project activities associated with the ocean outfall improvements.</p>

Table ES-1. CAPP Impact Summary

Impact Statement	Level of Significance After Mitigation <sup>1</sup>	Mitigation Measure	Relevant CAPP Components
		<p>will be reviewed and approved by CVWD and the City during the CUP approval process.</p> <ul style="list-style-type: none"> <li>• <b>Temporary Housing During After-Hours Construction:</b> For residences within 100 feet of nighttime drilling, where sound attenuation may be unable to reduce noise levels to 75 dBA at the property line, CVWD may temporarily provide alternative housing (e.g., hotel accommodations) for those residents who request such accommodations and whose properties fall within areas where after-hours construction noises cannot feasibly be mitigated to less than 75 dBA.</li> <li>• <b>Locate Staging Areas away from Sensitive Receptors:</b> The contractor shall select construction staging areas as far as feasibly possible from sensitive receptors. Prior to construction, the construction contractor shall identify and receive approval of the construction staging areas from the City of Carpinteria Public Works Department via written approval from a City engineer.</li> <li>• <b>Install and Maintain Mufflers on Construction Equipment in Excess of 85 dBA:</b> Construction equipment that generates noise in excess of 85 dBA at 100 feet shall be fitted with mufflers to reduce noise to less than 85 dBA when measured 100 feet from the equipment. CVWD and CSD shall require the contractor to maintain construction equipment with specified noise-muffling devices to achieve stated performance measures. Noise testing shall be required to demonstrate the equipment has been installed and is properly reducing noise levels.</li> <li>• <b>Idling Prohibition and Enforcement:</b> CVWD and CSD shall prohibit unnecessary idling of internal combustion engines. In practice, this would mean turning off equipment if it would not be used for five or more minutes.</li> <li>• <b>Install Measures to Reduce Vibration:</b> Should pile driving or a vibratory roller be required for Proposed Project construction, the contractor shall conduct vibration monitoring at any residences or buildings located less than 50-feet from construction activities using such equipment. Ground vibration levels at the nearest residential structure to the construction site shall be monitored using vibration sensor(s) or velocity transducer with adequate sensitivity capable of measuring peak particle velocity level in the frequency range of 1 Hz to 100 Hz. If the vibration level due to construction activities exceeds the Proposed Project's criteria of 0.2 inch/second, the contractor shall make modifications/revisions to construction methods for approval by the CVWD and CSD. Measures may include features such as use of roller compactor in lieu of vibratory compactors to ensure that the PPV remains at less than the 0.2 inch/second threshold.</li> <li>• <b>Pre-Construction Notification:</b> At least one week prior to construction, written notifications to residents within 500 feet of the Proposed Project shall be sent, identifying the type, duration, and frequency of construction activities. For sensitive receptors, written notification shall either be hand-delivered or sent via certified mail. Signage shall also be posted at the construction site. Notifications shall also identify a mechanism for residents to complain to CVWD for construction related noise.</li> <li>• <b>Schedule Construction on School Property Outside the School Year:</b> If Well Site #1 is selected for an injection well, construction at Well Site #1 shall be limited to school holidays (summer, winter, or spring break) as appropriate for the required construction</li> </ul>	

Table ES-1. CAPP Impact Summary			
Impact Statement	Level of Significance After Mitigation <sup>1</sup>	Mitigation Measure	Relevant CAPP Components
		timeframe.	
<b>Impact 3.14.2:</b> Generation of excessive groundborne vibration or groundborne noise?	LTS-M	<b>Mitigation Measure MM 3.14-1a</b> , above, shall apply.	<b>Mitigation Measures MM 3.14-1a</b> shall apply to all Proposed Project construction activities.
<b>Section 3.15, Population and Housing</b>			
<b>Impact 3.15-1:</b> Potential to induce substantial unplanned population growth in an area, either directly or indirectly?	LTS	No mitigation is required.	N/A
<b>Section 3.16, Public Services</b>			
<b>Impact 3.16-1:</b> Potential to result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services: fire protection, police protection, schools, parks, other public facilities?	LTS-M	<b>Mitigation Measure MM 3.3-1</b> (see Section 3.1, <i>Aesthetics</i> ) shall apply to the injection well sites. <b>Mitigation Measure MM 3.18-1</b> (see Section 3.18, <i>Transportation</i> ) shall apply to all Project components.	<b>Mitigation Measure MM 3.3-1</b> shall apply to the injection well sites.  <b>Mitigation Measure MM 3.18-1</b> shall apply to all Project components.
<b>Section 3.17, Recreation</b>			
<b>Impact 3.17-1:</b> Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	LTS	No mitigation is required.	N/A
<b>Section 3.18, Transportation</b>			
<b>Impact 3.18-1:</b> Potential to conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	LTS-M	<b>MM 3.18-1 Develop and Implement a Transportation Management Plan.</b> Prior to construction, a Transportation Management Plan shall be developed by CVWD. The Transportation Management Plan shall be implemented by CVWD's and CSD's construction contractor during construction of the Proposed Project and shall conform to California Department of Transportation's (Caltrans') Transportation Management Plan Guidelines. Such a plan shall include, but is not limited to: <ul style="list-style-type: none"> <li>• <b>Transportation Routes:</b> CVWD shall determine construction staging site locations and potential road closures, alternate routes for detours, and planned routes for construction-related vehicle traffic. It shall also identify alternative safe routes and policies to maintain safety along bike and pedestrian routes during construction.</li> <li>• <b>Coordination with Emergency Services:</b> CVWD shall coordinate with the police, fire, and other emergency services to alert these entities about potential construction delays and alternate emergency access routes if necessary. To the extent possible, CVWD shall minimize the duration of disruptions/closures to roadways and critical access points for emergency services.</li> <li>• <b>Coordination with Recreation Facilities:</b> CVWD shall also coordinate with any affected recreational facilities owners/operators to minimize the duration of disruptions/closures to</li> </ul>	<b>Mitigation Measure MM 3.18-1</b> shall apply to construction activities requiring lane or road closures or detours that would impact any mode of transportation including mass transit, roadway, bicycle and pedestrian facilities.

Table ES-1. CAPP Impact Summary

Impact Statement	Level of Significance After Mitigation <sup>1</sup>	Mitigation Measure	Relevant CAPP Components
		recreational facilities and adjacent access points. <ul style="list-style-type: none"> <li>• <b>Coordination with Santa Barbara Metropolitan Transit District (MTD):</b> If the Proposed Project will affect access to existing MTD bus stops, the Transportation Management Plan shall also include temporary, alternative bus stops, as determined in coordination with MTD.</li> <li>• <b>Coordination with Schools:</b> CVWD shall coordinate timing of construction with the nine schools in the vicinity of the Proposed Project to minimize construction impacts during the regular school year.</li> <li>• <b>Transportation Control and Safety:</b> The Transportation Management Plan shall provide for traffic control measures including flag persons, warning signs, lights, barricades, cones, and/or detour routes to provide safe passage of vehicular, bicycle and pedestrian traffic and access by emergency responders.</li> <li>• <b>Plan Approval:</b> This plan shall be submitted to the City's planning or public works departments for review and acceptance by the City Transportation Safety Committee, Transportation Committee, and City Public Works Director/City Engineer, as well as any necessary permits acquired prior to construction.</li> <li>• <b>Public Notification:</b> Prior to beginning construction, written notice shall be provided regarding potential road closures as described in the Transportation Management Plan. Notice shall be delivered to potentially affected properties within a 500-foot radius, as determined by the City's Public Works Director/City Engineer. The notice shall contain a brief description of the work, work dates, and contact information of the Contractor's superintendent and the Engineer. The notice shall be delivered at ten (10) calendar days and again at two (2) working days prior to beginning the work. The notice shall be in the form of a door hanger made of index paper with the size of 14 inches by 4.5 inches. The notice shall be in English with translation in Spanish. A revised notice will be delivered in the event of delays in schedule, as soon as reasonably possible after a delay is identified and revised schedule known.</li> <li>• <b>Resurfacing Standards:</b> Where impervious surfaces such as roadway right-of-ways or sidewalks, are disturbed by construction activities (e.g., excavation, staging, etc.), these surfaces shall be restored to pre-construction conditions and in accordance with applicable City and County standards.</li> </ul>	
<b>Impact 3.18-3:</b> Potential to substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	LTS-M	<b>Mitigation Measure MM 3.18-1</b> , above, shall apply.	<b>Mitigation Measure MM 3.18-1</b> shall apply to construction activities requiring lane or road closures or detours that could increase traffic hazards
<b>Impact 3.18-4:</b> Potential to result in inadequate emergency access?	LTS-M	See <b>Mitigation Measure MM 3.18-1</b> , above, shall apply.	<b>Mitigation Measure MM 3.18-1</b> shall apply to construction activities requiring lane or road closures or detours that could increase traffic hazards
<b>Section 3.19, Tribal Cultural Resources</b>			
<b>Impact 3.19-1:</b> Potential to cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site,	LTS-M	<b>Mitigation Measures MM 3.6-2a, MM 3.6-2b, and MM 3.6-3</b> , in Section 3.6, <i>Cultural Resources</i> , above, shall apply.	<b>Mitigation Measure MM 3.6-2a</b> shall apply to initial ground-disturbing activities in the vicinity of CA-SBA-7.



<b>Table ES-1. CAPP Impact Summary</b>			
<b>Impact Statement</b>	<b>Level of Significance After Mitigation<sup>1</sup></b>	<b>Mitigation Measure</b>	<b>Relevant CAPP Components</b>
feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?			<b>Mitigation Measures MM 3.6-2b and MM 3.6-3</b> shall apply to all Project components.
<b>Impact 3.19-2:</b> Potential to cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe?	LTS-M	<b>Mitigation Measures MM 3.6-2a, MM 3.6-2b, and MM 3.6-3</b> , under 3.5 <i>Cultural Resources</i> , above, shall apply.	<b>Mitigation Measure MM 3.6-2a</b> shall apply to initial ground-disturbing activities in the vicinity of CA-SBA-7. <b>Mitigation Measures MM 3.6-2b and MM 3.6-3</b> shall apply to all Project components.
<b>Section 3.20, Utilities and Service Systems</b>			
<b>Impact 3.20-1:</b> Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	LTS	No mitigation is required.	N/A
<b>Impact 3.20-2:</b> Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects?	LTS	No mitigation is required.	N/A
<b>Impact 3.20-3:</b> Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years?	LTS	No mitigation is required.	N/A
<b>Impact 3.20-4:</b> Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?	LTS	No mitigation is required.	N/A
<b>Section 3.21, Wildfire</b>			
<b>Impact 3.21-1:</b> Substantially impair an adopted emergency response plan or emergency evacuation plan?	LTS-M	<b>Mitigation Measure MM 3.18-1</b> , in Section 3.18, <i>Transportation</i> , above, shall apply.	<b>Mitigation Measure MM 3.18-1</b> shall require a Transportation Management Plan for temporary detour routes and alternative emergency access and evacuation routes
<b>Impact 3.21-2:</b> Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	LTS-M	<b>Mitigation Measure MM 3.10-6</b> , in Section 3.10, <i>Hazards and Hazardous Materials</i> , above, shall apply.	<b>Mitigation Measure MM 3.10-7</b> shall apply to construction of all Proposed Project components.
<b>Impact 3.21-3:</b> Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	LTS-M	<b>Mitigation Measure MM 3.10-6</b> , in Section 3.10, <i>Hazards and Hazardous Materials</i> , above, shall apply	<b>Mitigation Measure MM 3.10-7</b> shall apply to construction of all Proposed Project components.

Table ES-1. CAPP Impact Summary			
Impact Statement	Level of Significance After Mitigation <sup>1</sup>	Mitigation Measure	Relevant CAPP Components
<b>Impact 3.21-4:</b> Expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	LTS	No mitigation is required.	N/A
<b>Section 3.22, Environmental Justice</b>			
<b>Impact 3.22-1:</b> Potential to have disproportionately high and adverse human health or environmental effects on low-income populations, minority populations, or Indian tribes?	LTS	No mitigation is required.	N/A
<b>Section 5.1, Cumulative Effects</b>			
<b>Cumulative Impacts Analysis:</b> Evaluation of the Proposed Project's potential contribution to a cumulative environmental impact when considered with all closely related past, present, or reasonably foreseeable future projects.	LTS-M	<b>Mitigation Measure CUM-1:</b> CVWD and/or its Contractor shall coordinate with the City of Carpinteria, Santa Barbara County and CSD and their contractor, as applicable, to coordinate construction schedules and construction materials delivery routes to ensure that roadway impacts are minimized during Proposed Project construction, either through the use of different haul routes or through timing of construction. In the event that construction of the Proposed Project occurs concurrently with Caltrans construction on U.S. Highway 101 in Carpinteria, coordination with Caltrans on construction schedule will also be required.	<b>Mitigation Measure CUM-1</b> shall apply to all Proposed Project components.

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## Summary of Alternatives

This EIR considers three alternatives to the Proposed Project:

1. No Project Alternative
2. Surface Spreading Alternative
3. Agricultural Irrigation Offset Alternative

The “No Project Alternative” would not implement any of the components of the Proposed Project described in Section 2, *Project Description*. CVWD would continue to rely on water stored at Lake Cachuma, and supplied by the SWP and the Cachuma Project, along with local groundwater. Wastewater collected by CSD and treated at the WWTP would continue to be treated and discharged to the ocean. The No Project Alternative would meet none of the objectives of the Proposed Project.

The “Surface Spreading Alternative” would involve construction of the 1.0 MGD AWPf, and recharge of all available purified water to the unconfined area of the Carpinteria Groundwater Basin via surface spreading in recharge basins. These recharge basins would likely be 7.2 acres, and assumed to be located north of Highway 192 and Linden Avenue in unincorporated Santa Barbara County. This alternative would provide a similar volume of water as the Proposed Project, but would deliver that water to spreading basins outside of the City rather than injection wells within local neighborhoods. Noise and aesthetic impacts related to well and tank construction would be avoided. It would also meet all three objectives for the Proposed Project.

The “Agricultural Irrigation Offset Alternative” would provide 725 AFY non-potable recycled water to agricultural customers that currently use groundwater. To deliver this water to customers, a partial-RO treatment train would be constructed at the WWTP to produce tertiary recycled water, and conveyance pipelines constructed north of the WWTP and east to serve agricultural customers in unincorporated Santa Barbara County near Highway 192 on either side of Carpinteria Creek. Noise and aesthetic impacts related to well and tank construction would be avoided. This alternative would not meet all of the objectives of the Proposed Project, but would meet local supply and surface water offset objectives.

Section 4, *Alternatives Analysis* contains a description of each alternative and compares the potential impacts of each. It also describes the process for consideration and elimination of other alternatives. The analysis concludes that the environmental superior alternative is the No Project Alternative. However, as stated in the CEQA Guidelines Section 15126.6(e)(2), if the No Project Alternative is the environmentally superior alternative, “the EIR shall also identify an environmentally superior alternative among the other alternatives.” Based on the evaluation of the other alternatives, the environmentally superior alternative is the Agricultural Irrigation Offset Alternative. However, as described above, this alternative does not meet all of the objectives of the Proposed Project. The Surface Spreading Alternative, which does meet all of the objectives of the Proposed Project, has a greater degree of potential environmental impacts than the Proposed Project.

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## Areas of Controversy

Appendix A includes comments provided during the scoping period for the Proposed Project. In general, comments requested consideration of potential project impacts already evaluated during the CEQA checklist process. Key comments from responding agencies included the following:

- Biological resources that may be present in the Proposed Project area, specifically in Carpinteria Creek, along with permitting that may be necessary should the Proposed Project affect special status plant or wildlife species;
- Compliance with Local Coastal Program (LCP) requirement of a 50-foot setback from the top of upper bank of creeks or existing edge of riparian vegetation, whichever is further;
- Reduce the visual impact of injection wells and their supporting infrastructure with screening;
- Flood hazard and water quality impacts at the well sites, including the potential for backflushing into the storm drain system (which drains to Carpinteria Salt Marsh);
- Noise and vibration impacts from Project construction; and
- Public health and safety concerns related to the use of advanced purified water for groundwater recharge.

Commenters also provided additional resources to consider when making significance findings, such as the City's Environmental Review Guidelines, and pointed to local regulations in the City and County LCPs. Comments were addressed in the appropriate resource topics in Section 3, *Environmental Analysis*.

## Issues to be Resolved

The issues to be resolved prior to implementation of the Proposed Project include the following:

- Selection of final injection well sites of the five well site options considered in this EIR;
- Selection of final monitoring well locations;
- Finalize pipeline routes and secure easement expansion at Eugenia Place if selected as the final alignment; and
- Finalize all applicable permits listed in Table 2-7 in Section 2.9, *Permits/Approvals Required*

## 1. INTRODUCTION

This Environmental Impact Report (EIR) has been prepared by Carpinteria Valley Water District (CVWD), lead agency for the Carpinteria Advanced Purification Project (CAPP or Proposed Project).

### 1.1 Project Overview

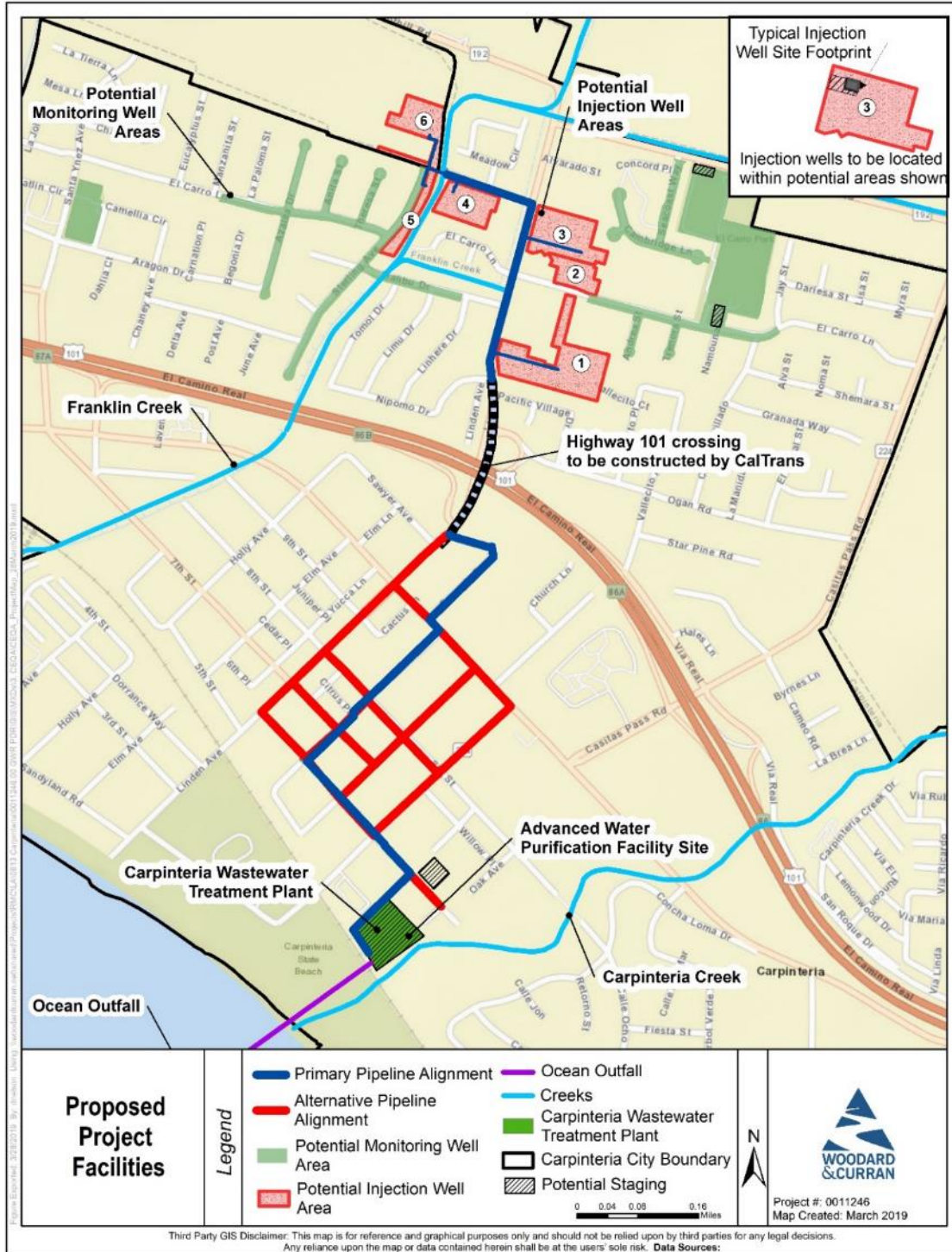
The objective of the CAPP is to develop a sustainable and locally controlled future water supply. The recent critical drought and projected changes to the area's existing water supplies highlight several water resource vulnerabilities and the need for a local, reliable water supply. Water supply issues include State Water Project (SWP) conveyance system capacity limitations, decreased reliability of imported water, and increasing costs to sustain reliability; projected yield reductions for the Cachuma Project, increased competition for Lake Cachuma storage, and vulnerability of Cachuma Project conveyance systems; and stricter groundwater management resulting from Sustainable Groundwater Management Act (SGMA) implementation. These vulnerabilities confirm the need for a local, reliable, and drought-resistant recycled water project.

In 2016, CVWD, along with Carpinteria Sanitary District (CSD) and City of Carpinteria (City), completed a *Recycled Water Facilities Plan* (CVWD 2015) that was partially funded by the State Water Resources Control Board (SWRCB). This plan recommended alternatives for a recycled water project with groundwater recharge. The recommended project consists of producing approximately 1,100 AFY (1 million gallons per day (MGD)) of purified water from the CSD Wastewater Treatment Plant (WWTP) for injection into the local groundwater basin, where it ultimately would be used for CVWD potable water supply. Existing CVWD production wells would be used to recover treated water from the groundwater basin. The ultimate project assumes an expansion from 1.0 MGD to 1.2 MGD based on projected future increases in WWTP flows. The ultimate CAPP includes the following facilities:

- AWWP consisting of equalization tank, microfiltration (MF), reverse osmosis (RO), and an AOP, to be located on the WWTP site
- Purified Water Pump Station (PWPS), to be located on the WWTP site
- 6,100 linear feet (LF) of 12-inch conveyance pipeline from the PWPS to a well lateral split point, including Caltrans installation for the Linden Avenue overpass over United States (U.S.) Highway 101
- 2,000 LF of 8-inch conveyance pipeline from the well lateral split point to individual injection wells
- Up to three 14-inch injection wells with backwash pumps and one 42,000-gallon tank
- Either 1,400 LF of 12-inch well backwash discharge piping to existing sanitary sewers, or 600 LF of 12-inch to existing storm drain culverts
- Six monitoring wells
- Modifications to the CSD WWTP ocean outfall

Figure 1-1 shows a proposed conceptual layout of the key facilities.

Figure 1-1. Conceptual Layout of Proposed Facilities



Notes:

Injection and Monitoring Well Areas show entire parcels or segments within which a well may be located. Wells would occupy only a small fraction of the sites shown here.

## 1.2 Purpose and Use of this Document

The California Environmental Quality Act (CEQA) requires public agencies to analyze and consider the environmental consequences of their decision to approve projects over which they exercise discretion. This EIR analyzes and discloses the potential impacts to environmental resources that would result from construction and operation of the CAPP. Where impacts are potentially significant, mitigation measures are included to reduce the impact to the extent practicable. CVWD and CSD will consider the disclosures in this EIR as part of CAPP approvals.

In addition to analyzing the potential environmental impacts under CEQA, this document includes federal cross-cutters that will satisfy environmental review under the National Environmental Policy Act (NEPA). A NEPA finding would be made by a federal agency or an agency issuing federal funding. CVWD is considering applying to several federal funding programs, such as those administered by the U.S. Department of the Interior's Bureau of Reclamation, the Federal Emergency Management Agency (FEMA), and the SWRCB, who administers a program that is partially funded through federal dollars. CVWD is in the process of determining the appropriate lead agency under NEPA. The federal cross-cutters in this EIR are intended to support future NEPA approvals.

## 1.3 Environmental Review Process

A Notice of Preparation (NOP) for the Proposed Project was issued by CVWD on January 7, 2019 and was made available for public review for a 30-day period that ended on February 8, 2019. The NOP was sent to the Governor's Office of Planning and Research State Clearinghouse, to responsible agencies, and was made publicly available on CVWD's website. A Scoping Meeting was held on January 24, 2019, during the 30-day comment period for the NOP, at the Veteran's Hall in Carpinteria. CVWD presented information about the Proposed Project at the Scoping Meeting, which was an opportunity to respond to informal questions and accept public comments on the NOP. The Scoping Meeting was publicly advertised in the Santa Barbara Independent and the Coastal View on January 10 and January 17, 2019. A copy of the NOP, proof of publication for the Scoping Meeting, and comments received during the public comment period for the NOP are included as Appendix A.

Tribal notification for the Proposed Project was conducted in compliance with Assembly Bill (AB) 52. AB 52 letters were mailed to nine tribal contacts, and comments received from three tribal contacts. A copy of the AB 52 letter and tribal contact list is included in Appendix B. CVWD and Barbareno/Ventureno Band of Mission Indians have engaged in email dialogue and transmittal of Project materials.

### 1.3.1 NOP and Scoping Meeting Comments

Comments received during the public comment period and as a result of AB 52 consultations have been considered during preparation of this EIR. A summary of comments is provided here, along with references to the sections of this EIR in which these comments were considered. In general, comments received requested consideration of potential project impacts already evaluated during the CEQA checklist process. The scoping process determined that the EIR should analyze the following issues:

- **Aesthetics:** Consider visual impacts of aboveground facilities, particularly injection wells and backwash tank that may be located near parks and schools, as well as lighting for new facilities. Consider visibility and aesthetic impacts of facility heights.
- **Biological Resources:** Consider impacts to sensitive species at Carpinteria Creek and potential tree or vegetation removal at injection well sites. There is a wetland on the northwest corner of U.S. Highway 101 at Linden A-en-e - consider potential impacts to the restoration efforts there and irrigation controls when installing

pipeline. Avoid development in wetlands if possible. Northern California Legless Lizard is present in the Study Area and may be impacted by the Proposed Project. Monarch butterflies occur north of the Study Area, and the Proposed Project may impact roosting habitat. Avoid nesting birds. Consider impacts to protected species under California Endangered Species Act (CESA), and complete an assessment of flora and fauna within and adjacent to the Study Area. Address potential biological impacts associated with lighting, noise, activities, exotic species, and drainage. Potential impacts to biological resources should attempt to first avoid the resource, and then mitigate impacts. Study Area includes wildlife corridors, and habitat connectivity should be maintained.

- **Cultural Resources:** Consider potential impacts to all seven of the City's listed landmarks, and complete at least a Phase I archaeological resources study.
- **Geology and Soils:** Include a project-specific geotechnical report to address seismic concerns.
- **Hydrology and Water Quality:** Consider water quality impacts beyond temporary construction impacts. Impervious surfaces, including injection well sites, should comply with City's stormwater management project. Consider flood impacts beyond those to the WWTP site. Consider the City's Sea Level Rise Vulnerability Assessment and Adaptation Plan as related to climate change impacts and sea level rise. Address potential water quality impacts from frac outs and discharge of backwash fluids. There is high groundwater level on U.S. Highway 101 at Linden Avenue. Identify potential impacts to streams or riparian resources and include avoidance, mitigation, monitoring and reporting. Avoid practices that use excess water. Concerns about the potential for antibiotic resistant bacteria, genes, and pathogens in recycled water and potential public health impacts of the Proposed Project.
- **Hazards and Hazardous Materials:** Include consideration of potential impacts from transportation and storage at the AWPf and the injection well sites, including potential exposure to nearby land uses from spills, accidents, or similar occurrences.
- **Land Use and Planning:** If the Proposed Project is within the 50-foot setback from creeks, it may have potential impacts and may require approval of a Local Coastal Program (LCP) Amendment. Alternatives analysis should include alternatives that do not fall within the 50-foot setback. Concern about height of facilities at the AWPf and injection well in compliance with zoning limits. Consider potential reduction in public recreation space. Injection of recycled water into the groundwater basin may allow expansion of the population above the natural carrying capacity.
- **Noise:** Consider both temporary construction and long-term operational noise and vibration and proximity to sensitive receptors. Include anticipated equipment in project description.
- **Public Services:** Consider potential impacts to school facilities from loss of usable areas.
- **Recreation:** Consider potential impacts to recreation and school facilities from loss of usable areas.
- **Utilities and Service Systems:** Consider potential for utility conflicts from the proposed facilities.
- **Transportation and Traffic:** Coordinate with the City to develop traffic control plan, haul routes, and detour routes, as well as with Public Works Department regarding planned pavement repair and proposed conveyance pipeline routes. Roads should be restored to City specifications. Schedule construction for times with least impacts on surrounding land use. Consider constructing multiple phases at once to shorten timeline.

This EIR addresses the issues above and identifies potential environmental impacts associated with the Proposed Project, in accordance with the provisions of the CEQA Guidelines. Mitigation measures have been included for those impacts that are potentially significant and would reduce or eliminate adverse environmental effects.



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## 1.4 Impact Terminology

For each resource area, an impact finding must be made under CEQA identifying the degree of impact construction and operation of the Proposed Project is likely to impose on each resource area. Potential impacts of the Proposed Project are classified as one of the following:

- “No Impact” – Project will not impact the resource area, generally applies when the impact statement in question does not apply to the project (e.g., mineral resources would not be impacted by a project if no mineral resources are known in the area).
- “Less than Significant” – Project may have some impact on a resource area, but would not substantially affect the resource, or impacts would be temporary in nature or of a small magnitude and the resource area would be relatively unaffected after the activity causing the impact ends.
- “Less than Significant with Mitigation” – Project may have a potentially significant impact on a resource area, but impacts can be mitigated to less than significant. Mitigation measures can be developed and included that clearly address the potential impact. Note that mitigation measure language is not included in the Initial Study, as the project’s full potential impacts will be addressed in the later Mitigated Negative Declaration, or EIR.
- “Significant and Unavoidable” – Project has a significant impact on a resource area, but this impact cannot be mitigated to less than significant. While mitigation measures are required for any SU findings, a Statement of Overriding Considerations shall be issued by the Lead Agency acknowledging the SU finding and identifying why the project’s impacts are considered acceptable. An SU finding does not preclude the project from moving forward.

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## 2. PROJECT DESCRIPTION

### 2.1 Setting and Background

The CAPP has been proposed by CVWD to increase local water supply and reliability. The Proposed Project includes installation of an advanced water purification facility (AWPF), injection wells, conveyance pipelines, backflush pipelines, pump station, monitoring wells, and modifications to the existing ocean outfall.

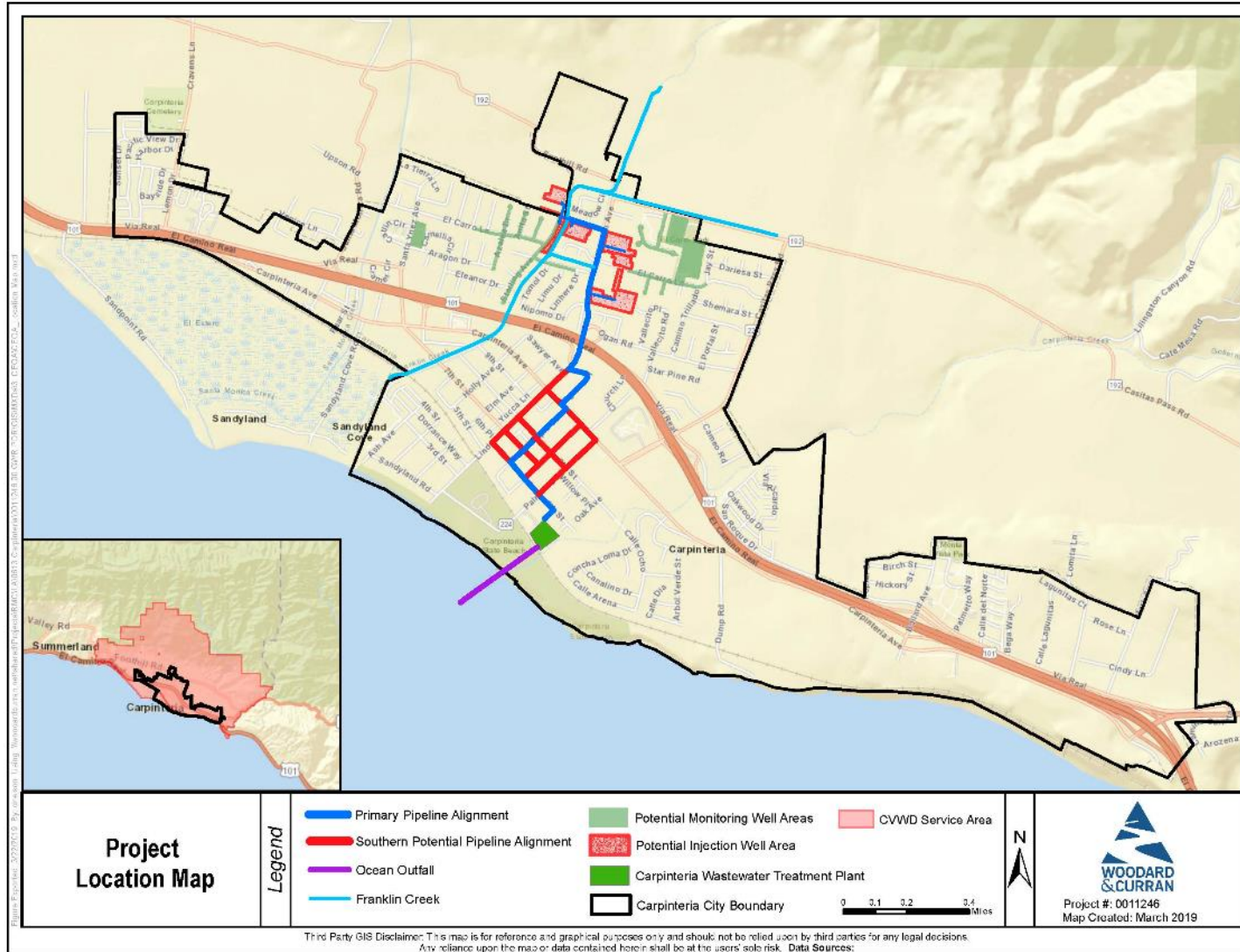
### 2.2 Location

The CAPP is located in the City of Carpinteria and unincorporated Santa Barbara County, California. Carpinteria is located approximately 12 miles south of the City of Santa Barbara, and approximately 80 miles north of the City of Los Angeles. As shown in Figure 2-1, the Proposed Project is primarily located within the City of Carpinteria's municipal boundaries, with the exception of one potential injection well site (Well Site #6) and associated pipeline. The AWPF would be located at the existing CSD WWTP site, located at 5351 6th Street, approximately 0.1 miles from the Pacific Ocean and adjacent to Carpinteria Creek. The WWTP site is bounded by a railroad to the south, a live/work residential development to the west, the Carpinteria State Beach Park maintenance yard and employee housing to the north, and Carpinteria Creek to the east. South of the rail line is Carpinteria State Beach, which includes campgrounds and day use areas across the rail line from the site.

The injection well sites would be located approximately 0.8 to 1.0 miles north of the AWPF. Five potential injection well sites have been identified, though only three would be selected as design continues and property rights are acquired. The land uses surrounding the proposed well sites are a mix of agricultural (greenhouses), residential, City parks, and institutional. Conveyance pipelines between the AWPF and the injection wells would generally run within the public roadway rights-of-way (ROWs). The pipeline would cross U.S. Highway 101 at the Linden Street Overpass. This crossing is currently being constructed by Caltrans during upgrades to the bridge, and has CEQA coverage under that EIR (Linden Avenue & Casitas Pass Road Interchanges Project, State Clearinghouse number 2008041158) (Caltrans, 2010). There is also a potential aerial crossing of Franklin Creek if Well Site #6 is selected for construction.

All facilities would be located within the City of Carpinteria with the exception of one potential well site (Well Site #6) that would be located in the unincorporated area of Santa Barbara County.

Figure 2-1. Proposed Project Location



## 2.3 Existing Water System and Service Area

CVWD serves potable water to approximately 15,600 people, within a service area of 17.3 square miles. Population growth is projected to be relatively low, increasing to between 16,400 and 17,000 by 2040. In addition to the permanent population in CVWD's service area, Carpinteria also hosts an estimate 1.8 to 1.9 million visitors per year (City of Carpinteria, 2018). CVWD has three primary sources of water supply – groundwater from the Carpinteria Groundwater Basin, surface water collected and stored in Lake Cachuma (Cachuma Project water), and SWP supplies also stored in Lake Cachuma. Table 2-1 shows the breakdown of supplies from each of these sources.

Water Supply	Historical Long-Term Average Volume, without CAPP (AFY)	Maximum Volume, without CAPP (AFY)*
Groundwater	1,000	3,000
Cachuma Project	1,970	2,813
SWP	1,250	2,200

Source: CVWD 2015 Urban Water Management Plan (September 2016)  
 \* These maximum volumes are not considered sustainable or reliable.

CVWD's existing water system includes five wells, with a total capacity of 3.98 million gallons per day (MGD). Two of these wells were constructed in recent years and retain the ability to both extract and inject Cachuma Project or SWP water. CVWD also owns three reservoirs with a combined storage capacity of 10.7 acre-feet (AF). Total water use in 2015 was 4,143 AFY. Given the relatively slow population growth projected for CVWD's service area, total water demands are projected to increase to 4,205 AFY by 2040, an increase of only 62 AFY over 2015.

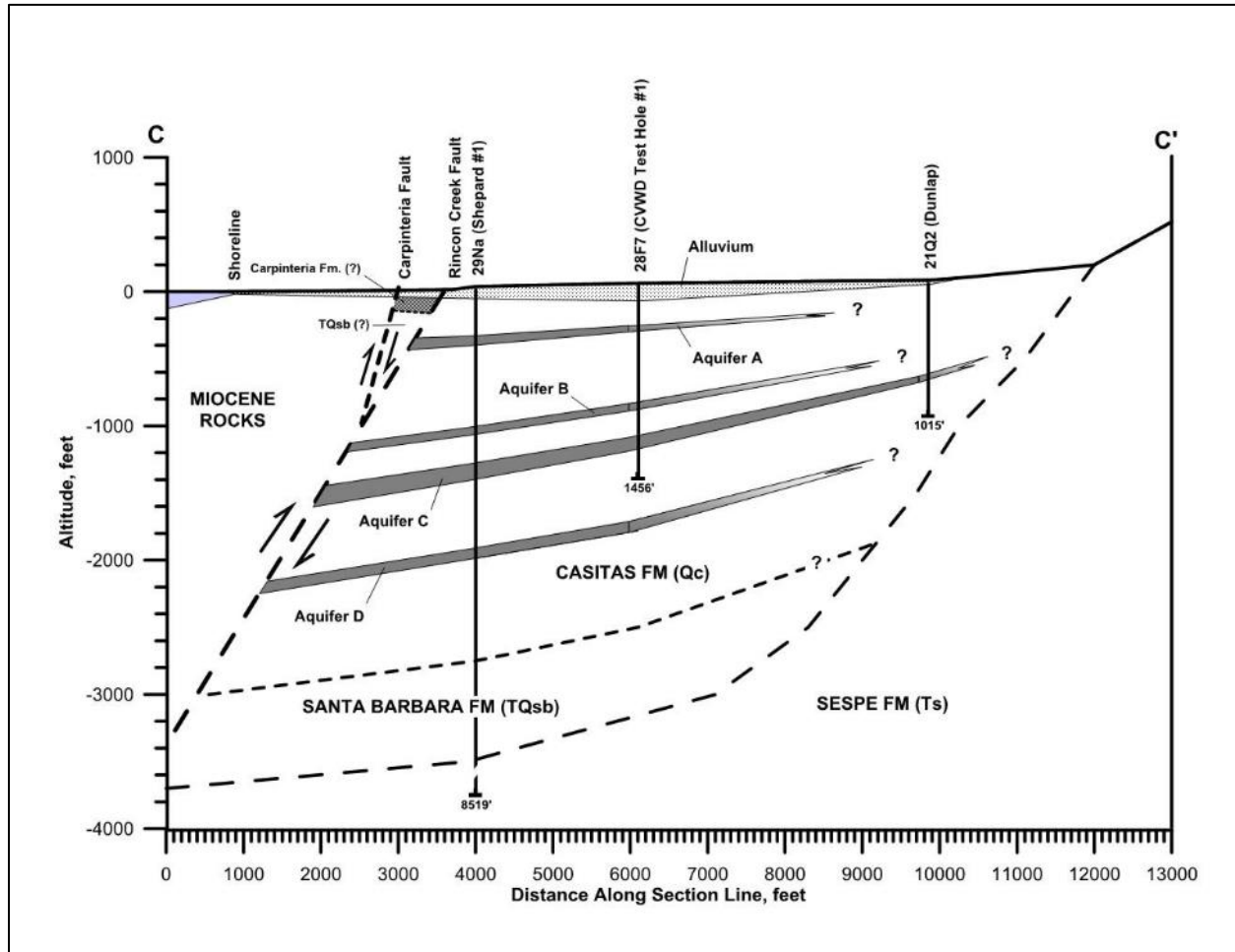
### 2.3.1 Carpinteria Groundwater Basin

The Carpinteria Groundwater Basin is located to the south of the Santa Ynez Mountains and is approximately 16.6 square miles, with a total storage of 700,000 AF. CVWD's 2012 *Groundwater Model Report* found that the sustainable yield ranged from 3,600 to 4,000 AFY, with an average of 3,800 AFY (CVWD, 2012). There are both private wells and CVWD wells drawing from the basin and the basin is not adjudicated. Groundwater levels were generally stable between 1985 and 2008, with larger declines in drought years and recovery during the wettest years (CVWD, 2012).

The basin is subdivided into Storage Unit 1 and Storage Unit 2, separated by the Rincon Creek Thrust fault. The Proposed Project would be in Storage Unit 1, north and west of the fault line. Storage Unit 1 contains both a confined area and an unconfined recharge area. The confined area is primarily overlain by the City of Carpinteria, while the unconfined recharge area is dominated by agricultural land uses and is generally less developed. Storage Unit 1 is further divided into four vertically differentiated aquifers within the confined area, Aquifers A, B, C, and D, each of which is located further below ground surface (bgs) than the one above (Figure 2-2). Each aquifer is approximately 50- to 100-feet thick (CVWD, 2012). The Proposed Project would overlies these aquifers, and have the ability to inject purified water into Aquifers A, B, and C. There are no known wells accessing Aquifer D and groundwater is not known to be pumped from the aquifer.

The basin was preliminarily designated a high priority basin by the California Department of Water Resources (DWR) under SGMA and the California Statewide Groundwater Elevation Monitoring Program in 2018. Because it has been designated as a high priority basin, a Groundwater Sustainability Agency must be formed and a Groundwater Sustainability Plan (GSP) must be developed. The GSP will establish sustainable use goals for the basin, and all groundwater projects must be consistent with the GSP.

**Figure 2-2. Carpinteria Groundwater Basin Cross Section**



Source: Carpinteria Groundwater Basin Hydrogeologic Update and Groundwater Model Report (June 2012)

## 2.4 Purpose and Need for Proposed Project

The CAPP would address a critical water supply reliability need in the Carpinteria Valley. The Carpinteria Valley has been in moderate to exceptional drought since Summer 2013 (U.S. Drought Monitor, 2018). The region has limited water supply options, and relies on groundwater, surface water collected at Lake Cachuma in the Santa Ynez watershed, and imported water from the SWP, delivered via Lake Cachuma. During drought, surface water and imported water supplies are limited, and groundwater pumping increases. The Proposed Project addresses this water supply reliability issue by ensuring 1,100 AFY of water would be available for potable supply even during drought.

Since the completion of the *2015 Urban Water Management Plan (UWMP)* (CVWD, 2016a) and the *2016 Recycled Water Facilities Plan* (CVWD, 2016b), CVWD has continued to analyze the Proposed Project and identify new water supply vulnerabilities. Capacity limitations of the SWP conveyance system, increasing costs to sustain reliability, new groundwater regulations, competition for Lake Cachuma water, and the vulnerability of Cachuma Project conveyance systems are a few emerging issues facing the area's imported water systems. Existing SWP and Cachuma Project supplies may not be reliable during a drought when deliveries may be reduced or when competition from other users may increase, such as additional water needed for downstream fisheries. As the global climate changes, increased variability in precipitation patterns may result in increased duration and intensity of drought and decreased availability of surface water supplies for the Statewide imported water system.

In 2020, the Cachuma Project contracts will expire and new terms for water supply will be redefined, including annual project yield. It is expected that, at a minimum, a reduction of annually sustainable yield will occur as well as a new operating guideline to sustain the reservoir over the next drought. The probable range of the sustainable yield reduction is between 10% and 50%. Assuming a 30% reduction would reduce CVWD's project yield from 2,813 AFY to 1,970 AFY. Deliveries during the most recent drought from 2012 to 2016 ranged from 0% to 100% with a 5-year average of 45% (or 1,266 AFY). Assuming 45% deliveries in combination with a 30% sustainable project yield reduction results a drought period yield of 887 AFY.

CVWD's share of the pipe capacity and allocated SWP water is 2,000 AFY, with a drought buffer of 200 AFY – for a total of 2,200 AFY. However, SWP delivery varies from year to year depending on Sierra snowpack, available conveyance through the Sacramento-San Joaquin Delta, operational capacity, and water in storage at Lake Oroville. As a result, the annual yield of the project, sometimes referred to as the “annual delivery”, has been determined by DWR to be on average 59%. In other words, over time, CVWD should expect to have available SWP water of about 1,298 AFY. CVWD projects an average annual SWP yield of 50% to 60% that results in a range 1,100 and 1,320 AFY. However, a look at the delivery percentage during a drought highlights the variability of SWP water supplies. SWP deliveries during the most recent statewide drought from 2012 to 2016 ranged from 5% to 65% with a 5-year average of 37% (or 740 AFY). It is expected that this variability will continue into the future.

In 2014, the passage of SGMA changed the way groundwater is managed in California. The primary elements of SGMA are the formation of a local Groundwater Sustainability Agency and the development of a GSP to show the State how the basin will be sustainably managed. The effect of SGMA will be a negotiated management plan providing a strategy to deal with over-extraction, should it occur, and mitigation of the associated negative effects of over-extraction. The Carpinteria Groundwater Basin has been preliminarily designated as a high priority basin under SGMA. Prioritization considers population dependent on the groundwater basin, the number of wells drawing from the basin, irrigated acreage overlying the basin, documented impacts to the basin, and other adverse impacts to the region or local habitat. A high priority basin designation is generally an indication that the basin is important to the region's water supply and that it faces risks to its overall health. In Carpinteria's case, this will likely require that each user in the basin, including CVWD, be allotted a percentage of available annual yield. As conditions such as climate, beneficial use, land use and basin knowledge change, it is likely that all users of the basin will see reductions in the available yield. To be conservative, CVWD is using a 1,000 AFY planning number for long term available groundwater supply compared with 1,400 AFY of historical pumping.

Water supply projections from the 2015 UWMP (Table 2-2) were adjusted to reflect these new water supply vulnerabilities, ranging from the minimum expected supply or “worst case” scenario, to the maximum expected supply under these conditions. The projected supply for both conditions is not sufficient to meet CVWD’s projected demands through 2040. These vulnerabilities and coming changes to Cachuma Project and other water supplies have confirmed the need for a local, reliable, and drought-resistant recycled water project.

Item	2020	2025	2030	2035	2040
Cachuma Project	890 – 1,970				
State Water Project	740 – 1,320				
Groundwater	1,000 – 1,400				
<b>Total Supply</b>	<b>2,630 – 4,690</b>				
<b>Total Demand</b>	<b>4,148</b>	<b>4,163</b>	<b>4,177</b>	<b>4,192</b>	<b>4,205</b>
<b>Supply vs. Demand Balance</b>	<b>1,518 Shortfall to 542 Surplus</b>	<b>1,533 Shortfall to 527 Surplus</b>	<b>1,552 Shortfall to 513 Surplus</b>	<b>1,567 Shortfall to 498 Surplus</b>	<b>1,581 Shortfall to 485 Surplus</b>
Notes:					
<sup>1</sup> Assumes sustainable Cachuma Project yield reduced by 30% to 1,970 AFY. Low end of range assumes applies the recent 5-year drought period yield of 45% to this value. <sup>2</sup> Low end applies the recent 5-year drought period yield of 37% and high end assumes 60% average SWP allocation.					

The Proposed Project would beneficially reuse wastewater, currently discharged to the ocean after treatment, for groundwater recharge and potable reuse, protecting groundwater levels, improving groundwater quality, and providing a drought-resistant, reliable, local supply under the control of CVWD. The use of advanced water treatment would result in injection of high-quality water to the groundwater basin resulting in a lower total dissolved solids (TDS) concentration in the basin, which is a benefit to the basin water quality.

## 2.5 Project Objectives

The Proposed Project would achieve the following objectives:

1. Create a new, drought-resistant, reliable supply of local water.
2. Produce approximately 1,000 AFY advanced treated water suitable for groundwater recharge and potable reuse (at 1.0 MGD capacity), with the ability to expand to up to 1,200 AFY (at 1.2 MGD capacity).
3. Reduce CVWD’s reliance on imported surface water and storage at Lake Cachuma.

## 2.6 Proposed Project

The Proposed Project includes construction of an AWPf, injection wells, conveyance pipelines, backflush pipelines, pump station, monitoring wells, and modifications to the existing ocean outfall. Existing production wells would be used to extract the purified water back out of the groundwater basin for use in the potable supply. Detailed description of each project component is provided below. The Proposed Project would have an expected lifecycle of 30 years, based on the expected useful life of the AWPf, pump station, and injection wells. Conveyance pipelines would have a useful life of 60 years.



### 2.6.1 Advanced Water Purification Facility

The AWPf is proposed to be constructed at the CSD WWTP with an initial production capacity of 1.0 MGD and ultimate production capacity of 1.2 MGD. This description is for the ultimate capacity. Figure 2-3 shows the CSD WWTP site plan with proposed AWPf components. The AWPf would be constructed south and east of the Aeration Basins and Aeration Sludge Holding Tanks, and west of the Maintenance Building, within an existing paved area (and former primary clarifier, demolished during the Water Recycling Facility Upgrade Project in 1994). The total AWPf footprint would be approximately 8,900 square feet. An existing storage building in the east portion of the property may be demolished concurrently with the Proposed Project.

Secondary effluent from the CSD WWTP would be used to feed the AWPf process. The AWPf would consist of membrane filtration (MF or ultrafiltration (UF) [MF/UF]), RO, AOP, with ultraviolet (UV) and free chlorine. An equalization basin would be constructed to provide a consistent flow of secondary effluent to the AWPf. Figure 2-4 shows the process flow diagram for the AWPf.

MF and UF systems are similar treatment technologies constructed out of the same materials and contain nearly identical components. The primary difference is the pore size of the membranes, with MF membranes ranging from  $0.1\mu\text{m}$  -  $10\mu\text{m}$  and UF membranes ranging from  $0.1\mu\text{m}$  -  $0.1\mu\text{m}$ . The intended function of the MF/UF is to remove suspended solids and colloidal particulates from the feed water upstream of the RO process. MF/UF system can effectively remove inert particulates, organic particulates, colloidal particulates, pathogenic organisms, bacteria, and other particles by the size-exclusion sieve action of the membranes. The primary components of the MF or UF system include skid-mounted pre-treatment strainers with  $200$  -  $500\mu\text{m}$  screen pore size, booster feed pump, membrane modules, backwash booster pump, along with non-skid mounted compressed air system and a clean-in-place system. The chemicals commonly used during cleaning activities include citric acid, sodium hydroxide, sodium hypochlorite, and sodium bisulfite. The MF/UF system would include three skids operating in parallel in a 3-duty and 0-standby configuration to meet the ultimate production capacity of 1.2 MGD. The filtrate would be stored in a circular above-ground interprocess storage tank to provide source water for the MF/UF backwash cycles and feed water for the RO system.

The RO process utilizes semi-permeable membranes to remove a wide array of dissolved constituents and reduce the TDS in the process water. The primary components of the RO system include skid-mounted RO high-pressure feed pumps and membrane elements housed in cylindrical vessels, along with non-skid mounted pretreatment cartridge filters and a clean-in-place system. The chemicals commonly used during cleaning activities include low pH and high pH cleaners, sulfuric acid, and sodium hydroxide. Antiscalant is also injected to the RO feed water. The RO system would include two skids operating in parallel in a two-duty and zero-standby configuration to meet the ultimate capacity of 1.2 MGD. The RO concentrate would be discharged to the existing WWTP outfall.

An AOP utilizing UV and free chlorine would be the final treatment operation for the AWPf and provides the primary barrier against pathogenic organisms. In the AOP system, the process water is initially dosed with sodium hypochlorite as the free chlorine source and mixed by a static mixer. The water then enters UV reactors, which house multiple UV lamps that the process water flows past for irradiation by UV light. The UV system would include two skids operating in parallel in a 1-duty and 1-standby configuration to meet the ultimate production capacity of 1.2 MGD. Following AOP, the process water is stabilized with the addition of sodium hydroxide and calcium chloride to reduce corrosion potential of the water in the conveyance system and injection wells.

A backwash line would also be constructed along the existing central gallery corridor and main utility corridor to the WWTP influent pump station for MF/UF backwash, membrane cleaning waste flows, and off-spec water (water that

does not meet the permit requirements [non-compliant water]). The approximate location of the existing central corridor and main utility corridor is shown on Figure 2-3. Stormwater would be fully contained within the AWPf and WWTP site, and would be diverted to the WWTP for treatment. There would be no stormwater runoff from the Proposed Project.

The Proposed Project may also use stormwater or brackish groundwater as source water for the AWPf by conveying the water to the WWTP through existing or new infrastructure. The facilities needed to incorporate these potential AWPf sources have not been developed and are not a component of this Proposed Project. They are therefore not included in this EIR.

**Figure 2-3. Proposed Project Site Plan at CSD WWTP**

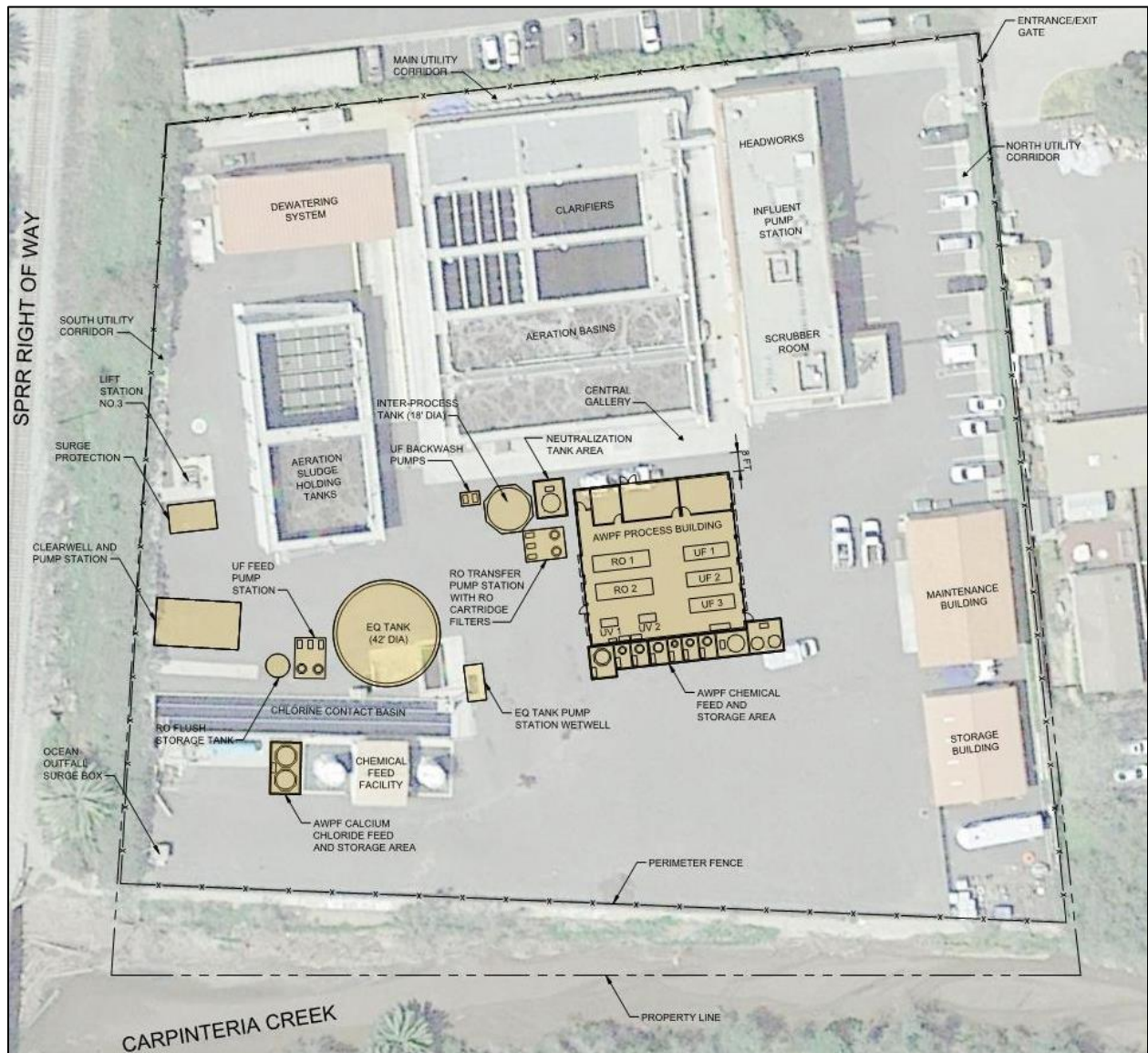
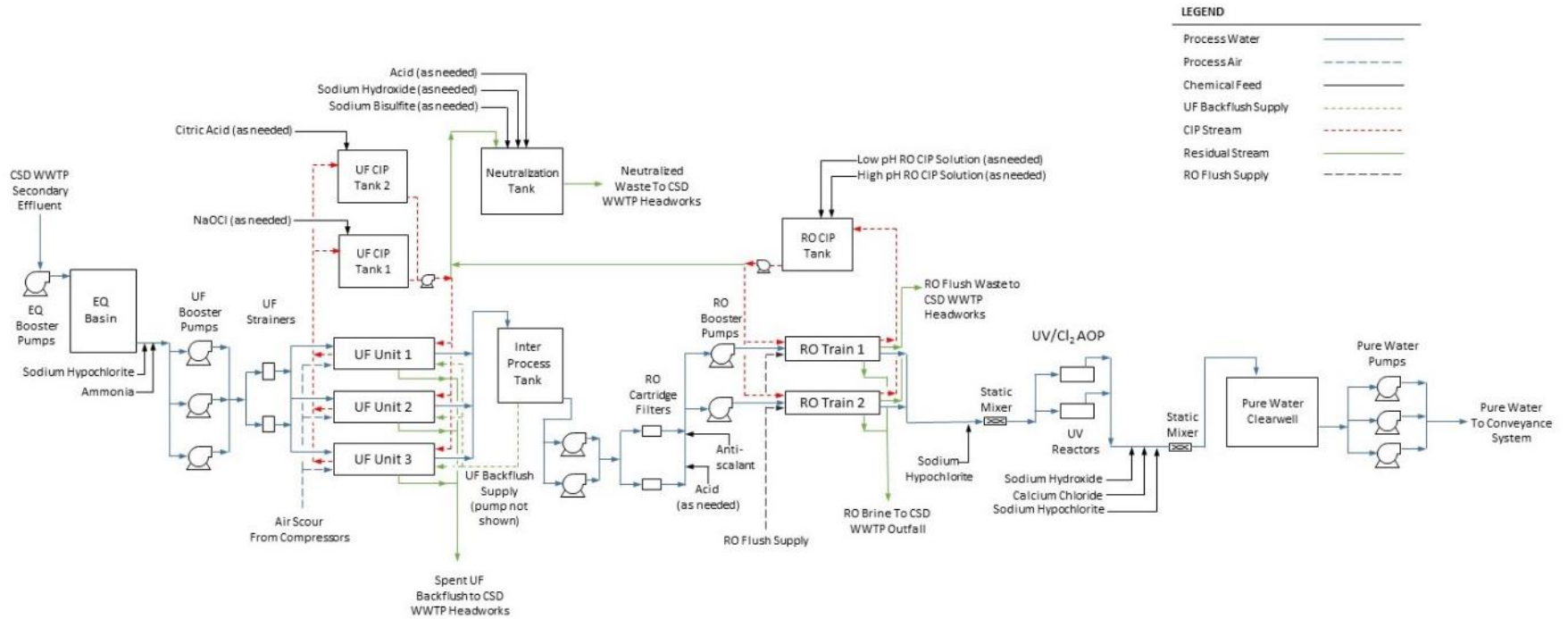


Figure 2-4. AWPf Process Flow Diagram



## 2.6.2 Purified Water Pump Station

AWPF product water would be stored in a purified water clearwell adjacent to the PWPS, located near to the AWPF. The purified water clearwell would be approximately 920 square feet (23 feet by 40 feet). The footprint of the PWPS, including associated above grade piping, surge tank, and miscellaneous equipment, would be approximately 2,000 square feet (30 feet by 60 feet).

The PWPS would entail a concrete pad and roof decking over a below grade concrete clearwell. Above grade pump motors and piping and valving at the PWPS would be housed inside an enclosed building with roll-up doors, likely constructed from concrete masonry unit (CMU) blocks. The below grade concrete clearwell would be used to temporarily store purified water before being pumped to the injection wells. The clearwell would require excavation of approximately 3,500 cubic yards of soil to a depth of 14.5 feet bgs. The plank grating over the clearwell would have four pumps and their associated motors (40 horsepower [hp]), and the pump shafts would extend into the clearwell below. Pumps will be either vertical turbine or submersible type. The 12-inch discharge piping from the pumps would be manifolded together into one common pipe before leaving the site. Miscellaneous electrical cabinets may be mounted on the concrete pad for electrical service to the purified water pump station. Additionally, a surge tank would be piped to the discharge lines to prevent damage to equipment from water hammer.

## 2.6.3 Conveyance Pipelines to Injection Wells

The PWPS and piping conveyance system would be constructed to serve up to three injection wells. A majority of the pipeline alignments are proposed to be constructed via open cut trench within public roadway rights-of-way (ROWs), however in some cases may be constructed via trenchless technologies. Several small sections of the alignment may necessitate an easement. The pipeline would cross U.S. Highway 101 at the Linden Street Overpass, which is currently being constructed by Caltrans during upgrades to the bridge.

Using the preferred pipeline alignment presented in Table 2-3 to convey purified water to Well Sites #2 and #4, approximately 6,100 LF of 12-inch diameter common pipeline would convey the purified water to the well lateral split. Two 8-inch diameter pipeline extensions, totaling approximately 1,500 LF, would be used to distribute the water to individual injection wells. However, the final design may elect use Well Site #6, which would require a longer pipeline, approximately 7,600 feet of 12-inch diameter common pipeline and two 8-inch diameter pipeline extensions totaling 440 LF.

Additionally, under future flowrate scenarios, a third injection well may be used to inject purified groundwater into the subsurface. In this scenario, the longest pipeline would require approximately 7,600 LF of 12-inch diameter common pipeline and three 8-inch extensions totaling 1,100 LF.

CVWD currently has access to a 20-foot wide easement between Eugenia Pl. and Linden Avenue (County of Santa Barbara, Parcel Map 25,093) that will be used to route the pipeline alignment. However, due to the presence of a sanitary sewer that shares this easement, the easement must be widened by approximately 10 feet to ensure minimum horizontal clearances are met.

The only segment proposed for construction that may not open cut trench or use trenchless construction is the segment to serve Well Site #6, which must cross Franklin Creek, a concrete lined channel. If trenchless construction is not selected for the Franklin Creek crossing, a pipe bridge would be used, similar to existing pipe bridges over Franklin Creek. The existing pipe bridge spans the creek, adjacent to a bridge between Meadow View Lane and Sterling

Avenue. The 8-inch pipe would span the creek and support itself; no external pipe supports or permanent loading of the pedestrian bridge would be required. The pipe span across Franklin Creek would be approximately 25 feet.

Table 2-3 summarizes the proposed street alignments and construction methods for each pipe segment of the preferred pipeline alignment. There may be a need to use a trenchless technology for some portions of some segments. While these segments are not yet determined, the potential impacts of trenchless technology are considered in the environmental analysis (Section 3). Figure 2-3, above, shows the potential route of the conveyance pipelines.

<b>Table 2-3. Conveyance Pipelines – Preferred Alignment</b>			
<b>Street<sup>a, b, c</sup></b>	<b>Length (LF)</b>	<b>Dia. (in)</b>	<b>Proposed Construction Method</b>
Olive Ave	250	12	Open cut trench, paved City street
6th St	1,100	12	Open cut trench, paved City street
Maple Ave	1,300	12	Open cut trench, paved City street
Carpinteria Ave	100	12	Open cut trench, paved City street
Eugenia Pl	700	12	Open cut trench, paved City street
Easement between Eugenia Pl and Linden Ave	350	12	Open cut trench, paved City street
Linden Ave	1,100	12	Open cut trench, paved City street
<i>U.S. Highway 101-Linden Avenue Overcrossing</i>	<i>1,200</i>	<i>12</i>	<i>Installed by Caltrans</i>
Linden Ave	250	8	Open cut trench, paved City street
Meadow View Ln	600	8	Open cut trench, paved City street
Laterals to wells	650	8	Open cut trench, landscaped areas
<b>TOTAL – Preferred Alignment</b>	<b>7,600</b>		
<b>TOTAL – Maximum</b>	<b>8,700</b>		Assumes three wells will be used

Notes:

a) Alternative alignments between Palm Avenue and Linden Ave or 6th Street and Carpinteria Avenue could be selected for the final alignment of the 12-in pipeline. However, choosing one of these alternative alignments would not change the total length of the 12-in pipeline. The segments would be constructed via open cut trench in paved City streets.

b) Approximately 1,200 LF of the 2,300 LF 12-inch pipeline installed on Linden Avenue would be installed by Caltrans as part of the U.S. Highway 101-Linden Avenue Overcrossing project.

c) Some portions of some segments may utilize trenchless technology.

## 2.6.4 Injection Wells

As shown on Figure 2-1, above, injection wells are proposed at five potential sites located north of U.S. Highway 101 (Well Sites #1, #2, #3, #4, and #6). A sixth well site (Well Site #5) was originally considered for the Proposed Project at Franklin Creek, but has been excluded from the Proposed Project. It is considered in the Project Alternatives (Section 4). Numbering conventions for the proposed well sites have been retained. In total, three injection wells are planned for construction. Two will be constructed in the first phase of the Proposed Project for the 1.0 MGD AWPf, with one well on either side of Linden Avenue to provide sufficient separation to avoid injection operations interference in the groundwater basin. A third injection well would be constructed when the AWPf is expanded to its ultimate

capacity of 1.2 MGD. The injection wells are anticipated to be constructed utilizing above-grade with the well head facilities placed in screened cages or behind fences. Injection wells would be single-completion wells having one borehole with casing and screening in the A, B, and C aquifers. The wellheads would include injection supply lines, flow meters, air release valves, pressure-regulating valves, and controls for down-hole flow control valves. An electric/pneumatic control panel would be installed next to the wellhead and piping.

Periodic backflush of each well would be required to keep the well operating at peak performance, and is part of normal maintenance. A dedicated backflushing pump at each well site would be used for regular cleaning of the well screens. To minimize visual impacts from the injection wells, CVWD would install submersible backflush pumps at the wells. To further reduce visual impacts in residential neighborhoods, a single 42,000-gallon tank, required for temporary storage of backflush water, would be installed to serve all three wells rather than installing a tank at each injection well site. A single well, including backflush water holding tank, is anticipated to have a footprint of 6,000 square feet (60 feet by 100 feet). During construction, the impacted area would be approximately 10,000 square feet to accommodate a drill rig, laydown, support equipment, and groundwater treatment tanks. The locations of the selected well, backflush water holding tank, and associated equipment have not been selected at the available sites; therefore, the actual impacted area would be smaller than the areas shown in Proposed Project figures. Figure 2-5 shows an example well site and Figure 2-6 is an example well site with a co-located backflush tank.

**Figure 2-5. Aboveground Well Example**



**Figure 2-6. Example Well with Backflush Storage Tank**



### **2.6.5 Well Backflush Discharge Pipelines**

The stored backflush water would be discharged either into the sewer system or a storm drain system via a nearby connection. Water would be slowly discharged into the sewer or storm drain system after allowing any solids accumulated during backflush to be settled out in the backflush holding tank. No backflush discharges would occur during wet weather, so as not to contribute to excess flows in the stormwater system.

Figure 2-7 shows the sewer pipelines and storm drains relative to potential injection well sites. As shown in the figure, discharge locations are located adjacent to the potential injection well parcels except for Well Site #4, which would require a pipeline to Linden Avenue or to Franklin Creek.

Sewer disposal includes construction of up to 1,400 LF of new 12-inch pipe for connection to the existing sanitary sewer; all sewer flows return to the CSD WWTP. Drainage disposal includes construction of 1,300 LF of new 12-inch pipe for direct drainage to Franklin Creek, to existing drainage culverts owned by the City (all drainage flows to Franklin Creek), or to the sanitary sewer. Drainage backflush piping is proposed to be constructed via open cut trench within roadway ROWs.

Figure 2-7. Potential Backflush Discharge Locations

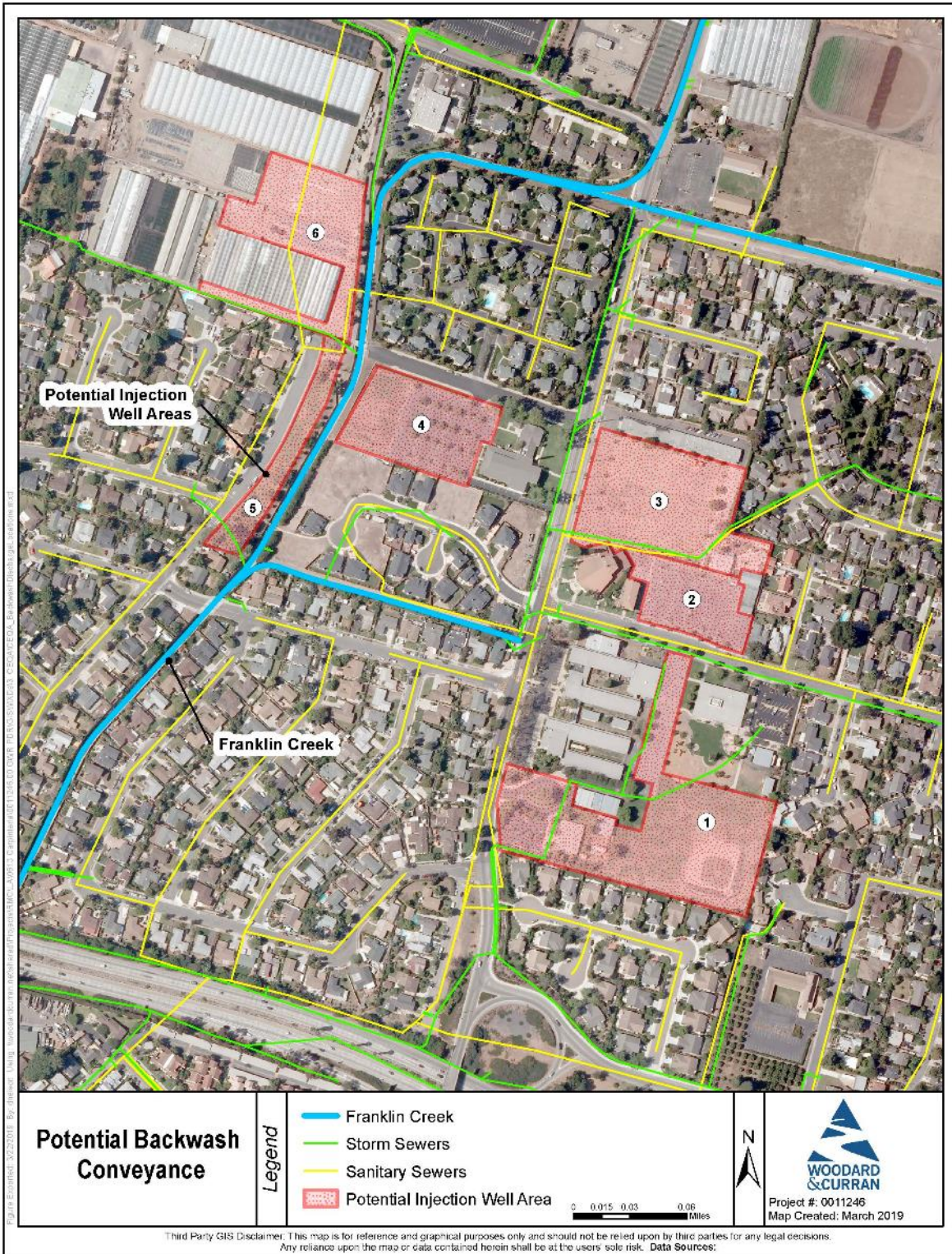




Figure 2-8 shows an example monitoring well surface completion. Four monitoring well locations are proposed between the injection wells and the CVWD potable water wells at the approximate locations shown in Figure 2-9. The locations selected for monitoring wells would be dependent on the injection well locations selected. Regulations require monitoring wells downgradient of the injection well within two weeks to six months after time after injection and another well at least 30 days upgradient from the potable well.

The monitoring wells would include either three nested polyvinyl chloride (PVC) casings completed in the A, B, and C aquifers or three individual monitoring wells on each site. For the nested monitoring well, three, 3-inch diameter casings in each monitoring well would be nested in a 24-inch borehole and equipped with a sampling pump. For individual monitoring wells, 3-inch casings would be installed for each aquifer at different depths. During construction, the impacted area would be approximately 5,000 square feet to accommodate the drill rig, laydown, support equipment, and groundwater treatment tanks. Once installed, above-ground facilities would include a small circular vault lid (up to 3 feet in diameter) enclosing a below-ground vault containing the nested well or three monitoring wells at different depths. During periodic sampling, temporary piping or hosing to a gutter or storm drain inlet would be required for discharge.

**Figure 2-8. Example of Monitoring Wells**



### **2.6.6 Ocean Outfall Modifications**

The CSD WWTP currently discharges effluent through a single 24-inch diameter concrete coated, welded steel outfall at a depth of 21 to 24 feet below mean sea level. The alignment of the outfall is shown in Figure 2-9. The outfall is approximately 1,600 feet long with the last 93 feet having 16 diffuser ports spaced evenly every six feet on the main barrel of the outfall and one diffuser port on the flanged end of the pipeline. The diffusers consist of a 4-inch diameter pipe riser with a 90-degree elbow on the end. The discharge direction of the diffusers alternates along the pipeline and has a downward discharge trajectory of 30-degree from horizontal. With the Proposed Project, the amount of effluent conveyed by the outfall would be reduced during periods of maximum AWPf production. The reduced flow means the furthest diffusers would not have any discharge through them which would allow seawater, sediment, and marine life to enter the outfall. To prevent the fouling of the interior of the outfall, duckbill valves would be installed on each diffuser. An example of the valve is shown in Figure 2-10. The valves remain closed when there is little to no flow on the inside of the valve, but open once the flow increases. The diffuser port on the pipe end would have a duckbill valve installed.

Figure 2-9. Monitoring Well Locations

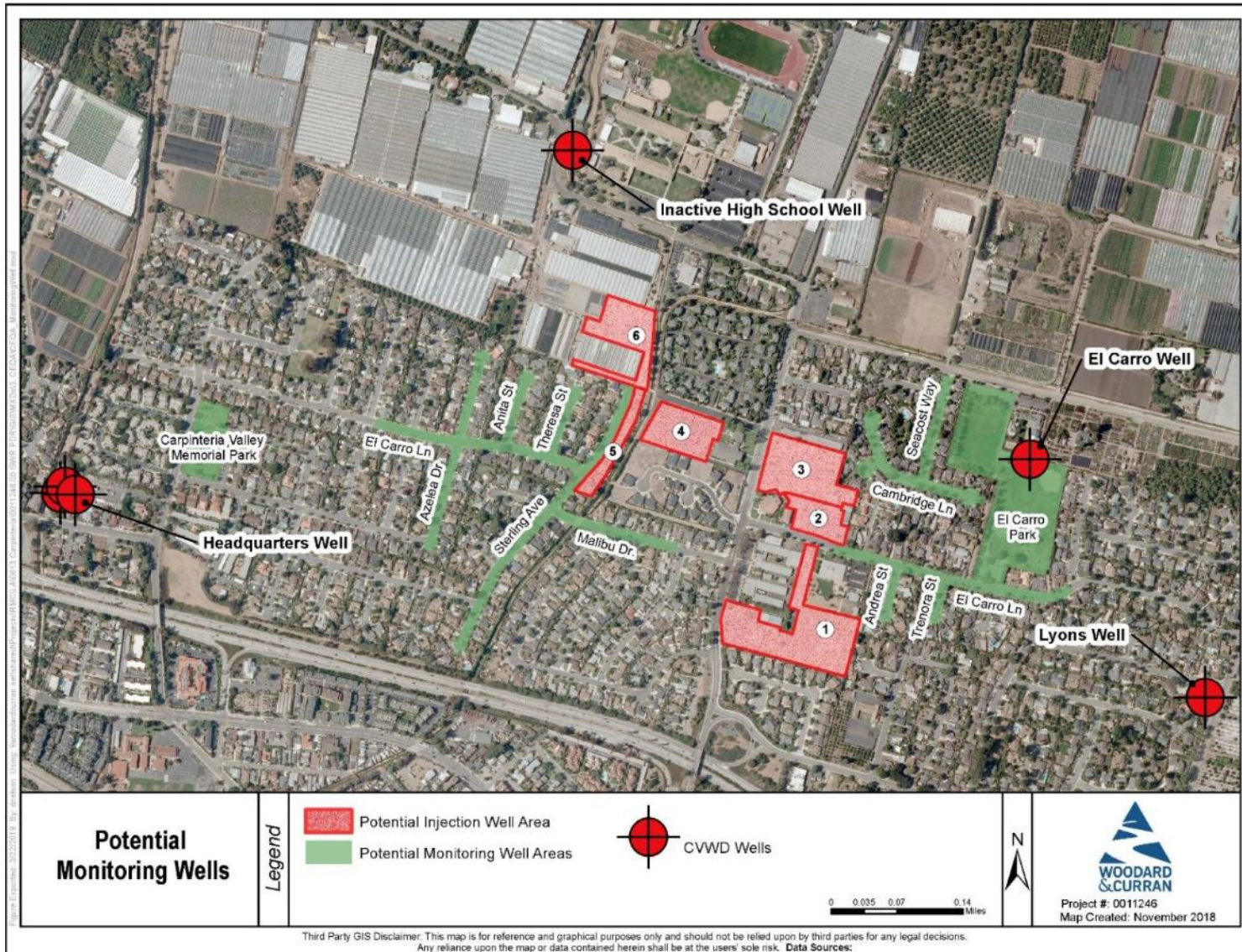


Figure 2-10. Ocean Outfall

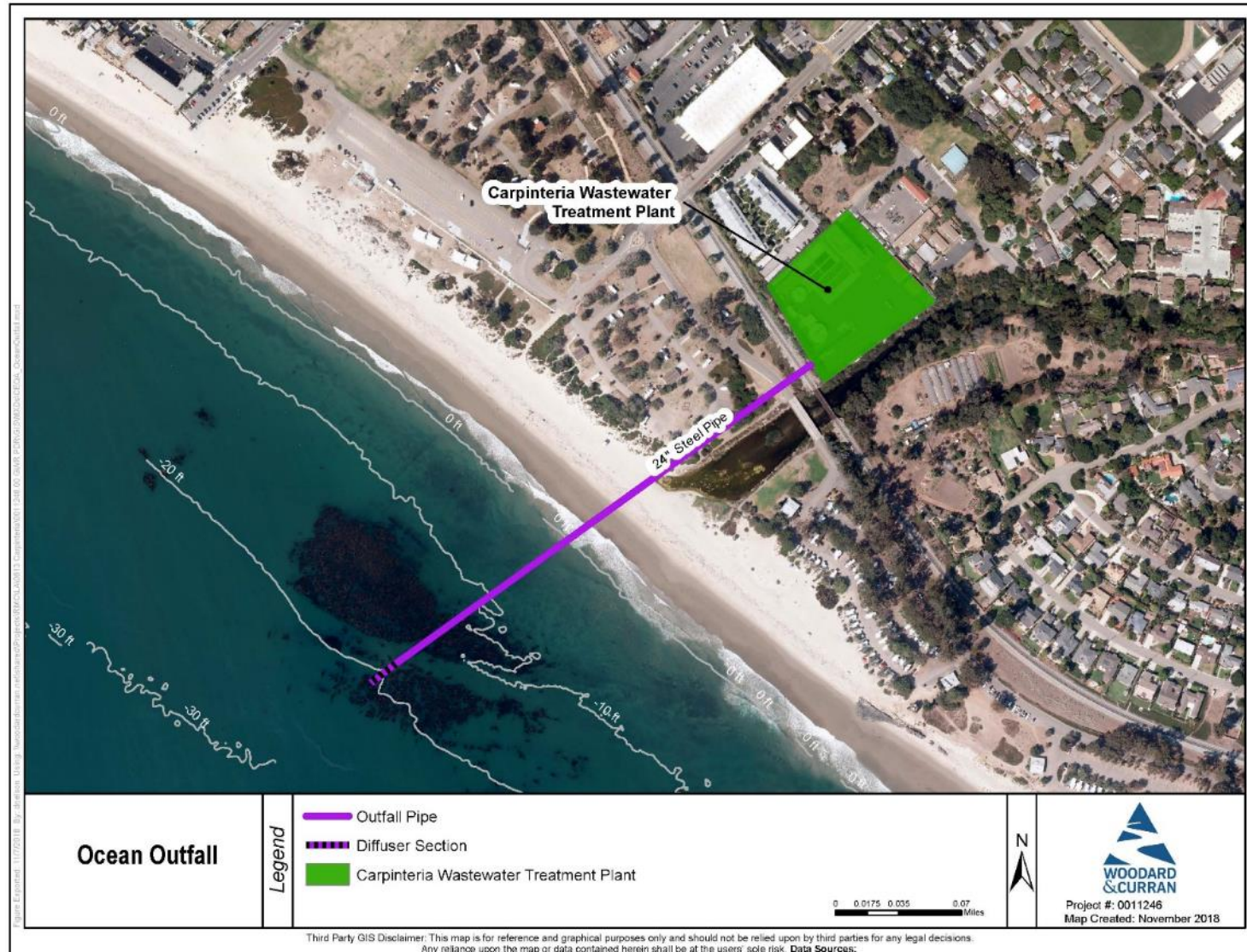


Figure 2-11. Examples of Duckbill Valves to be Use on Ocean Outfall



Source: Tideflex Technologies, <https://www.redvalve.com/tideflex/tideflex-products/tideflex-effluent-diffuser-systems>

## 2.7 Construction Methods

### 2.7.1 AWPf and Pump Station

Construction of the AWPf would include the following: civil site work and grading, deep foundation system, concrete pad construction, structural concrete work, paving, metal walkway and railing construction, seismic anchors, yard piping, building construction, heating, ventilation and air conditioning (HVAC) construction, electrical, instrumentation, controls, supervisory control and data acquisition (SCADA) systems, and equipment installation. The general area disturbed during construction would be approximately 11,000 square feet for construction of the AWPf, purified water storage tank/clear well, and purified water pump station. All construction work for the AWPf would be onsite at the CSD WWTP. It may also include demolition of an existing storage building with a footprint of approximately 1,800 square feet.

First, pavement would be removed from the facilities footprint, which is roughly 11,000 square feet, to establish a preliminary grade for the concrete pads for the AWPf building, interprocess tank and pumping area, chemical storage area, WWTP secondary effluent equalization tank, purified water storage/clear well (belowground), and PWPS. Belowground facilities would be approximately 17 feet deep, and the AWPf structure would be 20 feet tall, not including the HVAC system. Excavation up to 18 feet in depth would be required to construct the belowground purified water clearwell. Excavation up to 20 feet in depth may be required to remove an existing buried and abandoned circular primary clarifier (roughly 72 feet outside diameter), located approximately 10 feet west of the proposed AWPf. Removal of the abandoned clarifier would only be required if the proposed AWPf structures are relocated above the footprint of the abandoned clarifier. The location of the AWPf structures shown in Figure 2-3, above, are not conflicting with the abandoned clarifier. After the portion of the abandoned clarifier that is located underneath the proposed AWPf has been removed, the deep foundation system would be constructed to mitigate the unstable subsurface soil underneath the proposed AWPf. The deep foundation system would be piles, which may be drilled or installed using pile-driving. A driven pile foundation system would involve using an impact hammer to drive precast elements to a certain design depth. Common precast elements are constructed out of concrete, timber, or steel. A drilled pile foundation system, which would only be applicable to the equalization tank, would involve drilling a cylindrical borehole into the ground to a certain design depth, then typically lowering reinforcement into the borehole and filling the shift with concrete to form the pile. Driven pile systems produce higher noise levels during construction than drilled piles and will be a factor in deciding which deep foundation system will be installed. Typical noise levels produced during installation of driven piles are between 95 dBA and 101 dBA at 50 feet.

The 250,000-gallon secondary effluent equalization tank is anticipated to be located aboveground where the existing storage building that will be demolished currently stands. The tank will be a cylindrical steel tank with a footprint of approximately 1,600 square feet and a height of 27 feet. The 36,000-gallon interprocess storage tank, which would also be aboveground, would be a cylindrical steel tank with a footprint of approximately 290 square feet and a height of approximately 21 feet.

Following rough grading and excavation underneath the proposed AWPf as stated above, additional excavation would bring the site to final grade and allow for preparation for underground piping and structural slabs. Additional site work would include paving, temporary and permanent security fencing, site lighting, installation of additional access roads and staging areas to accommodate construction, operation, and maintenance. Sometimes, excavations could require dewatering of shallow groundwater and development of surface and/or subsurface drainage systems.

Prior to pouring concrete, structural forms, rebar, and conduits would be installed for the facility. After the concrete is poured, it would be finished and cured before the forms are removed. For the pump station and purified water clear

well, after the concrete footing, slab, and walls are poured, the overhead structural steel and roof decking would be erected, or an elevated concrete slab roof would be poured. All areas with pavement removed and without structures would be re-paved to original condition.

After the structure is erected or retrofitted, electrical equipment (e.g., machinery control consoles, switchboards, and lighting) would be installed. Site work such as installing pull boxes, conduits, and cables would continue. After roofs on the buildings and facilities are completed, flow meters, level probes, pressure instruments, process analyzers, and other instrumentation would be installed. Additionally, water quality adjustment, sampling, and monitoring equipment would be installed.

CVWD and CSD personnel (i.e., engineers, inspectors, operators, maintenance crews, and instrumentation specialists) and the contractor would work with the equipment vendors to understand how each piece of equipment would operate and function. Under CVWD and CSD supervision, the construction contractor would start up and test the equipment on site to guarantee that pumps, motors, valves, monitoring and communication equipment are functional and meet design standards.

## 2.7.2 Pipelines

The pipelines are proposed to be constructed primarily using open cut trenching. A pipe bridge to cross Franklin Creek may be needed if injection Well Site #6 is selected. Construction methods would include, but not be limited to, those described below. This analysis assumes an average of 150 LF of pipe constructed per day.

### Open Cut Trench

For installation of a majority of the pipelines, open cut trench construction would be used within existing roadway ROWs. A backhoe or excavator would be used to dig trenches for pipe and conduit installation. In general, trenches would have vertical side walls to minimize the amount of soil excavated. Soils excavated from the trenches, if of suitable quality, would be stockpiled alongside the trench or in staging areas for later reuse in backfilling the trench. If not reusable, the soil would be hauled off site for disposal. Disposal options include use as cover material at sanitary landfills and use as “clean fill” at other sites. In general, pipe trenches would be 3- to 4-foot wide, and 3- to 6-foot deep with largest pipe size being 12-inches in diameter.

Pipeline trenches, in any given location, would be open for two to three days on average. During construction, vertical wall trenches would be temporarily “closed” at the end of each work day, by covering with steel plates or backfilled. Trenches would be backfilled with either reused excavated soil or imported material. Dump trucks would be used to deliver imported, engineered backfill material to stockpiles near the trenching. Native soil would be reused for backfill to the greatest extent possible; however, the soil may not be suitable, in which case imported material would be used. During the installation of the pipe, there would be a surplus of native soil requiring off-site export.

After the pipe is installed, the ground surface would be restored. When the pipe is installed in a paved roadway, the pavement would be restored with new asphalt or concrete to match the surrounding road type and consistent with applicable City or County standards. For asphalt repaving, a temporary asphalt material may be installed to allow traffic to use the roadway immediately after pipeline construction. A repaving crew would follow the pipe installation crew and prepare the road surface for repaving. Final repaving would be done after pipeline installation and testing is completed.

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## Trenchless Pipeline Construction

In certain conditions it may be more desirable to install sections of pipeline using horizontal directional drilling (HDD) or jack-and-bore technology. These areas may include those that have large trees that cannot be removed, areas where it is not practical to access with necessary equipment to trench and lay pipe, and areas where paving cannot be damaged.

### Horizontal Directional Drilling

HDD installs pipeline between an entry (launch) pit and exit (receiving) pit without the need for open-cut trench. HDD involves the use of a drill rig tilted at the top at an angle, typically in the range of 10 to 15 degrees from horizontal, placed at the entry pit. The entry and exit pits are typically approximately 50 to 100 feet square by approximately 5 feet deep, each.

A small diameter (4 to 8-inch diameter) pilot hole is drilled along a pre-determined horizontal and vertical alignment from the entry pit to the exit pit, guided using electromagnetic readings. Excavation takes place by introducing pressurized slurry (a thin mixture of water and clay) through a drill string to the bit. The slurry pressure in combination with a rotating drill bit excavates the material, which is then transported back to the entry pit along the outside of the drill string. In some cases, a larger diameter wash pipe may be rotated around the drill string to prevent sticking of the steerable string. The mixture of slurry and spoil that is collected in the entry pit is pumped to a slurry separation plant to separate the spoil from the fluid so that the fluid can be reused. The hole is then enlarged by pulling larger reamers from the exit pit back towards the drilling rig. The pipeline is then pulled into place behind the last reamer.

The entry side requires a work area of approximately 1,500 to 3,000 square feet for the drill rig, slurry separation plant, material storage and other support equipment. The exit side requires a work area of about 1,000 to 1,500 square feet for the pullback. In addition, a corridor about 15 feet wide by the length of the pipe is generally needed for the buildup and laydown of the pipe.

Pipes would be installed at varying depths depending on features being avoided, the existing underlying utilities, soil types, environmental constraints, entry and exit constraints, and bend radius of the installed product and drill pipe. The exact depths of the pits and drilling will be defined if HDD is selected and design begun.

### **Jack and Bore**

Jack and bore is a trenchless method that is often used for crossings that are generally less than 300 feet long and above the ground water level. As with HDD, a jack and bore requires two pits on either end of the pipeline to be installed. A boring machine is inserted into one pit to bore the soil using an auger to remove material. As material is removed a casing is pushed forward until it reaches the receiving pit. After the casing is installed, the pipe is inserted in the casing. The jacking pit has typical dimensions of 8 to 12 feet wide and 25 to 35 feet long depending on the casing length selected. The depth would depend on the feature to be avoided, existing utilities, or separation requirements. The exact depths of the pits and drilling will be defined if jack and bore is selected and design begun.

Shoring, appropriate to the pit depth, would be used to support the excavation. In addition, the back wall of the jacking pit would need to be constructed to withstand the reactive forces from the jacking frame. Generally, an additional 1,500 to 2,000 square feet would be needed around the pit for temporary storage of pipe sections and for loading material removed from the bore. The receiving pit at the other end of the crossing would be smaller, typically approximately 100 square feet.

## Franklin Creek Crossing

The Franklin Creek crossing would be constructed in one of two ways: 1) HDD or jack-and-bore under the concrete channel or 2) via pipe bridge. A crossing of Franklin Creek, if required, would occur adjacent to Franklin Park, between Meadow View Lane and Sterling Avenue, and would cross perpendicular to the channel. This portion of Franklin Creek is a concrete-lined channel that does not support wetlands, riparian habitat, or vegetation and the concrete channel. CVWD selected these two construction methods (i.e., trenchless or pipe bridge options) to avoid direct construction-related impacts to the Franklin Creek channel.

Construction methods for an HDD and jack and bore crossing of Franklin Creek is described in the section above. Construction of the pipe span over Franklin Creek would be from the creek bank. An example is shown in Figure 2-12. Construction personnel would use small cranes, or excavators to raise and lower the pipe into place. The purified water pipe would be routed above grade before spanning Franklin Creek and would use pipe support(s) mounted to the adjacent bridge or concrete channel wall. If the pipe penetrates through the concrete channel wall instead of using pipe supports to clear it, a small amount of new rebar reinforced concrete would be used to close the penetration and provide confinement for the purified water pipe. If a pipe bridge is used to cross Franklin Creek, it would provide the required freeboard above the 100-year floodplain for the channel (space between the bottom of the bridge and top of the engineering 100-year flood level). American Society of Civil Engineers (ASCE) Standard 24-14, *Flood Resistant Design and Construction* indicates the pipe bridge would be a Flood Design Class 2 structure (moderate risk to public or disruption to community if damaged by flood or failure), which requires a minimum of 1 foot of freeboard over the base flood elevation (FEMA, 2015). The base flood elevation for Franklin Creek is 13 feet; the lowest point of the pipe bridge over the channel would therefore be a minimum of 14 feet above the floor of the Franklin Creek channel (City of Carpinteria, 2019a).

**Figure 2-12. Existing Franklin Creek Pipe Bridge**





### 2.7.3 Injection Wells

Construction of the injection wells would include: soil improvements, civil site work and grading, concrete construction, well drilling and installation, site piping, mechanical, electrical, instrumentation, controls, SCADA systems, and equipment installation. Well drilling may require up to three weeks of 24-hour drilling, and would include drilling a pilot hole, reaming, and well construction. The impacted area during construction would be limited to approximately 10,000 square feet with a final well area of 60 feet by 100 feet. The well head and associated piping and appurtenances would be located above grade in screened cages in lieu of a below-grade vault (see Figure 2-6 and 2-7 above). For aboveground wells, vegetation, such as hedges, would be planted around the fence to provide visual screening and help control access.

Electrical service would be required at each injection well to provide power to the well's motor control center (MCC) and well pump motors. The electrical meter panel, switchgear and MCC would be located above-grade and are approximately 11-foot by long by 2-foot wide footprint. Depending on proximity of injection wells to each other, a single MCC could power multiple wells; this would need to be confirmed during final design.

### 2.7.4 Monitoring Wells

Construction of monitoring wells would include asphalt removal or site clearing and grading. Well drilling and installation, and restoration of the site to pre-construction conditions. The wells would have a 24-inch borehole, and a 3-foot diameter maximum casing. Equipment required for construction of monitoring wells would include, but not be limited to, truck-mounted drill rig, trucks, backhoes, and pumps.

### 2.7.5 Ocean Outfall

To make the modifications to the outfall diffusers, divers and a support vessel would be required. The duckbill valves would be mounted to the outfall in the same alternating configuration as the existing diffusers. For the existing diffusers that are in good condition, the duckbill valve could potentially be mechanically attached to the existing plate and nipple. Based on recent observations, it is likely that existing diffuser plates would be removed and new fabricated diffuser plates with risers, elbows and flanged duckbill valves would be affixed to the outfall over the existing ports. The tools required will be typical of underwater tools used for minor marine construction (e.g. pneumatic drivers, drills, etc.).

### 2.7.6 Equipment and Staging

Equipment required for the CAPP may include: trucks, excavators, backhoes, front-end loaders, dump trucks, diesel generators, water trucks, compactors, concrete trucks, truck-mounted suction-lift diesel pumps, drill rigs, graders, cranes, scrapers, paver and rollers, and pile drivers. If trenchless pipeline installation is used, boring equipment, a ramming machine, and pneumatic compressor may be required (for jack-and-bore), or drill rigs and pumps (for HDD). Staging for the facilities to be constructed at the WWTP site would occur on the CSD WWTP site, along the disinfection basin. Staging areas for the wells and pipelines would be located generally on vacant and CVWD or CSD-owned parcels in the vicinity of the construction activities, such as the District Yard, as shown in Figure 1-1 (see Section 1.1, *Project Overview*). If staging areas use pavement or roadway rights-of-way, these areas would be re-surfaced as appropriate to conform to pre-construction conditions and consistent with applicable City and County standards. Staging would involve storage of pipes, equipment, spoils, and other materials.

### 2.7.7 Trip Generation

To characterize and analyze potential construction impacts, maximum crew size, truck trips, and worker trips have been estimated based on expected excavation volumes and quantities of imported materials. The main pieces of equipment that may be used at any given time during construction include:

- Truck-mounted drill rigs
- Track-mounted excavators
- Backhoes
- Graders
- Crane
- Scrapers
- Compactors
- End and bottom dump trucks
- Front-end loaders
- Water trucks
- Paver and roller
- Flat-bed delivery trucks
- Forklifts
- Concrete trucks
- Compressors/jack hammers
- Trenchless auger/drill rig

Assuming an average crew of 10 people, including inspectors, construction could generate up to eight round-trip trips per day. In addition, during peak construction, the Proposed Project would require an average of four to five round-trip concrete delivery and/or soil export truck trips per day (assuming up to 45 cubic yards per day). During construction, other materials would be delivered: process, mechanical, and electrical equipment; rebar for concrete; structural steel, CMU block, and wood trusses for buildings; and electrical conduit. Estimated average materials delivery round trips are one to two per day.

It is anticipated that conveyance pipeline and AWWP construction activities would occur concurrently (see schedule, Figure 2-13, below). CVWD shall time injection well and pipeline construction to minimize disruption to schools and commercial activities, and anticipates that only one pipeline segment would be under construction at any given time.

## 2.8 Proposed Operations and Maintenance

The following describes briefly the operations and maintenance (O&M) for each of the Proposed Project's proposed key facilities:

- AWWP:
  - Daily inspections and maintenance of MF/UF, RO, and UV/AOP treatment processes.
  - MF/UF: Backflush for 60 to 120 seconds at 20- to 40-minute intervals; daily chemically enhanced backwash cleans; weekly to monthly chemical clean-in-place. Membranes estimated to be replaced every six years.
  - RO: Chemical CIP monthly; membranes estimated to be replaced every five years.
- Pump stations: daily inspections and routine pump maintenance
- Pipelines: periodic inspections of pipeline and exercising valves
- Injection wells: periodic backflush one time per week per well for approximately 60 minutes; backflush flowrate up to two times the injection flowrate, anticipated to be 700 gallons per minute.
- Chemical delivery: deliveries of AWWP chemicals, up to eight truck trips per month depending on chemical supplier and logistics
- Monitoring wells: periodic visits to conduct quarterly monitoring

## 2.8.1 Energy Requirements

Table 2-4 presents the estimated operational energy requirements of each of the proposed facilities, including the power and energy consumption.

<b>Table 2-4. Energy Consumption</b>					
<b>Facility Description</b>	<b>Qty</b>	<b>hp</b>	<b>hrs/day</b>	<b>kWh/yr</b>	<b>Comments</b>
Equalization Tank Booster Pumps	2	8	24	104,600	
MF/UF Feed Pumps	2	20	24	261,400	
MF/UF Backwash Pump	1	20	5	27,300	
RO transfer pumps	2	10	24	130,700	
RO feed pumps	2	50	24	653,500	
RO Interstage Booster Pumps	2	10	24	130,700	
UV reactors	1	20	24	130,500	
Ancillary AWWPF facilities – Continuous	10	1	24	65,300	See Note 1
Ancillary AWWPF facilities – Intermittent	8	10	2	43,600	See Note 2
PW pump station	2	40	24	552,600	
Well backflush	3	75	<1	8,749	Assumes 1 hr per week per well
<b>Total Annual Power Consumption</b>				<b>2,108,949</b>	
Notes:					
kWh/yr = kilowatt hour per year					
1 Assumes less than 1 hp per equipment: chemical metering pumps, process monitoring, online analyzers.					
2 Assumes less than 10 hp per equipment: MF/UF and RO neutralization pump, MF/UF blowers and air compressors, MF/UF and RO clean-in-place pumps, MF/UF and RO clean-in-place heaters, and RO flush pump.					

## 2.9 Permits/Approvals Required

Permits and approvals that may be required for the Proposed Project are provided in Table 2-5. CVWD and/or CSD shall acquire necessary permits, depending on which locations are selected for the injection wells and/or specific construction methods used.

<b>Table 2-4. Permits and Approvals</b>	
<b>Agency</b>	<b>Type of Approval</b>
<b>Federal</b>	
U.S. Environmental Protection Agency	Maintains inventory for Underground Injection Program
U.S. Fish and Wildlife Service (USFWS)	Federal Endangered Species Act (FESA) consultation for sensitive

<b>Table 2-4. Permits and Approvals</b>	
<b>Agency</b>	<b>Type of Approval</b>
	species (potential)
U.S. Army Corps of Engineers	Clean Water Act Section 404, Nationwide Permit 7
<b>State</b>	
State Water Resources Control Board – Department of Drinking Water	Review and approval of Engineering Report; Recommendations to Central Coast Regional Water Quality Control Board for Waste Discharge Requirements
Central Coast Regional Water Quality Control Board (Region 3)	Issuance of updated Waste Discharge Requirements for CSD WWTP (Order No. R3-2017-0032 [National Pollutant Discharge Elimination System (NPDES) Permit CA0047364])
	NPDES for backflush discharge into Franklin Creek (if sewer discharge not used)
	NPDES General Construction Permit/Stormwater Pollution Prevention Plan (SWPPP)
California Department of Fish and Wildlife	CFCG Section 1602 Streambed Alteration Agreement for Franklin Creek crossing (potential)
	CA Endangered Species Act consultation for sensitive species
California Department of Transportation (Caltrans)	Encroachment Permit
Cal/OSHA	Excavation and Dirt Moving Permit
California Division of Industrial Safety	Safety Permit
California Coastal Commission	Coastal Development Permit (ocean outfall)
<b>Local</b>	
City of Carpinteria	Conditional Use Permit/Coastal Development Permit
	Approval of Traffic Management Plan
	Approval of Construction SWPPP
	Encroachment Permits
	Building Permit (sound walls during construction of wells; not required for construction at WWTP site)
	Haul Route Permit
Santa Barbara County Planning and Development	Coastal Development Permit (if Well Site #6 selected)
Santa Barbara County Environmental Health Services	Well/Boring Installation Permit
Santa Barbara County Air Pollution	Air Pollution Control Permit for Standby Generator

Table 2-4. Permits and Approvals	
Agency	Type of Approval
Control District	
Carpinteria Summerland Fire Protection District	Hazardous Materials Business Plan approval

## 2.10 Environmental Commitments

In addition to compliance with applicable permits, laws, and regulations, CVWD shall include the following environmental commitments in its plans and specifications and in its construction contracts. These environmental commitments are part of the Proposed Project.

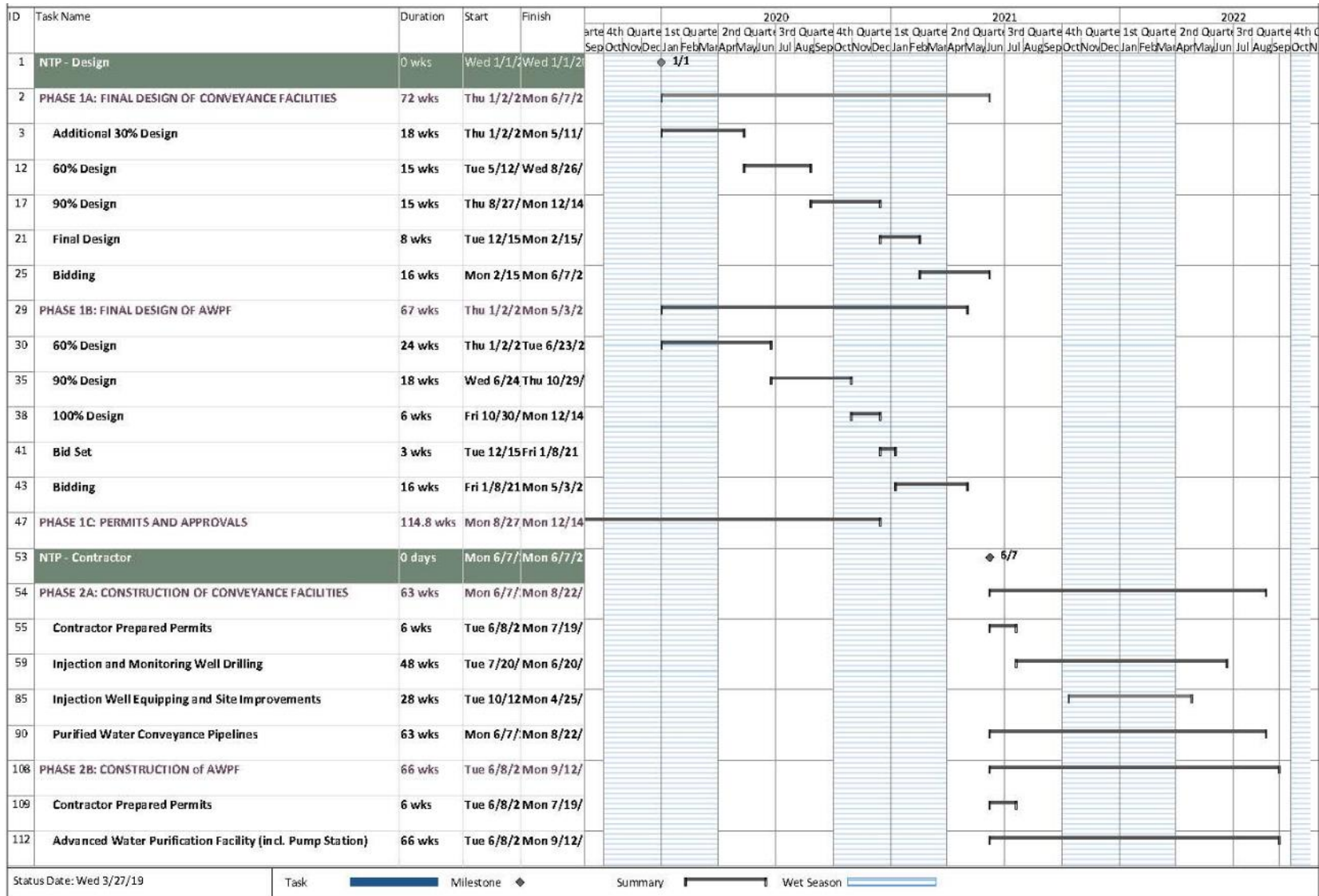
- Time construction to reduce interference with community needs.** Construction timing shall avoid construction near schools during the school year to the extent feasible, and avoid construction on Linden Avenue during high tourism and shopping periods (e.g., summer and the Christmas holiday season). Timing construction in this way would reduce impacts to students and schools, as well as reduce potential impacts to the commercial corridor on Linden Avenue, supporting the local economy.
- Avoid nighttime activities where possible during construction and operation.** To the extent reasonable, CVWD and CSD shall comply with the timing of construction as outlined in the City’s Municipal Code, and shall obtain permits for any nighttime construction. During operation, CVWD and CSD shall avoid truck trips, deliveries, and maintenance activities during nighttime hours, except in the case of emergencies or where avoidance of nighttime hours are infeasible.
- Provide biological and cultural resource training to workers.** CVWD shall provide biological sensitivity and cultural resource awareness training. These trainings shall be conducted by a certified biologist and archaeologist, respectively. Workers shall be trained to identify sensitive species and to halt work and consult with a biologist if sensitive species are encountered unexpectedly. Divers shall also be trained to identify *Caulerpa taxifolia* and to avoid it during outfall modification. Workers involved with excavation and ground disturbing activities shall be trained to identify potential cultural resources and to halt work and call in a qualified archaeologist if they believe cultural resources have been encountered. Workers shall also be trained to stop work and call the County Coroner if they encounter human remains.
- Keep construction areas clean of trash and debris.** Workers shall also be required to comply with worker cleanliness guidelines that are designed to reduce the potential for trash or debris to leave the construction sites. These guidelines may include: disposal of food related trash in closed containers and removed from the project site each day during the construction period, prohibition on feeding wildlife at or near the construction area, and upon project completion, removal of all project-generated debris, vehicles, building materials, and rubbish from the project footprint.
- Implement Santa Barbara County Air Pollution Control District (SBCAPCD) and California Air Resources Board (CARB) Construction Best Management Practices.** Contractors shall be required to comply with the SBCAPCD’s construction best management practices, which include diesel equipment and vehicle regulations and dust control measures. These construction best management practices are detailed in Section 2.1.7 of Appendix C. Additionally, contractors shall comply with CARB In-Use Off-Road Diesel-Fueled Fleets Regulations, which would limit vehicle idling time to 5 minutes, restrict adding vehicles to construction fleets with older-tier engines, and establish a schedule for retiring older, less fuel-efficient engines from the construction fleet.

- **Compliance with Permit Requirements.** CVWD and/or CSD shall acquire and comply with necessary permits, depending on which facility locations are selected in final project design. Potential permits are shown in Table 2-4. Table 2-4, may reflect the mitigation measures proposed in this EIR, and may include additional environmental commitments suggested by the permitting entity. CVWD shall obtain and comply with the SWRCB's General Construction Permit, including preparation of a Storm Water Pollution Prevention Plan (SWPPP), for all Project facilities.

## 2.11 Construction Schedule

Construction is expected to take approximately 1.5 years for the 1.0 MGD initial project, with construction beginning in January 2021. A proposed construction schedule is shown in Figure 2-13. This assessment assumes that construction activities would be limited to daytime, consistent with the City's allowed hours for construction, with the exception of well drilling that may require 24-hour drilling. As shown in Figure 2-13, construction at Well Site #1 would be limited to summer months to minimize disturbance to school activities, and construction of conveyance pipelines along Linden near Canalino Elementary School would occur during the school's winter break. Pipeline construction in the "downtown tee" (the business district along Linden Avenue and Carpinteria Avenue south of U.S. Highway 101) would be limited to outside of summer and the holiday season to minimize interference with the height of commercial and tourist activities.

Figure 2-13. Proposed CAPP Construction Schedule



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### 3. ENVIRONMENTAL ANALYSIS

#### 3.1 Aesthetics

This section provides a description of the existing visual character and quality of the Study Area, provides relevant regulatory information, and evaluates potential impacts on visual resources from implementation of the CAPP. The Proposed Project has the potential to create a new source of light and glare during nighttime construction. The mitigation measure identified in this section would reduce potential impacts to levels that are less than significant.

##### 3.1.1 Physical Environmental Setting – Aesthetics

The City of Carpinteria is in the southeastern portion of Santa Barbara County, adjacent to the Pacific Ocean. The City contains a varied topography that contributes to a unique visual landscape. The City's General Plan/Local *Coastal Land Use Plan* (City of Carpinteria, 2003) identifies the unique visual qualities afforded to the City due to its location between the Santa Barbara Channel and Santa Ynez Mountains, which include panoramic views of the Pacific Ocean and the Channel Islands. Similarly, the County's *Comprehensive Plan* also acknowledges the value of the visual resources in the County, particularly the coastal areas (Santa Barbara County, 2010). The visual environment contains undisturbed natural features including marshes, creeks, bluffs, beaches, parks, and agriculture. The Carpinteria Bluffs and trails along the bluffs are considered an important viewing area. Preservation of these views is important to the City as views throughout Carpinteria establish community identity and promote aesthetic appeal familiar to local residents and unique to the City. Figure 3.1-1 shows some photos taken in the City of Carpinteria in the vicinity of the Proposed Project, including southward looking views along Carpinteria Creek and Linden Avenue, and northward looking views from El Carro Park and proposed Well Site #6. There are no officially designated State Scenic Highways within the City of Carpinteria. U.S. Highway 101, which runs northwest/southwest through the center of the City is an Eligible State Scenic Highway and has not been officially designated.

**Figure 3.1-1. Selection of Photos in the City of Carpinteria**



*Top Left: Carpinteria Avenue at Maple Avenue looking northwest; Top Right: Linden Avenue looking northeast; Bottom Left: Memorial Park looking north; Bottom Right: El Carro Park looking north*

### **3.1.2 Regulatory Framework – Aesthetics**

#### **Federal**

There are no federal regulations related to visual resources relevant to the Proposed Project.

#### **State**

##### ***California Coastal Act***

Facilities proposed within the State's coastal zone are subject to the visual resources policy of the Coastal Act, as described in the Public Resources Code (PRC) Division 20, California Coastal Act, Article 6, Development (2018) and summarized below. Each municipality within the jurisdiction of the California Coastal Commission is required to have an LCP in place that guides development in coastal zones to ensure compliance with Sections 30251 and 30254.

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### **Section 30251 Scenic and Visual Qualities**

The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

### **Section 30254 Public Works Facilities**

New or expanded public works facilities shall be designed and limited to accommodate needs generated by development or uses permitted consistent with the provisions of this division; provided, however, that it is the intent of the Legislature that State Highway Route 1 in rural areas of the coastal zone remain a scenic two-lane road. Special districts shall not be formed or expanded except where assessment for, and provision of, the service would not induce new development inconsistent with this division. Where existing or planned public works facilities can accommodate only a limited amount of new development, services to coastal dependent land use, essential public services and basic industries vital to the economic health of the region, state, or nation, public recreation, commercial recreation, and visitor-serving land uses shall not be precluded by other development.

### **California State Scenic Highway Program**

Many state highways are located in areas of outstanding natural beauty. In 1963, the California legislature created the Scenic Highway Program to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways. The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, Section 260 et seq.:

A highway or county road may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view.

As described above, no officially designated State Scenic Highways occur in the Study Area. U.S. Highway 101 is eligible (through Caltrans) for scenic rating.

## **Local**

### **City of Carpinteria General Plan/Local Coastal Land Use Plan**

City objectives and policies related to visual resources and aesthetics are provided in the Open Space, Recreation & Conservation Element and Community Design Element of the City's *General Plan/Local Coastal Land Use Plan*. Applicable objectives and policies are as follows:

- Objective OSC-13: Preserve Carpinteria's visual resources.
  - Policy OSC-13a. Preserve broad, unobstructed views from the nearest public street to the ocean, including but not limited to Linden Avenue, Bailard Avenue, Carpinteria Avenue, and U.S. Highway 101. In addition, design and site new development on or adjacent to bluffs, beaches, streams, or the Salt Mash to prevent adverse impacts on these visual resources. New development shall be subject to the following measures:

- Height and siting restrictions to avoid obstruction of existing views of visual resources from the nearest public areas.
- In addition to the bluff setback required for safety, additional bluff setbacks may be required for oceanfront structures to minimize or avoid impacts on public views from the beach. Blufftop structures shall be set back from the bluff edge sufficiently far to ensure that the structure does not infringe on views from the beach except in areas where existing structures already impact public views from the beach.
- Special landscaping requirements to mitigate visual impacts.
- Policy OSC-13b. Require new development or redevelopment in the downtown section of Carpinteria to conform with the scale and character of the existing community and consistent with the City's theme of a small beach-oriented community.
- Policy OSC-13c. Other than permitted development, discourage activities which could damage or destroy open space areas, including off-road vehicle use and unauthorized collecting of natural objects.
- Policy OSC-13d. Encourage the retention of those portions of creeks within the Planning Area that are unsuitable for active recreational use for use as open space that can provide passive recreational opportunities and protection of habitat.
- Policy OSC-13e. Promote the safety of the community through the use of open space lands.
- Policy OSC-13f. Where appropriate, use open space lands as buffers for noise and visual nuisances and as transitions between incompatible uses.
- Policy OSC-13g. Require new development to protect scenic resources by utilizing natural landforms and native vegetation for screening structures, access roads, building foundations, and cut and fill slopes in project design which otherwise complies with visual resources protection policies.
- Policy OSC-13h. Plans for development shall minimize cut and fill operations. Plans that do not minimize cut and fill shall be denied.
- Policy OSC-13i. Design all new development to fit the site topography, soils, geology, hydrology, and other existing conditions and be oriented so that grading and other site preparations is kept to an absolute minimum. Preserve all natural landforms, natural drainage systems, and native vegetation. Require all areas on the site not suited to development, as evidenced by competent soils, geology and hydrology investigations and reports remain as open space.
- Policy OSC-13j. Establish a "night-sky" ordinance that provides standards for the reduction of direct and ambient light in the night sky.
- Objective CD-13: Ensure that lighting of new development is sensitive to the character and natural resources of the City and minimizes photopollution to the maximum extent feasible.
  - Policy CD-13a. Lighting for development adjacent to an environmentally sensitive habitat area (ESHA) shall be designed to further minimize potential impacts to habitat.
  - Policy CD-13b. Lighting shall be low intensity and located and designed so as to minimize direct view of light sources and diffusers and to minimize halo and spillover effects.

Additionally, the Proposed Project falls within three of the City's Community Design Subareas – Subarea 2 (Downtown and Old Town), Subarea 2a (Downtown Core District), and Subarea 3 (Santa Monica, Canalino, and El Carro Neighborhoods), and Subarea 6 (The Bluffs). The following objectives and policies for these subareas are relevant to the Proposed Project and its potential aesthetic impacts:

- Objective CDS2-1: Preserve and strengthen the visual and physical connections between the downtown, beach, the salt marsh, mountains, and the other neighborhoods and districts in the city.
  - Implementation Policy 21: 21. Existing and proposed industrial uses should screen outdoor storage and loading areas from public view. This includes views from the alleys, which are used as pedestrian pathways in addition to their function as service access to businesses. Solid walls and plantings should be provided on any street frontages abutting these uses.
- Objective CDS2A-1: Preserve and strengthen the visual and physical connections between the downtown and the beach, mountains, and other neighborhoods.
- Objective CDS3-1: Preserve and strengthen the visual and physical connections between this subarea, the downtown and other neighborhoods and districts in the city.

#### ***County of Santa Barbara Coastal Land Use Plan***

The County of Santa Barbara's *Coastal Land Use Plan* guides planning and development in the coastal areas of the county, and is intended to protect coastal resources while still allowing for development. Where there is conflict between the *Coastal Land Use Plan* and the *Comprehensive Plan*, the *Coastal Land Use Plan* takes precedence. Applicable policies of the *Coastal Land Use Plan* include:

- Policy 4-1: Areas within the coastal zone which are now required to obtain approval from the County Board of Architectural Review, because of the requirements of the "D"- Design Supervision Combining Regulations or because they are within the boundaries of Ordinance #453, shall continue to be subject to design review. In addition, developments in all areas designated on the land use plan maps as Commercial, Industrial, or Planned Development and residential structures on bluff top lots shall be required to obtain plan approval from the County Board of Architectural Review.
- Policy 4-2: All commercial, industrial, planned development, and greenhouse projects shall be required to submit a landscaping plan to the County for approval.

### **3.1.3 Impact Analysis – Aesthetics**

#### **Methodology for Analysis**

The potential impacts to aesthetic resources were evaluated using the CEQA Guidelines, incorporating the changes adopted in December 2018, along with the aesthetic thresholds identified in the City's Environmental Review Guidelines.

### Thresholds of Significance

In accordance with the CEQA Guidelines, an impact to aesthetics would be significant if the Proposed Project does any of the following:

<b>Would the Proposed Project:</b>	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
3.1-1: Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1-2: Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.1-3: Substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1-4: Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Criteria Requiring No Further Evaluation

Criteria listed above that do not apply to actions associated with the Proposed Project are identified below, along with supporting rationale as to why further consideration is unnecessary and a No Impact determination is appropriate.

*3.1-2: Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

There are no designated state scenic highways in the Study Area. U.S. Highway 101, which runs northwest through the center of the City, is an eligible state scenic highway. The proposed pipeline alignment crosses U.S. Highway 101 on Linden Avenue; however, the crossing of U.S. Highway 101 is not included as part of this Proposed Project because it is being constructed as part of Caltrans' Linden and Casitas Interchange Project. Further, the eligible portion of U.S. Highway 101 as a scenic resource primarily applies to those portions with views of the Pacific Ocean, which is not visible from the portion of the freeway that runs under Linden Avenue. Therefore, no impacts to scenic resources within a state scenic highway would occur.

### 3.1.4 Impact Statements and Mitigation Discussions

This section discusses potential impacts to aesthetic resources that could result in conjunction with the Proposed Project. Mitigation measures are identified where appropriate.

#### **Impact 3.1-1: Potential to have a substantial adverse effect on a scenic vista?**

The varying topography with the Santa Ynez Mountains to the northeast and the Santa Barbara Channel to the southwest of the City provides for an abundance of scenic resources and scenic vistas throughout the City. The Santa Ynez Mountains are visible from Linden Avenue along the northern portion of the proposed pipeline alignment. Potential impacts associated with construction of the pipelines would be temporary and would be minimized by restoring the ground surface to pre-construction conditions. Monitoring wells would also be constructed belowground, and when located within ROWs, disturbed areas would be restored to pre-construction conditions. Monitoring wells would not impact surrounding views or scenic resources. Similarly, the ocean outfall improvements would be below the surface of the water, and not impact surrounding views or scenic resources.

The injection wells are anticipated to be constructed above-grade with the well head facilities, electrical service, and the backflush tank (at one of the well sites) placed in screened cages or behind fences. Because injection wells are constructed above-grade, there is the potential to impact surrounding views or scenic resources. Visibility of the wells and associated infrastructure from adjoining public spaces, particularly those in parks with scenic views of the eastern hills, is considered a potentially significant impact. Aboveground wells in a publicly visible area would be properly located and screened to reduce the visual impacts of the facilities to the extent feasible. Screening of aboveground facilities may include fencing, walls, and/or landscaping as determined appropriate and feasible for its compatibility with the surroundings, and would be subject to review and approval by the City of Carpinteria's Architectural Review Board. Figure 3.1-2 shows what the injections wells are anticipated to look like once completed and screening measures are in place. Visual impacts from the injection wells and backflush tank would be reduced with implementation of **Mitigation Measure MM 3.1-1**, which requires CVWD to test out tank sizing and minimize the size of the final backflush tank, install vegetation screening at the injection well sites, and limit lighting to low intensity and shielded options in compliance with City of Carpinteria Policy CD-13b.

Additional above-grade facilities would include the AWP and associated appurtenances. These facilities would be located within the enclosed CSD WWTP site, which is located adjacent to Carpinteria Creek. Carpinteria Creek provides a scenic corridor or vista within the Study Area; however, the AWP and associated appurtenances would be consistent with the existing buildings and structures located at the WWTP site. Additionally, the facilities located on the WWTP site would be consistent with and of equivalent or lesser height compared to existing facilities. There is a wall along the property bordering the creek that screens the view of the WWTP facilities from the creek and potential scenic resources provided by the creek. Therefore, impacts to scenic vistas would be less than significant and no mitigation would be required.

#### ***Significance Determination Before Mitigation***

Potentially Significant.

#### ***Mitigation Measures***

**Mitigation Measure MM 3.1-1** shall apply to the injection well sites and backflush tank.

**MM 3.1-1 Minimize Tank Size and Install Screening.** CVWD shall initially install a temporary backflush tank as part of the Proposed Project. This backflush tank shall be used to determine the minimum size requirement for a permanent backflush tank necessary to serve the Proposed Project. Once a minimum tank size is determined (anticipated up to five years of CAPP operation), a permanent backflush tank would be constructed that reflects the determined minimum size. Once construction on the permanent tank is completed, CVWD shall install vegetation screening to reduce the visual impact of the backflush tank. Landscaping shall be selected as determined appropriate and feasible for its compatibility with the surroundings and subject to review and approval by the City of Carpinteria's Architectural Review Board. Large container-size plantings and/or fast-growing vegetation shall be used for screening around the backflush tanks. Lighting shall be low intensity and located and designed to minimize direct view of light sources and diffusers, and to minimize halo and spillover effects. After construction is complete, CVWD shall restore all landscaped areas affected by construction, access, and equipment staging.

***Significance Determination after Mitigation***

Less than Significant.



Figure 3.1-2. Visual Simulations of Proposed Injection Wells with Screening



*Top Left: Injection well at Well Site #2. Top Right: Injection well and tank at Well Site #4. Bottom: Injection well and tank at Well Site #6.*

**Impact 3.1-3: In non-urbanized areas, potential to substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?**

The Proposed Project would be located primarily in the City of Carpinteria, which is considered an urbanized area. Applicable regulations governing scenic quality include objectives and policies identified in the City's *General Plan/Local Coastal Land Use Plan* and the Creeks Preservation Program. The Proposed Project would comply with all applicable regulations that govern scenic quality. Construction activities may impact scenic resources as a result of large construction equipment, temporary fencing at construction sites, and site clearing and excavation activities. Due to the temporary nature of construction activities, visual impacts would be considered less than significant.

Aboveground facilities that have the potential to impact the existing visual character or scenic quality include the AWPf and associated facilities, and the injection wells (which may or may not be located aboveground). As described above, the AWPf would be located at the CSD's WWTP site which is developed with facilities consistent with the AWPf and is screened from public views by a wall bordering the site and Carpinteria Creek. The WWTP site has a height restriction of 30 feet. All components of the AWPf would be less than 30 feet in height, including the equalization tank, in compliance with the height limitation.

If injection wells are constructed aboveground, the facilities would be properly screened with fencing, walls, and/or landscaping to be consistent with the surroundings and minimize adverse visual impacts to the area. With implementation of **Mitigation Measure MM 3.1-1**, CVWD shall test and minimize the permanent backflush tank size, install landscape screening under direction from the City of Carpinteria Architectural Review Board, and install low intensity lighting onsite that would comply with City of Carpinteria Policy CD-13b. Figure 3.1-2 provides a visual simulation of what an aboveground injection well and backflush tank would look like when fencing and vegetation screening is installed. Section 3.15, *Land Use and Planning* further details potential conflicts with applicable zoning and land use regulations. Therefore, the Proposed Project, which is located in an urbanized area, would not conflict with applicable zoning or other regulations governing scenic quality.

***Significance Determination Before Mitigation***

Potentially Significant.

***Mitigation Measures***

**Mitigation Measure MM 3.1-1** shall apply to the injection well sites.

***Significance Determination after Mitigation***

Less than Significant.

**Impact 3.1-4: Potential to create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?**

New sources of light or glare associated with the CAPP would be installed around the new equipment at the AWPf and would be similar to and in proximity to existing light sources at the WWTP site, as well as at the injection wells and backflush tank. New light sources at the injection wells would typically remain off and would only be used if a problem occurs at night and light is needed to address the issue. However, **Mitigation Measure MM 3.1-1** does require low

intensity and shielded lighting, for those situations where safety lighting at the well sites is necessary. Implementation of this mitigation measure would ensure that operational lighting at the well sites creates a less than significant impact on adjacent residences.

New light sources associated with the AWPf, injection wells, and backflush tank would comply with applicable City policies and regulations to minimize light and glare, including *General Plan/Local Coastal Land Use Plan Policy CD-13b* and *Creeks Preservation Program Policy 2.4*. Policy CD-13b requires exterior and interior lighting of development projects to be of low intensity and located and designed to minimize direct view of light sources and diffusers, and to minimize halo and spillover effect. Policy 2.4 states that the City will impose additional development standards to protect biological resources within creek ESHA and/or creek setback areas. Implementation Measure 2.4.5 of Policy 2.4 requires development permit applicants for parcels adjacent to creeks (which the CSD WWTP and Well Site #4 are) and/or within a creek ESHA overlay area to provide the City with a Post-Construction Mitigation Plan, which shall describe protective measures that would be implemented to minimize impacts to biological resources due to the effects of project operation, including potential effects of lighting. **Mitigation Measure MM 3.1-4** would be implemented to reduce potential impacts resulting from new light sources at the AWPf adjacent to Carpinteria Creek. This policy and applicable mitigation measures required to protect biological resources is further described in Section 3.4, *Biological Resources*. Conveyance pipelines, monitoring wells, and the ocean outfall would not require or result in any lighting or glare once completed.

Although not anticipated to be necessary, if nighttime construction activities occur, lighting would be required to illuminate the construction site. Nighttime construction would be limited to well drilling activities. During well drilling, lighting would be placed at the edge of the drilling derrick and would be focused inward on the well casing. Lighting impacts from nighttime drilling would be potentially significant, and mitigation required. If nighttime construction occurs, **Mitigation Measure MM 3.1-4** would require nighttime construction lighting to be facing downward directly on the construction area to minimize potential light or glare impacts. With implementation of **MM 3.1-4**, impacts would be reduced to less than significant levels.

#### ***Significance Determination Before Mitigation***

Potentially Significant.

#### ***Mitigation Measures***

***Mitigation Measure MM 3.1-4 shall apply to all construction and operational activities in the Proposed Project.***

**MM 3.1-4 Minimize Light and Glare.** CVWD shall ensure that all construction and operational lighting be of the lowest intensity necessary for public safety purposes. Lighting shall be of low intensity, shall be directed downward and at the immediate work area, and shall be shielded to minimize halo and spillover effects. Lighting shall be directed away from sensitive habitats and receptors, as well as away from neighboring residential areas. Additional protective measures, such as light glare shields, may be used if light sources are still directly visible from neighboring residential areas or interferes with scenic views after lighting is installed and oriented as described in this mitigation measure.

#### ***Significance Determination after Mitigation***

Less than Significant.

## 3.2 Agriculture and Forestry Resources

This section describes the existing agricultural and forestry resources in the Study Area and presents a summary description of the regulatory setting. It evaluates the potential for the Proposed Project to affect agricultural and forestry resources. The Proposed Project would not result in any significant impacts to agricultural and forestry resources.

### 3.2.1 Physical Environmental Setting – Agriculture and Forestry

The Carpinteria Valley, which includes both the City of Carpinteria and unincorporated Santa Barbara County, has substantial agricultural operations. The greenhouse industry in the Carpinteria Valley is one of the largest in the State, with cut flowers making up a substantial portion of greenhouse crops. The City's 2017 Carpinteria Valley Economic Profile notes that in light of the legalization of cannabis in 2018, flower growers in 2017 were considering the profitability of converting a portion of greenhouse space to cannabis production and that existing growing infrastructure would allow for rapid conversion of flower growing operations to cannabis. Agriculture employs the second largest number of people in the Valley after manufacturing. In 2015, agricultural jobs accounted for nearly 15% of overall jobs in the Valley, though this number has declined due to drought and competition from international growers (City of Carpinteria, 2017b).

The California Department of Conservation (DOC) Farmland Monitoring and Mapping Program evaluates the State's land use, soil types, and irrigation status to rate the state's agricultural lands. The highest rated agricultural land is Prime Farmland. The majority the City of Carpinteria is classified as Urban and Built-Up Land (DOC, 2016). The City is surrounded by Farmland of Statewide Importance, Unique Farmland, and Prime Farmland, primarily located within unincorporated County of Santa Barbara. Within and immediately adjacent to the Project Area, there is one parcel within the City located north of and adjacent to U.S. Highway 101 and immediately south of Casitas Pass Road designated as Farmland of Local Importance. There are two additional areas south of U.S. Highway 101 and west of the Carpinteria Bluffs Nature Reserve which are designated as Farmland of Statewide Importance and Unique Farmland (DOC 2016). The unincorporated Santa Barbara County where Well Site #6 is located is designated as Unique Farmland. Per DOC mapping of Williamson Act enrolled lands, the Study Area is urban/built up and non-enrolled land (DOC, 2015). Additional parcels within the City limits that are designated as Prime Farmland and Unique Farmland exist north of U.S. Highway 101 and east of Carpinteria Creek. The unincorporated Santa Barbara County land where Well Site #6 is located is designated as Unique Farmland. Per DOC mapping of Williamson Act enrolled lands, the Study Area is urban/built up and non-enrolled land (DOC, 2015).

The California Department of Forestry and Fire Protection (CDFFP) published maps (CDFFP, 2006) which classify land cover throughout the State into eight major forest or range-related classes, including Forestland (Conifer Forest), Forestland (Hardwood Forest), Forest and Rangeland (Conifer Woodland), Forest and Rangeland (Hardwood Woodland), Rangeland (Shrub), Rangeland (Desert), Rangeland (Herbaceous), and Rangeland (Wetland). The CDFFP also classifies land cover throughout the state into four non-forest and rangeland classes including Urban, Barren/Other, Water, and Agriculture. The Study Area is primarily designated as Urban, with small amounts of Rangeland (Herbaceous) and Forestland (Hardwood Forest) (CDFFP, 2006). Within the Study Area, the only land designated as Forestland (Hardwood Forest) is along Carpinteria Creek, adjacent to the WWTP.

The City does not include any zoned forest or timberland zones. Within the Study Area, agriculturally-zoned land is present south of Casitas Pass and north of U.S. Highway 101 (City of Carpinteria, 2016).

### 3.2.2 Regulatory Framework – Agriculture and Forestry

#### Federal

##### ***Farmland Protection Policy Act***

The Farmland Protection Policy Act (FPPA) requires documentation of irreversible conversion of farmland to non-agricultural use when a federal agency is involved. It applies when federal funds are used for activities that result in irreversible conversion of prime, unique, or important farmland to non-agricultural uses that do not qualify for one of the FPPA exemptions. FPPA exemptions include construction of non-farm structures necessary to support farm operations and national defense-related activities. It does not apply to land that has already been converted, is already committed to urban development, or is committed to development of water storage. Irreversible conversion is one in which land cannot be restored or doing so would involve significant time and expense.

#### State

##### ***Farmland Mapping and Monitoring Program***

The State of California enacted the Farmland Mapping and Monitoring Program in 1982 to document the location, quality, and area of agricultural lands and the conversion of these agricultural lands to other uses over time. Farmland Monitoring and Mapping Program mapping categorizes land as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, Grazing Land, Urban and Built-Up Land, Other Land, and Water, and maps are updated every two years.

##### ***Land Conservation Act (Williamson Act)***

The California Land Conservation Act of 1965 (Williamson Act) allows landowners to enroll qualifying lands as “Prime Agricultural Land” where landowners receive tax benefits in exchange for avoiding conversion of these lands to non-agricultural or open space uses. Landowners have the ability to withdraw from the Williamson Act under certain conditions, including solar-use easement, public acquisition of contracted land, certain municipal annexations, and easement exchange. Landowners may also apply for a contract cancellation or undergo non-renewal which provides a nine-year timeframe between notice of non-renewal and expiration of the property’s Williamson Act contract.

##### ***California Coastal Act***

- The California Coastal Act applies to all portions of the State within the Coastal Zone, including the entirety of the Study Area. California Coastal Act policies relevant to agricultural land and resources and the Proposed Project include:
- 30241. The maximum amount of prime agricultural land shall be maintained in agricultural production to assure the protection of the areas’ agricultural economy, and conflicts shall be minimized between agricultural and urban land uses through all of the following:
  - a) By establishing stable boundaries separating urban and rural areas, including, where necessary, clearly define buffer areas to minimize conflicts between agricultural and urban land uses.
  - b) By limiting conversions of agricultural lands around the periphery of urban areas to the lands where the viability of existing agricultural use is already severely limited by conflicts with urban uses or where the conversion of the lands would complete a logical and viable neighborhood and contribute to the establishment of a stable limit to urban development

- c) By permitting the conversion of agricultural land surrounded by urban uses where the conversion of the land would be consistent with Section 30250.
- d) By developing available lands not suited for agriculture prior to the conversion of agricultural lands.
- e) By assuring that public service and facility expansions and nonagricultural development do not impair agricultural viability, either through increased assessment costs or degraded air and water quality.
- f) By assuring that all divisions of prime agricultural lands, except those conversions approved pursuant to subdivision (b) and all development adjacent to prime agricultural lands shall not diminish the productivity of prime agricultural lands.

## Local

### ***City of Carpinteria General Plan/Local Coastal Land Use Plan***

The City of Carpinteria's General Plan/Local Coastal Land Use Plan provides guidance for development of the City and seeks to achieve the long-term vision of the City. The City's Open Space, Recreation & Conservation element includes policies and goals to protect and manage natural resources, including agricultural resources. The Land Use element similarly includes policies related to agricultural lands. Agricultural and forestry-related objectives and policies relevant to the Proposed Project include:

- Objective LU-1: Establish the basis for orderly, well planned urban development while protecting coastal resources and providing for greater access and recreational opportunities for the public.
  - Policy LU-1c. Where policies in the Land Use Element overlap, the policy that is most protective of resources (e.g., land, water, air, etc.) shall take precedence.
  - Policy LU-1d. Ensure that the type, location and intensity of land uses planned adjacent to any parcel designated open space/recreation or agriculture (as shown on Figure LU-1) are compatible with these public resources and will not be detrimental to the resource.
- Objective LU-2: Protect the natural environment within and surrounding Carpinteria.
  - Policy LU-2b. Regulate all development, including agriculture, to avoid adverse impacts on habitat resources. Standards for habitat protection are established in the Open Space, Recreation & Conservation Element policies.
- Objective LU-3: Preserve the small beach town character of the built environment of Carpinteria, encouraging compatible revitalization and avoiding sprawl development at the city's edge.
  - Policy LU-3n. Setbacks shall be created between agricultural and urban uses. The responsibility of providing the buffer shall rest with the property intensifying its use. The buffer shall be adequate to prevent impacts to adjacent agricultural production. Such impacts include increased limitations on the use of chemicals and fertilizers and increased conflicts between the urban use and the adjacent agricultural operation.
- Objective LU-5: Maintain availability of agriculture, coastal-dependent industry and visitor-serving commercial development including hotels/motels, restaurants and commercial recreation uses.
  - Policy LU-5a: The City shall continue to give priority to agriculture, coastal-dependent industry and visitor-serving commercial recreational facilities designed to enhance public opportunities for coastal recreation over residential, general industrial, or general commercial development.
- Objective OSC-9: Encourage and promote open-field agriculture as an independent viable industry to meet the needs of present and future populations and to preserve the Carpinteria Valley's rural, open space character.

- Policy OSC-9b: Support Williamson Act contracts and Farmland Security Zones to help protect open-field agricultural activities
- OSC-9c: Minimize soil erosion and polluted runoff during construction and operation of the land use
- OSC-9d: Encourage conservation of agricultural production areas
- OSC-9e: Avoid the conversion of agricultural land to nonagricultural land uses except where conversion meets the criteria established by Sections 30241, 30241.5, and 30242 of the Coastal Act.

### **County of Santa Barbara Comprehensive Plan**

The County of Santa Barbara's *Comprehensive Plan* includes goals and policies that apply to the unincorporated area of the County. Relevant agricultural and forestry goals and policies to the Proposed Project are described in the Agricultural Element, and include:

- Goal I: Santa Barbara County shall assure and enhance the continuation of agriculture as a major viable production industry in Santa Barbara County. Agriculture shall be encouraged. Where conditions allow, (taking into account environmental impacts) expansion and intensification shall be supported.
  - Policy I.D: The use of the Williamson Act (Agricultural Preserve Program) shall be strongly encouraged and supported. The County shall also explore and support other agricultural land protection programs.
- GOAL II. Agricultural lands shall be protected from adverse urban influence.
  - Policy II.D. Conversion of highly productive agricultural lands whether urban or rural, shall be discouraged. The County shall support programs which encourage the retention of highly productive agricultural lands.
- GOAL III. Where it is necessary for agricultural lands to be converted to other uses, this use shall not interfere with remaining agricultural operations.

### **County of Santa Barbara Coastal Land Use Plan**

The County of Santa Barbara's *Coastal Land Use Plan* applies to the coastal areas of the county, including the portion of the Study Area within the unincorporated county. Applicable agricultural and forestry policies in the County's *Coastal Land Use Plan* include:

- Policy 8-3: If a parcel is designated for agricultural use and is located in a rural area contiguous with the urban/rural boundary, conversion shall not be permitted unless:
  - The agricultural use of the land is severely impaired because of physical factors (e.g. high water table), topographical constraints, or urban conflicts (e.g., surrounded by urban uses which inhibit production or make it impossible to qualify for agricultural preserve status), and
  - Conversion would contribute to the logical completion of an existing urban neighborhood, and
  - There are no alternative areas appropriate for infilling within the urban area or there are no other parcels along the urban periphery where the agricultural potential is more severely restricted.

## **3.2.3 Impact Analysis – Agriculture and Forestry**

### **Methodology for Analysis**

The potential impacts to agricultural and forestry resources were evaluated using the CEQA Guidelines, incorporating the changes adopted in December 2018. Additionally, the City's Environmental Review Guidelines for agriculture were considered (City of Carpinteria, 1994).



### Thresholds of Significance

In accordance with the CEQA Guidelines and the City's Environmental Review Guidelines, an impact to agriculture and forestry would be significant if the Proposed Project does any of the following:

Would the Proposed Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
3.2-1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.2-2: Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.2-3: Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resource Code section 12220 (g)), timberland (as defined by Public Resource Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.2-4: Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.2-5: Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.2-6: Meet or exceed the agricultural thresholds identified in the City's Environmental Review Guidelines:				
i) Development proposed on any property 5 acres or greater in size with Prime Agricultural Soils designation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Development proposed in an Agricultural Preserve?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Development proposed on any property which in the past five years has been in agricultural production and is agriculturally zoned?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Development of 10 or more acres on non-prime parcels, which may be significant due to historical use or surroundings (conversion may make adjacent agricultural lands ripe for conversion)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



## Criteria Requiring No Further Evaluation

Criteria listed above that do not apply to actions associated with the Proposed Project are identified below, along with supporting rationale as to why further consideration is unnecessary and a No Impact determination is appropriate.

3.2-3: *Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resource Code section 12220 (g)), timberland (as defined by Public Resource Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?*

There are no designated forest land, timberland, or timberland zoned Timberland Production in the Study Area.

3.2-4: *Result in the loss of forest land or conversion of forest land to non-forest use?*

There is no designated forest land within the Study Area to be converted to non-forest use. Construction activities near Carpinteria Creek would be contained within the WWTP site and would not convert the forest land along the creek.

### 3.2.4 Impact Statements and Mitigation Discussions

This section discusses potential impacts to agricultural and forestry resources that could result in conjunction with the Proposed Project. Mitigation measures are identified where appropriate.

#### **Impact 3.2-1: Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?**

Within the City, the only land designated for agricultural use is located approximately 0.5 mile to the east of the Study Area. Within the unincorporated area of the County, there is no Prime Farmland or Farmland of Statewide Importance within the Study Area. Well Site #6 is in a parcel designated as Unique Farmland, and has an area of approximately two acres. This location is already used for agricultural activities and is currently occupied by a greenhouse whose size precludes additional agricultural use of the site. Installation of an injection well at this site would not affect the ability to continue existing agricultural operations on the property because the well would be installed outside the existing greenhouse and would not require demolition or relocation of the existing greenhouse. The footprint of the completed well (6,000 square feet) would be small compared to the size of the parcel, and would not result in substantial conversion of farmland. Therefore, the Proposed Project would not convert prime or unique farmland, or farmland of statewide importance, and impacts would be less than significant.

#### ***Significance Determination Before Mitigation***

Less than Significant.

#### **Impact 3.2-2: Conflict with existing zoning for agricultural use, or a Williamson Act contract?**

None of the properties that might house a component of the Proposed Project are enrolled in a Williamson Act contract. The City does not have any areas zoned for agriculture within the Study Area. Well Site #6 would be located within an area zoned by the County of Santa Barbara for agriculture. Should this site be selected for one of the injection wells, it would not impact the existing agricultural practices on the site because the well would be located next to the existing greenhouse and would not interfere with existing agricultural use on the site. The footprint of the completed well

(6,000 square feet) would be small compared to the size of the parcel (approximately two acres), and would still allow expansion of the greenhouse in the future if desired.

The AWPF would be located at the WWTP site, which is designated for public facility use. Conveyance pipeline alignments and monitoring wells would be located below grade primarily within public ROWs, and adjacent to areas designated for residential, commercial, industrial, and public facility uses. With the exception of Well Site #6, the potential injection well sites would be located on land designated for open space/recreation, residential, and/or public facility uses. Therefore, the Proposed Project would not conflict with existing agricultural use zoning or Williamson Act contracts and impacts would be less than significant.

***Significance Determination Before Mitigation***

Less than Significant.

**Impact 3.2-5: Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.**

As described in Impact 3.2-1 and Impact 3.2-2, there is limited Farmland within the Study Area. Farmland and agriculturally zoned parcels are generally located north of the Study Area in the unincorporated area of the County. The only area in the City of Carpinteria that is designated as forest is located along Carpinteria Creek, and outside the Study Area. Direct construction impacts of the Proposed Project would not affect those properties' land use for agriculture or forest land. The Proposed Project would increase water supply reliability by creating new water supply through groundwater recharge of advanced treated water. As discussed in Section 3.12, *Land Use and Planning*, and Section 3.15, *Population and Housing*, these new supplies would support existing land uses, and would not result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. Operation of the Proposed Project would involve visits to well sites for maintenance and operation of the AWPF at the WWTP site. These activities are not expected to affect existing Farmland or forest land because they would not occur on such sites, with the exception of Well Site #6. Maintenance of the injection wells would have a less than significant impact on greenhouse operations because it would occur outside of the greenhouse itself.

***Significance Determination Before Mitigation***

Less than Significant.

**Impact 3.2-6: Meet or exceed the agricultural thresholds identified in the City's Environmental Review Guides:**

- i) Development proposed on any property 5 acres or greater in size with Prime Agricultural Soils designation.
- ii) Development proposed in an Agricultural Preserve.
- iii) Development proposed on any property which in the past five years has been in agricultural production and is agriculturally zoned.
- iv) Development of 10 or more acres on non-prime parcels, which may be significant due to historical use or surroundings (conversion may make adjacent agricultural lands ripe for conversion).

There is limited Farmland within the Study Area, and the only parcel that would experience direct construction activities that is zoned for agricultural use is Well Site #6. Well Site #6 is approximately two acres large, and is designated as

Unique Farmland. Existing agricultural use at Well Site #6 is a greenhouse grow operation. The Proposed Project would therefore not create development on any property 5 acres or greater in size with Prime Agricultural Soils designation, nor would it create development of 10 or more acres on non-prime parcels. It would not include development in an Agricultural Preserve. There would be no impact under these City thresholds. The Proposed Project would include development on a property which is zoned agricultural and has been under agricultural production within the last five years – Well Site #6 is on property currently used for agricultural production. However, the Proposed Project would be placed on a currently unused portion of the parcel, outside of the existing greenhouse’s footprint. The Proposed Project would not interfere with existing use of the greenhouse for agricultural production. Impacts would therefore be less than significant.

***Significance Determination Before Mitigation***

Less than Significant

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### 3.3 Air Quality

This section describes the existing environmental and regulatory setting regarding air quality the Study Area. Potential impacts related to criteria pollutants, odors, and sensitive receptors are considered, as well as consistency with local plans and policies. Impacts would be less than significant and mitigation measures are not required.

#### 3.3.1 Physical Environmental Setting – Air Quality

This section summarizes the climatological, meteorological and topographical features that may influence the Proposed Project's effects on local and regional air quality. This section also summarizes current air pollution problems within the county, and the effects of pollutants such as ozone precursors (nitrogen oxides [NO<sub>x</sub>] and reactive organic compounds [ROCs]), particulate matter (PM<sub>10</sub>, PM<sub>2.5</sub>) and PM<sub>10</sub> precursors such as NO<sub>x</sub> and sulfur oxides (SO<sub>x</sub>). The physical setting and baseline conditions reflect the emissions associated with existing facilities. Further detail on the Study Area's climate, meteorology, topography, and existing air pollution conditions can be found in Appendix C.

The Proposed Project is in the South Central Coast Air Basin. The region has a Mediterranean climate characterized by mild winters and warm, dry, summers. The windier part of the year lasts from November to June; the calmer time of year lasts from July to October. Topography plays a significant role in affecting the direction and speed of winds. Year round, light onshore winds hamper the dispersion of primary pollutants, and the orientation of the inland mountain ranges interrupts air circulation patterns. Pollutants become trapped, creating ideal conditions for the production of secondary pollutants.

The regional climate is dominated by a strong and persistent high-pressure system, which frequently lies off the Pacific Coast (generally referred to as the East Pacific Subtropical High-Pressure Zone or Pacific High). In its usual position, the Pacific High produces an elevated temperature inversion in the Study Area that traps pollutants in the lower air mass from dispersing upward beyond the inversion layer. Inversions commonly form in the Study Area during the months of May to October. During summer, the Pacific High can also cause the air mass to sink, creating a subsidence inversion. Poor air quality is often associated with air stagnation (i.e., high stability/restricted air movement). It is reasonable to expect a higher frequency of pollution events in the southern portion of the county where light winds are frequently observed, as opposed to the northern portion of the county where the prevailing winds are strong and persistent.

When the Pacific High weakens, a Santa Ana condition can develop. Santa Ana winds are dry northeasterly winds that occur primarily during the fall and winter months. During Santa Ana conditions, pollutants emitted in Santa Barbara, Ventura County, and the South Coast Air Basin (the Los Angeles region) are moved out to sea. These pollutants can then be moved back onshore during what is called a post-Santa Ana condition. However, not all post Santa Ana conditions lead to high pollutant concentrations.

#### Current Air Pollution Conditions

Air quality is determined by measuring ambient concentrations of air pollutants, which are known to have adverse health effects. For regulatory purposes, criteria have been set for some of these air pollutants, and they are referred to as "criteria pollutants." The six criteria pollutants for which the U.S. Environmental Protection Agency (USEPA) has set standards are: particulate matter, ozone, nitrogen oxides, sulfur oxides, carbon monoxide, and lead. CARB has set standards for the same six pollutants, as well as for four additional pollutants: hydrogen sulfide, sulfate, vinyl chloride, and visibility reducing particles - and for about 200 toxic air contaminants. Control strategies are designed to ensure that the ambient concentrations do not exceed certain thresholds.

Another class of air pollutants that is subject to regulatory requirements is air toxics. Substances that are especially harmful to health, such as those considered under the USEPA hazardous air pollutant program or California’s AB 1807 and/or AB 2588 air toxics programs, are considered to be air toxics. There are 186 federal hazardous air pollutants. Toxic air contaminants (TACs) are air pollutants that may cause acute (immediate) or chronic (cumulative) adverse health effects, such as cancer or reproductive harm. Many companies have reduced their toxic emissions, either voluntarily or as a result of the implementation of the Air Toxics “Hot Spots” Information and Assessment Act of 1987 (AB 2588), air toxics control measures (ATCMs) developed and implemented by the CARB, and amendments and emission control rules passed by the SBCAPCD. For air toxics emissions, the regulatory process assesses the potential impacts to public health in terms of “risk,” such as the Air Toxics “Hot Spots” Program, or the emissions may be controlled by prescribed technologies.

The degree of air quality degradation for criteria pollutants is determined by comparing the ambient pollutant concentrations to health-based standards developed by government agencies. Criteria pollutants and their relevant effects are summarized in Appendix C. Ambient air quality monitoring for criteria pollutants is conducted at numerous sites throughout the state. Table 3.3-1 presents the relevant data from monitoring stations located in the Study Area. Ambient air quality in the County is generally good, with the exception of particulate matter with an aerodynamic diameter of 10 microns or less (PM<sub>10</sub>) and ozone (O<sub>3</sub>). Further detail on monitoring methodology can be found in Appendix C.

Pollutant	Standard	2017	2016	2015
Ozone	State 1-hour (90 ppb)	72 ppb	72 ppb	84 ppb
	State 8-hour (70 ppb)	61 ppb	65 ppb	64 ppb
	Federal 8-hour (70 ppb)	60 ppb	64 ppb	63 ppb
Respirable Particulate Matter PM <sub>10</sub>	State 24-hour (50 µg/m <sup>3</sup> )	<b>144.8</b> µg/m <sup>3</sup>	<b>68.8</b> µg/m <sup>3</sup>	41.2 µg/m <sup>3</sup>
	State Annual Average (20 µg/m <sup>3</sup> )	<b>24.3</b> µg/m <sup>3</sup>	16.8	17.3
	Federal 24-hour (150 µg/m <sup>3</sup> )	<b>189.0</b> µg/m <sup>3</sup>	67.9 µg/m <sup>3</sup>	40.0 µg/m <sup>3</sup>
Fine Particulate Matter PM <sub>2.5</sub>	State Annual Average (12 µg/m <sup>3</sup> )	7.2 µg/m <sup>3</sup>	insufficient data	7.7 µg/m <sup>3</sup>
	Federal 24-hour Average (35 µg/m <sup>3</sup> )	<b>130.5</b> µg/m <sup>3</sup>	30.9 µg/m <sup>3</sup>	23.2 µg/m <sup>3</sup>
	Federal Annual Average (12 µg/m <sup>3</sup> )	9.3 µg/m <sup>3</sup>	7.0 µg/m <sup>3</sup>	8.2 µg/m <sup>3</sup>
NO <sub>x</sub>	State 1-hour (180 ppb)/ Federal 1-hour (100 ppb)	17 ppb	13 ppb	25 ppb
SO <sub>x</sub>	State 1-hour (250 ppb)/ Federal 1-hour (75 ppb)	2 ppb	3 ppb	2 ppb
CO	State 1-hour (20 ppm)/ Federal 1-hour (35 ppm)	2.1 ppm	1.8 ppm	2.1 ppm

**Table 3.3-1. Monitoring Results for Carpinteria Monitoring Station**

Pollutant	Standard	2017	2016	2015
<p>Notes: <b>Bold</b> values indicate exceedances above the established standard. The majority of exceedances for particulate matter in 2017 occurred during the Thomas Fire. The Carpinteria station does not collect particulate matter data; the next closest station was used (i.e., Lompoc-S H Street for Federal PM<sub>2.5</sub> in 2016; El Capitan Beach for State Annual Average PM<sub>10</sub> in 2017; Santa Maria for State Annual Average PM<sub>2.5</sub>; Goleta-Fairview for all other particulate matter values). El Capitan was used for 1-hour SO<sub>x</sub> in 2015, 2016, and 2017. Santa Barbara was used for 1-hour CO in 2015, 2016, and 2017.</p> <p>Sources: CARB iAdam: Air Quality Statistics; SBCAPCD Annual Reports.</p>				

**Federal Designations**

Santa Barbara County was designated unclassifiable/attainment for the 2008 federal 8-hour ozone standard on April 30, 2012. The USEPA strengthened the 8-hour ozone standard from the 2008 level of 0.075 ppm to 0.070 ppm on December 28, 2015. The USEPA has not made final designations of attainment status. CARB recommended that the County be designated attainment for the new federal ozone standard. The County is unclassifiable/attainment for the federal PM<sub>2.5</sub> standard. Federal and State attainment statuses are summarized in Table 3.3-2.

**State Designations**

Santa Barbara County is currently designated nonattainment-transitional for the State 8-hour ozone standard. The California Office of Administrative Law finalized this change in designation on April 17, 2017. An air district is designated nonattainment-transitional if, during a single calendar year, the State standard is not exceeded more than three times at any one monitoring location within the district. To be designated attainment, an air district must show that the ozone standard is not violated for three consecutive years. The County violated the State standard for PM<sub>10</sub> and is unclassified for the state PM<sub>2.5</sub> standard (based on monitored data from 2007 to 2009). Federal and State attainment status is summarized in Table 3.3-2.

**Table 3.3-2. Attainment Status of Criteria Pollutants in the South Central Coast Air Basin**

Pollutant	State	Federal
O <sub>3</sub> – 1-hour	Nonattainment- transitional	Revoked/N/A
O <sub>3</sub> – 8-hour	Nonattainment- transitional	Unclassified/Attainment
PM <sub>10</sub>	Nonattainment	Unclassified
PM <sub>2.5</sub>	Attainment	Unclassified/Attainment
CO	Attainment	Unclassified/Attainment
NO <sub>2</sub>	Attainment	Unclassified/Attainment
SO <sub>2</sub>	Attainment	Unclassified/Attainment
Lead	Attainment	Unclassified/Attainment
All others (sulfates, hydrogen sulfide, visibility reducing particles)	Unclassified/Attainment	Unclassified/Attainment

Source: CARB, 2018.

### 3.3.2 Regulatory Framework – Air Quality

#### Federal

##### *Clean Air Act and National Ambient Air Quality Standards*

The Federal Clean Air Act of 1970 requires USEPA to set National Ambient Air Quality Standards (NAAQS) for six common air pollutants (also known as "criteria air pollutants"). NAAQS are currently set for carbon monoxide, lead, ground-level ozone, nitrogen dioxide, particulate matter, and sulfur dioxide. The Clean Air Act identifies two types of national ambient air quality standards. Primary standards provide public health protection, including protecting the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. The current standards are listed below. Units of measure for the standards are parts per million (ppm) by volume, parts per billion (ppb) by volume, and micrograms per cubic meter of air ( $\mu\text{g}/\text{m}^3$ ). Table 3.3-3 lists the Federal standards for criteria pollutants.

<b>Table 3.3-3. National Ambient Air Quality Standards</b>				
<b>Pollutant</b>	<b>Primary/ Secondary</b>	<b>Averaging Time</b>	<b>Level</b>	<b>Form</b>
Carbon Monoxide (CO)	Primary	8 hours	9 ppm	Not to be exceeded more than once per year
		1 hour	35 ppm	
Lead (Pb)	Primary and Secondary	Rolling 3-month average	0.15 $\mu\text{g}/\text{m}^3$	Not to be exceeded
Nitrogen Dioxide (NO <sub>2</sub> )	Primary	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	Primary and Secondary	1 year	53 ppb	Annual Mean
Ozone (O <sub>3</sub> )	Primary and Secondary	8 hours	70 ppb	Annual fourth-highest daily maximum 8 hour concentration, averaged over 3 years
Particulate Matter (PM <sub>2.5</sub> )	Primary	1 year	12.0 $\mu\text{g}/\text{m}^3$	Annual mean, averaged over 3 years
	Primary and Secondary	24 hours	35 $\mu\text{g}/\text{m}^3$	98th percentile, averaged over 3 years
Particulate Matter (PM <sub>10</sub> )	Primary and Secondary	24 hours	150 $\mu\text{g}/\text{m}^3$	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide (SO <sub>2</sub> )	Primary	1 year	75 ppb	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years

Source: USEPA 2019.



**State**

**California Clean Air Act and California Ambient Air Quality Standards**

The California Clean Air Act (California Health and Safety Code Division 26) went into effect on January 1, 1989 and was amended in 1992. The California Clean Air Act mandates achieving the health-based California Ambient Air Quality Standards (CAAQS) at the earliest practical date. In addition to the USEPA standards, CARB has set air quality standards for the same criteria pollutants and four others: sulfates, hydrogen sulfide (H<sub>2</sub>S), vinyl chloride (chloroethene, C<sub>2</sub>H<sub>3</sub>Cl), and visibility reducing particles. Table 3.3-4 lists California standards.

Comparison of the criteria pollutant concentrations in ambient air to the CAAQS determines State attainment status for criteria pollutants in a given region. CARB has jurisdiction over all air pollutant sources in the State; it has delegated to local air districts the responsibility for stationary sources and has retained authority over emissions from mobile sources. CARB, in partnership with the local air quality management districts within California, has developed a pollutant monitoring network to aid attainment of CAAQS. The network consists of numerous monitoring stations located throughout California that monitor and report various pollutants' concentrations in ambient air.

<b>Table 3.3-4. California Ambient Air Quality Standards</b>			
<b>Pollutant</b>	<b>Averaging Time</b>	<b>Concentration</b>	<b>Standard</b>
Carbon Monoxide (CO)	1 hour	20 ppm (23 mg/m <sup>3</sup> )	Not to be exceeded
	8 hours	9.0 ppm (10 mg/m <sup>3</sup> )	
Lead (Pb) <sup>(1)</sup>	30-day average	1.5 µg/m <sup>3</sup>	Not to be equaled or exceeded
Nitrogen Dioxide (NO <sub>2</sub> )	1 hour	0.18 ppm (339 µg/m <sup>3</sup> )	Not to be exceeded
	Annual Average	0.030 ppm (57 µg/m <sup>3</sup> )	
Ozone (O <sub>3</sub> )	1 hour	90 ppb (180 µg/m <sup>3</sup> )	Not to be exceeded
	8 hours	70 ppb (137 µg/m <sup>3</sup> )	
Fine Particulate Matter (PM <sub>2.5</sub> )	Annual Average	12 µg/m <sup>3</sup>	Not to be exceeded
Respirable Particulate Matter (PM <sub>10</sub> )	24 hours	50 µg/m <sup>3</sup>	Not to be exceeded
	Annual Average	20 µg/m <sup>3</sup>	
Sulfur Dioxide (SO <sub>2</sub> )	1 hour	0.25 ppm (655 µg/m <sup>3</sup> )	Not to be exceeded
	24 hours	0.04 ppm (105 µg/m <sup>3</sup> )	
Visibility Reducing Particles	8 hours, statewide	Extinction of 0.23 per kilometer	Not to be exceeded
Sulfates	24 hours	25 µg/m <sup>3</sup>	Not to be equaled or exceeded
Hydrogen Sulfide	1 hour	0.03 ppm (42 µg/m <sup>3</sup> )	Not to be equaled or exceeded
Vinyl Chloride <sup>(1)</sup>	24 hours	0.01 ppm (26 µg/m <sup>3</sup> )	Not to be equaled or

**Table 3.3-4. California Ambient Air Quality Standards**

Pollutant	Averaging Time	Concentration	Standard
			exceeded
Notes: CARB has identified lead and vinyl chloride as “toxic air contaminants” with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants. Source: CARB, 2016.			

***Air Toxics “Hot Spots” Information and Assessment Act, AB 2588***

The Air Toxics “Hot Spots” Information and Assessment Act of 1987 (AB 2588; California Health and Safety Code, Division 26, Part 6) requires an inventory of air toxics emissions from individual facilities, an assessment of health risk, and notification of potential significant health risk.

***The Calderon Bill, SB 1889***

SB 1889 (California Health and Safety Code Sections 25531 to 25543) sets forth changes in the following four areas: 1) provide guidelines to identify a more realistic health risk; 2) require high-risk facilities to submit an air toxic emission reduction plan; 3) hold air pollution control districts accountable for ensuring that the plans will achieve their objectives; and 4) require high-risk facilities to achieve their planned emission reductions.

***California Diesel Fuel Regulations***

With the California Diesel Fuel Regulations, CARB set sulfur limitations for diesel fuel sold in California for use in on-road and off-road motor vehicles. Under this rule, diesel fuel used in motor vehicles has been limited to 500-ppm sulfur since 1993. This sulfur limit was later reduced to 15 ppm, effective September 1, 2006.

**Local**

Local air pollution control districts in California have jurisdiction over stationary sources in their respective areas and must adopt plans and regulations necessary to demonstrate attainment of NAAQS and CAAQS. As directed by the Federal and State Clean Air Acts, local air districts are required to prepare plans with strategies for attaining and maintaining State and Federal ozone standards. In the Study Area, air quality rules and regulations are promulgated by the Santa Barbara County Air Pollution Control District (SBCAPCD). In order to ultimately achieve the air quality standards, the rules and regulations limit emissions and permissible impacts from the Proposed Project. Some rules also specify emission controls and control technologies for each type of emitting source. The regulations also include requirements for obtaining an Authority to Construct (ATC) permit and a Permit to Operate (PTO).

***Scope and Content of Air Quality Sections in Environmental Documents***

Carpinteria recognizes air quality as a regional issue and therefore relies on the standards developed by the SBCAPCD. The SBCAPCD’s thresholds of significance (SBCAPCD, 2017) apply to all sources of air pollutants, including equipment and businesses not regulated by the SBCAPCD and motor vehicles. They are recommended to be used for CEQA review of projects in the county for which the SBCAPCD is a responsible agency or a concerned agency. SBCAPCD’s thresholds of significance are intended to address cumulative, basin-wide air pollutant impacts. Therefore, if a project’s emissions do not exceed the SBCAPCD significance thresholds, it can be assumed that it will

not result in a cumulatively considerable net increase of a criteria pollutant for which the South Central Coast Air Basin is non-attainment.

The SBCAPCD has jurisdiction over air quality attainment in the Santa Barbara County portion of the South Central Coast Air Basin. The SBCAPCD also has jurisdiction over Outer Continental Shelf sources located within 25 miles (40 km) of the seaward boundaries of the State of California (Rule 903). Increases in emissions of any non-attainment pollutant or its pre-cursor from a new or modified project that exceed the thresholds which have been identified in the SBCAPCD Regulation VIII, are required to be mitigated.

As a wastewater treatment plant, the CSD WWTP has an existing SBCAPCD PTO. The Proposed Project would not include new criteria pollutant emissions sources and, therefore, would not require a new SBCAPCD PTO. However, the existing PTO may require modification to accommodate the increase in the plant's electricity demand associated with the Proposed Project. The Proposed Project would not involve new sources of criteria pollutant emissions and, therefore, would not require an ATC. Other relevant SBCAPCD rules are:

- Rule 201, Permits Required: Specifies the permits required for construction or operation of equipment that emits air contaminants. Under Rule 201, the Proposed Project would be required to obtain an ATC if it were to introduce new sources of air contaminant emissions.
- Rule 302, Visible Emissions: This rule limits air emissions to 20 percent opacity.
- Rule 303, Nuisance: This rule prohibits air emissions that cause a nuisance.
- Rule 310, Odorous Organic Sulfides: This rule prohibits air emissions of hydrogen sulfide or organic sulfides over a certain concentration. Operation of the Proposed Project would be subject to the limitations in Rule 310 (0.06 ppm over a 3-minute averaging time; or 0.03 ppm over a one hour averaging time).
- Rule 323.1 Architectural Coating: sets limits on the volatile organic compound (VOC) content in architectural coatings. Any architectural coatings applied by the Proposed Project would be subject to the VOC content limits in Rule 323.1.
- Rule 325 Control of Fugitive Dust from Construction and Demolition Activities: limits generation of visible dust emissions at demolition and construction sites, and reinforces Rule 302 and 303.
- Regulation XIII: Part 70 Operating Permit Program
  - Rules 1301 through 1305 define criteria for Part 70 source applicability, and permit content and requirements for Part 70 sources. The Proposed Project is considered a "Part 70 Source" because it is a stationary source with the potential to emit a regulated air pollutant or a hazardous air pollutant in quantities equal to or exceeding the thresholds defined in Rule 1301.
  - Rule 370, Potential to Emit – Limitations for Part 70 Sources – Specifies actual emission level criteria below which Part 70 sources are exempt from Part 70 permit requirements.
- Rule 802, New Source Review: For new or modified stationary sources, this rule specifies emission limits that would trigger emission offsets (150 pounds per day [lbs/day] or 25 tons/year for CO-if designated nonattainment, 25 tons/year for any non-attainment pollutants and precursors [except CO and PM<sub>2.5</sub>], and 240 lbs/day for attainment pollutants and precursors [except CO and PM<sub>2.5</sub>]) or trigger best available control technology requirements (25 lbs/day for any non-attainment pollutant or its precursors [except CO], and 150 lbs/day for CO). The Proposed Project does not propose new or modified stationary sources and, therefore, New Source Review would not apply to it.
- Rule 345 (Control of Fugitive Dust from Construction and Demolition Activities), Rule 302 (Visible Emissions) and Rule 303 (Nuisance): SBCAPCD requires dust mitigation measures for all discretionary construction

activities for compliance with these three rules, regardless of the project size or duration. SBCAPCD's recommended dust mitigation measures include:

- During construction, use water trucks or sprinkler systems to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this should include wetting down such areas in the late morning and after work is completed for the day. Increased watering frequency should be required whenever the wind speed exceeds 15 mph. Reclaimed water should be used whenever possible. However, reclaimed water should not be used in or around crops for human consumption.
- Minimize amount of disturbed area and reduce on site vehicle speeds to 15 miles per hour or less.
- If importation, exportation and stockpiling of fill material is involved, soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binders to prevent dust generation. Trucks transporting fill material to and from the site shall be tarped from the point of origin.
- Gravel pads shall be installed at all access points to prevent tracking of mud onto public roads.
- After clearing, grading, earth moving or excavation is completed, treat the disturbed area by watering, or revegetating, or by spreading soil binders until the area is paved or otherwise developed so that dust generation will not occur.
- The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to SBCAPCD prior to grading/building permit issuance and/or map clearance

### ***Air Quality Attainment Plans***

The eighth triennial update to the initial state *Air Quality Attainment Plan* adopted by the SBCAPCD Board of Directors in 1991 (other updates were done in 1994, 1998, 2001, 2004, 2007, 2010, and 2013) is called the 2016 Ozone Plan (SBCAPCD, 2016). It is the plan to attain the California 8-hour ozone standard. USEPA and CARB develop and implement air quality standards using ambient air monitoring data collected at the 17 stations around the county, determine the attainment classification for Santa Barbara County, or whether the County's air is in attainment of certain air quality standards. The County's attainment classification drives the clean air planning process, identifying the required emissions reductions that must be obtained and determining the deadlines. As of the drafting of the 2016 Ozone Plan, the County was designated unclassifiable/attainment for the federal 8-hour ozone standard of 0.075 ppm, and therefore was not currently required to prepare any plans for the federal ozone standard. The 2016 Ozone Plan addressed the State ozone standard only. The 2016 Ozone Plan covers trends in air quality, population, and vehicle activity; quantifies a baseline emission inventory and forecasts ozone precursors in the years 2025 and 2035; and identifies measures to control emissions from stationary sources and transportation sources.

### ***Air Toxics Programs***

SBCAPCD prioritizes and categorizes facilities as required by the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588). Through the prioritization procedures, SBCAPCD determines which facilities may be causing significant offsite carcinogenic or noncarcinogenic health risks. This is done by developing "toxic scores" for each facility. These scores are used by the District to categorize each facility as high, intermediate, or low priority. High and intermediate priority facilities (and any other facilities designated by SBCAPCD) are required to submit a risk assessment to SBCAPCD to quantify the off-site carcinogenic and noncarcinogenic health risk due to their facility emissions. The risk assessments are used by SBCAPCD to determine which facilities have air toxics emissions that are causing significant health risks. These significant risk sources are required in order to provide notices to all exposed

persons regarding the results of the risk assessment. In addition, SBCAPCD has prepared an annual report, commencing in 1991, which ranks and identifies facilities according to the degree of health risk posed by each facility (SBCAPCD, 2019c). Since 1991, the number of significant risk facilities in Santa Barbara County has been reduced by 100%. In 1991, there were 51 significant risk facilities and now there are none. In addition to evaluating existing facilities in AB 2588, SBCAPCD evaluates health risk associated with new or modified facilities during the permit process when issuing new Authority to Construct permits. The goal for SBCAPCD's new source review health risk program is to prevent a new or modified facility from creating a significant risk to the community (using the significance criteria established by the AB 2588 program). With this program, no additional significant risk facilities have been created since 1991.

### ***Air Quality Supplement to the Comprehensive Plan***

The Air Quality Supplement to the *Santa Barbara County Comprehensive Plan* (County 2009) amends the Land Use Element to ensure consistency between the County's land use plan and the County's air quality plan. It includes land use control measures to air pollution associated with land use patterns and their transportation needs. The majority of the land use control policies focus on curbing suburban sprawl and reducing automobile use, and are not relevant to the Proposed Project.

### **3.3.3 Impact Analysis – Air Quality**

#### **Methodology for Analysis**

Air quality criteria pollutants from construction and operation of the Proposed Project were estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2, consistent with guidance from SBCAPCD (SBCAPCD, 2017). Model inputs were developed based on information in Section 2, *Project Description*, draft Project construction schedules developed by Woodard & Curran in March 2019, and default values from the CalEEMod computer program. It was assumed that construction of all Project components (i.e., the AWPF, pump station, wells, and pipelines) would all commence in July 2021 and proceed simultaneously for approximately 15 months. In reality, construction of the Project components may be phased and this assumption, therefore, represents a conservative “worst case” scenario. It was assumed that the Proposed Project would implement the measures that are required by state law, as well as the dust minimization measures that are required by SBCAPCD for all discretionary construction activities.

#### **Thresholds of Significance**

##### ***Short-Term Impacts***

The SBCAPCD has not set quantitative thresholds of significance for short-term emissions. However, in the interest of public disclosure, the SBCAPCD recommends that construction-related NO<sub>x</sub>, ROC, PM<sub>10</sub> and PM<sub>2.5</sub> emissions from diesel and gasoline powered equipment, paving, and other activities, be quantified. Although there is not an established quantitative threshold for short-term, construction related PM<sub>10</sub> (which is 50% of total dust), SBCAPCD advises that fugitive dust impacts be discussed in all environmental documents for projects involving ground disturbance. The SBCAPCD requires standard dust control measures, which would be implemented during construction of the Proposed Project (see Appendix C).

Although the SBCAPCD does not have quantitative thresholds of significance in place for short-term or construction emissions for ozone precursors, it uses 25 tons per year for ROC and NO<sub>x</sub> as a guideline for determining the

significance of construction impacts. The County has not established short-term thresholds for NO<sub>x</sub> and ROC emissions from construction equipment because, in general, NO<sub>x</sub> emissions from construction are considered insignificant.

Under SBCAPCD Rule 202 D.16, if the combined emissions from all construction equipment used to construct a stationary source which requires an ATC have the potential to exceed 25 tons of any pollutant, except carbon monoxide, in a 12-month period, the owner of the stationary source shall provide offsets under the provisions of Rule 804 and shall demonstrate that no ambient air quality standard will be violated. Although the Proposed Project would not introduce new emissions sources and therefore not require an ATC, the 25 tons per year standard provides a guideline for what would constitute a significant level of air pollutant emissions within the South Central Coast Air Basin.

**Long-Term Impacts**

Long-term project emissions primarily stem from motor vehicles and from stationary sources (e.g., diesel generators, boilers and large water heaters, water treatment facilities). According to the SBCAPCD, a project would have a significant impact on air quality, either individually or cumulatively, if operation would:

- Emit (from all project sources, mobile and stationary), less than the daily trigger for offsets or Air Quality Impact Analysis set in the SBCAPCD New Source Review Rule for any pollutant (240 lbs/day for ROC or NO<sub>x</sub>; and 80 lbs/day for PM<sub>10</sub>. There is no daily operational threshold of CO; it is an attainment pollutant); or
- Emit more than 25 lbs/day of ROC or NO<sub>x</sub> from motor vehicle trips only; or
- Cause or contribute to a violation of any CAAQS or NAAQS; or
- Exceed the SBCAPCD health risk public notification threshold of 10 excess cancer cases in a million for cancer or a Hazard Index of more than one (1.0) for non-cancer risk; or
- Be inconsistent with the latest adopted federal and state air quality plans for Santa Barbara County.

Due to the relatively low background ambient CO levels in Santa Barbara County, localized CO impacts associated with congested intersections are not expected to exceed the CO health-related air quality standards. Therefore, CO “Hotspot” analyses are no longer required (SBCAPCD 2017).

**General Conformity Regulations**

Section 176(c) of the Federal Clean Air Act prohibits Federal entities from taking actions in nonattainment or maintenance areas which do not conform to the State implementation Plan (SIP) for the attainment and maintenance of the NAAQS. Therefore, the purpose of conformity is to (1) ensure Federal activities do not interfere with the budgets in the SIPs; (2) ensure actions do not cause or contribute to new violations, and (3) ensure attainment and maintenance of the NAAQS. Currently, SBCAPCD is in attainment of national ambient air quality standards, therefore general conformity analysis is not required for Federal or Federally-funded projects (SBCAPCD 2017).

**Project Impacts**

**Would the Proposed Project:**

	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
3.3-1: Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.3-2: Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.3-3: Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.3-4: Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### 3.3.4 Impact Statements and Mitigation Discussions

This section discusses potential impacts to air quality that could result in conjunction with the Proposed Project. Mitigation measures are identified where appropriate.

#### Impact 3.3-1: Conflict with or obstruct implementation of the applicable air quality plan?

The 2016 Ozone Plan is the current SBCAPCD Board-adopted Ozone Plan for the County and addresses local plans to attain the California 8-hour ozone standard. The baseline emissions inventory incorporates information from every type of emissions source in the base year, 2012, including emissions from stationary sources (e.g., larger facilities that are subject to SBCAPCD permitting requirements) such as the CSD WWTP. For example, the 2012 base year stationary source emissions are calculated with annual data that facilities, including the CSD WWTP, would have reported to the SBCAPCD. The largest sources of ozone precursor emissions from stationary sources in the County stem from coating and solvent operations, oil and gas production, and food and agricultural processing; sewage treatment accounts for a very small amount of County-wide ROC and NO<sub>x</sub>.

The 2012 inventory is then projected into the future, which estimates the future inventories in Santa Barbara County based on County growth data and currently adopted local, state, and federal rules that are planned for implementation, in the years 2025 and 2035. In the 2016 Ozone Plan, the growth factors are based on information collected from reputable sources such as the California Energy Commission and the Department of Finance, then projected using various economic models called REMI (Regional Economic Models, Inc.). The Proposed Project is consistent with the information that forms the basis of the 2016 Ozone Plan emission inventories, both baseline and future. Therefore, any emissions of ozone precursors would be consistent with the 2016 Ozone Plan.

The 2016 Ozone Plan identifies control measures to reduce ROC and NO<sub>x</sub> emissions from stationary sources of air pollution. The measures are classified as adopted (measures SBCAPCD has formally adopted), proposed (measures SBCAPCD plans to adopt), and further study (measures SBCAPCD plans to investigate further before adoption). Measures that could apply to the Proposed Project include Rule 323.1 Architectural Coating, which sets limits on the VOC content in architectural coatings. The Proposed Project would comply with all applicable SBCAPCD rules and would therefore be consistent with the 2016 Ozone Plan.

#### Significance Determination Before Mitigation

Less than Significant.

**Impact 3.3-2: Result in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment?**

**Short-Term Impacts**

Air emissions of criteria pollutants during construction would result from the use of construction equipment with internal combustion engines, and off-site vehicles to transport workers, deliver materials to the site, and haul export material from the site. Project construction would also result in fugitive dust emissions, which would be lessened through the implementation of the construction best management practices required by SBCAPCD. Project construction emissions are summarized in Table 3.3-5 and Table 3.3-6.

Consistent with SBCAPCD guidelines, daily maximum construction-related fugitive dust, NO<sub>x</sub>, ROC, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions from grading, paving, and other activities have been quantified and are presented in Table 3.3-5. These emissions have not been compared to quantitative thresholds of significance because such thresholds are not currently in place for short-term emissions.

Emission Sources	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
Construction equipment	57.6	29.5	43.9	0.1	2.6	2.8
Offsite emissions	4.3	0.4	3.1	<0.1	0.2	0.7
Fugitive dust (with required construction best management practices)	--	--	--	--	3.0	5.7
<b>Total Maximum Daily Emissions</b>	<b>61.9</b>	<b>29.6</b>	<b>47.1</b>	<b>0.1</b>	<b>5.4</b>	<b>8.6</b>

Note: Emissions represent the maximum of winter or summer. Numbers may not sum due to rounding. See CalEEMod output sheets in Appendix C. Values are taken from the "mitigated" CalEEMod output tables to represent emissions with standard dust control measures.

As stated under Thresholds of Significance, above, the SBCAPCD uses 25 tons per year for ROC and NO<sub>x</sub> as a guideline for determining the significance of construction impacts and, under SBCAPCD Rule 202 D.16, if the combined emissions from all construction equipment used to construct a stationary source which requires an ATC permit have the potential to exceed 25 tons of any pollutant, except carbon monoxide, in a 12-month period, the owner of the stationary source shall provide offsets under the provisions of Rule 804 and shall demonstrate that no ambient air quality standard will be violated. The quantified total annual emissions are summarized in Table 3.3-6.

Year	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
2021	3.2	0.4	2.4	<0.1	0.3	0.4
2022	3.2	1.0	2.9	<0.1	0.3	0.4
<i>Threshold</i>	25	25	--	25	25	25
Significant?	No	No	No	No	No	No



The quantities presented in Table 3.3-5 and Table 3.3-6 represent the estimated emissions associated with construction of the AWPF and pump station, wells, and pipelines. Emissions would also be associated with the ocean outfall improvements; however, such emissions were assumed to be minimal and were not included in the quantitative analysis. The ocean outfall improvements would involve a boat and divers fitting the outfall with new valves on a single day.

The Proposed Project would not exceed the applicable emissions standards during construction. Construction would be short-term and temporary. Additionally, CVWD would implement SBCAPCD and CARB Construction Best Management Practices as directed in Section 2.10, *Environmental Commitments*. Therefore, construction of the Proposed Project would not result in a cumulatively considerable net increase of a criteria pollutant for which the South Central Coast Air Basin is non-attainment.

### Long-Term Impacts

Long-term emissions of criteria pollutants would result from motor vehicle trips associated with maintenance and operation of the proposed facilities, ongoing energy consumption at the AWPF, and “area” sources such as landscaping and architectural coating. Calculated operational emissions are compared to SBCAPCD thresholds. The maximum daily long-term emissions of criteria pollutants are summarized in Table 3.3-7.

<b>Table 3.3-7. Proposed Project Operational Emissions (lbs/day)</b>						
<b>Emission Sources</b>	<b>NO<sub>x</sub></b>	<b>ROC</b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>PM<sub>2.5</sub></b>	<b>PM<sub>10</sub></b>
Mobile source emissions	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
Energy and area source emissions	<0.1	1.4	<0.1	0	<0.1	<0.1
<b>Total Emissions</b>	<b>&lt;0.1</b>	<b>1.4</b>	<b>0.1</b>	<b>&lt;0.1</b>	<b>&lt;0.1</b>	<b>&lt;0.1</b>
<i>Threshold (all sources)</i>	240	240	--	--	--	80
Exceed threshold (all sources)?	No	No	No	No	No	No
<i>Threshold (mobile sources only)</i>	25	25	--	--	--	--
Exceed threshold (mobile sources)?	No	No	No	No	No	No

As shown in Table 3.3-7, operation of the AWPF, pump, wells, and pipelines would not exceed SBCAPCD emissions standards. Additionally, CVWD would implement SBCAPCD and CARB Construction Best Management Practices as directed in Section 2.10, *Environmental Commitments*. Because emissions are below the significance levels, the Proposed Project would not result in a cumulatively considerable net increase of a criteria pollutant for which the South Central Coast Air Basin is non-attainment.

The mission of the SBCAPCD is to protect the people and the environment of Santa Barbara County from the effects of air pollution. The SBCAPCD thresholds of significance are designed to evaluate impacts at a project level as they relate to the NAAQS and CAAQS. The SBCAPCD thresholds of significance ensure projects do not conflict with the latest adopted clean air plans, which are developed to ensure the County is on track to achieve compliance with Air Quality Standards. The Air Quality Standards provide public health protection, including protecting the health of “sensitive” populations such as asthmatics, children, and the elderly. Therefore, if a project is consistent with the latest adopted clean air plan and does not exceed the SBCAPCD significance thresholds, it can be assumed that it will not have a substantial adverse impact on public health.

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### **Environmental Commitments**

CVWD would implement SBCAPCD and CARB Construction Best Management Practices as directed in Section 2.10, *Environmental Commitments*.

### **Significance Determination Before Mitigation**

Less than Significant.

### **Impact 3.3-3: Expose sensitive receptors to substantial pollutant concentrations?**

Any project that has the potential to expose sensitive receptors to substantial pollutant concentrations, and/or exceed the SBCAPCD health risk public notification threshold of 10 excess cancer cases in a million for cancer or a Hazard Index of more than one (1.0) for non-cancer risk would have a potentially significant impact.

Sensitive receptors are located within the Study Area. Sensitive receptors are typically defined as residences, schools (preschool – 12th grade), hospitals, resident care facilities, senior housing facilities, day care centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality. The AWPf site is bounded a live/work residential development to the west and the Carpinteria State Beach Park maintenance yard and employee housing to the north. To the south is Carpinteria State Beach, which includes campgrounds, day use areas, and a playground. The land uses surrounding the proposed well sites include residential. Well Sites #2 and #3 would be located next to Saint Joseph Catholic Church. Well Site #4 would be located on the property of the Church of Jesus Christ of Latter-day Saints.

As described above, the Proposed Project would not result in considerable pollutant levels during construction (Table 3.3-5 and Table 3.3-6). Construction would be short-term and emissions of PM<sub>10</sub> and PM<sub>2.5</sub>, including particulate matter from diesel exhaust, would be below thresholds, which are designed to protect public health. The Project would also incorporate the construction best management practices (BMPs) required by SBCAPCD (See Appendix C), which would further reduce dust emissions. The NAAQS and CAAQS provide public health protection, including protecting the health of "sensitive" populations such as asthmatics, children, and the elderly. If a project is consistent with the latest adopted clean air plan and does not exceed the SBCAPCD significance thresholds, it can be assumed that it will not have a substantial adverse impact on public health. Operation of the Proposed Project would not result in long-term pollutant concentrations that exceed emissions standards. Therefore, neither construction nor operation of the Proposed Project are anticipated to expose sensitive receptors to substantial pollutant concentrations.

The existing WWTP facilities do not generate substantial sources of toxic air contaminant emissions that could pose or contribute to a health risk. Currently, there are no significant risk facilities in Santa Barbara County that release toxic substances into the air that pose health risks at levels that exceed SBCAPCD thresholds. The Proposed Project would construct facilities that would be similar to existing facilities at the site. Furthermore, the Proposed Project would comply with SBCAPCD new source review program in that emissions from the Proposed Project would be lower than the limits that would trigger emission offsets or trigger best available control technology requirements (see Section 3.3.2.3, *Local*). The Proposed Project would not introduce new sources of air pollutant emissions which would trigger the need to obtain an ATC permit; therefore, the Proposed Project would comply with SBCAPCD health risk review. Therefore, the Proposed Project is not anticipated to result in a new, significant source of toxic air contaminants.

As noted in Section 3.3.3, *Impact Analysis – Air Quality*, due to the relatively low background ambient CO levels in Santa Barbara County, localized CO impacts associated with congested intersections are not expected to exceed the

CO health-related air quality standards. Therefore, CO “Hotspot” analyses are no longer required, and it is assumed the Proposed Project would have a less than significant impact related to CO “Hotspots.”

***Significance Determination Before Mitigation***

Less than Significant.

**Impact 3.3-4: Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?**

SBCAPCD Rule 303, Nuisance, prohibits discharge from any source whatsoever air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety or any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property. This rule covers generation of odors, and typical sources of odor complaints include facilities such as sewage treatment plants, landfills, recycling facilities, petroleum refineries, and livestock operations. Under the right meteorological conditions, some odors may still be offensive several miles from the source (CARB 2005).

Implementation of the Proposed Project would have the potential to generate objectionable odors through construction activities and during operation of certain components. Construction activities are not typical sources of nuisance odors, although construction could result in minor amounts of odors associated with diesel exhaust or evaporation of VOCs within architectural coatings. These smells are largely due to the presence of sulfur and creation of hydrocarbons during combustion. As shown in in Table 3.3-5 and Table 3.3-6, construction would not result in significant emissions of sulfur oxides. Additionally, construction would be temporary, and equipment would not be in a single location throughout the construction period. Odorous hydrocarbons tend to dissipate quickly and would only affect receptors in the immediate vicinity, rather than a substantial number of people at any given time. Therefore, construction activities would not result in nuisance odors.

Operation of the Proposed Project, including the AWPF, pump, wells, and pipelines, is not expected to result in odor impacts. The CSD WWTP already treats and stores wastewater and recycled water, which requires operation of odor control measures to prevent objectionable odors. Addition of the AWPF facility with an improved level of treatment would not create odors because source water would be secondary effluent suitable for reuse and product water would be purified water suitable for groundwater replenishment, neither of which has associated odor. The AWPF would be designed and constructed in compliance with applicable regulations and standards relative to product water for groundwater replenishment. Potential impacts related to objectionable odors would be less than significant and no mitigation would be necessary.

***Significance Determination Before Mitigation***

Less than Significant.

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## 3.4 Biological Resources

This section provides a description of the existing biological setting in the Study Area, provides relevant regulatory information, and evaluates potential impacts on biological resources from implementation of the CAPP. A *Biological Resources Assessment* was completed in March 2019 (see Appendix D). The Proposed Project has the potential to adversely affect sensitive species and habitat. The mitigation measures identified in this section would reduce potential impacts to levels that are less than significant.

### 3.4.1 Physical Environmental Setting – Biological Resources

#### Terrestrial Environment

Much of the coastal plain between the Santa Ynez Mountains and Pacific Ocean in the vicinity of the Proposed Project is developed or has been historically disturbed by agricultural uses. Native vegetation within the Biological Resources APE is limited and fragmented, but includes and is not limited to coast live oak (*Quercus agrifolia*), California sycamore (*Platanus racemosa*), Menzies' goldenbush (*Isocoma menziesii*), arroyo willow (*Salix lasiolepis*), and California blackberry (*Rubus ursinus*). For the terrestrial portion of the Proposed Project, the Biological Resources APE included a 50-foot survey buffer around the Proposed Project's footprint.

The weather in the Carpinteria area is typical of a Mediterranean climate. Summers are warm and dry while the winters are cool and often wet. Approximately 90% of the annual runoff occurs in less than 30 days, with over 80% of that coming in January, February, and March (Cachuma Resource Conservation District and the Carpinteria Creek Watershed Coalition 2005). Most of the annual precipitation and corresponding runoff occurs in only a few large storms, resulting in high peak flows and rapid return to near baseflow conditions (Beighley et al., 2004). Although rainfall is highly seasonal and varies significantly from year to year, the U.S. Department of Agriculture's Natural Resource Conservation Service (NRCS) National Water and Climate Center for Carpinteria reports mean annual precipitation as approximately 20 inches (NRCS, 2018a).

#### Watershed and Drainages

Two creeks are located within the Biological Resources APE, Franklin Creek and Carpinteria Creek. Franklin Creek consists of a concrete lined flood control channel. It receives runoff water from the surrounding residential and agricultural developments, and lacks vegetation. Franklin Creek originates in the Santa Ynez Mountains, continues through the foothills and coastal terrace areas, and then connects to Santa Monica Creek west of the Biological Resources APE before reaching the Carpinteria Salt Marsh, and ultimately the Pacific Ocean. The National Wetlands Inventory defines Franklin Creek as an intermittent creek where surface water is present for extended periods especially early in the growing season, but is absent by the end of the growing season in most years (National Wetlands Inventory, 2016). Franklin Creek also receives flows from shallow groundwater seeps, in addition to urban runoff.

Carpinteria Creek occurs within a small portion of the Biological Resources APE adjacent to and east of the WWTP. It originates in the Santa Ynez Mountains, continues through foothills and coastal terrace areas, then reaches the Carpinteria Salt Marsh. Carpinteria Creek is distinct from other creeks within 100 miles north and south, as it is one of the few perennially flowing streams, except in severe drought years. The Carpinteria Lagoon begins 50 feet above the ocean and extends approximately 650 feet along the Carpinteria Creek corridor to the railroad tracks. Carpinteria Creek occurs directly east of the existing WWTP, just north of the lagoon.

Both Franklin Creek and Carpinteria Creek are listed on the SWRCB Section 303(d) list of impaired water bodies requiring development of total daily maximum loads (TMDLs). Franklin Creek is listed for sodium, pH, fecal coliform, and toxicity. The TMDL for Nitrogen and Phosphorus Compounds in Streams of the Franklin Creek Watershed was adopted by the Central Coast Regional Water Quality Control Board (RWQCB) in March 2018. Carpinteria Creek is listed for E. coli, fecal coliform, toxicity, chloride, sodium, nitrate and dissolved oxygen. Carpinteria Creek contains breeding populations of listed wildlife species such as the federally listed endangered tidewater goby (*Eucyclogobius newberryi*) within brackish lagoon areas and Southern California steelhead trout (*Oncorhynchus mykiss irideus*) distinct population segment (DPS) within the upper watershed, as well as other species of federal, state, and local concern.

**Vegetation and Other Land Cover**

Vegetation communities and land cover types documented within the Biological Resources APE include developed/disturbed/landscaped, arroyo willow thicket, and beach shoreline. Table 3.4-1 summarizes the vegetation communities and land cover types along with associated acreages within the Biological Resources APE. A map illustrating terrestrial vegetation communities and land cover types is presented as Figure 3.4-1. Only 0.8% of the Biological Resources APE is not developed/disturbed/landscaped, and these areas are limited to the area near the WWTP and the shoreline.

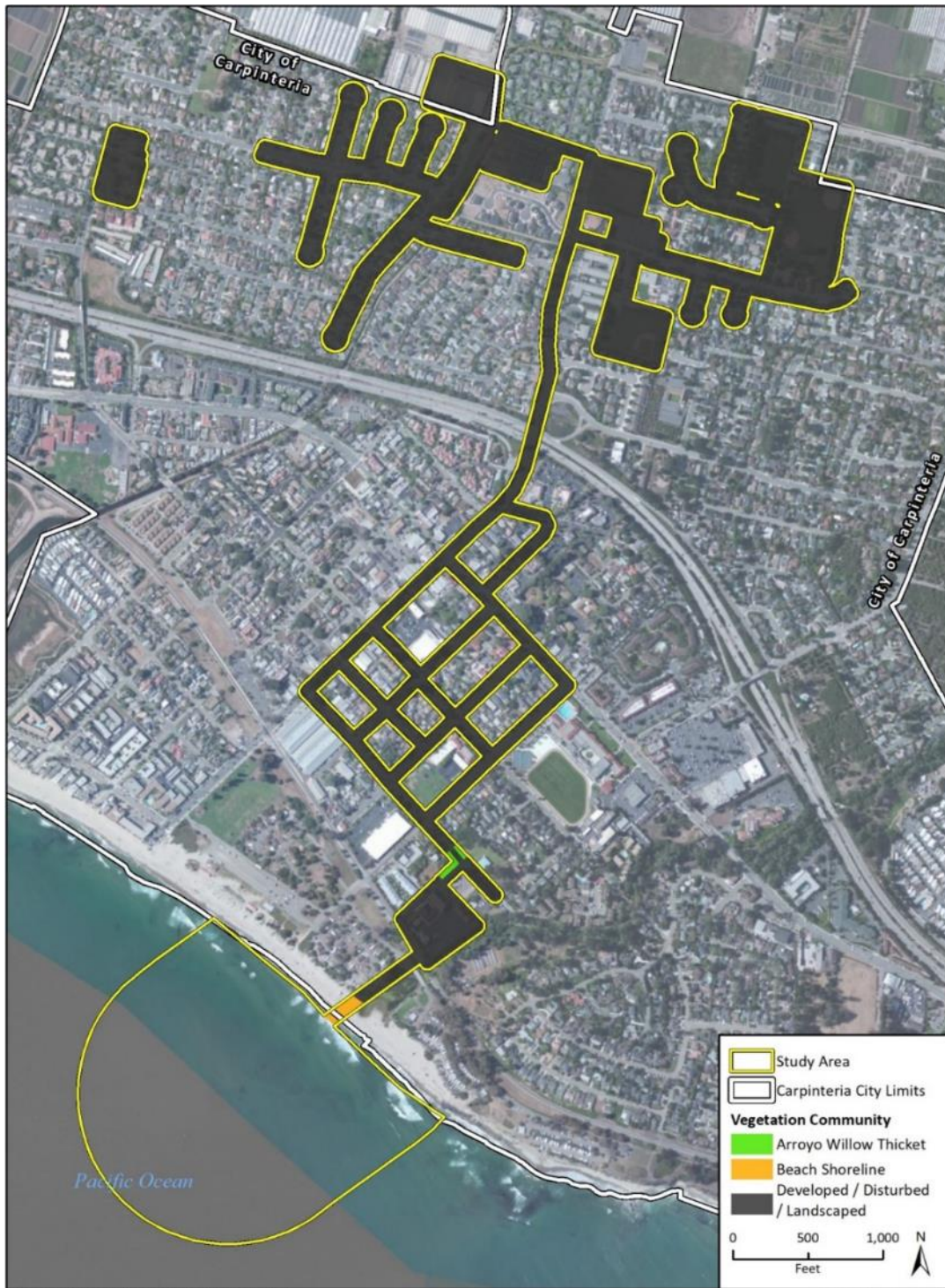
Habitat Type	Approximate Acreage	Approximate Percent Area
Developed/Disturbed/Landscaped	107.66	99.2
Arroyo Willow Thicket	0.28	0.3
Beach Shoreline	0.55	0.5
<b>Total</b>	<b>108.49</b>	<b>100</b>

The dominant land cover type throughout the Biological Resources APE is characterized as developed/disturbed/landscaped. These areas consist of buildings, residential development, and other infrastructure, paved or graded dirt areas with little to no vegetation, or planted ornamental landscape species. The proposed injection and monitoring well areas occur within developed or disturbed areas (e.g., roadway ROWs, parking lots, schools, and community parks) north of U.S. Highway 101. Linden Avenue contains various mature eucalyptus (*Eucalyptus sp.*) trees, while the majority of the streets south of U.S. Highway 101 consisted of mature coast live oaks. The Biological Resources APE is also made up of landscaped and ruderal vegetation, dominated by species such as turf grasses, various aloe species typically used in landscaping, oleander (*Nerium oleander*), Russian thistle (*Salsola tragus*), mustard (*Brassica sp.*), giant reed (*Arundo donax*), castor bean (*Ricinus communis*), pine trees (*Pinus sp.*), and ornamental trees such as sweetgum (*Liquidambar styraciflua*), queen palms (*Syagrus romanzoffiana*), Canary island date palms (*Phoenix canariensis*), and black poiou (*Jacaranda mimosifolia*).

Riparian vegetation is limited in the Biological Resources APE. Riparian vegetation was observed to cover a small area at the intersection of Olive Avenue and 6th Street, northwest of the WWTP, and adjacent to where the primary pipeline alignment is proposed. The dominant species in this community is arroyo willow. Arroyo willow is dominant or co-dominant in the tall shrub or low tree canopy with other willow species and additional native vegetation. It is typically found in stream banks and benches, slope seeps, and stringers along drainages. The National Wetlands Inventory recognizes arroyo willow as a facultative wetland plant (USFWS 2016).

The southern portion of the Biological Resources APE overlies the shoreline at Carpinteria State Beach. This area consists of railroad tracks, campgrounds, and day use areas, which then slopes down to a sandy beach shoreline consisting of ice plant and Menzies' goldenbush.

**Figure 3.4-1. Vegetation Communities**



### General Wildlife

The Biological Resources APE contains habitat suitable for wildlife species that commonly occur in southern California suburban areas. Wildlife observed within the Biological Resources APE include bird species such as American crow (*Corvus brachyrhynchos*), common raven (*Corvus corax*), California towhee (*Melospiza crissalis*), California scrub-jay (*Aphelocoma californica*), and house finch (*Haemorhous mexicanus*). Wildlife not observed, but likely to occur include Virginia opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), mourning dove (*Zenaidura macroura*), and a variety of other songbirds. A complete list of all the plant and wildlife species observed on-site during the biological field survey is presented in the *Biological Resources Assessment* (Appendix D).

### Terrestrial Special Status Species and Communities

#### Special Status Plant Species

A total of 31 special status plant species have been previously documented within a 5-mile radius of the Study Area or within the California Native Plant Society 7-quadrant search. However, the Biological Resources APE does not contain suitable habitat for any special status plant species (see Appendix D).

#### Special Status Animal Species

Special status wildlife species are animals listed, species proposed for listing, or candidates for listing as threatened or endangered by the USFWS or the National Marine Fisheries Service (NMFS) under FESA (16 U.S.C. Section 153 et seq.), species listed or proposed for listing by California Department of Fish and Wildlife (CDFW) under CESA, animals designated as “Fully Protected” and species of special concern (SSC) by the CDFW, and species on the Special Animals List (CDFW, 2018).

A total of 20 special status wildlife species are known or have the potential to occur in the vicinity (see Appendix D). Of these 20 species, two have a high potential to occur, three have a moderate potential, and one has a low potential (Table 3.4-2). The remaining 14 special status species are not expected to occur in the Study Area. No special status wildlife species were observed within the Biological Resources APE during the survey effort.

Special status species or other protected species with moderate or high potential to occur within or adjacent to the Biological Resources APE are discussed below.

**Table 3.4-2. Terrestrial Special Status Wildlife Species with Potential to Occur in the Biological Resources APE**

Species	Low	Moderate	High
–Monarch - California overwintering population ( <i>Danaus plexippus</i> pop. 1)		X	
Tidewater goby ( <i>Eucyclogobius newberryi</i> )			X
Steelhead- southern California DPS ( <i>Oncorhynchus mykiss irideus</i> pop. 10)			X
California legless lizard ( <i>Anniella pulchra</i> )	X		
Western snowy plover ( <i>Chroicocephalus nivosus</i> )		X	
Yellow warbler ( <i>Setophaga petechia</i> )		X	



### Monarch – California Overwintering Population

The monarch – California overwintering population is a City and County local sensitive species with moderate potential to occur within and adjacent to the Biological Resources APE. This population consists of winter roost sites extending along the coast from northern Mendocino to Baja California, Mexico, and aggregates in California coastal woodlands between October and March, typically in eucalyptus groves, Monterey cypress, Monterey pines, and coast live oaks. They begin to gather in autumn, with groups increasing in size as cold weather and storms begin. The large aggregations are typically in groves that offer wind protection, slightly warmer temperatures, and basking sites. Large aggregations are fairly predictable as monarchs typically use the same sites each year (Meade 1999). Elements of suitable habitat (e.g., eucalyptus trees) were observed throughout the Biological Resources APE, particularly along Linden Avenue where the primary and southern potential pipeline alignment is proposed. No winter roost sites have been identified throughout the Biological Resources APE; however, the closest known roosting colony was recorded approximately 700 feet northeast of the WWTP, along Carpinteria Creek (City of Carpinteria, 2003).

### Tidewater Goby

The tidewater goby is a federally endangered fish and a state SSC with a high potential to occur in the southern portion of the Biological Resources APE. This is an estuarine/lagoon-adapted species that is endemic to the California coast, mainly in small lagoons and near stream mouths in the uppermost brackish portion of larger bays (Moyle 2002; USFWS 2005). Tidewater gobies inhabit discrete lagoons, estuaries, or stream mouths separated by mostly marine conditions, and are generally absent from areas where the coastline is steep, and streams do not form lagoons or estuaries (USFWS, 2005).

Reproduction begins in spring, usually late April or May, and continues into the fall. The reproductive period is generally associated with the closure and filling of the estuary (late spring to fall). Breeding occurs in slack, shallow waters of seasonally disconnected or tidally muted lagoons, estuaries, and sloughs. Tidewater goby were found in lower Carpinteria Creek during surveys conducted in 1995 and 1999 (USFWS, 2005). Tidewater goby were also observed around the 8th Street Pedestrian Bridge during replacement of that structure in 2008 and 2009. Southern California Coast Steelhead Distinct Population Segment

The steelhead – Southern California DPS is a federally endangered fish and a state SSC with a high potential to occur in the southern portion of the Biological Resources APE. Carpinteria Creek is designated critical habitat for southern California steelhead, and is known to support this species. An adult female steelhead and juvenile steelhead were reported from Carpinteria Creek in 2000 (Stoecker et al. 2002). Other fish species known to occur in Carpinteria Creek (mostly the estuary) include prickly sculpin (*Cottus asper*), Pacific lamprey (*Lampetra tridentata*), staghorn sculpin (*Leptocottus armatus*), California killifish (*Fundulus parvipinnis*), arrow goby (*Clevelandia ios*), and topsmelt (*Atherinops affinis*).

### California Legless Lizard

The California legless lizard is a state SSC with low potential to occur within the Biological Resources APE. This species requires a habitat composed of sandy or loose loamy soils under sparse vegetation, and requires soils with high moisture content (California Herps, 2018). Suitable habitat is present within the southern portion of the Biological Resources APE; however, California Natural Diversity Data Base (CNDDB) records are historical (before 1983) and significant development along Carpinteria State Beach has occurred since then.

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## Western Snowy Plover

The western snowy plover is a FT bird and a state SSC with moderate potential to occur within the southern portion of the Biological Resources APE. The Pacific coast population of the western snowy plover breeds primarily on coastal beaches from southern Washington to southern Baja California, Mexico. The population breeds above the high tide line on coastal beaches, sand spits, dune-backed beaches, sparsely vegetated dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries (USFWS, 2018d).

Carpinteria State Beach provides suitable foraging and roosting habitat for western snowy plover; however, no suitable nesting habitat is present due to development along the beach and human disturbance. The 62-acre Carpinteria State Beach is a highly developed recreational beach containing a campground, picnic areas, and a visitor's center. Carpinteria State Beach is monitored irregularly by volunteers and Channel Coast District staff. Occasionally, western snowy plover are observed roosting or foraging along Carpinteria State Beach and have been known to use the beach as a stopover during migration (California State Parks, 2013). According to the California State Parks (2014) Western Snowy Plover Annual Report, western snowy plovers do not nest in Carpinteria State Beach. As such, western snowy plovers have a moderate potential to roost and forage within the southern portion of the Biological Resources APE.

## Yellow Warbler

The yellow warbler is a state SSC bird with a moderate potential to occur within the riparian habitat identified within the Biological Resources APE and surrounding areas. Yellow warblers are frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders (Rodewald, 2015). Elements of suitable habitat (e.g., riparian vegetation) were observed at the intersection of Olive Avenue and 6th Street within the APE. Carpinteria Creek, which is east and primarily outside of the Biological Resources APE, also provides potential foraging and nesting habitat for this species.

## ***Nesting Birds***

The Biological Resources APE contains habitat that can support regulated nesting birds, including raptors, protected under the California Fish and Game Code (CFGF) Section 3503 and the Migratory Bird Treaty Act of 1918 (MBTA) (16 U.S.C. Sections 703 to 712). Potential nesting locations for raptors were observed throughout the Biological Resources APE with the most suitable locations being native and non-native mature trees (e.g., sycamore, eucalyptus, pine) in the potential injection and monitoring well areas and pipeline alignment areas. No active nests were observed during the reconnaissance survey; however, one previously occupied semi-large stick nest was observed on a sycamore tree at El Carro Park.

## ***Sensitive Plant Communities***

Plant communities are considered sensitive biological resources if they have limited distributions, have high wildlife value, include sensitive species, or are particularly susceptible to disturbance. CDFW ranks sensitive communities as "threatened" or "very threatened." The City of Carpinteria considers certain habitats to be of significant ecological and biological value (i.e., ESHA).

According to the CNDDDB, one sensitive plant community, southern coastal salt marsh, has been documented within 5 miles of the Proposed Project (Carpinteria Salt Marsh); however, no CNDDDB sensitive plant communities were observed within the Biological Resources APE during the reconnaissance survey.

A small patch of riparian habitat was observed at the intersection of Olive Avenue and 6th Street adjacent to where the primary pipeline alignment is proposed. The riparian patch is located in a developed area with no direct linkage to additional riparian vegetation or a water source. The vegetation patch consisted of hydrophytic vegetation (e.g., arroyo willow) and hydric soils (NRCS, 2019), but lacked the presence of hydrology. These indicators meet the criteria requirements of ESHA for the City and of a coastal zone wetland. Arroyo willow thickets are also considered a sensitive natural community by CDFW (2018b).

Protected trees (e.g., coast live oak, eucalyptus, City landmarks) were observed throughout the Biological Resources APE. These meet the criteria in City, County, and coastal zone tree protection policies and ordinances, which are discussed below.

### ***Wild and Scenic Rivers***

The Proposed Project does not occur within or adjacent to any federally designated Wild and Scenic Rivers.

## **3.4.2 Regulatory Framework – Biological Resources**

### **Federal**

#### ***Clean Water Act, Section 404***

The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into waters of the U.S., and regulating quality standards for surface waters. Under the CWA, the U.S. Environmental Protection Agency (USEPA) has implemented pollution control programs such as setting wastewater standards for industry and developing national water quality criteria recommendations for pollutants in surface waters.

The CWA made it unlawful to discharge any pollutant from a point source into navigable waters, unless a permit was obtained. USEPA's NPDES permit program controls discharges. Point sources are discrete conveyances such as pipes or man-made ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters.

Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (USACE) has authority to regulate activities that could discharge fill of material into wetlands or other "waters of the United States." Perennial and intermittent creeks are considered waters of the U.S. if they are hydrologically connected to other jurisdictional waters (typically a navigable water). USACE also implements the federal policy embodied in Executive Order 11990, which is intended to result in no net loss of wetland value or acres. In achieving the goals of the Clean Water Act, USACE seeks to avoid adverse impacts and offset unavoidable adverse impacts on existing aquatic resources. Any fill of wetlands that are hydrologically connected to jurisdictional waters would require a permit from USACE prior to the start of work. Typically, when a project involves impacts to waters of the U.S., the goal of no net loss of wetland acres or values is met through avoidance and minimization to the extent practicable, followed by compensatory mitigation involving creation or enhancement of similar habitats.

#### ***Federal Endangered Species Act***

The USFWS and NMFS share responsibility for implementing FESA. The purpose of FESA is to protect and recover imperiled species and the ecosystems upon which they depend. Generally, the USFWS implements FESA for terrestrial and freshwater species, while the NMFS implements FESA for marine and anadromous species. Under FESA, species

may be listed as either endangered or threatened. “Endangered” means a species is in danger of extinction throughout all or a significant portion of its range. “Threatened” means a species is likely to become endangered within the foreseeable future. All species of plants and animals, except pest insects, are eligible for listing as endangered or threatened. For the purposes of FESA, Congress defined species to include subspecies, varieties, and, for vertebrates, distinct population segments.

Projects that would result in “take” of any federally threatened or endangered species are required to obtain permits from the USFWS or NMFS through either Section 7 (interagency consultation with a federal nexus) or Section 10 (Habitat Conservation Plan) of FESA, depending on the involvement by the federal government in permitting and/or funding of the project. The permitting process is used to determine if a project would jeopardize the continued existence of a listed species and what measures would be required to avoid jeopardizing the species. “Take” under federal definition means to harass, harm (which includes habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Proposed or candidate species do not have the full protection of FESA; however, the USFWS and NMFS advise project applicants that they could be elevated to listed status at any time.

### ***Migratory Bird Treaty Act***

The USFWS also implements the MBTA. The MBTA makes it illegal to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts\*, nests, or eggs of such a bird except under the terms of a valid Federal permit. Migratory bird species protected by the Act are listed in 50 U.S. Code of Federal Regulations (CFR) 10.13. The USFWS has statutory authority and responsibility for enforcing the MBTA. The MBTA implements Conventions between the U.S. and four countries (Canada, Mexico, Japan and Russia) for the protection of migratory birds.

### ***The Bald and Golden Eagle Protection Act***

The USFWS also implements the Bald and Golden Eagle Protection Act (16 U.S.C. Section 668). The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c), enacted in 1940, and amended several times since, prohibits anyone, without a permit issued by the Secretary of the Interior, from “taking” bald or golden eagles, including their parts\*, nests, or eggs. The Act provides criminal penalties for persons who “take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle... [or any golden eagle], alive or dead, or any part\*, nest, or egg thereof.” The Act defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.”

### ***Rivers and Harbors Act***

The Rivers and Harbors Appropriation Act of 1899 (33 U.S.C. 403; Chapter 425, March 3, 1899; 30 Stat. 1151), commonly known as the Rivers and Harbors Act, prohibits the construction of any bridge, dam, dike or causeway over or in navigable waterways of the U.S. without Congressional approval. Administration of section 9 has been delegated to the Coast Guard. Structures authorized by State legislatures may be built if the affected navigable waters are totally within one State, provided that the plan is approved by the Chief of Engineers and the Secretary of Army (33 U.S.C. 401).

Under Section 10 of the Act, the building of any wharfs, piers, jetties, and other structures is prohibited without Congressional approval, and excavation or fill within navigable waters requires the approval of the Chief of Engineers. Service concerns include contaminated sediments associated with dredge or fill projects in navigable waters.

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### ***National Invasive Species Act***

The Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990, as amended by the National Invasive Species Act of 1996, was enacted to prevent and control infestations of the coastal inland waters of the U.S. by the zebra mussel and other nonindigenous aquatic nuisance species. The Act was also enacted to reauthorize the National Sea Grant College Program and for other purposes. The Act defines “nonindigenous species” as “any species or other viable biological material that enters an ecosystem beyond its historic range, including any such organisms transferred from one country into another.” “Aquatic nuisance species” is defined as “a nonindigenous species that threatens the diversity or abundance of native species or the ecological stability of infested waters, or commercial, agricultural, aquacultural or recreational activities dependent on such waters.”

### **State**

#### ***Porter-Cologne Water Quality Control Act***

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

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

The Porter-Cologne Act established nine RWQCBs (based on hydrogeologic barriers) and the SWRCB, who are charged with implementing its provisions, have primary responsibility for protecting water quality in California. The SWRCB provides program guidance and oversight, allocates funds, and reviews RWQCB decisions. In addition, the SWRCB allocates rights to the use of surface water. The RWQCBs have primary responsibility for individual permitting, inspection, and enforcement actions in each of nine hydrologic regions.

#### ***Clean Water Act, Section 401 and General WDRs for Dredge and Fill***

The SWRCB and the local RWQCBs have jurisdiction over “waters of the State,” pursuant to the Porter-Cologne Act, which are defined as any surface water or groundwater, including saline waters, within the boundaries of the State. The SWRCB and RWQCBs are responsible for the issuance of water quality certifications pursuant to Section 401 of the Clean Water Act for dredge and fill in waters subject to federal jurisdiction. The SWRCB has also issued general Waste Discharge Requirements (WDRs) regarding discharges to “isolated” waters of the State (Water Quality Order No. 2004-0004-DWQ, Statewide General Waste Discharge Requirements for Dredged or Fill Discharges to Waters Deemed by the U.S. Army Corps of Engineers to be Outside of Federal Jurisdiction) for isolated waters not subject to federal jurisdiction. These regulations help to protect surface water quality during construction and earth-moving activities.

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### ***California Endangered Species Act***

The CDFW derives its authority from the CFGC and administers CESA. CESA (CFGC Section 2050 et. seq.) prohibits take of state listed threatened or endangered species. Take under CESA is restricted to mortality of a listed species and the law does not prohibit indirect harm by way of habitat modification. The factors that contribute to determining the need to list a species include the present or threatened modification or destruction of habitat, competition, predation, disease, overexploitation by collectors, or other natural occurrences or human-related activities. Where incidental take would occur during construction or other lawful activities, CESA allows the CDFW to issue an Incidental Take Permit upon finding, among other requirements, that impacts to the species have been minimized and fully mitigated.

The CDFW also enforces Sections 3511, 4700, 5050, and 5515 of the CFGC, which prohibits take of species designated as Fully Protected. The CDFW is not allowed to issue an Incidental Take Permit for Fully Protected species; therefore, impacts to these species must be avoided.

CFGC Sections 3503, 3503.5, and 3513 describe unlawful take, possession, or destruction of native birds, nests, and eggs. Section 3503.5 of the Code protects all birds-of-prey and their eggs and nests against take, possession, or destruction of nests or eggs. Section 3513 makes it a state-level offense to take any bird in violation of the federal MBTA. CDFW administers these requirements.

SSC is a category used by the CDFW for those species which are considered to be indicators of regional habitat changes or are considered to be potential future protected species. Species of Special Concern do not have any special legal status except that which may be afforded by the CFGC as noted above. The SSC category is intended by the CDFW for use as a management tool to include these species in special consideration when decisions are made concerning the development of natural lands.

### ***Native Plant Protection Act***

The CDFW also has authority to administer the Native Plant Protection Act (NPPA) (CFGC Section 1900 et seq.). The NPPA requires the CDFW to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare. Effective in 2015, CDFW promulgated regulations (14 California Code of Regulations [CCR] Section 786.9) under the authority of the NPPA, establishing that the CESA's permitting procedures would be applied to plants listed under the NPPA as "Rare." With this change, there is little practical difference for the regulated public between plants listed under CESA and those listed under the NPPA.

### ***Lake and Streambed Alteration Program***

Perennial, intermittent, and ephemeral streams and associated riparian vegetation, when present, also fall under the jurisdiction of the CDFW. Section 1600 et seq. of the CFGC, *Lake and Streambed Alteration Agreements* gives the CDFW regulatory authority over activities that divert, obstruct, or alter the channel, bed, or bank of any river, stream or lake. The resulting Lake and Streambed Alteration Agreement includes measures to protect existing fish and wildlife resources, as appropriate to the activity and waterway. The Franklin Creek crossing is expected to require a Lake and Streambed Alteration Agreement.

### ***California Coastal Act***

In October 1972, Congress passed Title 16 U.S.C. 1451-1464, which established a federal coastal zone management policy and created a federal coastal zone. By that legislation, the Congress declared a national interest in the effective management, beneficial use, protection and development of the coastal zone in order to balance the nation's natural,

environmental and aesthetic resource needs with commercial-economic growth. The Congress found and declared that it was a national policy “to encourage and assist the states to exercise effectively their responsibilities in the coastal zone through the development and implementation of management programs to achieve wise use of the land and water resources of the coastal zone giving full consideration to ecological, cultural, historic, and aesthetic values as well as to the need for economic development (16 U.S.C. 1452b). As a result of that federal enactment, coastal states were provided a policy and source of funding for the implementation of federal goals.

The California Coastal Zone Conservation Act of 1972 (Proposition 20) was a temporary measure passed by the voters of the state as a ballot initiative. It set up temporary regional Coastal Commissions with permit authority and a directive to prepare a comprehensive coastal plan. The coastal commissions under Proposition 20 lacked the authority to implement the Coastal Plan but were required to submit the Plan to the legislature for “adoption and implementation.”

The California Coastal Act of 1976 is the permanent enacting law approved by the State legislature. The Coastal Act established a different set of policies, a different boundary line, and different permitting procedures than Proposition 20. Further, it provides for the transfer of permitting authority, with certain limitations reserved for the State, to local governments through adoption and certification of LCPs by the Coastal Commission.

## Local

### ***City of Carpinteria General Plan/Local Coastal Land Use Plan***

The City’s General Plan/*Local Coastal Land Use Plan* includes the following objectives and policies relevant to the Proposed Project and biological resources:

- OSC-1 Protect, Preserve and Enhance Local Natural Resources and Habitats
  - Policy OSC-1a. Protect ESHAs from development and maintain them as natural open space or passive recreational areas.
  - Policy OSC-1b. Prohibit activities, including development, that could damage or destroy ESHA.
  - Policy OSC-1c. Establish and support preservation and restoration programs for ESHA, including but not limited to Carpinteria Creek, Carpinteria Bluffs, Carpinteria Salt Marsh, seal rookery, Carpinteria reef, Pismo clam beds and the intertidal zones along the shoreline.
  - Policy OSC-1d. Property including ESHA should be designated with a zoning category that allows for the protection of, and access to, the resource area, such as Open Space/Recreation or Public Facility zoning. Any development on property including ESHA should be designed and conducted to protect the resources. Within environmentally sensitive habitat only uses dependent upon those resources shall be allowed and the resources shall be protected against any disruption
  - Policy OSC-1f. Protect and restore degraded wetlands, butterfly habitat, native plant communities, and sensitive, rare, threatened or endangered species habitat on City-owned land to the maximum extent feasible.
- OSC-4 Preserve the Biological Diversity of Shoreline Habitats
  - Policy OSC-4a. Protect the marine resources of the Carpinteria tidepools and Reef and other rocky reefs and intertidal areas. If evidence of depletion of these resources is presented, work with the California Department of Fish and Game to assess the extent of damage and implement mitigating measures.
  - Policy OSC-4b. Limit activities on public beaches that include or are adjacent to rocky points and intertidal areas to light recreational use (e.g. hiking, biking and jogging).

- OSC-5 Protect the Harbor Seal Hauling Ground from Human Disturbance
  - Policy OSC-5a. Harbor Seal Hauling Grounds should not be altered or disturbed by recreational, industrial, or any other uses. Emergency maintenance or repair of existing pipelines in the vicinity of the adjacent Carpinteria oil and gas plant pier should be permitted as necessary, as long as disturbances to the harbor seal hauling grounds are minimized. Such repairs should be limited to the period of June 1 to November 30 if possible.
- OSC-6 Preserve the Natural Environmental Qualities of Creekways and Protect Riparian Habitat
  - Policy OSC-6a. Support the preservation of creeks and their corridors as open space, and maintain and restore riparian habitat to protect the community's water quality, wildlife diversity, aesthetic values, and recreation opportunities.
  - Policy OSC-6b. Protect and restore degraded creeks on City-owned land where protection and restoration does not interfere with good flood control practices.
  - Policy OSC-6c. When alterations to creeks are permitted by the Coastal Act and policies herein, the creek shall be protected by only allowing creek bank and creek bed alterations where no practical alternative solution is available, where the best mitigation measures feasible have been incorporated, and where any necessary State and federal permits have been issued. Creek alterations should utilize natural creek alteration methods where possible (e.g. earthen channels, biotechnical stabilization). Nothing in this policy shall be construed to require the City to approve creek alterations not otherwise allowed herein and by the Coastal Act.
  - Policy OSC-6d. Carry out and maintain all permitted construction and grading within stream corridors in such a manner so as to minimize impacts on biological resources and water quality such as increased runoff, creek bank erosion, sedimentation, biochemical degradation, or thermal pollution.
  - Policy OSC-6e. Natural drainage patterns and runoff rates and volumes shall be preserved to the greatest degree feasible by minimizing changes to natural topography, and minimizing the areas of impervious surfaces created by new development.
  - Policy OSC-6f. All development shall be evaluated for potential adverse impacts to water quality and shall consider Site Design, Source Control and Treatment Control BMPs in order to minimize polluted runoff and water quality impacts resulting from the development. In order to maximize the reduction of water quality impacts, BMPs should be incorporated into the project design in the following progression: (1) Site Design BMPs, (2) Source Control BMPs, and (3) Treatment Control BMPs.
- OSC-7 Conserve Native Plant Communities
  - Policy OSC-7a. Oak trees and oak woodlands, because they are particularly sensitive to environmental conditions, as well as walnut, sycamore, and other native trees, shall be protected through appropriate development standards.
  - Policy OSC-7b. When sites are graded or developed, areas with significant amounts of native vegetation shall be preserved. Structures shall be sited and designed to minimize the impact of grading, paving construction of roads, runoff and erosion on native vegetation. Sensitive resources that exhibit any level of disturbance shall be maintained, and if feasible, restored. New development shall include measures to restore any disturbed or degraded habitat on the project site. Cut and fill slopes and all areas disturbed by construction activities shall be landscaped or revegetated at the completion of grading. Plantings shall be of native, drought-tolerant plant species consistent with the existing native vegetation on the site. Invasive plant species that tend to supplant native species shall be prohibited



- OSC-8 Protect and Conserve Monarch Butterfly Tree Habitat
  - Policy OSC-8a. Protect trees supporting Monarch butterfly populations.

### **City Landmarks**

The City identified the palm trees located on the parkway between 7th and 8th Streets, at the corner of Linden Avenue and 7th Street, as Carpinteria City Landmark #4. The palms were planted prior to 1912 and were incorporated into the development of the Palms Hotel. Additionally, the Portola Sycamore Tree located at 5300 6th Street, approximately 600 feet east of Palm Avenue, is estimated to be approximately 200 years old and is designated as City Landmark #5. The tree stands approximately 70 feet tall and has a base trunk diameter of 69 inches. The Wardholme Torrey Pine (City Landmark #1) is located in the 5100 block of Carpinteria Avenue. The proposed primary and alternative pipeline alignments travel through these streets and this policy may be relevant to the palms and the Wardholme Torrey Pine, but would not be relevant to the Portola Sycamore Tree which would not be affected by pipeline construction.

### **Santa Barbara County Article II Coastal Zoning Ordinance**

Pursuant to PRC Section 30500 of the California Coastal Act of 1976, Santa Barbara County was required to prepare an LCP for portions of the unincorporated areas of Santa Barbara County within the coastal zone. Sections of the Santa Barbara County Article II Zoning Ordinance that may be relevant to the Proposed Project's Well Site #6 and its associated pipeline include Section 35-97.19, *Development Standards for Stream Habitats* and Section 35-140, *Tree Removal*. Section 35-97-19 establishes a minimum buffer strip for streams in urban areas, as defined by the *Coastal Land Use Plan*, which is presumptively 50 feet. However, this minimum buffer may be adjusted upward or downward on a case-by-case basis and considers individual site characteristics, location, and consultation with CDFW and RWQCB. Riparian vegetation is to also be protected in this buffer. It also prohibits construction of most structures within the stream corridor with the following exceptions: public trails, dams for necessary water supply projects, flood control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development; and other development where the primary function is for the improvement of fish and wildlife habitat. Culverts, fences, pipelines, and bridges (when support structures are located outside the critical habitat) may be permitted when no alternative route/location is feasible. This ordinance is potentially relevant to Franklin Creek.

Section 35-140 regulates the removal of qualifying trees within the coastal zone, and requires Coastal Development Permit (CDP) removal of any qualifying tree. A qualifying tree is defined as a tree which is six inches or more in diameter measured four feet above the ground and six feet or more in height and which is 1) located in a County street right-of-way; or 2) located within 50 feet of any major or minor stream except when such trees are removed for agricultural purposes; or 3) oak trees; or 4) used as a habitat by the monarch butterflies. However, a CDP to remove trees in the coastal zone shall only be issued for reasons such as: the trees are dead; the trees prevent the construction of a project for which a CDP has been issued and project redesign is not feasible; the trees are diseased and pose a danger to healthy trees in the immediate vicinity; or the trees are so weakened by age, disease, storm, fire, excavation, removal of adjacent trees, or any injury so as to cause imminent danger to persons or property. Qualifying trees (i.e., six inches or more in diameter measured four feet above the ground and six feet or more in height, located within 50 feet of any major or minor stream) under this ordinance were observed within Well Site #6.

### **Santa Barbara County Coastal Land Use Plan**

The Santa Barbara County *Coastal Land Use Plan* was partially certified by the Coastal Commission on March 17, 1981 and is the Local Coastal Program for unincorporated Santa Barbara County. It details the rules and regulations

of land use within Santa Barbara County's coastal areas. Policy 9-37 and Policy 9-38 may potentially be relevant to Well Site #6 and its associated pipeline. Policy 9-37 consists of the same guidelines discussed above in the Santa Barbara County Article II Zoning Ordinance Section 35-97.19, *Development Standards for Stream Habitats*. Policy 9-38 consists of the same guidelines discussed above in the Santa Barbara County Article II Zoning Ordinance Section 35-97.19.

- Policy 9-37: The minimum buffer strip for major streams in rural areas, as defined by the land use plan, shall be presumptively 100 feet, and for streams in urban areas, 50 feet. These minimum buffers may be adjusted upward or downward on a case-by-case basis. The buffer shall be established based on an investigation of the following factors and after consultation with the Department of Fish and Game and Regional Water Quality Control Board in order to protect the biological productivity and water quality of streams:
  - 1) Soil type and stability of stream corridors;
  - 2) How surface water filters into the ground;
  - 3) Slope of the land on either side of the stream; and
  - 4) Location of the 100-year flood plain boundary.

Riparian vegetation shall be protected and shall be included in the buffer. Where riparian vegetation has previously been removed, except for channelization, the buffer shall allow for the reestablishment of riparian vegetation to its prior extent to the greatest degree possible. Riparian vegetation shall be protected and shall be included in the buffer. Where riparian vegetation has previously been removed, except for channelization, the buffer shall allow for the reestablishment of riparian vegetation to its prior extent to the greatest degree possible.

- Policy 9-38: No structures shall be located within the stream corridor except: public trails, dams for necessary water supply projects, flood control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development; and other development where the primary function is for the improvement of fish and wildlife habitat. Culverts, fences, pipelines, and bridges (when support structures are located outside the critical habitat) may be permitted when no alternative route/location is feasible. All development shall incorporate the best mitigation measures feasible.

### 3.4.3 Impact Analysis – Biological Resources

#### Methodology for Analysis

The potential impacts to biological resources were evaluated using the CEQA Guidelines, incorporating the changes adopted in December 2018, as well as the City of Carpinteria's Environmental Review Guidelines, and in consideration of applicable regulations and statutes, as outlined in the *Biological Resources Assessment* (Appendix D).

### Thresholds of Significance

In accordance with the CEQA Guidelines an impact to biological resources would be significant if the Proposed Project does any of the following:

Would the Proposed Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
3.4-1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or USFWS?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.4-2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or USFWS?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.4-3: Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.4-4: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.4-5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.4-6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Criteria Requiring No Further Evaluation

Criteria listed above that do not apply to actions associated with the Proposed Project are identified below, along with supporting rationale as to why further consideration is unnecessary and a No Impact determination is appropriate.

- 3.4-6) *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

The Proposed Project does not occur within any Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan areas. The Proposed Project would not conflict with the provisions of any such plans. Therefore, the Proposed

Project would not conflict with a Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plans and no impact would occur. Thus, no further evaluation is required.

### 3.4.4 Impact Statements and Mitigation Discussions

This section discusses potential impacts to biological resources that could result in conjunction with the Proposed Project. Mitigation measures are identified where appropriate.

#### **Impact 3.4-1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or USFWS?**

##### ***Special Status Plant Species***

No special status plant species have potential to occur within the Biological Resources APE. The project footprint generally lacks the specialized habitat requirements for special status plant species, including plant community types, soils, and other components. In addition, none of the species analyzed were documented in the Biological Resources APE during the January 24, 2019 survey. Based on the lack of suitable habitat within the Biological Resources APE, no special status plants are expected to occur within the Biological Resources APE. Therefore, there would be no potential impacts to special status plant species.

##### ***Special Status Wildlife Species***

No terrestrial special status wildlife species were observed or detected during the reconnaissance survey. Special status wildlife species were determined to occur within the Biological Resources APE based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDDB, and species occurrence records from other sites in the vicinity of the Biological Resources APE. The following special status terrestrial species were identified as having a moderate or high potential for occurrence within the Biological Resources APE: monarch, tidewater goby, southern California steelhead, western snowy plover, and yellow warbler.

The Monarch - California overwintering population is a City and County local sensitive species that has a moderate potential to occur within the Biological Resources APE. Elements of suitable habitat (e.g., eucalyptus trees) were observed throughout the Biological Resources APE, particularly along Linden Avenue where the primary and southern potential pipeline alignment is proposed. No roosting colonies have been identified within the Biological Resources APE; however, the closest known roosting colony has been recorded approximately 700 feet northeast of the WWTP, along Carpinteria Creek. Construction activities along roadways could have potential indirect effects, such as noise and dust, to roosting monarchs. Implementation of **Mitigation Measure MM 3.4-1a** and **Mitigation Measure MM 3.4-1c** would help ensure impacts to roosting monarchs are avoided by training workers to identify sensitive species and habitats and avoiding monarch roosting habitat, thereby reducing indirect effects to monarch to a less than significant level.

Both tidewater goby and southern California steelhead trout have a high potential to occur within the southern portion the Biological Resources APE. The southern portion of the Biological Resources APE also falls within CDFW designated critical habitat for steelhead. No project activities are anticipated to directly impact both these species; however, implementation of Mitigation Measures 3.4-1a would reduce indirect effects to both these species to a less than significant level by requiring training of workers to identify sensitive species and habitats. Work area cleanliness requirements (see Section 2.10, *Environmental Commitments*) would reduce trash that could otherwise enter

waterways and affect tidewater goby and steelhead and their habitat. In addition, sediment and erosion controls and stormwater management measures included in this EIR would further protect water quality of this habitat.

The California legless lizard is an SSC with a low potential to occur within the Biological Resources APE. Although elements of suitable habitat, including sandy soils and sparse vegetation, are present at Carpinteria State Beach within the Biological Resources APE, the last known CNDDDB occurrence of this species was before 1983. Since then, Carpinteria State Beach has been significantly developed. As no project activities are proposed within Carpinteria State Beach and this species is not expected to occur within the remainder of the Biological Resources APE. The Proposed Project is not expected to result in impacts to this species.

The western snowy plover is a federally threatened and a state SSC that has a moderate potential to occur within the Biological Resources APE at Carpinteria State Beach, which has elements of suitable habitat, but is also a highly developed recreational beach with high human disturbance. The species has been known to use the beach for foraging, roosting, and as a stopover during migration; however, the species is not known to nest within Carpinteria State Beach (California State Parks 2014). In addition, no project activities are proposed within Carpinteria State Beach and this species is not expected to occur within the remainder of the Biological Resources APE. Therefore, the Proposed Project is not expected to impact the species.

The Biological Resources APE contains habitat that can support special status birds (e.g., yellow warbler) and nesting birds, including raptors, protected under the California CFGC and the MBTA. The adjacent native trees and ornamental vegetation throughout the Biological Resources APE provide suitable nesting habitat for avian species. Specifically, the tall eucalyptus trees throughout the Biological Resources APE contain suitable habitat for raptor species. Also, the Franklin Creek bridge may provide habitat for mud-nesting birds such as black phoebe (*Sayornis nigricans*). The Proposed Project could adversely affect raptors and other nesting birds if construction occurs while they are present within or adjacent to the project footprint, through direct mortality or abandonment of nests. The loss of a nest due to construction activities would be a violation of the MBTA and CFGC Section 3503. **Mitigation Measures MM 3.4-1a** and **MM 3.4-1b**, along with **Mitigation Measure MM 3.1-4** in Section 3.1, *Aesthetics*, are recommended for compliance with the MBTA and CFGC Section 3503 and to ensure special status/nesting birds are not impacted. These measures require worker training to identify sensitive species and habitats (including birds), nesting bird surveys to identify and avoid protected bird species, and in the event of nighttime construction, lighting that minimizes disturbances to sensitive species. **Mitigation Measure MM 3.4-3c** (below) would require implementation of Construction BMPs to protect adjacent biological resources. Additionally, CVWD would implement biological resource training to construction workers and work area cleanliness requirements (Section 2.10, *Environmental Commitments*) to manage trash to reduce impacts to habitat and bird species. Compliance with other regulatory guidance and permits, such as erosion control and water quality BMPs in the General Construction Permit SWPPP, would also serve to protect special status species and habitats. With implementation of the environmental commitments and recommended measures, impacts to special status species would be reduced to less than significant levels.

### ***Environmental Commitments***

CVWD shall implement biological resources training to construction workers, worker cleanliness guidelines, and necessary permits as described in Section 2.10, *Environmental Commitments*.

### ***Significance Determination Before Mitigation***

Potentially Significant.

### **Mitigation Measures**

**Mitigation Measures MM 3.4-1a, MM 3.4-1b, and MM 3.4-1c** shall apply to all construction activities occurring on land. **Mitigation Measure MM 3.4-3c** shall require implementation of Construction BMPs to protect adjacent biological resources. **Mitigation Measure MM 3.1-4**, under Section 3.1, *Aesthetics*, shall apply to any nighttime construction within 500 feet of habitat areas.

**Mitigation Measure MM 3.4-1a Worker Environmental Awareness Program.** Prior to initiation of all construction activities (including staging and mobilization), all personnel associated with Proposed Project construction shall attend a WEAP training, conducted by a qualified biologist, to assist workers in recognizing special status biological resources that may occur in the Biological Resources APE. This training will include information about southern California steelhead, tidewater goby, protected nesting birds, marine mammals, as well as other special status species potentially occurring in the Biological Resources APE.

The specifics of this program shall include identification of special status species and habitats, a description of the regulatory status and general ecological characteristics of special status resources, and review of the limits of construction and measures required to avoid and minimize impacts to biological resources within the work area. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employees, and other personnel involved with construction of the Proposed Project. All employees shall sign a form provided by the trainer documenting they have attended the WEAP and understand the information presented to them. The crew foreman shall be responsible for ensuring crew members adhere to the guidelines and restrictions designed to avoid impacts to special status species. If new construction personnel are added to the project, the crew foreman shall ensure that the new personnel receive the WEAP training before starting work. The subsequent training of personnel can include videotape of the initial training and/or the use of written materials rather than in-person training by a biologist.

**Mitigation Measure MM 3.4-1b Nesting Bird Surveys.** To avoid disturbance of nesting and special status birds, including raptor species protected by the MBTA and CFGC 3503, activities related to the project including, but not limited to, vegetation removal, ground disturbance, and construction and demolition shall occur outside of the bird breeding season for migratory birds (February 1 through August 31), if practicable.

If construction must begin during the breeding season, then a pre-construction nesting bird survey shall be conducted no more than seven days prior to initiation of ground disturbance and vegetation removal activities. The nesting bird pre-construction survey shall be conducted on foot inside the project footprint, including a 100-foot buffer (300-foot for raptors), and in inaccessible areas (e.g., private lands) from afar using binoculars to the extent practicable. The survey shall be conducted by a biologist familiar with the identification of avian species known to occur in southern California coastal communities. If nests are found, an avoidance buffer (dependent upon the species, the proposed work activity, and existing disturbances associated with land uses outside of the site) shall be determined and demarcated by the biologist with bright orange construction fencing, flagging, construction lathe, or other means to mark the boundary. All construction personnel shall be notified as to the existence of the buffer zone and to avoid entering the buffer zone during the nesting season. No ground-disturbing activities shall occur inside this buffer until the avian biologist has confirmed that breeding/nesting is completed, and the young have fledged the nest. Encroachment into the buffer shall occur only at the discretion of the qualified biologist.

**Mitigation Measure MM 3.4-1c Avoidance of Monarch Butterfly Winter Roost Sites.** To minimize indirect project impacts to potential monarch butterfly roosts, monarch butterfly roosts shall be avoided during all construction activities related to project activities, tree removal/trimming, vegetation clearing, and grading activities (collectively, "land clearing activities"). This can be accomplished by implementing either one of the following options:

1. Prohibit land clearing activities during the monarch wintering season (October 1 through March 1); or,
2. Conduct site-specific surveys prior to land clearing activities during the monarch wintering season (October 1 through March 1) and avoid monarch roosts.

If Option 2 is selected, surveys (described below) shall be conducted to identify any monarch roosts in the area proposed for disturbance. Monarch roosts shall be avoided during the wintering season by establishing a 50-foot buffer between land clearing activity and the roost.

An initial monarch survey shall be conducted of all potentially suitable habitat areas within the Biological Resources APE 30-days prior to the initiation of land clearing activities. The project site must continue to be surveyed on a weekly basis with the last survey completed no more than 7 days prior to the initiation of land clearing activities. The monarch butterfly survey must cover monarch wintering habitat within the Biological Resources APE. If monarch roosts are found, land clearing activities within 50 feet surrounding the roost shall be postponed or halted while the monarchs are present (typically October 1 through March 1). Construction activities may occur outside of the 50-foot setback areas during this time.

### ***Significance Determination after Mitigation***

Less than Significant.

### **Impact 3.4-2: Have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or USFWS?**

The Proposed Project would use an open cut trench method along Olive Avenue, which is a developed public ROW, for the primary pipeline alignment. Open cut trenching and/or construction materials (e.g., stockpiled materials, construction equipment, and trash) have the potential to result in potentially significant indirect impacts to the arroyo willow thicket located in this area. The arroyo willow thicket meets the criteria for classification of ESHA, a coastal zone wetland, and a CDFW sensitive natural community. **Mitigation Measure MM 3.4-1a** shall require worker environmental awareness training, while **Mitigation Measure MM 3.4-3c** includes construction BMPs to minimize runoff and conveyance of pollutants into creeks. CVWD would implement biological resource training to construction workers and work area cleanliness requirements (Section 2.10, *Environmental Commitments*) would manage trash to avoid adverse trash-related impacts to habitats. Compliance with other regulatory guidance and permits, such as erosion control and water quality BMPs in the General Construction Permit SWPPP, would also serve to protect riparian habitats and species. In addition, hazardous materials containment and spill response requirements in **Mitigation Measure MM 3.10-1b** would help to reduce potential construction-related impacts to riparian and sensitive communities by reducing the potential for pollutants to enter these habitats. With implementation of **Mitigation Measures MM 3.4-1a**, and **MM 3.4-2**, which will require training of workers to identify and avoid sensitive habitat and use temporary fencing to delineate and avoid sensitive habitat areas, potential indirect impacts to the arroyo willow thicket would be reduced to a less than significant level.

### ***Environmental Commitments***

CVWD shall implement biological resource training to construction workers, worker cleanliness guidelines, and necessary permits as described in Section 2.10, *Environmental Commitments*.

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### ***Significance Determination Before Mitigation***

Potentially Significant.

### ***Mitigation Measures***

**Mitigation Measures MM 3.4-1a** (above) and **MM 3.4-2** shall apply to open cut trenching along Olive Avenue in the vicinity of the arroyo willow thicket. **Mitigation Measure MM 3.4-3c** (below) and **Mitigation Measure MM 3.10-1b**, under Section 3.10, *Hazards and Hazardous Materials*, shall apply to all Proposed Project construction activities.

**Mitigation Measure MM 3.4-2 Sensitive Habitat Fencing.** Prior to project mobilization, where the project is adjacent to native habitat (i.e., ESHA, riparian habitat, wetland, sensitive natural communities), a certified biologist would identify native habitat to avoid, and temporary construction fencing shall be erected by the contractor at the edge of the temporary construction easement to avoid impacts to the habitat throughout the duration of construction.

### ***Significance Determination after Mitigation***

Less than Significant.

### **Impact 3.4-3: Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

Impacts to Carpinteria Creek are not anticipated based on the Proposed Project. However, if Well Site #6 is selected for construction, there is limited potential for impacts to Franklin Creek during construction of the creek crossing. The Franklin Creek crossing would be constructed either through trenchless crossing under the channel, or via pipe bridge. Trenchless construction under the concrete channel would cross Franklin Creek via HDD or jack-and-bore adjacent to Franklin Park, between Meadow View Lane and Sterling Avenue. This portion of Franklin Creek is a concrete-lined channel that does not support wetlands, riparian habitat, or vegetation. If a pipe bridge is used, construction of the pipe span over Franklin Creek would be from the creek bank. Construction personnel would use small cranes or excavators to raise and lower the pipe into place. The purified water pipe would be routed above grade before spanning Franklin Creek and would use pipe support(s) mounted to the adjacent bridge or concrete channel wall. These construction techniques were elected to avoid direct impacts to Franklin Creek channel and potential impacts would be less than significant.

Impacts to the roadside stormwater drain along the east side of Linden Avenue, where the primary pipeline alignment component is proposed, are not anticipated (see Section 2, *Project Description*). Caltrans is currently performing upgrades to U.S. Highway 101 at the Linden Street overpass which includes the installation of a pipeline on the overpass. The Proposed Project would connect to this pipeline greater than 50 feet from the drain and therefore is not expected to result in direct or indirect impacts this feature.

Project-related direct impacts to Franklin Creek would be less than significant due to selection of trenchless or pipe bridge construction methods. Indirect impacts from construction materials (e.g., stockpiled materials, construction equipment, and trash) that may be stored onsite could adversely affect water quality (e.g., increased turbidity, altered pH, decreased dissolved oxygen levels, etc.) within the jurisdictional waters if runoff were to occur during storm events. Therefore, **Mitigation Measures 3.4-3a**, **MM 3.4-3b**, and **MM 3.4-3c** shall be implemented within 50 feet of Franklin Creek and Carpinteria Creek to avoid potential indirect impacts to water quality within these jurisdictional features. These mitigation measures would minimize disturbed areas, require staging at unvegetated sites that have been



previously disturbed, and set criteria for how materials shall be stored to minimize spills and leaks. They also include construction BMPs to minimize runoff and conveyance of pollutants into creeks.

Indirect impacts from construction techniques could also include release of bentonite drilling fluid into the channel during HDD operation. Implementation of **Mitigation Measure MM 3.11-1a** would require preparation of a *Frac-Out Prevention and Contingency Plan* to ensure protection of aquatic resources. With implementation of these mitigation measures (and adherence to agency permits and existing regulations), potential indirect impacts to creeks would be reduced to a less than significant level.

### ***Significance Determination Before Mitigation***

Potentially Significant.

### ***Mitigation Measures***

**Mitigation Measures MM 3.4-3a**, and **MM 3.4-3c** shall apply to all components of the Proposed Project. **Mitigation Measure MM 3.4-3b** shall apply to all Proposed Project components, except within the floodwall boundary of the CSD WWTP site. **Mitigation Measure MM 3.11-1a** shall apply if HDD construction method is selected for a Franklin Creek crossing.

**MM 3.4-3a Disturbance Area and Staging.** Areas of temporary disturbance shall be minimized to the extent practicable. Staging and laydown areas shall be limited to sites unvegetated, previously disturbed (e.g., ROWs, parking lots), and community parks (areas consisting of ruderal vegetation, ornamental landscaping, and outside of the Tree Protection Zone [TPZ; dripline plus 6 feet] of protected trees).

**MM 3.4-3b Material Storage.** Construction materials for pipelines, injection wells, monitoring wells, and backflush tank, shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage. Material storage shall be at least 50 feet from Franklin Creek, Carpinteria Creek, and Carpinteria State Beach. Any material/spoils from project activities shall be located and stored 50 feet from potential jurisdictional areas (Franklin Creek, Carpinteria Creek, and Carpinteria State Beach). Construction materials and spoils shall be protected from stormwater runoff using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate.

**MM 3.4-3c Construction Best Management Practices.** To avoid and/or minimize potential indirect impacts to jurisdictional waters and water quality, the following BMPs shall be implemented within 50 feet of Franklin Creek and Carpinteria Creek:

- a) Prevent the off-site tracking of loose construction and landscape materials by implementing street sweeping, vacuuming, and rumble plates, as appropriate.
- b) Prevent the discharge of silt or pollutants off of the site when working adjacent to potentially jurisdictional waters. Install BMPs (i.e., silt barriers, sandbags, straw bales) as appropriate.
- c) Work adjacent to Franklin and Carpinteria Creeks shall ensure no wash water enters the receiving water bodies, through measures that may include locating site washout areas at least 50 feet from a storm drain, open ditch or surface water or implementation of barriers to control runoff, such that runoff flows from such activities do not enter receiving water bodies.
- d) All vehicles and equipment shall be in good working condition and free of leaks. The contractor shall prevent oil, petroleum products, or any other pollutants from contaminating the soil or entering a watercourse (dry or

otherwise). When vehicles or equipment are stationary, mats or drip pans shall be placed below vehicles to contain fluid leaks.

- e) All re-fueling, cleaning, and maintenance of equipment will occur at least 50 feet from potentially jurisdictional waters (Franklin Creek, Carpinteria Creek, and the roadside storm water drain).
- f) Any spillage of material will be stopped if it can be done safely. The contaminated area will be cleaned, and any contaminated materials properly disposed. For all spills, the project foreman or other designated liaison will notify CVWD immediately.
- g) Adequate spill prevention and response equipment shall be maintained on site and readily available to implement to ensure minimal impacts to the aquatic and marine environments.

#### ***Significance Determination after Mitigation***

Less than Significant.

#### **Impact 3.4-4: Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?**

Direct impacts to wildlife movement or essential fish habitat as a result of the Proposed Project would be less than significant. The completed project would not impede the movement of wildlife through the region nor alter essential fish habitat. The indirect impacts to terrestrial species would be less than significant and therefore no measures are recommended.

#### ***Significance Determination***

Less than Significant.

#### **Impact 3.4-5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

The Carpinteria General Plan/Local *Coastal Land Use Plan* Policy OSC-8 Protect and Conserve Monarch Butterfly Tree Habitat requires new development in or adjacent to habitat used by special status species shall be set back sufficiently far as to minimize impacts to the habitat area. For nesting and roosting trees used by sensitive, rare, threatened, or endangered raptors on the Carpinteria Bluffs or on parcels adjacent to Carpinteria Creek, this setback shall be a minimum of 300 feet, and implementation of **Mitigation Measure 3.4-1b** would require nesting bird surveys to be conducted prior to construction during bird breeding season to further reduce potential impacts to sensitive bird species. However, additions or alterations to existing development on parcels adjacent to Carpinteria Creek may be located within the applicable setback if a pre-construction survey by a qualified biologist determines the proposed development does not adversely affect the future use of the nesting or roosting trees. This policy also protects trees supporting monarch butterfly populations, such as eucalyptus trees that may have roosting monarch butterflies. Eucalyptus trees and other elements of suitable habitat were observed throughout the Biological Resources APE, particularly along Linden Avenue where the primary and southern potential pipeline alignment is proposed. No winter roost sites have been identified throughout the Biological Resources APE; however, the closest known roosting colony has been recorded approximately 700 feet northeast of the WWTP, along Carpinteria Creek (City of Carpinteria, 2003). Proposed Project activities along roadways, such as open cut trenching, could have potential indirect effects (e.g., noise, dust) to roosting monarchs. Implementation of **Mitigation Measures MM 3.4-1a** and **MM 3.4-1c** noted above

would help ensure impacts to roosting monarchs are avoided, by requiring training of workers to identify sensitive species and habitats (including monarch butterflies and roosting trees) and avoidance of monarch butterflies and habitat, therefore the Proposed Project would be consistent with this policy.

The Carpinteria General Plan/*Local Coastal Land Use Plan's* Policy OSC-6, *Preserve the Natural Environmental Qualities of Creekways and Protect Riparian Habitat*, and Santa Barbara County *Coastal Land Use Plan Ordinance* Section 35-97.19, *Development Standards for Stream Habitats* supports the preservation of creeks and their corridors. Under Policy OSC-6, creek alterations require all permitted construction and grading within stream corridors to be performed in such a manner to minimize impacts on biological resources and water quality. Furthermore, a 50-foot setback from top of the upper bank of creeks or existing edge of riparian vegetation (dripline), whichever is further, is required to be established and maintained for all development. Under Section 35-97.19, a minimum buffer strip for streams in urban areas is presumptively 50 feet. However, this minimum buffer may be adjusted upward or downward on a case-by-case basis. The buffer is established based on an investigation of the factors such as: soil type and stability of stream corridors; how surface water filters into the ground, slope of land on either side of the stream; and location of the 100-year flood plain boundary.

As designed, the Proposed Project's new AWWP components within the existing WWTP site are greater than 50 feet from Carpinteria Creek. As such, this portion of the proposed project would be consistent with Policy OSC-6.

Potential direct impacts from the project (e.g., underground primary pipeline alignment along the intersection of Olive Avenue and 6th Street) within 50 feet of areas meeting the definition of this Policy OSC-6 and ordinance Section 35-97.19 (Franklin Creek, arroyo willow thicket, roadside stormwater drain) would be temporary because the creek would be restored to pre-existing project conditions and activities limited to existing developed areas (e.g., concrete lined/existing pipe bridge over Franklin Creek, public ROWs). In addition, the implementation of **Mitigation Measures MM 3.4-1a, MM 3.4-2, MM 3.4-3a, MM 3.4-3b, and MM 3.4-3c** would reduce potential impacts to Franklin Creek and the arroyo willow thicket. These mitigation measures will require training of workers to identify sensitive habitat and species, use temporary fencing to delineate and avoid sensitive habitat, avoid excessive disturbance and store materials in ways to reduce potential for spills and leaks, and implement construction BMPs to minimize potential for pollutant conveyance into the environment. Therefore, based on these factors the proposed project would not conflict with the policy and ordinance.

Trees meeting the City (including City landmarks) and County tree protection standards, and relevant to the City's General Plan/*Local Coastal Land Use Plan's* policies OSC-7 and OSC-8, were observed throughout the Biological Resources APE. The majority of the project alignment is in a developed public ROW, which is lined sporadically with protected trees. Potential impacts to protected trees may include construction equipment compacting soil around the trees, disturbance of the canopy and the root zone, and trenching in the root zone. **Mitigation Measure MM 3.4-5** would reduce potential impacts to protected trees by restricting activities within 20 feet of the canopy drip line for protected trees, and coordination with a certified arborist to minimize potential impacts to protected trees where work occurs within 20 feet of the canopy drip line, as permitted. With implementation of this measure, the Proposed Project would not conflict with the City's General Plan/*Local Coastal Land Use Plan's* policies OSC-7 *Conserve Native Plant Communities*, OSC-8 *Protect and Conserve Monarch Butterfly Tree Habitat*, the City Landmarks policies #4 and #5, and Section 35-140, *Tree Removal*.

### **Significance Determination Before Mitigation**

Potentially Significant.

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### ***Mitigation Measures***

**Mitigation Measures MM 3.4-1a, MM 3.4-1b, MM3.4-1c, MM 3.4-2, MM 3.4-3a, MM 3.4-3b, MM 3.4-3c, and MM 3.4-5** shall apply to all terrestrial components of the Proposed Project.

**MM 3.4-5 Tree Protection Zone Restrictions.** Components of the project footprint that occur within 20 feet of the canopy drip line of protected trees shall be subject to the following:

- a) No ground disturbance, grading, trenching, construction activities or structural development shall occur within the TPZ.
- b) No equipment, soil, or construction materials shall be placed within the TPZ. No oil, gasoline, chemicals, paints, solvents, or other damaging materials may be deposited within the TPZ or in drainage channels, swales or areas that may lead to the TPZ.
- c) If work within the TPZ cannot be avoided, a qualified arborist shall monitor all activities within the TPZ of protected trees.
- d) Unless otherwise directed by the arborist, all work within the TPZ, including brush clearance, digging, trenching and planting, shall be done with hand tools or small hand-held power tools that are of a depth and design that will not cause root damage.
- e) Where trenching or digging within the TPZ is specifically permitted, the work shall be conducted in a manner that minimizes root damage, as directed by an arborist.
- f) Grade changes outside of the TPZ shall not significantly alter drainage to protected trees. Grading within the TPZ shall use methods that minimize root damage and ensure that roots are not cut off from air. Where erosion may be a factor return and protect the original grade or otherwise stabilize the soil.
- g) Protected trees shall not be used for posting signs, electrical wires or pulleys; for supporting structures; and shall be kept free of nails, screws, rope, wires, stakes and other unauthorized fastening devices or attachments

### ***Significance Determination***

Less than Significant.

### 3.5 Marine Biological Resources

This section provides a description of the existing marine biological setting in the Study Area, provides relevant regulatory information, and evaluates potential impacts on marine biological resources from implementation of the CAPP. Construction of the Proposed Project has the potential to adversely affect marine habitats and sensitive species. The mitigation measures identified in this section would reduce potential impacts to levels that are less than significant.

#### 3.5.1 Physical Environmental Setting – Marine Biological Resources

##### Oceanographic Characteristics

The Marine APE in the marine environment extends 1,000 feet from the ocean outfall. The Marine APE consists primarily of semi-protected intertidal and subtidal nearshore habitat in the central portion of the Santa Barbara Channel, in the Pacific Ocean. Within the Marine APE, marine depths range from 0 at the shoreline (mean higher high water) to -15 meters where the Marine APE terminates offshore. The shoreline faces a southwest direction and is relatively protected from large open ocean waves by Point Conception to the north and the Channel Islands to the south. Typically, the beach widens during the summer and fall and narrows during the winter and spring.

The physical water characteristics of the Marine APE are similar to general Santa Barbara Channel water quality parameters with water temperatures ranging from highs of 61 to 66°F (16 to 19°C) on and around September and lows ranging from 54 to 59°F (12 to 15°C) in spring. Long periods of strong offshore winds can cause seasonal upwelling, which transports surface water away from the coastline and allows for cool, high-salinity, nutrient-rich water to rise up the water column into the biologically rich euphotic zone (less than 120 meters from the surface). The waters within the Marine APE are driven by the mixing of the cool northern California Current and warm Southern California Countercurrent (National Marine Fisheries Service [NMFS] 2017). Table 3.5-1 summarizes water quality data collected from vertical casts conducted during a field survey on January 30, 2019; the results displayed no stratification and low variability of the measured parameters.

<b>Table 3.5-1. Water Quality Results</b>					
<b>Criteria</b>	<b>pH</b>	<b>Salinity<sup>1</sup> (ppt)</b>	<b>Temperature<sup>2</sup> (°F)</b>	<b>Turbidity<sup>3</sup> (FNU)</b>	<b>Dissolved Oxygen<sup>4</sup> (mg/l)</b>
Average	8.18	32.16	60.27	3.24	8.33
STD	0.01	0.18	0.32	1.98	0.04
Min	8.16	31.80	59.80	1.79	8.25
Max	8.19	32.50	60.60	9.13	8.41

<sup>1</sup> Salinity is the measure of the quantity of dissolved salts in water in parts per thousand (ppt).  
<sup>2</sup> Temperature is measured in Fahrenheit (°F)  
<sup>3</sup> Turbidity measures scattered light at a 90-degree angle from the incident light beam and is reported in Formazin Nephelometric Units (FNU).  
<sup>4</sup> Dissolved oxygen is a measure of how much oxygen is dissolved in the water and reported in milligrams per liter (mg/l).

The relatively shallow depth of the ocean outfall promotes mixing from consistent wave action readily blending the freshwater effluent with nearshore water. Divers visibly observed freshwater plumes adjacent to individual diffuser ports approximately 6 feet in diameter. Salinity averaged 32.16 ppt. Turbidity was attributed to wave action during the falling tide with the highest measurement occurring at depth adjacent to the seabed. Dissolved oxygen (DO) averaged 8.33 milligrams per liter (mg/l).

According to the *AWPF Facilities Plan* (SWRCB, 2016), in 2014 the average flow rate of secondary-treated effluent water was 1.2 MGD into the Pacific Ocean and may range from 1.0 to 2.5 MGD depending on the season. The salinity of the current effluent is estimated at 1.5 ppt. All effluent from the WWTP is currently discharged into the Pacific Ocean in approximately 25 feet of water through a 1,000-foot dedicated outfall pipe (SWRCB, 2016).

## Marine Habitat Types

Marine habitat types in the Study Area are generally classified as being soft substrate or hard substrate.

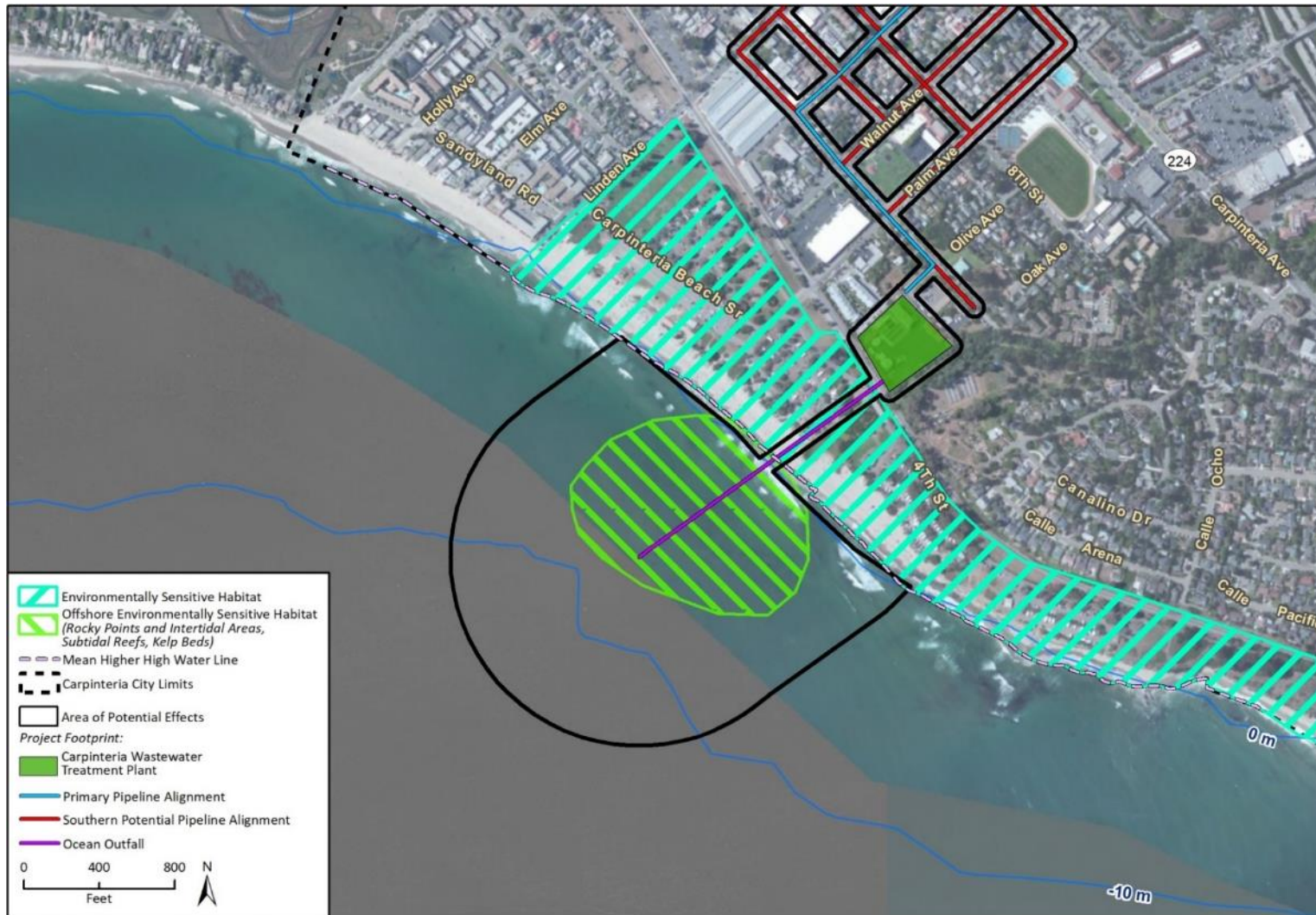
### Soft Substrate

The soft substrate in the Marine APE is characterized as a gently sloping sandy seafloor. The soft substrate habitat consists primarily of sandy or stony alluvium material originating from floodplain deposits composed of silty sands to sandy gravels (NRCS, 2019). Bottom sediments characterized in the *Carpinteria Sanitary District Receiving Water Monitoring Report* (CSD, 2013) were reported as 100% sand (Aquatic Bioassay Consulting Laboratories, Inc., 2013). Observations during a dive for the Proposed Project's *Biological Resources Assessment* (Appendix D) reported primarily coarse to medium grain sand on either side of the outfall pipe and to the extent of the diving field survey. No notable changes in soft substrate sediment were observed and soft substrate sediments appear to be consistent throughout the Marine APE based on results of the receiving water monitoring data collected at 100, 300, and 2,000 feet from the outfall pipe (Aquatic Bioassay Consulting Laboratories, Inc., 2013). Approximately 70% of the Marine APE is composed of soft sand substrate based on ESHA identified in the City's General Plan/Local *Coastal Land Use Plan*. The location of ESHA within the Marine APE is depicted in Figure 3.5-1.

### Hard Substrate

Rocky bedrock outcroppings comprise the majority of hard substrate in the Marine APE and are composed of primarily low lying (i.e., less than 3-foot high) rocky reef hard substrate. The spatial extent of the rocky reef hard substrate varies annually and seasonally dependent on sand movement. The bedrock is composed of rock, fossil mollusk shells, and marine sands and gravels (NRCS, 2019). The rocky reef substrate observed in the intertidal zone appeared consistent with substrate observed throughout the subtidal zone and consistent with physical attributes reported from intertidal and subtidal regional monitoring near the Marine APE. Some unconsolidated cobble and boulders hard substrate is present along the beach and within the shallow nearshore deposited from high water flows from Carpinteria Creek. Hard substrate conservatively represents approximately 30% of the Marine APE. Hard substrate rocky reef habitat supports a moderately diverse group of organisms including marine algae, invertebrates, fish and wildlife species further described below. The intertidal zone of the Marine APE is within the Carpinteria State Beach which is surrounded on three sides by the city of Carpinteria.

Figure 3.5-1. Coastal Environmentally Sensitive Habitat Areas



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Fig 3-1015A

Note: Environmentally Sensitive Habitat is also found along the Carpinteria Creek Corridor.

### ***Phytoplankton, Zooplankton, Marine Algae, and Seagrasses***

Phytoplankton is the foundation of the marine food web and seasonal blooms regularly occur in the Santa Barbara Channel when optimal conditions for each species develop. The phytoplankton productivity in the Santa Barbara Channel supports a productive ecosystem with large populations of fishes, seabirds and marine mammals, and the channel is a zone of enhanced phytoplankton growth (Fiedler et al., 1998; National Aeronautics and Space Administration Earth Observations, 2019). Marine species including cetaceans (e.g., whales and dolphins) are more abundant in the productive coastal waters than in offshore oceanic waters (Smith et. al 1986). Some phytoplankton, referred to as harmful algal blooms, can form populations so dense when they decay they deplete the oxygen from the water which can be harmful for fish and invertebrates (Southern California Coastal Ocean Observing System, 2019). The two major groups with representative harmful algal blooms species in California are diatoms and dinoflagellates.

Common zooplankton in the Santa Barbara Channel include *Calanus pacificus*, a species of copepod that reproduces year-round in surface waters by part of the population, while another part of the populations remains dormant in deeper waters through the winter. Other common zooplankton consists of fish larvae and fish eggs (National Oceanic and Atmospheric Administration [NOAA], 2019).

The rocky reef areas within the Marine APE provide both intertidal and subtidal habitat for the three main seaweed phylum: green algae (*Phylum Chlorophyta*), brown algae (*Phylum Phaeophyceae*), and red algae (*Phylum Rhodophyta*) and the marine flowering plant, surfgrass (*Phyllospadix spp.*). The Marine APE hosts locally common algal species attached to rocks in the rocky intertidal bench in the eastern portion of the shoreline including: sea lettuce (*Ulvoid spp.*), *Cladophora graminea*, turfweed (*Endocladia muricata*), *Mazzaella affinis*, nori (*Porphyra spp.*), *Prionitis spp.*, and *Corallina spp.* Common brown algae species noted during the intertidal and subtidal survey included feather boa kelp (*Egregia menziesii*), *Dictyota spp.*, and chainbladder kelp (*Cystoseria osmundacea*). Surfgrass is an abundant and dominant vascular plant species throughout the intertidal and shallow subtidal rocky habitat in the Marine APE. Refer *Biological Resources Assessment* (Appendix D) for site representative photographs. Surfgrass meadows provide a complex biotic community and nursery for fishes and crustaceans (NOAA, 2015).

During the field surveys, the Marine APE was representative of a “winter” beach regime where sand has been mobilized offshore covering most of the low lying (i.e., less than 3 feet high) bedrock and the attached algal species. Review of data from Santa Barbara Coastal Long Term Ecological Research and aerial imagery of the Marine APE documents persistent beds of giant kelp (*Macrocystis pyrifera*) in the summer months when the Marine APE transforms from the “winter” beach to a “summer” beach and sand slowly returns to the upper beach. At the time of the subtidal survey, no giant kelp was observed within 1,000 feet of the site but was common northwest of the Marine APE near the Santa Barbara Coastal Long Term Ecological Research site. During the diving survey, various red algae species were observed including encrusting coralline algae (*Bossiella orbigniana*), *Gracilaria spp.*, *Prionitis spp.*, *Rhodymenia spp.*, *Nienburgia andersoniana*, and unidentified red turf species. A list of all algae species observed is included in Appendix D.

### ***Invertebrates***

Common subtidal and intertidal invertebrate species within the Marine APE include representatives of polychaete worms, crustaceans, and mollusks. Invertebrates include both sessile and motile species and are typically segregated into infauna, sessile, and motile invertebrates. During the 2013 NPDES sediment monitoring survey a total of 6,665 individuals, consisting of 208 benthic infauna species were collected at five stations near the WWTP outfall (Aquatic Bioassay Consulting Laboratories, Inc., 2013). Sessile and motile invertebrates observed during the intertidal field survey included the aggregating anemone (*Anthopluera elegantissima*), acorn barnacle (*Chthamalus spp.*), California



mussel (*Mytilus californianus*), gooseneck barnacle (*Pollicipes polymerus*), owl limpet (*Lottia gigantea*), limpets (*Lottia* spp. and *Acmea* spp.), sandcastle worm (*Phragmatopoma californica*), turban snail (*Tegula* spp.) and wavy turban snail (*Megastrea undosa*). The diver survey noted additional species including sponges, hydroids, tunicates, snails, clams and barnacles. Lists of species observed during marine surveys are included in Appendix D. The Marine APE provides habitat for the commercially fished red urchins (*Strongylocentrotus franciscanus*), spiny lobster (*Panulirus interruptus*), wavy turban snail (*Megastrea undosa*), Kellet's whelks (*Kelletia kelletii*), warty sea cucumber (*Parastichopus parvimensis*), and recreationally fished owl limpet (*Lottia gigantea*).

### **Fishes and Marine Mammals**

Shallow water nearshore marine fishes including rockfish (*Sebastes* spp.), surfperch (*Embiotoca* spp.), flatfish (*Paralichthys* spp.), and coastal pelagic species may occur within the Marine APE. During the field survey, topsmelt (*Atherinops affinis*) were observed feeding in the immediate vicinity of the outfall discharge location. California grunion (*Leuresthes tenuis*), a regionally important species, has been documented to occur on Carpinteria State Beach during grunion runs in which the fish beach themselves to lay their eggs. When stands of giant kelp are present there is potential for other fish to occur. The Marine APE contains habitat suitable for marine fish species defined as those regulated through the goals, objectives, policies, and mandates of the Marine Life Management Act (MLMA) by the CDFW Nearshore Fishery Management Plan (CA-NFMP); the Pacific Fishery Management Council's Groundfish Management Plan (GMP); and the Pacific Fishery Management Council's Coastal Pelagic Species Fishery Management Plan (CPSMP) (CDFW, 2002; Pacific Fishery Management Council, 2016; Pacific Fishery Management Council, 2018). The species regulated by the MLMA include:

- Black and yellow rockfish (*Sebastes chrysomelas*); kelp rockfish (*Sebastes atrovirens*); olive rockfish (*Sebastes serranoides*); blue rockfish (*Sebastes mystinus*); brown rockfish (*Sebastes auriculatus*); treefish (*Sebastes serriceps*); cabezon (*Scorpaenichthys marmoratus*); and California scorpionfish (*Scorpaena guttata*): CA-NFMP- and GMP-regulated
- Pacific sanddab (*Citharichthys sordidus*); lingcod (*Ophiodon elongatus*); leopard shark (*Triakis semifasciata*): GMP-regulated
- White seabass (*Atractoscion nobilis*): CDFW White Seabass Fishery Management Plan-regulated
- California sheephead (*Semicossyphus pulcher*): CA-NFMP-regulated
- Pacific sardine (*Sardinops sagax*); northern anchovy (*Engraulis mordax*); Pacific mackerel (*Scomber japonicas*); and jack mackerel (*Trachurus symmetricus*): CPSMP-regulated
- Southern California DPS steelhead trout; federally endangered and state endangered; federally regulated by the Pacific Fishery Management Council's Salmon Management Plan

Marine mammals with potential to occur within the Marine APE include species of seals and sea lions in the group known as pinnipeds, and whales and dolphins in the group of cetaceans comprised of both toothed and baleen species. Portions of the Carpinteria State Beach are a known seal sanctuary where the harbor seal (*Phoca vitulina*) uses the beach to pup from December through May and year-round as a haul-out site to rest. Other marine mammal species may frequent the Marine APE during yearly migrations or year-round to forage.

### **Marine Special Status Species and Communities**

Special status marine species evaluated here include the following:

- Species listed, species proposed for listing, or candidates for listing as threatened, endangered or a species of concern by the USFWS or National Marine Fisheries Service (NMFS) under FESA

- Those listed or proposed for listing as rare, threatened, or endangered by the California Department of Fish and Wildlife (CDFW) under CESA
- Animals designated as “Fully Protected” and a species of special concern by the CDFW
- Species on the Special Animals List (CDFW 2018)
- Species with potential to occur that appear on the International Union for Conservation of Nature’s (IUCN’s) Red List of Vulnerable Species, protected under the Convention of International Trade in Endangered Species of Fauna and Flora (CITES)
- Species protected by the Convention on Migratory Species
- Species protected under the Marine Mammal Protection Act

A total of 25 special status marine species are known or have the potential to occur in the Marine APE. Of these 25 species, six have a high potential to occur, six have a moderate potential, and seven have a low potential (Table 3.5-2). The remaining six are not expected to occur based on the criteria presented above. The species reasonably anticipated to occur were determined based on the published ranges of the species, and the type, extent, and condition of habitat available at the site. No special status wildlife species were observed within the Marine APE during the survey effort.

Special status species or other protected species with moderate or high potential to occur within or adjacent to the Marine APE that could be potentially affected are discussed below, and, if applicable, evaluated for potential impacts from the Proposed Project. Species with a low potential to occur are only included if further discussion is warranted.

Species	Low	Moderate	High
Black abalone ( <i>Haliotis cracherodii</i> )		X	
Pink abalone ( <i>Haliotis corrugata</i> )		X	
Green abalone ( <i>Haliotis fulgens</i> )		X	
White abalone ( <i>Haliotis sorenseni</i> )	X		
White shark ( <i>Carcharodon carcharias</i> )			X
Garibaldi ( <i>Hypsypops rubicundus</i> )			X
Giant sea bass ( <i>Stereolepis gigas</i> )	X		
California grunion ( <i>Leuresthes tenuis</i> )			X
Northern elephant seal ( <i>Mirounga angustirostris</i> )		X	
Harbor seal ( <i>Phoca vitulina</i> )			X
California sea lion ( <i>Zalophus californianus</i> )			X
Guadalupe fur seal ( <i>Arctocephalus townsendi</i> )	X		
Humpback whale ( <i>Megaptera novaeangliae</i> )	X		
Gray whale ( <i>Eschrichtius robustus</i> )		X	
Common bottlenose dolphin ( <i>Tursiops truncatus</i> )			X

**Table 3.5-2. Marine Special Status Wildlife Species with Potential to Occur within the Marine APE**

Species	Low	Moderate	High
Green sea turtle ( <i>Chelonia mydas</i> )		X	
Loggerhead sea turtle ( <i>Caretta caretta</i> )	X		
Leatherback sea turtle ( <i>Dermochelys coriacea</i> )	X		
Olive Ridley sea turtle ( <i>Lepidochelys olivacea</i> )	X		

### Special Status Invertebrates and Fishes

#### **Black, White, Pink, and Green Abalone**

The nearshore waters of California are home to seven species of abalone, four of which have a potential to occur in the Marine APE. Black abalone (*Haliotis cracherodii*) is a federally endangered species with a moderate potential to occur within the Marine APE. Populations of black abalone currently remain very low throughout southern California after a drastic decline due to fishing and withering syndrome, an infectious disease (CDFW 2011). Black abalone have not been documented by MARINE during annual monitoring at Carpinteria Reef. However, black abalone have been observed for the first time in many years at several sites throughout southern California and have increased in numbers at a few locations (NOAA, 2019). White abalone (*Haliotis sorenseni*) was the first marine invertebrate to be federally listed as endangered. The species still remains at very depressed population levels throughout the Southern California Bight. White abalone has a low potential to occur in the Marine APE due to the habitat depth requirement; the species is typically found at depths of 50 to 180 feet. Pink abalone (*Haliotis corrugate*) and green abalone (*Haliotis fulgens*) are both federal species of concern. Both species have a moderate potential to occur within the Marine APE and may occur on rocky substrate in the intertidal and subtidal habitats. No species of abalone were observed during the field surveys.

#### **White Shark**

White shark (*Carcharodon carcharias*) is included in the IUCN list of vulnerable species and protected by CITES and the Convention on Migratory Species. The species has a high potential to occur within the Marine APE and has been sighted off Carpinteria State Beach in recent years. White sharks utilize multiple habitats including, warm coastal waters in the Southern California Bight for nursery areas for young-of-the-year and juveniles. The use of coastal habitat varies seasonally, which may be due to temperature restrictions or availability of desired prey.

#### **Garibaldi**

Garibaldi (*Hypsypops rubicundus*) is state-protected under California State Marine Fish, AB 77 (1995), with a high potential to occur within the Marine APE. In 1995, the California Legislature designated the garibaldi as the Official State Marine Fish and banned any further commercial take. Garibaldi are one of the most common fish species documented in rocky reefs and kelp beds (CDFW 2011).

#### **Giant Sea Bass**

Giant sea bass (*Stereolepis gigas*) is a state-fully protected species and included in the IUCN list of vulnerable species with a low potential to occur within the Marine APE. Once common inhabitants of southern California waters, the species supported both a commercial and sport fishery in the late 19th century. In 1981, a law was passed that

prohibited the take of giant sea bass for any purpose, with the exception that commercial fishermen could retain and sell two fish per trip if caught incidentally in a gillnet or trammel net. Within California the species is rarely found north of Point Conception. Adult giant sea bass seem to prefer the edges of nearshore rocky reefs. These reefs are relatively shallow (35 to 130 feet) and often support thriving kelp beds (CDFW 2011).

### **California Grunion**

The California grunion (*Leuresthes tenuis*) is not protected under the CESA or FESA, but garners a level of special status from regional regulations with respect to protection of beach spawning areas from March to September. The species utilizes the sandy beaches from Morro Bay (Mercieca and Miller 1969) to Central Baja California for spawning and have a high potential to occur in the Marine APE. Known grunion runs are expected to occur on Carpinteria State Beach twice a month, at new and full moon between February/March and August or early September. During that time grunion come ashore during the two or three nights following the highest tide, eggs are deposited and then incubate in the sand during the lower tides, when they will not be disturbed by wave action. The eggs are kept moist by residual water in the sand. They hatch about 10 days later, during the next high tide series, when they are inundated with sea water and agitated by rising surf (CDFW 2016).

### **Special Status Marine Mammals**

All marine mammals are protected under the Marine Mammal Protection Act, which prohibits the “take” of marine mammals, including harassment, hunting, capturing, collecting, or killing in U.S. waters and by U.S. citizens on the high seas.

#### ***Northern Elephant Seal, Harbor Seal, California Sea Lion, and Guadalupe Fur Seal***

The northern elephant seal (*Mirounga angustirostris*) is state fully protected species and has a moderate potential to occur within the Marine APE. They breed in the Channel Islands and give birth from December to March. Individuals may occur on land, typically on sandy or rocky areas along the coastline. A majority of their life is spent in the water diving and foraging for food (NOAA, 2019c).

The harbor seal (*Phoca vitulina*) and California sea lion (*Zalophus californianus*) both have a high potential to occur within the Marine APE. Both the harbor seal and California sea lion live in temperate coastal habitats along the coast of California. At the east end of the Marine APE, a Seal Sanctuary for the harbor seal is present. The area is a rookery for the harbor seal and provides a specific area where animals gather each year to mate and raise young. The intertidal area within the Marine APE provides a haul-out site where non-breeding animals can gather to rest.

The Guadalupe fur seal (*Arctocephalus townsendi*) is a federally threatened and Marine Mammal Protection Act protected species. Their breeding grounds are almost entirely on Guadalupe Island, off the Pacific coast of Mexico but individuals have been documented traveling great distances from their breeding grounds. The species has a low potential to occur within the Marine APE since it is rarely documented along the west coast of the U.S. On occasion adults will breed on San Miguel Island and in recent years pup stranding has been documented on southern California beaches (NOAA, 2019e).

### **Humpback Whale**

Humpback whale (*Megaptera novaeangliae*) is divided into 14 DPSs, four of which are listed as federally endangered and one is listed as federally threatened. The Central American DPS (federally endangered) and Mexico DPS (federally threatened) both feed and travel off the coast of California during the spring, summer, and fall (NOAA, 2019d). The

species is typically found in deeper water approximately one to five miles offshore of the Marine APE. Migrations between winter regions and feeding areas off the coast of California do not follow a simple pattern therefore the species may have a low potential to occur within the Marine APE (Calambokidis et al. 2001).

### **Gray Whale and Common Bottlenose Dolphin**

The gray whale (*Eschrichtius robustus*) has a moderate potential to occur within the Marine APE in the Fall when the species is migrating from its summer feeding grounds in the Bering and Chukchi Seas to the breeding lagoons of Baja California and again from mid-February to May migrating northward along the west coast of the U.S. The western North Pacific DPS gray whale is listed as federally endangered and the eastern North Pacific DPS population was once listed but has successfully recovered and was delisted in 1994 (NOAA, 2019e).

The common bottlenose dolphin (*Tursiops truncatus*) has a high potential to occur within the Marine APE. The species is found throughout the world in both offshore and coastal waters. They are vulnerable to many stressors and threats including disease, biotoxin, pollution, habitat alteration, vessel collisions, human feeding of and activities causing harassment, interactions with commercial and recreational fishing, energy exploration and oil spills, and other types of human disturbance, such as underwater noise (NOAA, 2019e).

### **Other Protected Species (Sea Turtles)**

#### **Loggerhead, Green, Leatherback, and Olive Ridley Sea Turtles**

The loggerhead sea turtle (*Caretta caretta*) is divided into nine DPS, five of which are protected as federally endangered, and four of which are federally threatened. The federally endangered DPS has a low potential to occur within the Marine APE. The species occur throughout temperate and tropical regions of the Atlantic, Pacific, and Indian Oceans.

The green sea turtle (*Chelonia mydas*) is divided into 11 DPS, three of which are protected as federally endangered, and eight of which are protected as federally threatened. The federally endangered DPS species has a moderate potential to occur within the Marine APE. The species primarily nests in the Hawaiian Islands, U.S. Pacific Island territories, Puerto Rico, the Virgin Islands, and the east coast of Florida. Adults migrate from foraging areas to nesting beaches and may travel hundreds or thousands of kilometers each way. Green Sea Turtles are occasionally seen along the California Coast, often in El Niño years when the ocean temperature is higher than normal. The species has been documented in the Santa Barbara Channel in recent years (NOAA, 2019d).

The leatherback sea turtle (*Dermochelys coriacea*) is listed as federally endangered throughout its range, with one Northwest Atlantic DPS a candidate for listing. The species has a low potential to occur within the Marine APE. The species undertake long migrations between breeding and feeding areas and spend most of their lives in the ocean. The species feed off the Pacific coast of North America and migrate across the Pacific for nesting.

The olive Ridley sea turtle (*Lepidochelys olivacea*) is divided into two DPS, with the Pacific coast of Mexico DPS listed as federally endangered and all other populations listed as federally threatened. The federally endangered species has a low potential to occur within the Marine APE. The species occurs throughout the Pacific Islands and the southeast and west coasts of the U.S.

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## Environmentally Sensitive Habitat Areas and Critical Habitats

The City's General Plan/Local *Coastal Land Use Plan* outlines the following ESHA with in the Study Area: rocky points and intertidal areas, shallow rocky reefs and kelp beds, marine mammal rookeries and hauling grounds, black abalone critical habitat, and steelhead critical habitat.

### **Rocky Points and Intertidal Areas**

The intertidal area within the Marine APE consists of stretches of sandy beach broken up by rocky points. Rocky intertidal habitats provide a diversity of ecosystem benefits and provide food and shelter to an array of species including haul-outs for pinnipeds, forage areas for avian wildlife and a home for algae, sessile and motile invertebrates, and fish. The rocky points are distinctive habitat and provide shoreline protection, aesthetic qualities, and unique habitat complexity and species diversity. The rocky intertidal zone supports multiple species assemblages configured in tidal zones that span from the upper spray zone containing barnacles and snails to the lower tidal zones that support a diversity of marine algae, fish and larger motile invertebrates. California mussel beds are an important and prominent feature of the rocky intertidal that in many cases transitions to surfgrass. Surf grass beds provide nursery habitat for some commercially important species, including California spiny lobster, and surfgrass is adapted to the open coastal areas where it is exposed to wave action. Surf grass is relatively slow-growing and attaches directly to the rock substrate with exposed rhizomes.

While sand beaches are not typically considered sensitive habitat areas as a whole, several species of migratory avian wildlife, California grunion, Pismo clam (*Tivela stultorum*) and eelgrass (*Zostera pacifica*) utilize or inhabit some portion of soft bottom sand beach habitat in the Santa Barbara Channel. Avian wildlife, California grunion, and Pismo clams have been documented to occur in the intertidal sand beach areas of the Marine APE and Pismo clams are a target species for recreational fisherman.

### **Shallow Rocky Reefs and Kelp Beds**

Subtidal rocky reef substrate provides fixed structure for the attachment of algae and invertebrates that form productive and complex ecosystems occupying different trophic levels. Macroalgae are primary producers that derive their nutrition from sunlight and dissolved nutrients, whereas sessile invertebrates are consumers nourished by filtering plankton and other organic matter from the water column (Mooney and Zavaleta 2015). Shallow rocky reefs and kelp forests facilitate complex trophic interactions at multiple levels that culminate in highly productive species-rich habitats in the shallow nearshore regions of California. Macroalgae develop surface coverage or canopy in various forms that provide food and shelter for a diversity of species. Kelp forests are formed by a variety of stipate macroalgae that grow to form floating surface canopy. Giant kelp (*Macrocystis pyrifera*) is the dominant species throughout the Southern California Bight. Giant kelp forms "forests" in water depths of up to 100 feet (30 m) along the California coast (CSA 1995a).

### **Marine Mammal Rookeries and Hauling Grounds**

The area approximately 2,000 feet to the east of the Marine APE is typically referred to as the Carpinteria Bluffs and provides one of four well established harbor seal rookeries and haul-out areas along the mainland southern coast of California (Marine Mammal Consulting Group 1995). No other marine mammal species are documented to maintain rookeries or haul-out areas near the Marine APE. Harbor seals tend to habituate to repetitive and consistent levels of activity occurring at facilities, along roads or railways. However, haul-out harbor seals are not tolerant of human or dog activity along the beach, bluffs, or in the water, particularly when this activity is sudden or noisy.

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### ***Black Abalone Critical Habitat***

The Marine APE is not within black abalone critical habitat, but it is notable the critical habitat designation covers 242 square miles (390 square kilometers) of rocky habitat along the California coastline from the mean high water line down to 20 feet (6 m). The critical habitat designation area generally spans from Del Mar Landing in northern Sonoma County down to the entrance to Los Angeles Harbor, including all of the offshore islands (NOAA, 2019e). The subtidal areas within the Marine APE are not defined as black abalone critical habitat, although there is potential for settlement of black abalone in the rocky intertidal habitat of the Marine APE.

### ***Steelhead Critical Habitat***

The ocean outfall component of the Proposed Project lies within federally designated critical habitat for southern California steelhead, as designated in September 2005.

## **3.5.2 Regulatory Framework – Biological Resources**

### **Federal**

#### ***Federal Endangered Species Act***

The USFWS and National Marine Fisheries Service (NMFS) share responsibility for implementing the FESA (16 U.S.C. Section 153 et seq.). The purpose of the FESA is to protect and recover imperiled species and the ecosystems upon which they depend. Generally, the USFWS implements the FESA for terrestrial and freshwater species, while the NMFS implements FESA for marine and anadromous species. Under FESA, species may be listed as either endangered or threatened. “Endangered” means a species is in danger of extinction throughout all or a significant portion of its range. “Threatened” means a species is likely to become endangered within the foreseeable future. All species of plants and animals, except pest insects, are eligible for listing as endangered or threatened. For the purposes of FESA, Congress defined species to include subspecies, varieties, and, for vertebrates, distinct population segments.

Projects that would result in “take” of any federally threatened or endangered species are required to obtain permits from the USFWS or NMFS through either Section 7, *Interagency Consultation with a Federal Nexus* or Section 10, *Habitat Conservation Plan* of FESA, depending on the involvement by the federal government in permitting and/or funding of the project. The permitting process is used to determine if a project would jeopardize the continued existence of a listed species and what measures would be required to avoid jeopardizing the species. “Take” under federal definition means to harass, harm (which includes habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Proposed or candidate species do not have the full protection of FESA; however, the USFWS and NMFS advise project applicants that they could be elevated to listed status at any time.

#### ***Clean Water Act***

The Clean Water Act establishes the basic structure for regulating discharges of pollutants into the waters of the U.S. and regulating quality standards for surface waters. The basis of the Clean Water Act was enacted in 1948 and was called the Federal Water Pollution Control Act, but the Act was significantly reorganized and expanded in 1972. “Clean Water Act” became the Act’s common name with amendments in 1972. Under the Clean Water Act, USEPA has implemented pollution control programs such as setting wastewater standards for industry. USEPA has also developed national water quality criteria recommendations for pollutants in surface waters.

The Clean Water Act made it unlawful to discharge any pollutant from a point source into navigable waters, unless a permit was obtained. USEPA's NPDES permit program controls discharges. Point sources are discrete conveyances such as pipes or man-made ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters.

### ***Rivers and Harbors Act***

The Rivers and Harbors Appropriation Act of 1899 (33 U.S.C. 403; Chapter 425, March 3, 1899; 30 Stat. 1151), commonly known as the Rivers and Harbors Act, prohibits the construction of any bridge, dam, dike or causeway over or in navigable waterways of the U.S. without Congressional approval. Administration of section 9 has been delegated to the Coast Guard. Structures authorized by State legislatures may be built if the affected navigable waters are totally within one State, provided that the plan is approved by the Chief of Engineers and the Secretary of Army (33 U.S.C. 401).

Under section 10 of the Act, the building of any wharfs, piers, jetties, and other structures is prohibited without Congressional approval, and excavation or fill within navigable waters requires the approval of the Chief of Engineers. Service concerns include contaminated sediments associated with dredge or fill projects in navigable waters.

### ***Magnuson-Stevens Fishery Conservation and Management Act***

The Magnuson-Stevens Fishery Conservation and Management Act, as amended (16 U.S.C. 1801 et seq.) established:

- A fishery conservation zone between the territorial seas of the U.S. and 200 nautical miles offshore;
- An exclusive U.S. fishery management authority over fish within the fishery conservation zone (excluding highly migratory species);
- Regulations for foreign fishing within the fishery conservation zone through international fishery agreements, permits, and import prohibitions; and
- National standards for fishery conservation and management and eight regional fishery management councils to apply those national standards in fishery management plans.

Congress enacted the 1996 amendments to the Act, known as the Sustainable Fisheries Act (Public Laws. 104 through 297), to address the substantially reduced fish stocks that declined as a result of direct and indirect habitat loss. The Sustainable Fisheries Act requires that the Bureau of Ocean Energy Management and other agencies consult with the National Oceanic and Atmospheric Administration's National Marine Fisheries Service concerning actions that may adversely impact Essential Fish Habitat. In 2007, President Bush signed the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006. It mandates the use of annual catch limits and accountability measures to end overfishing, provides for fishery management by a limited access program, and calls for increased international cooperation.



### ***Marine Mammal Protection Act***

The Marine Mammal Protection Act was enacted on October 21, 1972. All marine mammals are protected under the Marine Mammal Protection Act. The Marine Mammal Protection Act prohibits, with certain exceptions, the “take” of marine mammals in U.S. waters and by U.S. citizens on the high seas, and the importation of marine mammals and marine mammal products into the U.S. Jurisdiction for Marine Mammal Protection Act is shared by USFWS and NMFS. USFWS’s Branch of Permits is responsible for issuing take permits when exceptions are made to Marine Mammal Protection Act.

### ***Coastal Zone Management Act***

The Coastal Zone Management Act, passed in 1972 and administered by National Oceanic and Atmospheric Administration (NOAA), provides for the management of the nation’s coastal resources, including the Great Lakes. The goal is to “preserve, protect, develop, and where possible, to restore or enhance the resources of the nation’s coastal zone.” The Coastal Zone Management Act outlines three national programs, the National Coastal Zone Management Program, the National Estuarine Research Reserve System, and the Coastal and Estuarine Land Conservation Program. The National Coastal Zone Management Program aims to balance competing land and water issues through state and territorial coastal management programs, the reserves serve as field laboratories that provide a greater understanding of estuaries and how humans impact them, and the Coastal and Estuarine Land Conservation Program provides matching funds to state and local governments to purchase threatened coastal and estuarine lands or obtain conservation easements.

### ***National Marine Sanctuaries Act***

The National Marine Sanctuaries Act authorizes the Secretary of Commerce to designate and protect areas of the marine environment with special national significance due to their conservation, recreational, ecological, historical, scientific, cultural, archeological, educational or esthetic qualities as national marine sanctuaries. Day-to-day management of national marine sanctuaries has been delegated by the Secretary of Commerce to NOAA’s Office of National Marine Sanctuaries. The primary objective of the National Marine Sanctuaries Act is to protect marine resources, such as coral reefs, sunken historical vessels or unique habitats.

### ***National Invasive Species Act***

The Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990, as amended by the National Invasive Species Act of 1996, was enacted to prevent and control infestations of the coastal inland waters of the U.S. by the zebra mussel and other nonindigenous aquatic nuisance species. The Act was also enacted to reauthorize the National Sea Grant College Program and for other purposes. The Act defines “nonindigenous species” as “any species or other viable biological material that enters an ecosystem beyond its historic range, including any such organisms transferred from one country into another.” “Aquatic nuisance species” is defined as “a nonindigenous species that threatens the diversity or abundance of native species or the ecological stability of infested waters, or commercial, agricultural, aquacultural or recreational activities dependent on such waters.”

## **State**

### ***California Endangered Species Act***

The California Department of Fish and Wildlife (CDFW) derives its authority from the CFGC. CESA (CFGC Section 2050 et. seq.) prohibits take of state listed threatened or endangered. The factors that contribute to determining

the need to list a species include the present or threatened modification or destruction of habitat, competition, predation, disease, overexploitation by collectors, or other natural occurrences or human-related activities. Take under CESA is restricted to direct mortality of a listed species and the law does not prohibit indirect harm by way of habitat modification. Where incidental take would occur during construction or other lawful activities, CESA allows the CDFW to issue an Incidental Take Permit upon finding, among other requirements, that impacts to the species have been minimized and fully mitigated.

The CDFW also enforces Sections 3511, 4700, 5050, and 5515 of the CFGC, which prohibits take of species designated as Fully Protected. The CDFW is not allowed to issue an Incidental Take Permit for Fully Protected species; therefore, impacts to these species must be avoided.

Species of special concern is a category used by the CDFW for those species which are considered to be indicators of regional habitat changes or are considered to be potential future protected species. Species of Special Concern do not have any special legal status except that which may be afforded by the CFGC as noted above. The species of special concern category is intended by the CDFW for use as a management tool to include these species in special consideration when decisions are made concerning the development of natural lands. The CDFW also has authority to administer the Native Plant Protection Act (CFGC Section 1900 et seq.). The Native Plant Protection Act requires the CDFW to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare. Effective in 2015, CDFW promulgated regulations (14 CCR 786.9) under the authority of the Native Plant Protection Act, establishing that CESA's permitting procedures would be applied to plants listed under the Native Plant Protection Act as "Rare." With this change, there is little practical difference for the regulated public between plants listed under CESA and those listed under the Native Plant Protection Act.

### ***California Coastal Act***

In October 1972, Congress passed Title 16 U.S.C. 1451-1464, which established a federal coastal zone management policy and created a federal coastal zone. By that legislation, the Congress declared a national interest in the effective management, beneficial use, protection and development of the coastal zone in order to balance the nation's natural, environmental and aesthetic resource needs with commercial-economic growth. The Congress found and declared that it was a national policy "to encourage and assist the states to exercise effectively their responsibilities in the coastal zone through the development and implementation of management programs to achieve wise use of the land and water resources of the coastal zone giving full consideration to ecological, cultural, historic, and aesthetic values as well as to the need for economic development (16 U.S.C. 1452b). As a result of that federal enactment, coastal states were provided a policy and source of funding for the implementation of federal goals.

The California Coastal Zone Conservation Act of 1972 (Proposition 20) was a temporary measure passed by the voters of the state as a ballot initiative. It set up temporary regional Coastal Commissions with permit authority and a directive to prepare a comprehensive coastal plan. The coastal commissions under Proposition 20 lacked the authority to implement the Coastal Plan but were required to submit the Plan to the legislature for "adoption and implementation."

The California Coastal Act of 1976 is the permanent enacting law approved by the State legislature. The Coastal Act established a different set of policies, a different boundary line, and different permitting procedures than Proposition 20. Further, it provides for the transfer of permitting authority, with certain limitations reserved for the State, to local governments through adoption and certification of Local Coastal Programs by the Coastal Commission.

### ***Porter-Cologne Act***

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

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

The Porter-Cologne Act established nine RWQCBs (based on hydrogeologic barriers) and the SWRCB, who are charged with implementing its provisions, have primary responsibility for protecting water quality in California. The SWRCB provides program guidance and oversight, allocates funds, and reviews RWQCB decisions. In addition, the SWRCB allocates rights to the use of surface water. The RWQCBs have primary responsibility for individual permitting, inspection, and enforcement actions in each of nine hydrologic regions.

### ***Marine Life Protection Act***

The Marine Life Protection Act of 1999 directs the state to redesign California's system of marine protected areas (MPAs) to function as a network in order to: increase coherence and effectiveness in protecting the state's marine life and habitats, marine ecosystems, and marine natural heritage, as well as to improve recreational, educational and study opportunities provided by marine ecosystems subject to minimal human disturbance. Six goals guided the development of MPAs in the MLPA planning process:

- Protect the natural diversity and abundance of marine life, and the structure, function and integrity of marine ecosystems
- Help sustain, conserve and protect marine life populations, including those of economic value, and rebuild those that are depleted
- Improve recreational, educational and study opportunities provided by marine ecosystems that are subject to minimal human disturbance, and to manage these uses in a manner consistent with protecting biodiversity
- Protect marine natural heritage, including protection of representative and unique marine life habitats in CA waters for their intrinsic values
- Ensure California's MPAs have clearly defined objectives, effective management measures and adequate enforcement and are based on sound scientific guidelines
- Ensure the State's MPAs are designed and managed, to the extent possible, as a network

To help achieve these goals, three MPA designations (state marine reserves, state marine parks and state marine conservation areas), one marine managed area (state marine recreational management area) and special closures were used in the MPA planning process. For the purposes of MPA planning, a public-private partnership commonly referred to as the MLPA Initiative was established, and the state was split into five distinct regions (four coastal and the San Francisco Bay) each of which had its own MPA planning process. All four coastal regions have completed these individual planning processes. As a result, the coastal portion of California's MPA network is now in effect

statewide. Options for a planning process in the fifth and final region, the San Francisco Bay, have been developed for consideration at a future date.

### ***Marine Life Management Act***

The MLMA, which became law on January 1, 1999, established a fishery management system for four groups of fisheries:

- The nearshore finfish fishery and the white seabass fishery
- Emerging fisheries – new and growing fisheries that are not currently subject to specific regulation
- Those fisheries for which the Fish and Game Commission held some management authority before January 1, 1999. Future regulations affecting these fisheries will need to conform to the MLMA
- Those commercial fisheries for which there is no statutory delegation of authority to the Commission and Department. (In the case of these fisheries, CDFW may prepare, and the Commission may adopt, a fishery management plan, but that plan cannot be implemented without a further delegation of authority through the legislative process)

Borrowing from experience with federal fishery management law, the MLMA initiated a comprehensive approach to fisheries management. The primary vehicle for this approach is the development of fishery management plans for all of the State's major recreational and commercial fisheries.

### ***Coastal Pelagic Species Fishery Management Plan***

The Coastal Pelagic Species Fishery Management Plan, administered by the Pacific Fishery Management Council, applies to coastal pelagic species and is intended to help manage fishery health. It classifies fish stock as “active” management, “monitoring” management, and “prohibited harvest” management. The first of these categories are for stocks and fisheries with biologically significant levels of catch, or considerations requiring intense harvest management procedures. The monitoring category are for stocks or fisheries that can be adequately managed through monitoring, where intense harvest management is not required. Prohibited harvest applies for stocks that cannot be fished within the West Coast Exclusive Economic Zone (up to 200 nautical miles from the shore). The Council may take different actions to protect fishery health, including closing a fishery, setting quotas, and changing the status of a given species or fishery, among other actions.

### ***Pacific Coast Groundfish Fishery Management Plan***

The Pacific Fishery Management Council administers the Pacific Coast Groundfish Fishery Management Plan, which applies to groundfish species and fisheries in the West Coast Exclusive Economic Zone. Groundfish managed by the plan include, but are not limited to, 65 species of rockfish, 12 species of flatfish, six species of roundfish, and four species of elasmobranchs. The plan's goals are to prevent overfishing and rebuild overfished stocks, increase the value of groundfish, and improve yield of the fishery. In addition to providing guidelines on management of the fishery related to the harvest of groundfish, this plan identifies essential fish habitat and habitat areas of particular concern, which are sensitive to human-induced environmental degradation and provide an important ecological function, among other considerations. Some habitat areas of particular concern are located within the Study Area.

### ***Nearshore Fishery Management Plan***

California Department of Fish and Wildlife’s Nearshore Fishery Management Plan applies the MLMA to nearshore fisheries. It seeks to improve long-term resource conservation and sustainability and includes management measures for sustainable nearshore fisheries for the 19 species included in the plan. The plan includes measures to manage stock, including potential restrictions on harvest, as well as the use of Marine Protected Areas to increase sustainability of the fishery.

### ***California Ocean Plan and California Thermal Plan***

Ocean standards protect the beneficial uses of California’s marine waters through establishing water quality objectives and implementation provisions in statewide water quality control plans and polices. Ocean standards plans and policies include: the SWRCB’s Water Quality Control Plan for Ocean Waters of California (Ocean Plan) and Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (California Thermal Plan) (SWRCB, 2015 and SWRCB, 1975). The Ocean Standards Unit is responsible for developing and updating the statewide plans and policies involving marine waters, as well as providing scientific support and inter-agency coordination regarding marine pollution and resource management.

### ***Marine Invasive Species Act***

The Marine Invasive Species Program began in 1999 with the passage of California’s Ballast Water Management for Control of Nonindigenous Species Act, which addressed the threat of species introductions from vessels arriving at California’s ports. In 2003, the Marine Invasive Species Act was passed, reauthorizing and expanding the 1999 Act. Subsequent amendments to the Act and additional legislation further expanded the Program’s scope. The Marine Invasive Species Program seeks to reduce the risk of aquatic nonindigenous species introduction into California’s waters through:

- The development, implementation, and enforcement of vessel biofouling and vessel ballast water management strategies and polices
- The use of best available technology and peer reviewed science

Partnerships with stakeholders to improve awareness of invasive species issues and assess program efficacy

### ***Waste Discharge Requirements and National Pollutant Discharge Elimination System Permit***

The RWQCB issued an NPDES permit (Order R3-2017-0032, Permit CA0047364) for the WWTP, which requires annual wastewater testing and reporting as well as receiving water testing. It sets thresholds for a variety of constituents in treated effluent discharged from the WWTP to the ocean, including pollutants toxic to marine life (see Table 3.5-3). No exceedances or impacts to water quality of the receiving waters has been documented or reported in previous annual reports (Aquatic Bioassay Consulting Laboratories, Inc., 2013).

<b>Table 3.5-3. Effluent Limitations for Protection of Marine Aquatic Life</b>				
<b>Parameter</b>	<b>Units</b>	<b>Effluent Limitation</b>		
		<b>6-Month Median</b>	<b>Maximum Daily</b>	<b>Instantaneous Maximum</b>
Cyanide, Total	µg/L	94	376	940
	lbs/day	2	8	20

**Table 3.5-3. Effluent Limitations for Protection of Marine Aquatic Life**

Parameter	Units	Effluent Limitation		
		6-Month Median	Maximum Daily	Instantaneous Maximum
Total Chlorine Residual	µg/L	190	750	5600
	lbs/day	3.9	16	120
Phenolic Compounds (non-chlorinated)	µg/L	2,800	11,000	28,000
	lbs/day	59	240	590
Chlorinated Phenolics	µg/L	94	376	940
	lbs/day	2.0	7.8	20
Endosulfan	µg/L	0.85	1.7	2.5
	lbs/day	0.018	0.035	0.053
Endrin	µg/L	0.19	0.38	0.56
	lbs/day	0.0039	0.0078	0.012
HCH	µg/L	0.38	0.75	1.1
	lbs/day	0.0078	0.016	0.024
Radioactivity	Not to exceed limits specified in Title 17 CCR Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30253. Reference to Section 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.			
Chronic Toxicity	TU	-	94	-

µg/L = micrograms per liter  
HCH = Hexachlorocyclohexane

## Local

### **City of Carpinteria General Plan/Local Coastal Land Use Plan**

The City's *General Plan/Local Coastal Land Use Plan* includes the following objectives and policies relevant to the Proposed Project and biological resources:

- OSC-1 Protect, Preserve and Enhance Local Natural Resources and Habitats
  - Policy OSC-1a. Protect ESHAs from development and maintain them as natural open space or passive recreational areas.
  - Policy OSC-1b. Prohibit activities, including development, that could damage or destroy ESHA.
  - Policy OSC-1c. Establish and support preservation and restoration programs for ESHA, including but not limited to Carpinteria Creek, Carpinteria Bluffs, Carpinteria Salt Marsh, seal rookery, Carpinteria reef, Pismo clam beds and the intertidal zones along the shoreline.
  - Policy OSC-1d. Property including ESHA should be designated with a zoning category that allows for the protection of, and access to, the resource area, such as Open Space/Recreation or Public Facility zoning. Any development on property including ESHA should be designed and conducted to protect the resources.

Within environmentally sensitive habitat only uses dependent upon those resources shall be allowed and the resources shall be protected against any disruption

- Policy OSC-1f. Protect and restore degraded wetlands, butterfly habitat, native plant communities, and sensitive, rare, threatened or endangered species habitat on City-owned land to the maximum extent feasible.
- OSC-4 Preserve the Biological Diversity of Shoreline Habitats
  - Policy OSC-4a. Protect the marine resources of the Carpinteria tidepools and Reef and other rocky reefs and intertidal areas. If evidence of depletion of these resources is presented, work with the California Department of Fish and Game to assess the extent of damage and implement mitigating measures.
  - Policy OSC-4b. Limit activities on public beaches that include or are adjacent to rocky points and intertidal areas to light recreational use (e.g. hiking, biking and jogging).
- OSC-5 Protect the Harbor Seal Hauling Ground from Human Disturbance
  - Policy OSC-5a. Harbor Seal Hauling Grounds should not be altered or disturbed by recreational, industrial, or any other uses. Emergency maintenance or repair of existing pipelines in the vicinity of the adjacent Carpinteria oil and gas plant pier should be permitted as necessary, as long as disturbances to the harbor seal hauling grounds are minimized. Such repairs should be limited to the period of June 1 to November 30 if possible.

### ***Santa Barbara County Article II Coastal Zoning Ordinance***

Pursuant to PRC Section 30500 of the California Coastal Act of 1976, the County of Santa Barbara must prepare an LCP for that portion of the unincorporated area of the County in the Coastal Zone. The County's LCP must include: (1) a Land Use Plan, which is the local coastal element (PRC Section 30108.55) of the County's *Comprehensive Plan* (PRC Section 30108.5); (2) a zoning ordinance, and (3) zoning district maps that apply the regulations of this ordinance to property, which when taken together, meet the requirements of and implement the provisions and policies of the Coastal Act of 1976, PRC Section 30108.6.

On March 17, 1981, the California Coastal Commission, pursuant to PRC Section 30512(d), certified most of County's Land Use Plan. The next step required in the preparation of the Local Coastal Program is the preparation and adoption by County of this zoning ordinance, which will implement the certified Land Use Plan by classifying and regulating the uses of land, buildings, and structures within the Coastal Zone.

The purposes of this ordinance are to:

- Protect, maintain, and where feasible, enhance and restore the overall quality of the Coastal Zone environment and its natural and manmade resources.
- Assure orderly, balanced utilization and conservation of Coastal Zone resources taking into account the social and economic needs of the people of this County and of the State.
- Maximize public access to and along the coast and maximize public recreational opportunities in the Coastal Zone consistent with sound resource conservation principles and constitutionally protected rights of private property owners.
- Assure priority for coastal-dependent and coastal-related development over other development on the coast.
- Provide a definite plan for development so as to guide the future growth of the County within the Coastal Zone.
- Protect the character and stability (social and economic) of agricultural, residential, commercial, and industrial areas.

Section 35-61, *Beach Development* is the only ordinance are relevant to the Proposed Project as related to marine biological resources.

**Santa Barbara County Coastal Land Use Plan**

The Santa Barbara County *Coastal Land Use Plan* was partially certified by the Coastal Commission on March 17, 1981 and is the Local Coastal Program for unincorporated Santa Barbara County. It details the rules and regulations of land use within Santa Barbara County’s coastal areas. Two policies were considered relevant to the Proposed Project, though neither of them are relevant to marine biological resources. These policies include Policy 9-37 and Policy 9-38, which are consistent with Santa Barbara County Article II Zoning Ordinance Section 35-97.19, *Development Standards for Stream Habitats* and Section 35-97.19, *Development Standards for Stream Habitats*, respectively.

**3.5.3 Impact Analysis – Biological Resources**

**Methodology for Analysis**

The potential impacts to marine biological resources were evaluated using the CEQA Guidelines, incorporating the changes adopted in December 2018, as well as the City of Carpinteria’s Environmental Review Guidelines, and in consideration of applicable regulations and statutes, as outlined in the *Biological Resources Assessment* (Appendix D).

**Thresholds of Significance**

In accordance with the CEQA Guidelines an impact to biological resources would be significant if the Proposed Project does any of the following:

<b>Would the Proposed Project:</b>	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
3.5-1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or USFWS?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.5-2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or USFWS?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.5-3: Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



3.5-4: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.5-5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.5-6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Criteria Requiring No Further Evaluation

Criteria listed above that do not apply to actions associated with the Proposed Project are identified below, along with supporting rationale as to why further consideration is unnecessary and a No Impact determination is appropriate.

3.5-6) *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

The Proposed Project does not occur within any Habitat Conservation Plan, Natural Community Conservation Plan, Marine Protected Area, or other approved local, regional, or state habitat conservation plan areas. The Proposed Project would not conflict with the provisions of any such plans. Therefore, the Proposed Project would not conflict with a Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plans and no impact would occur. Thus, no further evaluation is required.

### 3.5.4 Impact Statements and Mitigation Discussions

This section discusses potential impacts to biological resources that could result in conjunction with the Proposed Project. Mitigation measures are identified where appropriate.

**Impact 3.5-1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or USFWS?**

No special status marine species were observed or detected during the reconnaissance surveys. Special status marine species were determined to occur within the Marine APE based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDDB, and species occurrence records from other sites in the vicinity of the Marine APE. The following special status marine species were identified as having a moderate or high potential for occurrence within the Marine APE: black, pink and green abalone, white shark, garibaldi, California grunion, northern elephant seal, harbor seal, California sea lion, common bottlenose dolphin, gray whale and green sea turtle.

Black, pink and green abalone have a moderate potential to occur within the various intertidal and shallow rocky reef portions of the Marine APE. The rocky points and shallow subtidal rocky reefs are identified as ESHA in the City's General Plan/Local Coastal Land Use Plan. No project activities are anticipated to directly impact any of the marine

rocky points or reef areas considered potential habitat for abalone; however, implementation of **Mitigation Measure MM 3.4-1a** (see Section 3.4, *Biological Resources*) and **Mitigation Measure MM 3.5-1b** would reduce indirect effects to the species to a less than significant level.

The white shark and garibaldi have a high potential to occur; however, no project activities are anticipated to directly impact the white shark and garibaldi or have an adverse change to their environment. California grunion also have a high potential to occur on shore in sandy beaches within the Marine APE, from March to September. No project activities are anticipated to directly impact the beaches, therefore no direct or indirect effects to the species would occur.

The Marine APE contains habitat that supports resident, foraging and transiting special status marine mammals, including both pinnipeds and cetaceans protected under the Marine Mammal Protection Act. The waters of the Marine APE are relatively shallow (less than 25 feet) reducing the potential for the cetaceans (e.g., humpback whale) to occur. The California sea lion, harbor seal, northern elephant seal, common bottlenose dolphin and gray whale have a moderate to high potential to occur. Marine mammals exposed to high-intensity sound repeatedly or for prolonged periods can experience hearing threshold shift, which is the loss of hearing sensitivity at certain frequency ranges (Kastak et al. 1999; Schlundt et al. 2000; Finneran et al. 2002, 2005). A permanent threshold shift is said to occur when the loss of hearing sensitivity is unrecoverable. Noise can also cause other forms of disturbance when marine mammals alter their normal patterns of behavior to move away from the source. Based on NMFS (2018) Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing a temporary threshold shift of 6 dB is considered the minimum threshold shift clearly larger than the animal's normal hearing ability. A temporary threshold shift is a temporary, reversible increase in the threshold of audibility at a specified frequency or portion of an individual's hearing range above a previously established reference level. The project activities propose only limited marine construction inclusive of pneumatic drivers and drills, which are not expected to impact marine mammals. **Mitigation Measure MM 3.4-1a** would provide for compliance with the Marine Mammal Protection Act to reduce marine mammal disturbance, thereby reducing indirect effects to a less than significant level. Additionally, harbor seals may use the shoreline as a haul-out and Proposed Project activities along the Proposed Project's outfall pipe could have a potential indirect effect (e.g., noise, movement) on haul-out harbor seals. **Mitigation Measure MM 3.4-1b** (see Section 3.4, *Biological Resources*) and **Mitigation Measure MM 3.1-4** (see Section 3.1, *Aesthetics*) would reduce potential impacts to a less than significant level.

Sea turtles, particularly the green sea turtle, have a moderate potential to occur within offshore areas of the Marine APE. No project activities are anticipated to have an adverse change to their environment. However, if the species is present during in-water construction the species has a potential to be adversely affected. **Mitigation Measure MM 3.4-1a** (see Section 3.4, *Biological Resources*) and **Mitigation Measure MM 3.5-1a** are recommended to reduce sea turtle disturbance, thereby reducing indirect effects to a less than significant level.

### ***Significance Determination Before Mitigation***

Potentially Significant.

### ***Mitigation Measures***

**Mitigation Measures MM 3.4-1a** and **MM 3.4-1b**, in Section 3.4, *Biological Resources*, **Mitigation Measure MM 3.1-4** in Section 3.1, *Aesthetics*, and **Mitigation Measures MM 3.5-1a** and **MM 3.5-1b** shall apply to the Proposed Project activities associated with the ocean outfall improvements.

**Mitigation Measure MM 3.5-1a Avoidance Measures for Marine Mammal and Sea Turtle Species.** To minimize disturbance to species status marine mammal and sea turtle species, general guidelines set forth in the Marine Mammal Protection Act shall be implemented. Vessels under power shall remain at least 100 yards (300 feet) away from whales and 50 yards (150 feet) from dolphins, porpoises, seals, sea lions and sea turtles. When encountering marine mammals the vessel shall slow down, operate at no-wake speed and the vessel shall be put in neutral to let the individual pass.

**Mitigation Measure MM 3.5-1b Subtidal Biological Survey.** To minimize direct project impacts to special status abalone species and offshore ESHA including rocky points, intertidal areas, subtidal reefs and kelp beds, at least 45 days prior to the start of in-water project activities, a subtidal biological survey shall be completed by a qualified biologist to document areas of kelp, special status species, and rocky reef within the Marine APE and a 100-foot buffer. If the survey identifies rocky reefs, kelp bed, or special status species, project activities shall avoid and anchor project-related vessels at least 50 feet away from special status species and habitat, if feasible. If the area cannot be avoided, the project shall utilize techniques that minimize turbidity (i.e. installation of a turbidity curtain), scarring on rocky habitat, and down cast sand excavated at or near the outfall into sand channels away from rocky habitat. For consistency with Policy OSC-4 of the City's General Plan/Local *Coastal Land Use Plan*, a post construction survey shall be completed by a qualified biologist to document final conditions.

#### ***Significance Determination after Mitigation***

Less than Significant.

#### **Impact 3.5-2: Have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or USFWS?**

The Carpinteria General Plan/Local *Coastal Land Use Plan* identifies areas of rocky points and intertidal areas, subtidal reef, kelp beds, and marine mammal rookeries and hauling grounds as ESHA. These ESHA designations are in place to protect local waters and the sensitive species within the habitat. Impacts to these areas may include degradation of water quality and removal of rocky habitat or species, such as giant kelp. Vessel anchoring, removal of kelp beds, and bottom disturbance which increases suspended sediment for an extended period may have a potential direct or indirect impact to ESHA and could result in a significant adverse impact to the environment. However, implementation of **Mitigation Measure MM 3.4-1a** (see Section 3.4, *Biological Resources*) and **Mitigation Measures MM 3.5-1a** and **MM 3.5-1b** would reduce potential impacts to sensitive habitats to a less than significant level by training workers to identify sensitive species and habitats, understanding presence and location of potential marine special species, and avoiding sensitive areas. Additionally, CVWD would implement biological resources training (see Section 2.10, *Environmental Commitments*), which requires training for workers on identifying potential sensitive species and invasive aquatic species, and what to do if they are encountered. **Mitigation Measure MM 3.4-3c** (see Section 3.4, *Biological Resources*), which implement construction BMPs that reduce potential for pollution from construction activities to enter waterways and the environment, would further reduce potential impacts to less than significant levels.

#### ***Environmental Commitments***

CVWD shall implement biological resource training to construction workers, including invasive aquatic species identification, as described in Section 2.10, *Environmental Commitments*.

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### ***Significance Determination Before Mitigation***

Potentially Significant.

### ***Mitigation Measures***

**Mitigation Measures MM 3.4-1a** and **MM 3.4-3c** in Section 3.4, *Biological Resources*, and **Mitigation Measures MM 3.5-1a** and **MM 3.5-1b** above shall apply to the Proposed Project activities associated with the ocean outfall improvements.

### ***Significance Determination after Mitigation***

Less than Significant.

### **Impact 3.5-3: Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

The outfall pipeline terminating offshore of Carpinteria State Beach will require modifications to the diffusers, involving light marine construction activities. This action may result in potential impacts to the course, location, or condition of the water body. The Proposed Project may alter the amount of effluent conveyed by the outfall and may result in an increased salinity and other constituents in the discharge. Navigable waters of the U.S. are regulated under Section 10 of the Rivers and Harbors Act and any structures or work outside the limits defined for navigable waters of the U.S. requires a Section 10 permit if the structure or work affects the course, location, or condition of the water body. No direct impacts to Carpinteria State Beach (on shore or offshore) are proposed. Offshore activities would be completed by divers and a supporting vessel, require mounting of duckbill valves to the outfall, and potentially the removal of existing diffuser plates and installation of new fabricated diffuser plates with risers, elbows, and flanged duckbill valves. Tools required would be typical of underwater tools, including pneumatic drivers, drills, etc. Construction activities are expected to result in short-term and temporary increases in water column turbidity during sand excavation similar to, but less than, those generated by storm waves, therefore the Proposed Project is not expected to increase seawater turbidity to a significant level. CVWD would implement biological resources training (see Section 2.10, *Environmental Commitments*), which requires training for workers on identifying potential sensitive species and invasive aquatic species, and what to do if they are encountered. To further minimize indirect impacts to water quality offshore of Carpinteria State Beach, **Mitigation Measures MM 3.4-3c**, which requires implementation of construction BMPs to reduce risk of pollutants entering waterways and the environment, shall be implemented during offshore construction activities to reduce the potential indirect effects to water quality associated with sedimentation, turbidity, and invasive species.

Changes to the volume and dilution properties of the Proposed Project's ocean discharge were evaluated in detail by Flow Sciences in the Near-Field Dilution Analysis of the Carpinteria Valley Water District Indirect Potable Reuse Project technical memorandum developed for the CAPP (*Dilution Study*; see Appendix J). The existing secondary waste water discharge from the Proposed Project's ocean outfall ranges from 1.8 to 2.5 MGD dependent on the season and consists of primarily fresh water, salinity of 1.5 ppt. Implementation of the Proposed Project would reduce wastewater discharge by approximately 80%, reducing ocean discharge flow to approximately 0.3 MGD on average or 1.5 MGD during periods when the injection wells are off-line and all effluent is discharged to the Pacific Ocean. The proposed modifications to the ocean outfall diffusers maintain 16 alternating ports but include the inclusion of Tideflex "duckbill" check valves that direct discharge horizontally versus the preexisting downward -30 degree angle.

Overall, the slight rise in salinity and reduced flow rates anticipated to result from the Proposed Project would increase dilution ratios, thus decreasing mixing times and the extent of the zone of initial dilution (i.e., the zone immediately adjacent to a discharge where momentum and buoyancy driven mixing produces rapid dilution of discharge) based on model outcomes presented in the *Dilution Study* (Appendix J). Therefore, in both cases the resulting ocean discharge will mix with the overlying receiving waters more rapidly and over a smaller spatial area than existing conditions thus reducing impacts to water quality and the potential to impact species or habitats. Considering that no substantial changes to the properties of the ocean discharge are anticipated and the fact that previous *Receiving Water Monitoring Reports* (2013 and 2008), developed in compliance with the WWTP NPDES permit, documented no impacts to water quality or adjacent benthic habitat, the Proposed Project's ocean discharge is expected to meet Ocean Plan water quality objectives at the edge of the zone of initial dilution and have no impacts to water quality, species assemblages, or habitat.

Considering the low discharge volumes and distribution of diffuser ports, impacts due to shear stress caused by the discharge would be limited to plankton and the impacts would be less than significant because of the small percentage of plankton abundances potentially affected. Because of the small zone of initial dilution, no impacts are expected to benthic infauna or macrofauna populations that may cause upper trophic level impacts to fish, marine mammals, seabirds, or other species. Therefore, potential indirect impacts to jurisdictional waters subject to Section 10 of the Rivers and Harbors Act, including essential fish habitat, would be less than significant.

Impacts to water quality and the marine environment can include the spread of invasive species, notably *Caulerpa taxifolia*. *Caulerpa taxifolia* is an extremely invasive seaweed that can infest coastal water bodies in southern California. It is a fast-growing, hardy plant that out-competes native strains, and can reduce native plant and animal diversity and abundance. However, the only disturbance activity that would occur during outfall improvements for the Proposed Project would be clearing the ports through the use of tools such as an air lift or water lift that uses suction to remove sand and other substrates and deposit it on other softbottom habitat nearby. It is therefore unlikely that outfall modifications would result in the spread of *Caulerpa taxifolia*, and impacts would be less than significant.

### ***Environmental Commitments***

CVWD shall implement biological resource training to construction workers, including invasive aquatic species identification, as described in Section 2.10, *Environmental Commitments*.

### ***Significance Determination Before Mitigation***

Potentially Significant.

### ***Mitigation Measures***

**Mitigation Measure MM 3.4-3c** in Section 3.4, *Biological Resources* shall apply to the Proposed Project activities associated with the ocean outfall improvements.

### ***Significance Determination after Mitigation***

Less than Significant.

**Impact 3.5-4: Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?**

The Proposed Project's activities would not result in direct impacts to marine rocky substrate because it would not involve major undersea excavation. Any undersea excavation would be limited to removal of substrate covering the existing outfall using air or water lifts. Due to their limited nature, marine construction activities are not expected to cause noise above disturbance thresholds. **Mitigation Measure MM 3.4-1a** (see Section 3.4, *Biological Resources*) and **Mitigation Measure MM 3.5-1a** are recommended for compliance with the Marine Mammal Protection Act to confirm marine mammals are not disturbed, thereby reducing indirect effects to a less than significant level.

***Significance Determination Before Mitigation***

Potentially Significant.

***Mitigation Measures***

**Mitigation Measure MM 3.4-1a** in Section 3.4, *Biological Resources*, and **Mitigation Measure 3.5-1a** shall apply to the Proposed Project activities associated with the ocean outfall improvements.

***Significance Determination after Mitigation***

Less than Significant.

**Impact 3.5-5 – Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

The City's General Plan/Local *Coastal Land Use Plan* Policy OSC-1, OSC-4 and OSC-5 supports the preservation of ESHA and marine resources including rocky reefs and intertidal areas. The policy protects those habitats and the species they support. **Mitigation Measure MM 3.4-1a** (see Section 3.4, *Biological Resources*) and **Mitigation Measures MM 3.5-1a** and **MM 3.5-1b** are recommended to reduce impacts to ESHA, shoreline and subtidal habitats, and marine mammals including harbor seal hauling grounds. These mitigation measures require workers be trained to identify sensitive species and habitats, avoid sensitive areas and species where possible, and complete marine surveys to identify potential sensitive species prior to initiation of construction. With implementation of these measures, the Proposed Project would not conflict with these policies.

***Significance Determination Before Mitigation***

Potentially Significant.

***Mitigation Measures***

**Mitigation Measure MM 3.4-1a** in Section 3.4, *Biological Resources*, and **Mitigation Measures MM 3.5-1a** and **MM 3.5-1b** above shall apply to the Proposed Project activities associated with the ocean outfall improvements.

***Significance Determination after Mitigation***

Less than Significant.

## 3.6 Cultural Resources

This section provides a description of the existing cultural resources in the Study Area, provides relevant regulatory information, and evaluates potential impacts on cultural resources from implementation of the CAPP. The Proposed Project has the potential to impact cultural and archaeological resources through ground-disturbing construction activities. The mitigation measure identified in this section would reduce potential impacts to levels that are less than significant.

### 3.6.1 Physical Environmental Setting – Cultural Resources

A *Cultural Resources Assessment Report* was prepared in March 2019 by Rincon Consultants, Inc. for the Proposed Project, including construction of an AWP, injection wells, conveyance pipelines, backflush pipelines, pump station, monitoring wells, and modifications to the existing ocean outfall. A field survey of the Study Area and associated cultural resources was conducted on January 30, 2019. The complete *Cultural Resources Assessment Report* for the CAPP is provided in Appendix E.

Multiple records searches were conducted to review all recorded historical resources and archaeological resources within a 0.5-mile radius of the Study Area. On January 23, 2019, Rincon conducted a search of the California Historical Resources Information System – Central Coastal Information Center to identify any previously recorded cultural resources and previously conducted cultural resources studies within the Study Area and a 0.5-mile radius around it. The CHRIS-CCIC records search identified 23 previously recorded cultural resources within a 0.5-mile radius of the Study Area. These include 12 historic buildings, five historic period archaeological sites, four prehistoric archaeological sites, and two prehistoric isolated artifacts.

#### Historical Resources

The Carpinteria Valley area was historically populated by the Native American group known as the Chumash. The Chumash occupied the region from San Luis Obispo County to Malibu Canyon on the coast, and inland as far as the western edge of the San Joaquin Valley, and the four northern Channel Islands. There are many archaeological sites recorded within the Carpinteria Valley. Native American consultation for other projects within the area indicates the Study Area is considered highly sensitive to the Chumash and the tribe have expressed concerns that buried resources, including human burials, could potentially occur within the Study Area.

The City of Carpinteria does not include any districts formally designated as historic. There are seven historical landmarks within the City's boundaries, and one State Historic Landmark (designated by two markers). Three of the City's seven landmarks are trees, including the Wardholme Torrey Pine (5160 Carpinteria Avenue), palm trees between 7th and 8th Street at the corner of Linden Avenue and 7th Street, and the Portola Sycamore Tree (5300 6th Street). The other four City landmarks include the Site of the Original Library (892 Linden Avenue), the Heath Ranch Park and Adobe (between Chaparral and Eucalyptus Street), Tar Pits Park (near the southern end of Calle Ocho), and Carpinteria Valley Baptist Church (800 Maple Avenue). The one State Historic Landmark is noted with two markers located at the 956 Maple Avenue and near Carpinteria Creek bridge on Carpinteria Avenue that mark the location of a Chumash village (City of Carpinteria, 2003).

## Archaeological Resources

Of the 23 previously recorded cultural resources identified in the CHRIS-CCIC search, one prehistoric archeological site (CA-SBA-7) was shown as extending into the Study Area, specifically within the APE in the area of the proposed AWPF and pump station.

### Prehistoric Archaeological Site CA-SBA-7

CA-SBA-7 is a large prehistoric/ethnohistoric village site first documented in 1929. The site was recorded as running for almost a mile southeast from the southern bank of Carpinteria Creek. It was suggested that the site may represent the remains of the Chumash village of Mishopshow. Further archaeological testing conducted west and east of Carpinteria Creek in the late 1980's indicated that, while cultural materials were present in the area west of Carpinteria Creek, the deposits had been extensively disturbed. In 2001, an additional study documented an extension of CA-SBA-7 north of Carpinteria Creek within the current Study Area. This study concluded that the prehistoric cultural component in this area was "nearly non-existent." Although previous archaeological investigations found cultural remains west of Carpinteria Creek, evidence for the presence of CA-SBA-7 in the vicinity of the current Study Area remains questionable and the site's substantial cultural deposits are concentrated on the east side of Carpinteria Creek outside of the Study Area.

A 2004 site record update provides an evaluation of CA-SBA-7 for California Register of Historic Resources (California Register) listing. The site was identified as eligible under two criteria: Criterion A for its association with Spanish exploration and as a major archaeological site where aspects of prehistory were defined and Criterion D for its contribution of significant data. The site is also listed as California Historic Landmark #535. Landmarks with numbers less than 700 are not automatically listed in the California Register, and the site is likely eligible for California Register listing, but currently remains unlisted.

### 3.6.2 Regulatory Framework – Cultural Resources

#### Federal

##### ***National Historic Preservation Act (Section 106)***

Section 106 of the National Historic Preservation Act of 1966 (NHPA) applies when a project, activity, or program is funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including those carried out by or on behalf of a federal agency; those carried out with federal financial assistance; and those requiring a federal permit, license or approval. Cultural resources are considered during federal undertakings chiefly under Section 106 of NHPA of 1966 (as amended) through one of its implementing regulations, 36 CFR, Section 800, *Protection of Historic Properties*, as well as NEPA. Properties of traditional, religious, and cultural importance to Native Americans are considered under Section 101 (d) (6) (A) of NHPA, and Section 106 36 of the CFR at 800.3 to 800.10.

Compliance with Section 106 requires a sequence of steps. The steps include (1) identification of the area that will be affected by the proposed undertaking ("area of potential effect" [APE]); (2) identification of historic or archaeological properties; (3) evaluation of the eligibility of the properties for listing on the National Register of Historic Places; (4) determination of the level of effect of the undertaking on eligible properties; and (5) consultation with concerned parties and agreement in the form of a Memorandum of Agreement on avoidance, minimization, or mitigation of adverse effects on eligible properties.



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### ***National Register of Historic Places***

The National Register of Historic Places is the official list of the Nation's historic places worthy of preservation. Authorized by the NHPA, the National Park Service's National Register of Historic Places is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect America's historic and archeological resources. Properties are evaluated based on age, integrity, and significance.

- **Age and Integrity:** Is the property old enough to be considered historic (generally at least 50 years old) and does it still look much the way it did in the past?
- **Significance:** Is the property associated with events, activities, or developments that were important in the past? With the lives of people who were important in the past? With significant architectural history, landscape history, or engineering achievements? Does it have the potential to yield information through archeological investigation about our past?

### ***American Indian Religious Freedom Act***

The American Indian Religious Freedom Act of 1978 protects the rights of Native Americans to exercise their traditional religions by ensuring access to sites, use and possession of sacred objects, and the freedom to worship through ceremonials and traditional rites.

### ***Archaeological Resources Protection Act***

The Archeological Resources Protection Act of 1979 was enacted to protect archaeological resources and sites which are on public lands and Indian lands, and to foster increased cooperation and exchange of information between governmental authorities, the professional archaeological community, and private individuals. Archaeological resources are defined as any material remains of past human life or activities that are of archaeological interest and at least 100 years old, requires federal permits for their excavation or removal and sets penalties for violators.

### ***Native American Graves Protection and Repatriation Act***

The Native American Graves Protection and Repatriation Act of 1989 describes the rights of Native American lineal descendants and Indian tribes, and Native Hawaiian organizations with respect to the treatment, repatriation, and disposition of Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony, referred to collectively in the statute as cultural items, with which they can show a relationship of lineal descent or cultural affiliation.

### ***Secretary of the Interior's Standards for the Treatment of Historic Properties***

The Secretary of the Interior's Standards for the Treatment of Historic Properties (Standards) establish professional standards and advice for protection of resources listed in or eligible for listing in the National Register of Historic Places. The guidance provided in these Standards are specific to each type of resource, and address four treatments: preservation, rehabilitation, restoration, and reconstruction. Guidance includes recommendations of when to implement different actions or techniques, and identifies materials or actions to avoid, based on the type of resource, materials involved, and current state of the resource. It also provides guidance on new additions or alterations to historic resources. Adherence to these standards are required when Federal grant dollars are used to fund a project, although adherence to these standards are recommend when guiding design decisions and local requirements.

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## State

### California Office of Historic Preservation

The Office of Historic Preservation (OHP), as an office of the California Department of Parks and Recreation, implements the policies of the NHPA on a statewide level. The OHP also maintains the California Historic Resources Information System. The State Historic Preservation Officer is an appointed official who implements historic preservation programs within the State's jurisdictions. The OHP also works closely with federally and non-federally recognized tribes to ensure the preservation and protection of cultural sites, ancestral lands, and tribal traditions.

### California Register of Historical Resources

Created by AB 2881, which was signed into law on September 27, 1992, the California Register is "an authoritative listing and guide... in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1(a)). The criteria for eligibility for the California Register are based upon National Register criteria (PRC Section 5024.1(b)). Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register of Historic Places (PRC Section 5024.1(d)).

To be eligible for the California Register, a prehistoric or historic property must be significant at the local, state, and/or federal level under one or more of the following criteria:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Is associated with the lives of persons important in our past;
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- Has yielded, or may be likely to yield, information important in prehistory or history.
- A resource eligible for the California Register must meet one of the criteria of significance described above and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the National Register, but it may still be eligible for listing in the California Register.

### California Environmental Quality Act

CEQA is the principal statute governing environmental review of projects occurring in the State. CEQA requires lead agencies to determine if a proposed project would have a significant effect on archaeological resources (PRC Section 21000 et seq.). As defined in Section 21083.2 of the PRC, a "unique" archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

In addition, CEQA Guidelines Section 15064.5 broadens the approach to CEQA by using the term “historical resource” instead of “unique archaeological resource.” The CEQA Guidelines recognize that certain historical resources may also have significance. The CEQA Guidelines recognize that a historical resource includes: (1) a resource in the California Register; (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1 (k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1 (g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency’s determination is supported by substantial evidence in light of the whole record.

### **AB 52**

AB 52 provides for local agencies to extend an invitation to Native American groups to engage in consultation on proposed private and public development projects to assure that potential impacts to Native American cultural resources are adequately addressed. More specifically, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by written notification including a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section (PRC Section 21080.1).

### **Local**

#### ***City of Carpinteria General Plan/Local Coastal Land Use Plan***

The Open Space, Recreation, and Conservation Element of the City of Carpinteria *General Plan/Local Coastal Land Use Plan* identifies culturally significant locations within the City. Objective OSC-16 and Policy OSC-16a, as described below, are intended to preserve cultural resources within the City.

- Objective OSC-16: Preserve Carpinteria’s cultural resources.
  - Policy OSC-16a: Carefully review any development that may disturb important archaeological or historically valuable sites.

#### ***County of Santa Barbara Coastal Land Use Plan***

The County of Santa Barbara’s *Coastal Land Use Plan* includes policies that apply to the coastal areas of the county, including the portion of the Study Area within the unincorporated county. Coastal Land Use policies relevant to the Proposed Project and cultural resources include:

- Policy 10-1: All available measures, including purchase, tax relief, purchase of development rights, etc., shall be explored to avoid development on significant historic, prehistoric, archaeological, and other classes of cultural sites.
- Policy 10-2: When developments are proposed for parcels where archaeological or other cultural sites are located, project design shall be required which avoids impacts to such cultural sites if possible.
- Policy 10-3: When sufficient planning flexibility does not permit avoiding construction on archaeological or other types of cultural sites, adequate mitigation shall be required. Mitigation shall be designed in accord with guidelines of the State Office of Historic Preservation and the State of California Native American Heritage Commission.

- Policy 10-5: Native Americans shall be consulted when development proposals are submitted which impact significant archaeological or cultural sites.

### 3.6.3 Impact Analysis – Cultural Resources

#### Methodology for Analysis

The potential impacts to cultural resources were evaluated using the CEQA Guidelines, incorporating the changes adopted in December 2018.

#### Thresholds of Significance

In accordance with the CEQA Guidelines, an impact to cultural resources would be significant if the Proposed Project does any of the following:

Would the Proposed Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
3.6-1: Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.6-2: Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.6-3: Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### 3.6.4 Impact Statements and Mitigation Discussions

This section discusses potential impacts to cultural resources that could result in conjunction with the Proposed Project. Mitigation measures are identified where appropriate.

#### Impact 3.6-1: Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

There are seven historical landmarks within the City’s boundaries, and one State Historic Landmark (designated by two markers). Three of the City’s seven landmarks are trees. The remaining City landmarks include the Site of the Original Library (892 Linden Avenue), the Heath Ranch Park and Adobe (between Chaparral and Eucalyptus Street), Tar Pits Park (near the southern end of Calle Ocho), and Carpinteria Valley Baptist Church (800 Maple Avenue). The State Historic Landmarks are two markers located at the 956 Maple Avenue and near Carpinteria Creek bridge on Carpinteria Avenue that mark the location of a Chumash village (City of Carpinteria, 2003). None of these historic landmarks would be impacted by the Proposed Project.

A *Cultural Resources Assessment Report* was prepared for the Proposed Project in March 2019 (Appendix E), which included a cultural resources records search at the CHRIS-CCIC for previously documented resources within a 0.5-mile radius of the Study Area. According to the records at the CHRIS-CCIC, 23 cultural resources were previously recorded within a 0.5-mile radius of the Proposed Project. These previously recorded resources include 12 historic buildings, five historic period archaeological sites, four prehistoric archaeological sites, and two prehistoric isolated artifacts. However,

the only previously recorded cultural resource mapped within the Study Area is prehistoric archaeological site CA-SBA-7 (see Impact 3.6.2, below). The *Cultural Resources Assessment Report* determined there are no historic period built-environment resources located within the Study Area, and therefore, no buildings or structures on the property qualify for evaluation for the National Register of Historic Places or California Register. Although the WWTP was originally constructed over 50 years ago, it has since been completely rebuilt and does not qualify as a historic structure. Operation of the Proposed Project would not impact historic resources. Therefore, impacts to historical resources would be less than significant and no mitigation is required.

### ***Significance Determination Before Mitigation***

Less Than Significant.

### **Impact 3.6-2: Cause a substantial adverse change in the significance of a unique archeological resource pursuant to Section 15064.5?**

The Proposed Project would construct an AWPF, injection wells, conveyance pipelines, backflush pipelines, pump station, monitoring wells, and modifications to the existing ocean outfall. Construction of the Proposed Project would require grading and excavation, primarily within public rights-of-way and within previously developed or disturbed areas. The CHRIS-CCIC records search found one prehistoric archaeological site, CA-SBA-7, mapped within the Study Area, specifically at the WWTP site along Carpinteria Creek. However, review of previous records and archaeological investigations conducted within proximity to the site indicate that the resources associated with CA-SBA-7 are largely concentrated to the east of Carpinteria Creek outside of the Study Area. Previous investigations conducted within the Study Area have found fragments of shells but no other archaeological artifacts or resources. The WWTP property within the CA-SBA-7 mapped boundary is completely paved and developed with modern structures and no above-ground cultural resources were observed during the site visit. Construction of past and existing WWTP facilities have greatly disturbed the soil underlying the facility. Due to these findings, and the disturbed nature of the WWTP site, it is likely that any cultural deposits associated with CA-SBA-7 that were once present in the Study Area have since been substantially disturbed or destroyed. However, given the general sensitivity of the Study Area for containing archaeological resources and the City of Carpinteria General Plan/Local *Coastal Land Use Plan* requirements, **Mitigation Measure MM 3.6-2a** would be implemented requiring archaeological and Native American monitoring for initial ground disturbance up to a depth of 10 feet within the vicinity of CA-SBA-7 (the AWPF and directly adjacent conveyance pipelines). CVWD would conduct cultural resources training for construction workers, including how to identify archeological resources during ground-disturbing activities (see Section 2.10, *Environmental Commitments*). Additionally, **Mitigation Measure MM 3.6-2b** would be implemented in the event of unanticipated discovery of cultural resources during ground-disturbing activities. Operation of the Proposed Project would not impact archaeological resources. With implementation of **Mitigation Measures MM 3.6-2a** and **MM 3.6-2b**, impacts to archaeological resources would be less than significant.

### ***Environmental Commitments***

CVWD shall implement cultural resource training to construction workers, including archeological resource identification, as described in Section 2.10, *Environmental Commitments*.

### ***Significance Determination Before Mitigation***

Potentially Significant.

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### **Mitigation Measures**

**Mitigation Measure MM 3.6-2a** shall apply to initial ground disturbance up to a depth of 10 feet within the vicinity of CA-SBA-7.

**Mitigation Measure MM 3.6-2a Archaeological and Native American Monitoring.** CVWD shall retain a qualified archaeological and Native American monitor to be present during ground disturbing activities such as grading, trenching, or excavation within the vicinity of CA-SBA-7 (the AWP and directly adjacent conveyance pipelines). Archeological monitoring shall be performed during initial ground disturbance only (not entire construction timeframe) under the direction of an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archeology (National Park Service, 1983). Native American monitoring should be provided by a locally affiliated tribal member. Monitors shall have the authority to halt and redirect work should any archaeological resources be identified during monitoring. If archaeological resources are encountered during ground-disturbing activities, work in the immediate vicinity area must halt and the find evaluated for listing in the California Register and National Register of Historic Places. Archaeological or Native American monitoring or both may be reduced or halted at the discretion of the monitors, in consultation with CVWD, as warranted by conditions such as encountering bedrock, sediments being excavated are fill, or negative findings during the first 60% of rough grading. If monitoring is reduced to spot-checking, spot-checking shall occur when ground-disturbances moves to a new location within the project site and when ground disturbance will extend to depths not previously reached (unless those depths are within bedrock).

**Mitigation Measure MM 3.6-2b** shall apply to all Project-related ground disturbing activities.

**Mitigation Measure MM 3.6-2b Unanticipated Discovery of Cultural Resources.** If cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt and an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983) shall be contacted immediately to evaluate the find. If the discovery proves to be significant under the NHPA and/or CEQA, additional work such as data recovery excavation and Native American consultation shall occur, as necessary, to mitigate any significant impacts or adverse effects.

### **Significance Determination after Mitigation**

Less than Significant.

### **Impact 3.6-3: Disturb any human remains, including those interred outside of formal cemeteries.**

Human remains are not anticipated to be encountered during Proposed Project construction due to the disturbed and developed nature of the majority of the Study Area. However, as with any ground-disturbing activities, and due to the cultural sensitivity of the Study Area, there is potential for unanticipated discovery of human remains during Project-related ground-disturbing activities. CVWD would conduct cultural resources training for construction workers, including how to identify archeological resources (including human remains) during ground-disturbing activities (see Section 2.10, *Environmental Commitments*). Additionally, **Mitigation Measure MM 3.6-3** would require CVWD to comply with California Health and Safety Code Section 7050.5, including immediately halting construction activities and notifying the County Coroner's office upon discovery of human remains. With implementation of **Mitigation Measure MM 3.6-3**, impacts resulting from the unanticipated discovery of human remains would be reduced to less than significant.

### ***Environmental Commitments***

CVWD shall implement cultural resource training to construction workers, including archeological resource identification, as described in Section 2.10, *Environmental Commitments*.

### ***Significance Determination Before Mitigation***

Potentially Significant.

### ***Mitigation Measures***

**Mitigation Measure MM 3.6-3** shall apply to all Project-related ground disturbing activities.

**MM 3.6-3 Unanticipated Discovery of Human Remains.** In the event of an unanticipated discovery of human remains, the County Coroner shall be notified immediately, and no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98 in accordance with California Health and Safety Code Section 7050.5. If the human remains are determined to be prehistoric, the coroner will notify the Native American Heritage Commission, which will determine and notify a most likely descendant. The most likely descendant has 48 hours from being granted access to the site to make recommendations for the disposition of the remains. If the most likely descendant does not make recommendations within 48 hours, the landowner shall reinter the remains in an area of the property secure from subsequent disturbance.

### ***Significance Determination after Mitigation***

Less than Significant.

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### 3.7 Energy

This section describes the existing energy supplies and energy efficiency plans in the Study Area and a summary of the regulatory setting. Potential impacts to energy use from the Proposed Project are considered in this section. Impacts would be less than significant and mitigation measures would not be required.

#### 3.7.1 Physical Environmental Setting – Energy

The City of Carpinteria is served by Southern California Edison (SCE) for electricity, a public utility company with a 50,000 square mile service area. SCE services 15 million people across 15 counties and 180 cities, including Carpinteria (SCE 2019). The City of Carpinteria is served by the Southern California Gas Company for natural gas. As stated in the Environmental Assessment for the City of Carpinteria General Plan/Local *Coastal Land Use Plan*, the City currently has adequate supplies of both electricity and natural gas and is anticipated to have adequate supplies for future development (Carpinteria 2003).

The majority of CVWD's and CSD's facilities are powered solely by electricity supplied by SCE and natural gas supplied by Southern California Gas Company. CVWD's Headquarters Well is partially powered by 180 kilowatt hours (kWh) of solar. CVWD's operations currently consume 2,800,000 kWh of electricity and 1,600 British thermal units (Btu) of natural gas, annually. Approximately 301,000 kWh of electricity is produced onsite by CVWD. CVWD employs 20 full time employees, who are involved in daily operations and maintenance activities. The CSD WWTP site currently uses 1,250,000 kWh/year of electricity; no energy is produced on the CSD WWTP site.

#### 3.7.2 Regulatory Framework – Energy

##### Federal

There are no Federal regulations related to energy efficiency that apply to the Proposed Project.

##### State

##### ***Renewable Portfolio Standard – SBs 1078, 107, X1-2, and 350***

Established in 2002 under SB 1078, California's Renewables Portfolio Standard (RPS) was accelerated in 2006 under SB 107, which required that, by 2010, 20% of electricity retail sales were served by renewable energy resources. Executive Order (EO) S-14-08 and SB X1-2 (2011) set the RPS target at 33% by 2020. The 2011 RPS applied to all electricity retailers in the state including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities had to adopt the RPS goals of 20% of retail sales from renewables by the end of 2013, 25% by the end of 2016, and the 33% requirement being met by the end of 2020. SB 350 (2015) required retail sellers and publicly owned utilities to procure 50% of their electricity from eligible renewable energy resources by 2030. SB 350 also added new requirements for doubling energy efficiency and for wide scale transportation electrification deployment (California Energy Commission, 2019a).

##### ***In-Use Off-Road Diesel-Fueled Fleets Regulation***

On July 26, 2007, the CARB adopted a regulation to reduce diesel particulate matter (PM) and oxides of nitrogen (NO<sub>x</sub>) emissions from in-use (existing) off-road heavy-duty diesel vehicles in California. Such vehicles are used in construction, mining, and industrial operations. The Off-Road regulation:

- Imposes limits on idling, requires a written idling policy, and requires a disclosure when selling vehicles;

- Requires all vehicles to be reported to CARB (using the Diesel Off-Road Online Reporting System) and labeled;
- Restricts the adding of older vehicles into fleets starting on January 1, 2014; and
- Requires fleets to reduce their emissions by retiring, replacing, or repowering older engines, or installing Verified Diesel Emission Control Strategies (i.e., exhaust retrofits) (CARB 2019).

### **Greenhouse Gas Emissions Targets – EO S-3-05, AB 32, SB 32, AB 398, Scoping Plan**

EO S-3-05 established a target of reducing greenhouse gas (GHG) emissions 80% below 1990 levels by 2050. AB 32 (2006) codified a statewide GHG emissions target of 1990 levels by 2020 and established an economy-wide cap-and-trade program. SB 32 (2016) codified a GHG target of reducing emissions 40% below 1990 levels by 2030. AB 398 (2017) extended the cap-and-trade program to 2030 and defined new offset levels. CARB's 2017 Scoping Plan identifies policies and tools to achieve the 2030 GHG target (SCE 2017).

### **California Code of Regulations Title 24**

The Building Energy Efficiency Standards (California Code of Regulations, Title 24, Part 6) were first adopted in 1976 by the Energy Commission (formally titled the California Energy Resources Conservation and Development Commission) and most recently revised in 2019. The Standards contain energy and water efficiency requirements (and indoor air quality requirements) for newly constructed buildings, additions to existing buildings, and alterations to existing buildings. The standards, which apply to all residential and nonresidential buildings, are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods (CEC 2019b).

California's Green Building Standards (CALGreen) Code (California Code of Regulations, Title 24, Part 11) includes mandatory measures to support the goals of the State's greenhouse gas reduction and building energy efficiency programs, including planning and design for sustainable site development, energy efficiency (in excess of the Title 24, Part 6 requirements), water conservation, material conservation, and internal air contaminants. In addition to mandatory building standards, the CALGreen Code includes voluntary "reach" standards known as the Tiers, which offer model building code language for local governments. Cities and counties can adopt the Tiers or other more progressive building standards as an amendment to the CALGreen Code based on climatic, topographical, or geological conditions (CARB 2018).

## **Local**

### **Southern California Edison**

SCE partners with customers to save energy through energy efficiency programs, including: household appliance rebates, small-business efficiency upgrades, refrigerator and freezer recycling, and savings for governments and schools (SCE 2019). SCE also offers free hydraulic pump tests to agricultural irrigation pump owners, which CVWD encourages its customers to participate in (CVWD 2016).

### **County of Santa Barbara Comprehensive Plan – Energy Element**

The County's *Comprehensive Plan – Energy Element* includes planning guidelines and strategies to encourage energy efficiency and alternative energy sources in Santa Barbara County. Policies in the *Comprehensive Plan* related to water use include:

Goal 4: Water Use and Solid Waste – Increase the efficiency of water and resource use to reduce energy consumption associated with various phases of using resources (pumping, distribution, treatment, heating, etc.).

- Policy 4.7: Interior Water-Efficient Plumbing Fixtures – The County shall encourage water purveyors and water customers to continue their efforts to install more efficient options to increase energy benefits associated with reduced pumping, distribution, heating and treatment of water and wastewater.
  - Public Service 4.7.1: The County shall support the continuation and expansion of retrofit programs associated with efficient plumbing fixtures within the county (e.g., ultra low-flow toilets, showerheads, gray-water systems, etc.).
  - Public Service 4.7.2: The County shall encourage installation of dual plumbing for gray-water systems in new and existing buildings.
  - Public Service 4.7.3: The County shall continue to encourage use of water-efficient technology in residential, commercial, and industrial sectors (e.g., horizontal-access washing machines, commercial dishwashers, carwash operations, etc.).
  - Public Service 4.7.4: When appropriate, the County shall assist businesses, institutions and/or citizens seeking to utilize new, state-of-art technologies in order to facilitate the development and use of innovative technologies.
  - Internal Action 4.7.1: The County shall utilize the most water efficient technology available in its own operations consistent with life-cycle cost analysis.
- Policy 4.8: Water Efficient Landscaping – The County shall require (per Government Code, Section 65590, Article 10.8) water-efficient landscape design and irrigation systems in new and renovated developments and at public parks and facilities. [Energy-savings are accrued through reduced water pumping and treatment, and reduced disposal and maintenance.]
  - Encouragement 4.8.1: To encourage energy conservation and as required by Groundwater Policy 3.6 of the Conservation Element, water-conserving landscaping and irrigation shall be incorporated into all new developments, where appropriate, effective, and consistent with applicable law.
  - Internal Action 4.8.1: The County shall continue to give priority to native and drought tolerant plants and to install water-efficient irrigation at County parks and facilities.

Goal 5: Alternative Energy – Encourage the use of alternative energy for environmental and economic benefits, and encourage opportunities for businesses that develop or market alternative energy technologies.

- Policy 5.3: Cogeneration – The County shall encourage installation and use of cogenerating systems where they are cost-effective and appropriate.
  - Regulatory Incentive 5.3.1: The County shall explore opportunities in order to facilitate installation of cogeneration.
- Policy 5.4: Solar Photovoltaic Equipment – The County shall use solar photovoltaic equipment in county applications when it is cost-effective on a life-cycle cost basis.
  - Internal Action 5.4.1: The County shall estimate energy-savings for electricity applications and utilize photovoltaic equipment, where feasible and appropriate.
- Policy 5.5: Methane Recovery System at Landfills and Sewage Treatment Plants – The County shall continue to investigate means to install methane recovery systems at landfills and sewage treatment plants, where appropriate.
  - Internal Action 5.5.1: The County shall pursue financing of methane recovery systems at the Tajiguas Landfill and Laguna Sanitation Treatment Plant.

Goal 8: Implementation and Evaluation – Assure maximum success of this Element.

- Policy 8.3: ECAP Implementation – The County shall implement the Energy and Climate Action Plan (ECAP) to reduce GHG emissions from community-wide sources by a minimum of 15% from the 2007 baseline emissions by 2020.
  - Research 8.3.1: Established in the ECAP, the County shall monitor progress towards achieving GHG reductions every five years. Monitoring of the County’s ECAP shall include an update to the GHG emissions from community-wide sources. If it is determined that the ECAP is not achieving specified levels of GHG emissions reductions, the ECAP will be updated as needed.

### **County of Santa Barbara Energy and Climate Action Plan**

The ECAP established a goal of reducing GHG emissions in the unincorporated County, which does not include the City of Carpinteria, by 15% below 2007 levels by 2020 and outlined strategies to help reach this goal. The ECAP includes 53 actions, referred to as emissions reduction measures, which are aggregated into 11 core strategies.

- Water Efficiency Goal: To maximize the reliability of local water resources and supplies through water use efficiency
  - Measure WE1: Water Conservation Programs. 20% reduction in water usage by 2020.
  - Measure WE2: Water-Efficient Building and Landscape Standards. 20% indoor water reduction in new development by 2020.
  - Measure WE3: Water-Efficient Landscape Programs. 20% water reduction for landscaping uses by 2020.

### **City of Carpinteria General Plan/Local Coastal Land Use Plan**

The City of Carpinteria *General Plan/Local Coastal Land Use Plan* includes the following goals, policies, and programs designed to conserve energy within the City:

- Objective CD-14: Protect and preserve natural resources by reducing energy consumption.
  - Policy CD-14a: To ensure the effective utilization of energy resources, design measures shall be incorporated into project design that allow for development projects to comply with and exceed the minimum energy requirements of the City’s Uniform Codes.
- Coastal Act Section 30253: New development shall minimize energy consumption and vehicle miles traveled.
- Objective OSC-11: Carpinteria will conduct its planning and administrative activities so as to maintain the best possible air quality.
  - Policy OSC-11b: Promote the reduction of mobile source emissions related to vehicular traffic (e.g. promote alternative transportation, vanshare, buses).
  - Policy OSC-11c. Promote use of solar heating and energy efficient building design to reduce stationary source emissions.
- Objective PF-6: To ensure that new development is adequately served by utilities and does not impact existing service areas in the community.
  - Policy PF-6a. The ultimate responsibility to ensure that the facilities (including systemwide improvements) needed to support the project are available at the time that they are needed shall be that of the sponsor or development projects.

- Policy PF-6b. Development projects shall not result in a quantifiable reduction in the level of public services provided to existing development, nor shall new development increase the cost of public services provided to existing development

**Municipal Codes**

The City of Carpinteria and the County of Santa Barbara both include regulations and standards for construction related to energy efficiency, including the Title 24 building energy efficiency standards and the model water efficiency landscape ordinance.

**2016 Urban Water Management Plan**

CVWD’s 2016 UWMP recognizes that water requires energy to move, treat, use, heat, and discharge. Therefore, water conservation is also energy conservation. As such, CVWD has implemented the following demand management measures:

- Residential indoor water surveys, plumbing retrofits, landscape water surveys, and high efficiency washer and toilet incentive programs.
- Commercial, institutional and industrial water audits, fixture retrofits, coin operated washing machine replacement, and cooling tower improvements.
- Large landscape programs.
- Conjunctive use of its groundwater and surface water.
- Agricultural water management plan, alternative land use program, on-farm irrigation capital improvements, order/delivery flexibility, distribution pipeline system, and on-farm irrigation and drainage system evaluations (CVWD 2016).

**3.7.3 Impact Analysis – Energy**

**Methodology for Analysis**

The potential impacts on energy were evaluated using the CEQA Guidelines, incorporating the changes adopted in December 2018. The City’s Environmental Review Guidelines were also considered in addressing the threshold regarding the development of new sources of energy.

**Thresholds of Significance**

In accordance with the CEQA Guidelines and the City’s Environmental Review Guidelines, an impact on energy would be significant if the Proposed Project does any of the following:

<b>Would the Proposed Project:</b>	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
3.7-1: Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- |   |                          |                          |                                     |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 3.7-2) Result in substantial increase in demand upon existing sources of energy, or require the development of new sources of energy? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3.7-3) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?                                     | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

### 3.7.4 Impact Statements and Mitigation Discussions

This section discusses potential impacts related to energy consumption and energy efficiency that could result in conjunction with the Proposed Project. Mitigation measures are not necessary and are not identified.

#### Impact 3.7-1: Result in wasteful, inefficient, or unnecessary consumption of energy?

##### Construction

Construction of the Proposed Project would involve fossil fuel consumption from operation of diesel-powered construction equipment, and additional fossil fuel consumption from material hauling, delivery, and worker vehicle trips. Table 3.7-1 summarizes the anticipated construction fleet for the Proposed Project.

Table 3.7-1. Construction Fleet Summary			
Construction Phase	Duration (days)	Anticipated Fleet	Usage (hours/day)
<b>AWPF</b>			
Demolition	20 days	1 Concrete/Industrial Saw	8
		1 Rubber Tired Dozer	8
		3 Tractor/Loader/Backhoe	8
Site Preparation	3 days	1 Grader	8
		1 Tractor/Loader/Backhoe	7
		1 Scraper	8
Grading	6 days	1 Rubber Tired Dozer	8
		2 Tractor/Loader/Backhoe	7
		1 Grader	8
Construction	220 days	1 Generator Set	8
		1 Crane	8
		2 Forklifts	7
		1 Tractor/Loader/Backhoe	6
		3 Welders	8
Foundation	10 days	1 Crane	8
		1 Tractor/Loader/Backhoe	6

<b>Table 3.7-1. Construction Fleet Summary</b>			
<b>Construction Phase</b>	<b>Duration (days)</b>	<b>Anticipated Fleet</b>	<b>Usage (hours/day)</b>
		1 Bore/Drill Rig	8
Paving	10 days	1 Cement and Mortar Mixer	8
		1 Paver	8
		2 Rollers	8
		1 Tractor/Loader/Backhoe	8
		1 Paving Equipment	8
Architectural Coating	41 days	1 Air compressor	6
Wells Construction	240 days	1 Rubber Tired Dozer	8
		2 Tractor/Loader/Backhoes	7
		1 Crane	8
		1 Bore/Drill Rig	8
Pipelines Construction	275 days	2 Tractor/Loader/Backhoe	7
		1 Cement and Mortar Mixer	8
		1 Paver	8
		1 Roller	8
		1 Paving Equipment	8

Sources: Project-specific information provided by design engineers; see Section 2, Project Description. CalEEMod Version 2016.3.2; see Appendix C for model output.

Table 3.7-2 summarizes the estimated material delivery and hauling truck trips, and worker vehicle trips for each construction phase. Construction of the AWPf would have the most intensive level of construction trips from workers, vendors, and hauling trucks.

<b>Table 3.7-2. Construction Trip Summary</b>				
<b>Construction Phase</b>	<b>Duration (days)</b>	<b>Daily Worker Vehicle Trips (8.3 miles each)</b>	<b>Daily Vendor Trips (6.4 miles each)</b>	<b>Daily Hauling Truck Trips (20 miles each)</b>
<b>AWPF</b>				
Demolition	20 days	13	0	10
Site Preparation	3 days	8	4	10
Grading	6 days	10	4	10
Construction	220 days	40	16	10

Construction Phase	Duration (days)	Daily Worker Vehicle Trips (8.3 miles each)	Daily Vendor Trips (6.4 miles each)	Daily Hauling Truck Trips (20 miles each)
Foundation	10 days	4	4	4
Paving	10 days	15	4	10
Architectural Coating	60 days	8	4	0
Wells Construction	240 days	13	16	10
Pipelines Construction	180 days	18	4	10

Sources: Project-specific information provided by design engineers; see Section 2, Project Description. CalEEMod Version 2016.3.2; see Appendix C for model output.

The Proposed Project would implement typical construction practices. As shown in Table 3.7-1, the Project would not require any unusual or excessive construction equipment or practices that would result in wasteful, inefficient, or unnecessary consumption of energy compared to projects of similar type and size. In addition, the construction fleet contracted for the Proposed Project would be required to comply with SBCAPCD and CARB construction BMPs (see Section 2.10, *Environmental Commitments*). The CARB In-Use Off-Road Diesel-Fueled Fleets Regulations would limit vehicle idling time to 5 minutes, restrict adding vehicles to construction fleets with older-tier engines, and establish a schedule for retiring older, less fuel-efficient engines from the construction fleet. As such, construction of the Proposed Project would not result in wasteful, inefficient, or unnecessary consumption of energy during construction.

**Operation**

The anticipated energy demand to power the Proposed Project’s facilities was estimated in Section 2, *Project Description* and is presented below in Table 3.7-3. In addition to the electricity that would be consumed by the facilities, the Project would consume energy and fossil fuels related to maintenance activities, including daily inspection trips and periodic chemical delivery trips (see Section 2.6, *Purified Water Pump Station*).

Facility Description	Qty	hp	hrs/day	kWh/yr	Comments
Equalization Tank Booster Pumps	2	8	24	104,600	
MF/UF Feed Pumps	2	20	24	261,400	
MF/UF Backwash Pump	1	20	5	27,300	
RO Transfer Pumps	2	10	24	130,700	
RO Feed Pumps	2	50	24	653,500	
RO Interstage Booster Pumps	2	10	24	130,700	
UV Reactors	1	20	24	130,500	
Ancillary AWP Facilities – Continuous	10	1	24	65,300	See Note 1



<b>Table 3.7-3. Energy Consumption</b>					
<b>Facility Description</b>	<b>Qty</b>	<b>hp</b>	<b>hrs/day</b>	<b>kWh/yr</b>	<b>Comments</b>
Ancillary AWWPF Facilities – Intermittent	8	10	2	43,600	See Note 2
PW pump station	2	40	24	552,600	
Well backflush	3	75	<1	8,749	Assumes 1 hour per week per well
Total Annual Power Consumption				2,108,949	
Note: 1 Assumes less than 1 hp per equipment: chemical metering pumps, process monitoring, online analyzers. 2 Assumes less than 10 hp per equipment: MF/UF and RO neutralization pump, MF/UF blowers and air compressors, MF/UF and RO CIP pumps, MF/UF and RO CIP heaters, RO flush pump.					

The Proposed Project would implement typical operational practices compared to projects of similar type and size. In addition, the Proposed Project would offset imported water supplies from the SWP. According to the California Air Pollution Control Officers Association, the energy intensity of imported water supplies to the Central Coast Region from the SWP is approximately 6,444 kWh/million gallons, whereas the energy intensity of groundwater is approximately 4,190 kWh/MG, accounting for conveyance, treatment, distribution, and wastewater treatment (California Air Pollution Control Officers Association, 2010), which amounts to a potential savings of 2,254 kWh/MG. Furthermore, the energy consumption of the Proposed Project is necessary to create a drought-proof, reliable supply of local water. As such, operation of the Proposed Project would not result in wasteful, inefficient, or unnecessary consumption of energy.

**Environmental Commitments**

CVWD would implement SBCAPCD and CARB Construction Best Management Practices as directed in Section 2.10, *Environmental Commitments*.

**Significance Determination Before Mitigation**

Less than Significant.

**Impact 3.7-2: Require the development of new sources of energy?**

SCE delivers approximately 87 billion kWh per year of electricity. Although electricity demand may increase in SCE’s service area due to closure of the San Onofre Nuclear Generating Station and retirement of nearby ocean-cooled power plants, SCE intends to offset increasing customer demand for electricity through clean energy resources such as energy storage, demand response programs, advanced technology, energy efficiency, and distributed generation. In addition, future per capita energy consumption will decline due to existing regulations such as Title 24 building standards and the model water efficient landscape ordinance.

The CSD WWTP site currently uses 1,250,000 kWh/year of electricity. The Proposed Project would add 2,108,949 kWh/year to the annual energy demand to power the AWWPF, pump stations, and wells (see Table 3.7-3). In total, CSD WWTP with the AWWPF would account for only 0.005% of SCE’s 87 billion kWh per year annual electrical demand once the Proposed Project is complete. Furthermore, the Proposed Project would offset up to 1,650 acre feet per year of imported water, which would reduce the energy intensity per acre foot of CVWD’s potable water supply. Finally, the

Proposed Project would not lead to an increase in water or energy consumption within CVWD's service area. Continued implementation of existing CVWD water conservation programs would further lessen the customer demand for electricity from SCE. As such, the Proposed Project would not result in a substantial increase in demand upon existing energy sources, nor would it require development of new sources of energy. Impacts would be less than significant.

***Significance Determination Before Mitigation***

Less than Significant.

**Impact 3.7-3: Conflict with renewable energy plan?**

The *2017 Climate Change Scoping Plan* (CARB, 2017) focuses on reducing energy demand, and GHG emissions, that result from mobile sources and land use development. The Proposed Project would not involve a considerable increase in new vehicle trips or land use changes that would result in an increase in vehicle trips, such as urban sprawl. The 2017 Scoping Plan also recognizes that about 2% of the total energy used in the State is related to water conveyance; it calls for, "increased water conservation and efficiency, improved coordination and management of various water supplies, greater understanding of the water-energy nexus, deployment of new technologies in drinking water treatment, groundwater remediation and recharge, and potentially brackish and seawater desalination." By augmenting local water storage, the Proposed Project would offset energy demands associated with conveyance of imported water supplies. Furthermore, the Proposed Project supports the *2017 Scoping Plan* goal of groundwater recharge. The Proposed Project would not interfere with existing County or City programs intended to reduce energy and improve water use efficiency. The Proposed Project would not, therefore, conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Impacts would be less than significant, and no mitigation would be required.

***Significance Determination Before Mitigation***

Less than Significant.

## 3.8 Geology and Soils

This section describes the existing geology and soils in the Study Area and a summary of the regulatory setting. Potential impacts to geology and soils from the Proposed Project are considered in this section. Due to risks associated with seismic activity, mitigation measures are required to reduce potential impacts to less than significant.

### 3.8.1 Physical Environmental Setting – Geology and Soils

#### Geology and Paleontological Resources

The City of Carpinteria is in the Transverse Ranges geomorphic province of southern California. According to the California Geological Survey (CGS), the Transverse Ranges geomorphic province is composed of a series of steep east-west trending mountain ranges, which is in contrast to the northwest trend of coastal California and surrounding mountain ranges (CGS, 2002). The Transverse Ranges include the Santa Barbara Channel Islands (San Miguel, Santa Rosa, and Santa Cruz) to the west, and extends east into the Mojave Desert. They are bisected by the San Andreas Fault (California State Parks, 2015). Geology within the Study Area is generally alluvium, which characterizes the majority of the City of Carpinteria. The mountains and foothills north of the Study Area are characterized by alluvium, quaternary nonmarine terrace deposits, Pleistocene nonmarine, Pleistocene volcanic, and Eocene marine deposits. South and east of Carpinteria Creek is characterized by quaternary nonmarine deposits (CGS, 1969).

The Study Area includes two geologic units mapped at the surface (Figure 3.8-1): Quaternary alluvium (Qa) and Quaternary beach sand deposits (Qs) (Dibblee and Ehrenspeck 1986; Minor et al. 2009). Quaternary young alluvium was deposited during the Holocene to latest Pleistocene and is composed of unconsolidated and poorly sorted alluvial sand, gravel, and silt of modern drainages and piedmont alluvial fans (Dibblee and Ehrenspeck 1993). Surficial Holocene alluvium, particularly deposits younger than 5,000 years old, are too young to preserve fossils. However, Holocene sediments may grade into older Quaternary (Pleistocene) alluvial deposits which may preserve fossil remains.

Older Quaternary terrestrial alluvium and marine terrace deposits (Qoa) are not mapped at the surface of the Study Area; however, Dibblee and Ehrenspeck (1986) and Minor et al. (2009) mapped these Pleistocene deposits nearby at the ground surface. The Pleistocene deposits are likely present at moderate depth beneath the younger Holocene alluvium in the Study Area, and are composed of weakly to moderately consolidated, moderately bedded, pebble-cobble gravel and conglomerate, pebbly to conglomeratic sand and sandstone, and silt and siltstone. They include a fossiliferous basal conglomerate deposited on wave-cut platforms and overlain by beach, aeolian, and alluvial sediments (Minor et al. 2009). Pleistocene deposits have a well-documented record of abundant and diverse vertebrate fauna throughout California, including Santa Barbara County (Dibblee 1966). Fossil specimens of sabre-toothed cat, bison, crow, dire wolf, skunk, lion, weasel, pocket mouse, pocket gopher, mollusk, foraminifera, and coral have been reported in the vicinity of the Study Area (McLeod 2019; University of California Museum of Paleontology 2019; Shaw and Quinn 2015).

Despite not being mapped in the Proposed Project footprint, it is important to note the adjacent bluff exposures of the Miocene Monterey Formation. These deposits are unconformably overlain by the Pleistocene alluvium and marine terrace deposits immediately adjacent to the southeast portion of the Study Area (Minor et al. 2009). These deposits are composed of calcareous, siliceous, and phosphatic mudstone and shale, which have yielded an abundance of fossil specimens including birds, fish, sea lions, sea cows, porpoises, whales, and sharks (University of California Museum of Paleontology 2019; McLeod 2019).

Figure 3.8-1. Geologic Units in the Study Area



Geological basemap provided by Dibblee, T.W., and Ehrenspeck, H.E., ed., 1986, Geologic map of the Carpinteria quadrangle, Santa Barbara County, California: Dibblee Geological Foundation, Dibblee Foundation Map DF-04, scale 1:24,000

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## **Soils**

Santa Barbara County has diverse soils, but is dominated by thick sandstone and shale, with additional conglomerate, alluvial fan deposits, and dune sand. Most soils and rocks in the region are sedimentary, with some smaller areas of igneous rock (County of Santa Barbara, 2017). According to the U.S. Department of Agriculture's Natural Resources Conservation Service Soil Mapping (U.S. Department of Agriculture, 2018), soils in the Study Area include Goleta loam (0 to 2% slopes), Camarillo variant fine sandy loam, and Metz loamy sand.

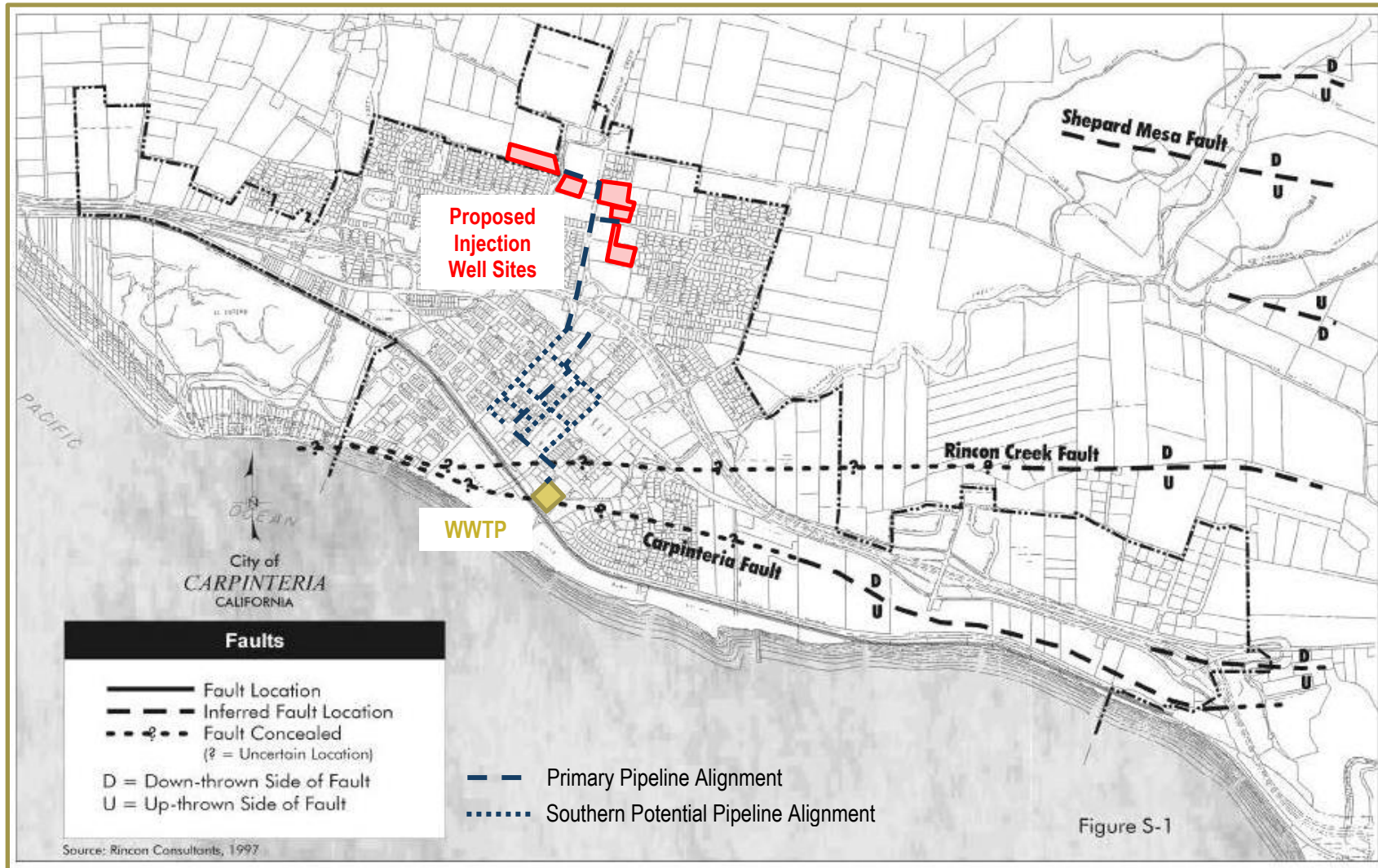
Soils classified as susceptible to liquefaction are affected by seismic shaking in a way that causes them to move like a fluid and lose their load-bearing capabilities. Liquefaction can cause water to surface when it occurs in flat areas, and slope failure when it occurs on hillsides. According to the City's General Plan/Local *Coastal Land Use Plan*, the majority of the City of Carpinteria, including the entire Study Area, has a high liquefaction potential (City of Carpinteria, 2003).

Soils with a high shrink-swell potential are referred to as expansive soils. These soils can move and crack structures, including lifting or settlement of structures. The City's General Plan/Local *Coastal Land Use Plan* shows areas of potentially high expansive soils in the western portion of the City. The portion of the Study Area with potentially high expansive soils include Well Site #6, a portion of the conveyance pipeline, and potential monitoring well sites.

## **Seismic Activity**

Southern California is considered a seismically active region. Faults that have historically produced earthquakes or show evidence of movement within the past 11,000 years are known as "active faults." The City of Carpinteria is in the Santa Barbara Fold Belt, which is a northwest-southeast area of folds and blind thrust faults. The Carpinteria Fault and Rincon Creek Fault are concealed faults that traverse the City and are within the Study Area, the Arroyo Parida Fault is located approximately one mile north of the City, and the Shepard Mesa Fault is located approximately 1.5 miles to the northeast of the City. Faults in the Study Area are shown in Figure 3.8-2. According to the California Department of Conservation, Division of Mines and Geology, all four faults are considered inactive; however, the City considers the faults to be potentially active for planning purposes (City of Carpinteria, 2003). The City does not lie within an Alquist-Priolo fault rupture hazard zone as defined by CGS (CGS, 1986). The closest Alquist-Priolo fault rupture hazard zone, Pitas Point, is located approximately four miles to the southeast of the Study Area. Although there are no active faults within the City, moderate to strong earthquakes can occur on numerous faults within proximity to the City resulting in moderate to high ground shaking potential within the Study Area.

Figure 3.8-2. Faults in the Study Area



Modified from City of Carpinteria's General Plan/Local Coastal Land Use Plan, 2003

## **Landslides**

The Study Area does not fall with the areas designated as having a high landslide potential in the City's *General Plan/Local Coastal Land Use Plan*, but recently updated emergency maps show the WWTP site is in a debris flow risk area and flagged for potential evacuations in the event of high storm risk (Santa Barbara County, 2018). This debris flow risk designation is related to storm-caused debris flows, rather than seismic event-driven, and is discussed in Section 3.21, *Wildfire* and Section 3.12, *Land Use and Planning*. Landslides are the movement of rock, debris, or earth down an incline, and may include rock falls, rock slides, deep slope failure, and mud flows. Slope failures are caused by surface water runoff eroding slopes. A mudflow is liquid mud flowing across normally dry land, and occurs when the ground is oversaturated and there is no groundcover to stabilize the hillside. The City's *Multi-Jurisdictional Hazard Mitigation Plan* shows the City of Carpinteria to be in a low-risk area for landslides, and no impacts to critical facilities from landslides was identified (City of Carpinteria, 2017a).

### **3.8.2 Regulatory Framework –Geology and Soils**

#### **Federal**

There are no Federal regulations related to geology and soils that apply to the Proposed Project.

#### **3.8.3 State**

##### ***Alquist-Priolo Special Studies Zone Act of 1972***

The Alquist-Priolo Special Studies Zone Act, or Alquist-Priolo Earthquake Fault Zoning Act, was adopted in 1972. The Act prohibits construction of buildings used for human occupancy within an earthquake fault zone, with some exemptions. It requires local jurisdictions regulate development within an earthquake fault zone. Active faults are those that have been active within the last 11,000 years. Earthquake fault zones average 0.25 miles wide around active faults. For buildings constructed prior to 1975, this act does not apply unless the structure is changed by 50% or more, except for Section 2621.9, *Regarding Disclosure Requirements*, which is required for all structures designed for human occupancy (CGS, 2018).

##### ***Seismic Hazards Map Act***

The Seismic Hazards Map Act of 1991 requires mapping of areas that may be at risk from the effects of ground failures such as earthquakes, liquefaction, and landslides. Geotechnical studies are required for projects located within a seismic hazard zone, and any seismic hazards must be delineated (PRC Section 7.8).

##### ***Uniform Building Code***

The Uniform Building Code requires permitting to enforce seismic safety standards for buildings.

##### ***California Building Standards Code***

The California Building Standards Code, Title 24 of the California Administrative Code is updated every three years (with intermediary supplements between updates) and sets standards for safe buildings. It is a compilation of national building standards adopted by State agencies, national model codes adapted and then adopted by State agencies, and building standards authorized by the California legislature that address specific concerns in California (California Building Standards Commission, 2019).

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### **California Public Resources Code**

Public agencies must comply with Public resource Code Section 5097.5, which states:

“No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.”

### **Local**

#### ***City of Carpinteria General Plan/Local Coastal Land Use Plan – Safety Element***

The City of Carpinteria *General Plan/Local Coastal Land Use Plan* outlines goals, policies, and programs designed to protect the community from geologic and seismic hazards. The *General Plan/Local Coastal Land Use Plan Safety Element* includes the following objective and policies to address geologic and seismic hazards within the City:

- Objective S-1: Minimize the potential risks and reduce the loss of life, property and the economic and social dislocations resulting from fault surface rupture in the planning area, from ground shaking due to an earthquake along a fault in the planning area or in the region, from seismically -induced liquefaction in the planning area, and from seismically-induced tsunamis.
  - Policy S-1c: Development in areas identified as having high seismically-induced liquefaction potential shall follow structural engineering foundation design parameters outlined in the Uniform Building Code or obtained through an independent structural engineering study.
- Objective S-3: Minimize the potential risks and reduce the loss of property and the economic and social dislocations resulting from expansive soils, soil settlement, subsidence, and hydrocompaction.
  - Policy S-3b. All new development will comply with the Uniform Building Code, local City building ordinances, and geotechnical recommendations related to construction in areas identified as having a high potential for expansive soils or soil settlement.

#### ***County of Santa Barbara Comprehensive Plan – Seismic Safety and Safety Element***

The County's *Comprehensive Plan Seismic Safety and Safety Element* includes policies to protect communities against seismic, natural, and manmade hazards. Recommendations in the *Comprehensive Plan* to geology and soils include:

- Utilize appropriate planning so that areas with high risk problems of an unsolvable character (such as ground rupture) are either not developed with structures or are developed at a low density and subject to strict design requirements.
- Adopt adequate Grading and Building Codes to that damage is minimized.
- Avoid the construction of buildings of all types and most structures on or across historically active or active faults. This is not always possible with long linear structures or facilities such as utility lines, roads, and irrigation canals. However, certain safety features such as shut-off valves, ca be required to minimize damage and expedite repair. The appropriate setback distance from the trace of the fault would be variable, depending on the conditions, but normally would be a minimum of at least fifty feet on either side of the sheared zone.

Policies to protect the community from risks associated with geologic and seismic hazards relevant to the Proposed Project include:



- Policy 1: The County shall minimize the potential effects of geologic, soil, and seismic hazards through the development review process.
  - Implementation Measure 1: Enforce Title 24 of the California Code of Regulations, Part 2 California Building Code
  - Implementation Measure 2: Maintain and Enforce County Code Chapter 10- Building Regulations
  - Implementation Measure 3: Enforce the Alquist-Priolo Earthquake Fault Zoning Act
  - Implementation Measure 5: Maintain and enforce County Code Chapter 14-Grading, Erosion and Sediment Control
  - Implementation Measure 7: Enforce the Seismic Hazards Mapping Act
  - Implementation Measure 9: Enforce the California Coastal Act
  - Implementation Measure 10: Maintain and enforce County Code Chapter 35-1-Land Use Development Code; 35-2 Montecito Land Use Development Code; Article II Coastal Zoning Ordinance
- Policy 2: To maintain consistency, the County shall refer to the California Building Code, the Land use Development Code, County Ordinances, the *Coastal Land Use Plan*, and the Comprehensive General Plan when considering the siting and construction of structures in seismically hazardous areas
  - Relevant Implementation Measures (listed above): 1, 2, 5, 10
- Policy 3: The County shall ensure compliance with State seismic and building standards in the evaluation, design, and siting of critical facilities, including police and fire stations, school facilities, hospitals, hazardous material manufacture and storage facilities, bridges, large public assembly halls, and other structures subject to special seismic safety design requirements pursuant to the California Code of Regulations, Title 24, Part 2 California Building Code
  - Relevant Implementation Measures (listed above): 2, 10
- Policy 5: Pursuant to County Code Section 21-7(d)(4) and (5), the County shall require a preliminary soil report prepared by a qualified civil engineer be submitted at the time a tentative map is submitted. This requirement may be waived by the Planning Director if he/she determines that no preliminary analysis is necessary. A preliminary geological report prepared by a qualified engineering geologist may also be required by the Planning Director.
  - Relevant Implementation Measure (listed above): 5
- Policy 6: The County should reference the Santa Barbara County Multi-Jurisdiction Hazard Mitigation Plan when considering measures to reduce potential harm from seismic activity to property and lives.
  - Implementation Measure 11: Maintain and Implement the Santa Barbara County Multi-Jurisdiction Hazard Mitigation Plan.

### **County of Santa Barbara Coastal Land Use Plan**

The County's 2014 *Coastal Land Use Plan* applies to coastal areas of the County, including the Study Area. Policies in the *Coastal Land Use Plan* take precedence over *Comprehensive Plan* policies where conflicts exist. Coastal Land Use Policies related to geology and soils that are relevant to the Proposed Project include:

- Policy 3-2: Revetments, groins, cliff retaining walls, pipelines and outfalls, and other such construction that may alter natural shoreline processes shall be permitted when designed to eliminate or mitigate adverse impacts on local shoreline sand supply and so as not to block lateral beach access.

- Policy 3-8: Applications for grading and building permits, and applications for subdivision shall be reviewed for adjacency to, threats from, and impacts on geologic hazards arising from seismic events, tsunami runup, landslides, beach erosion, or other geologic hazards such as expansive soils and subsidence areas. In areas of known geologic hazards, a geologic report shall be required. Mitigation measures shall be required where necessary.
- Policy 3-9: Water, gas, sewer, electrical, or crude oil transmission and distribution lines which cross fault lines, shall be subject to additional safety standards, including emergency shutoff where applicable.
- Policy 3-10: Major structures, i.e., residential, commercial, and industrial, shall be sited a minimum of 50 feet from a potentially active, historically active, or active fault. Greater setbacks may be required if local geologic conditions warrant.

### ***Municipal Codes***

The City of Carpinteria and the County of Santa Barbara both include regulations and standards for construction in areas subject to geologic and seismic hazards, including both building codes and grading codes.

#### ***City of Carpinteria Municipal Code***

Chapter 14.50 General Use and Development Standards of the City's municipal code includes provisions related to protection of development from seismic hazards. It requires analysis of geologic hazards arising from seismic events, tsunami run up, landslides, beach erosion, or other hazards such as expansive soils and subsidence areas, as well as a 50-foot setback from potentially active earthquake faults for major structures.

Chapter 15.16.120 of the City's municipal code includes requirements for construction on sites that may be subject to land movements, including slippage and subsidence. For areas with potential for slippage, subsidence, or other movement of soil or rock, the public works director may require an engineering geological report, a soils report, and plans and specifications to eliminate danger of structural damage, as well as approval of rough grading by the public works director. Such structures must be designed to avoid damage to the structure from foundation failure.

#### ***Multi-Jurisdictional Hazard Mitigation Plan***

The 2017 Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan assesses identified risks and hazards and includes mitigation measures to reduce risks to people and property from hazards. It was developed in coordination with the cities and communities in the County, including the City of Carpinteria (County, 2017). The City of Carpinteria developed a Hazard Mitigation Plan that serves as an annex to the County's plan (City of Carpinteria, 2017a). Relevant goals and objectives included in the Hazard Mitigation Plan are:

- Goal 1: Promote disaster-resiliency for future development to help them become less vulnerable to hazards.
  - Objective 1.B. Facilitate the incorporation and adoption of building codes and development regulations that encourage disaster resistant design.
  - Objective 1.C. Facilitate consistent implementation of plans, zoning ordinances, and building and fire codes.
- Goal 2: Promote disaster resiliency for existing assets (critical facilities/infrastructure and public facilities) and people to help them become less vulnerable to hazards.
- Objective 2.A. Mitigate vulnerability structures and public infrastructure including facilities, roadways, and utilities.

### 3.8.4 Impact Analysis – Geology and Soils

#### Methodology for Analysis

The potential impacts to geology and soils were evaluated using the CEQA Guidelines, incorporating the changes adopted in December 2018. The City’s Environmental Review Guidelines were also considered in includes thresholds for erosion and siltation impacts.

#### Thresholds of Significance

In accordance with the CEQA Guidelines and the City’s Environmental Review Guidelines, an impact to geology and soils would be significant if the Proposed Project does any of the following:

<b>Would the Proposed Project:</b>	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
3.8-1: Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.8-2: Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.8-3: Be located on geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.8-4: Be located on expansive soil, as defined in Table 18 1 B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.8-5: Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.8-6: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.8-7: Exceed the City of Carpinteria's thresholds of significance for erosion or siltation including:

i) Graded or cleared portion of the site includes more than 10,000 square feet of area having a slope greater than 15 percent?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) There is significant risk that more than 2,500 square feet will be unprotected or inadequately protected from erosion during any portion of the rainy season.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Grading or clearing will occur within 50 feet of any watercourse or 100-year floodplain	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Grading will involve cut and fill volumes of 3,000 cubic yards or more, or cut or fill heights of 15 feet or greater	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
v) Project will significantly increase water runoff, velocities, peak discharges or water surface elevations on or off-site.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
vi) Project will produce erosion impacts which constitute a structural hazard or significant visual impact or will result in sediment or excessive drainage flows which cannot be contained or controlled on-site.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
vii) Project will produce result in impacts which violate or are in conflict with any of the Federal, State, or local policies, ordinance or regulations listed in the City's Environmental Review Guidance.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
viii) Any cut or fill slope over 15 feet in height is potentially significant for grading, visual, erosion, siltation, and community character impacts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ix) Any grading which includes the addition, removal, or moving of earth is potentially significant.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
x) Any grading proposed within environmental sensitive areas is potentially significant	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Criteria Requiring No Further Evaluation**

Criteria listed above that do not apply to actions associated with the Proposed Project are identified below, along with supporting rationale as to why further consideration is unnecessary and a No Impact determination is appropriate.

3.8-5: *Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?*

The Proposed Project would include construction of an AWPf, conveyance pipelines, injection and monitoring wells, backflush piping, and outfall improvements and would not necessitate use of septic

tanks or alternative wastewater disposal systems. There would be no impact related to the ability of soils in the Study Area to support the use of such systems.

### 3.8.5 Impact Statements and Mitigation Discussions

This section discusses potential impacts related to geology and soils that could result in conjunction with the Proposed Project. Mitigation measures are identified where appropriate.

#### **Impact 3.8-1: Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:**

- i) **Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?**
- ii) **Strong seismic ground shaking?**
- iii) **Seismic-related ground failure, including liquefaction?**
- iv) **Landslides?**

#### ***Earthquake Faults and Ground Shaking***

Southern California is known to be seismically active. The Study Area does not lie within an Alquist-Priolo fault rupture zone as delineated by the CGS. The Carpinteria Fault and Rincon Creek Fault trend toward the southwest end of the Study Area, and are both inactive, concealed faults. However, the City considers the faults to be potentially active for planning purposes (City of Carpinteria, 2003). Two additional potentially active faults are located within two miles of the Study Area to the north-northeast. Due to the seismically active region and close proximity of four potentially active faults, the Study Area has potential to be impacted by seismic ground shaking. Although the Proposed Project would be designed in compliance with applicable standards and codes to protect against impacts of seismic ground shaking, mitigation measures are included to further reduce seismic impacts to less than significant. CSD has a geotechnical report for the WWTP site, which is being used to inform design of the AWPf to be consistent with seismic conditions at the site. A geotechnical report does not yet exist for the remaining components of the Proposed Project. **Mitigation Measure MM 3.8-1** includes development of a geotechnical report for the injection wells, backflush tank, monitoring wells, and conveyance pipeline sites to determine the appropriate design features to include in the Proposed Project facilities. Designing the Proposed Project to address the requirements and risks identified in the geotechnical report would reduce risks associated with seismic activities to less than significant, in accordance with the City of Carpinteria's Environmental Review Guidelines.

#### ***Liquefaction***

The City's General Plan/*Local Coastal Land Use Plan* shows a portion of the Study Area is in potentially high expansive soils. Proposed Project components would be located outside of the areas of potentially high expansive soils with the exception of some of the potential monitoring well sites. The entire Study Area is in soils vulnerable to earthquake-induced liquefaction, and the Proposed Project therefore has the potential to expose people or structures to earthquake-induced liquefaction. Soil testing would be conducted prior to final selection of the injection and monitoring well site and the potential for soil expansion would be considered in the site selection process. Compliance with applicable design and construction standards would likely reduce potential impacts associated with exposure to earthquake-induced liquefaction, however there would remain potentially significant impacts. **Mitigation**

**Measure 3.8-1** would reduce potential impacts to less than significant by requiring soils testing/surveys and protective measures in areas with liquefaction potential or expansive soils.

### ***Landslides***

Landslides are the movement of rock, debris, or earth down an incline, and may include rock falls, rock slides, deep slope failure, and mud flows. The Study Area does not fall with the areas designated as having a high landslide potential in the City's General Plan/Local *Coastal Land Use Plan*. Additionally, the Proposed Project would comply with design standards and would not result in an increased risk of landslides within the Study Area. As such, the Proposed Project would not result in significant impacts related to landslides. Impacts would be less than significant.

### ***Significance Determination Before Mitigation***

Potentially Significant.

### ***Mitigation Measures***

**Mitigation Measure MM 3.8-1** shall apply to all components of the Proposed Project.

**MM 3.8-1 Complete a Geotechnical Analysis, Assess Potential for Liquefaction and Expansive Soils and Incorporate Protective Measures.** All of the Proposed Project's components would be located within an area of high expansive soils or an area at risk for liquefaction. During design for all project components, CVWD shall complete an engineering geotechnical and soils report that assesses potential for seismic-related risks and liquefaction. CVWD shall incorporate protective measures as necessary, based on the findings of the geotechnical and soils report. Pipelines shall be installed within consolidated engineered backfill. Protective measures may include the use of specific materials (e.g., PVC instead of cement pipes), design features such as thickness of pipes or foundations, methods that comply with standards and regulations for areas with potential for liquefaction, or selection of materials resistant to the effects of liquefaction.

### ***Significance Determination after Mitigation***

Less than Significant.

### **Impact 3.8-2: Result in substantial soil erosion or the loss of topsoil?**

Construction of the Proposed Project would include removal of gravel and asphalt areas at the WWTP site to construct the proposed AWPf, as well as trenching for the pipelines and deep drilling for the injection and monitoring wells, resulting in land and soil disturbance during construction. Construction at the WWTP site is expected to disturb 16,000 square feet for the AWPf, pump stations, chemical storage tanks, and associated facilities, including the demolition of an existing storage shed. A total of approximately 8,800 linear feet of pipeline would be installed for conveyance and backflush. Trenching for the pipelines would be up to four feet wide, for a total disturbed area of 35,200 square feet for pipelines. A single injection well including a backflush tank, would have a total disturbed area during construction of 10,000 square feet. During construction, monitoring wells would require up to 5,000 square feet for construction equipment and drilling, but would include actual disturbance of approximately 9 square feet for each well. Total projected disturbance as a result of construction of the proposed CAPP facilities is approximately 73,220 square feet, or 1.7 acres. As such, construction of the Proposed Project would be required to comply with the Construction General Permit, which is issued by the SWRCB. The required Storm Water Pollution Prevention Plan (SWPPP), which would address all Project components, would outline BMPs that would be implemented to reduce erosion and topsoil loss from storm water runoff. CVWD would obtain and comply with the Construction General Permit

and SWPPP as part of necessary permits (see Section 2.10, *Environmental Commitments*) to avoid substantial soil erosion or the loss of topsoil. All stormwater would be collected onsite at the WWTP and be conveyed back into the wastewater system for treatment; therefore, a SWPPP would not be applicable to work on the WWTP site. An SWPPP would be required for compliance with the Construction General Permit for all other Proposed Project components, which requires the development of an SWPPP for sites over one acre. The SWPPP outlines Best Management Practices (BMPs) that would be implemented to reduce erosion and topsoil loss from storm water runoff. Compliance with the Construction General Permit would ensure that construction of all facilities associated with the Proposed Project follows mandated BMPs, and therefore, would not result in substantial soil erosion or the loss of topsoil. The outfall modifications would occur underwater and not cause soil erosion or loss of topsoil. Construction impacts are anticipated to be less than significant, and no mitigation would be required.

Operation of the Proposed Project would not involve excavation or soil disturbing activity. Facilities would be designed to provide necessary access for routine maintenance, including access for underground conveyance pipelines and well vaults. Areas immediately adjacent to Proposed Project components would be paved, and maintenance vehicles would typically drive and park on paved surfaces when traveling to wells and pipeline access points. Occasionally vehicles may be required to drive or park on unpaved surfaces depending on the maintenance activity and availability of paved parking adjacent to the well. Driving or parking on unpaved surfaces could disturb soil, but driving and parking on unpaved surfaces would be relatively rare and soil disturbances minimal. Operation of the Proposed Project would not result in substantial soil erosion or the loss of topsoil, and impacts would be less than significant. No mitigation would be required.

### ***Environmental Commitments***

CVWD would obtain and comply with necessary construction permits, including the General Construction Permit and SWPPP, as described in Section 2.10, *Environmental Commitments*.

### ***Significance Determination***

Less than Significant.

### **Impact 3.8-3: Be located on geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?**

The City's General Plan/Local *Coastal Land Use Plan* and *Santa Barbara County Comprehensive Plan* indicates that the Study Area is susceptible to liquefaction. The Proposed Project is in a generally level area, and is not anticipated to destabilize soils that would result in landslides. Potential impacts from lateral spreading, subsidence, liquefaction, or expansive soils would be reduced through implementation of applicable design and construction standards, but may be potentially significant. **Mitigation Measure MM 3.8-1** will require soils testing/surveys and protective measures in areas with liquefaction potential or expansive soils, thereby reducing impacts to less than significant.

### ***Significance Determination Before Mitigation***

Potentially Significant.

### ***Mitigation Measures***

**Mitigation Measure MM 3.8-1** shall apply to all components of the Proposed Project.

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***Significance Determination after Mitigation***

Less than Significant.

**Impact 3.8-4: Be located on expansive soil, as defined in Table 18 1 B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.**

The City's General Plan/Local *Coastal Land Use Plan* and *Santa Barbara County Comprehensive Plan* indicates that a portion of the Study Area is in high expansive soils. There is potential for these soils to create a risk to Proposed Project components, such as damage to a conveyance pipeline. In the event that one of the pipelines is damaged due to the expansive soils, there is potential risk to property from flooding associated with a broken pipeline. This risk would be reduced through implementation of applicable design and construction standards, but may be potentially significant and require mitigation. **Mitigation Measure MM 3.8-1** will require soils testing/surveys and protective measures in areas with liquefaction potential or expansive soils, thereby reducing impacts to less than significant.

***Significance Determination Before Mitigation***

Potentially Significant.

***Mitigation Measures***

**Mitigation Measure MM 3.8-1** shall apply to all components of the Proposed Project.

***Significance Determination after Mitigation***

Less than Significant.

**Impact 3.8-6: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.**

A *Paleontological Resources Assessment* for the CAPP, prepared in 2019, evaluated the potential for encountering paleontological resources during construction of the Proposed Project. That assessment is included here as Appendix F. Per the paleontological assessment, Pleistocene Quaternary alluvial deposits may include fossils; such deposits are likely present at moderate depth in the Study Area. Fossils have been found in Pleistocene deposits in Santa Barbara County, as well as in Miocene Monterey Formation that comprise Carpinteria bluffs, which are located near the Study Area. A records search found there are no previously recorded fossil localities in the Study Area, but there are some nearby. The paleontological assessment determined there is a low paleontological sensitivity (i.e., low likelihood of encountering fossils) between 0 and 15 feet bgs because the soils are generally too young to contain fossilized materials. It found a high potential for fossils starting at 15 feet bgs, where older Quaternary alluvium may be located below younger alluvium. Therefore, there is potential for impacts to paleontological resources if the Proposed Project excavates deeper than 15 feet bgs.

Excavation for conveyance pipelines, the backflush tank, and backflush pipelines would all remain above this 15-foot threshold, and therefore would have no impact on paleontological resources. Likewise, the ocean outfall modifications would not involve excavation and would similarly have no impact on paleontological resources. Well drilling for both the injection wells and monitoring wells would involve augering at depths greater than 15 feet bgs. Disturbance to paleontological resources would be limited due to the small diameter for the auger, and impacts would be less than significant.



As currently proposed, project ground disturbance would reach a maximum depth of 20 feet bgs during excavation for the AWPf. However, previous excavation activities across the WWTP site have disturbed the sediments to an estimated depth of 20 feet bgs. As a result, impacts to paleontological resources are not anticipated. Further paleontological resource management is not recommended unless paleontologically-sensitive strata are unexpectedly encountered during ground disturbance resulting in the discovery of unanticipated resources during the course of the project. No further paleontological resources work at this time; however, implementation of **Mitigation Measure MM 3.8-6** would be required in the case of unanticipated fossil discoveries. This measure would apply to all phases of project construction and would ensure that any unanticipated fossils present on site are preserved.

***Significance Determination Before Mitigation***

Potentially Significant.

***Mitigation Measures***

If paleontological resources are encountered during construction of the AWPf, **Mitigation Measure MM 3.8-6** shall apply.

**MM 3.8-6 Fossil Discovery, Preparation, and Curation.** In the event an unanticipated fossil discovery is made during the course of the project development, then in accordance with SVP (2010) guidelines, a qualified professional paleontologist should be retained in order to examine the find and to determine if further paleontological resources mitigation is warranted. The paleontologist shall have the authority to temporarily direct, divert or halt construction activity to ensure fossil(s) can be assessed for scientific significance and if necessary, removed in a safe and timely manner. Once salvaged, significant fossils shall be identified to the lowest possible taxonomic level, prepared to a curation-ready condition and curated in a scientific institution with a permanent paleontological collection (such as the Natural History Museum of Los Angeles County) along with all pertinent field notes, photos, data, and maps.

***Significance Determination after Mitigation***

Less than Significant.

**Impact 3.8-7: Exceed the City of Carpinteria's thresholds of significance for erosion or siltation, including:**

- i) Graded or cleared portion of the site includes more than 10,000 square feet of area having a slope greater than 15 percent?
- ii) Significant risk that more than 2,500 square feet will be unprotected or inadequately protected from erosion during any portion of the rainy season?
- iii) Grading or clearing occurring within 50 feet of any watercourse or 100-year floodplain?
- iv) Grading involving cut and fill volumes of 3,000 cubic yards or more, or cut or fill heights of 15 feet or greater?
- v) Significant increases in water runoff, velocities, peak discharges or water surface elevations on or off-site?
- vi) Erosion impacts which constitute a structural hazard or significant visual impact or will result in sediment or excessive drainage flows which cannot be contained or controlled on-site?
- vii) Impacts which violate or are in conflict with any of the Federal, State, or local policies, ordinance or regulations listed in the City's Environmental Review Guidance?

- viii) **Any cut or fill slope over 15 feet in height is potentially significant for grading, visual, erosion, siltation, and community character impacts?**
- ix) **Any grading which includes the addition, removal, or moving of earth is potentially significant?**
- x) **Any grading proposed within environmental sensitive areas is potentially significant?**

The Proposed Project would involve substantial grading at the WWTP site and for installation of injection wells. Construction of the AWPf would require removal of approximately 16,000 square feet of pavement, and rough grading of the area under the AWPf building. Excavation would be conducted to bring the site to final grade and prepare for underground components of the Proposed Project on the WWTP site. The WWTP site is relatively level, and does not have a slope greater than 15%. Similarly, injection wells would be installed at generally level properties, and would require a maximum of 10,000 square feet of disturbed area. Although more than 10,000 square feet of grading would occur, it would not occur in areas with a slope greater than 15%, and impacts would be less than significant.

The rainy season for the Study Area is generally winter. The proposed construction schedule for the AWPf indicates mobilization activities would occur between January and February 2022, and construction would occur between February and October 2022. Injection well construction would similarly occur between January and May 2022, and would also involve grading. There is potential for grading of more than 2,500 square feet to occur during the rainy season. During construction, an SWPPP would be implemented consistent with the requirements of the state's General Construction Permit. The required SWPPP, which would address all Project components, requires implementation of BMPs to avoid stormwater runoff and siltation. CVWD would obtain and comply with the Construction General Permit and SWPPP as part of necessary permits (see Section 2.10, *Environmental Commitments*) to avoid erosion or siltation. This would provide protection of graded areas during the rainy season, and impacts would be less than significant. Impact 3.10-1 in Section 3.11, *Hydrology and Water Quality* further describes potential impacts to water quality from erosion and sedimentation.

There is potential for grading at the AWPf to occur within 50 feet of Carpinteria Creek, though unlikely due to placement of facilities outside the 50-foot setback, and the entire WWTP site is designated by FEMA as a Special Flood Hazard Zone and located within Zone X, indicating a 500-year storm probability or 0.2% annual chance flood (FEMA, 2018a). The WWTP site is fully enclosed by CMU block walls, including along its border with Carpinteria Creek. Stormwater captured on the WWTP site is conveyed to the WWTP headworks for treatment, and not allowed to runoff into adjacent roadways or Carpinteria Creek. Capturing of stormwater on the WWTP site, coupled with implementation of the SWPPP, would reduce potential impacts to Carpinteria Creek associated with AWPf grading to less than significant.

As noted previously, the existing WWTP and injection well sites are relatively level. Grading-related cut and fill at the AWPf would total approximately 1,000 cubic yards. There would not have to be cut or fill heights of 15 feet or greater, nor would it be likely to involve cut and fill volumes of 3,000 cubic yards or more. Impacts associated with cut and fill greater than 3,000 cubic yards or heights greater than 15 feet or more are less than significant.

Runoff and drainage flows resulting from the Proposed Project is addressed in Section 2.11, *Hydrology and Water Quality*, which found the Proposed Project's impacts related to runoff would be less than significant. The Proposed Project would not include a cut or fill slope over 15 feet high, and therefore would not have significant impacts for grading, visual, erosion, siltation, or community character impacts related to cut and fill activities. Erosion from the Proposed Project would be less than significant, as identified in Impact 3.7-2, above, and therefore would not have significant visual impacts or result in a structural hazard.

Grading for the Proposed Project would include the moving of earth, and potentially the addition or removal of earth. As such, there is potential for significant impacts under the City's Environmental Review Guidance. However, the implementation of an SWPPP, compliance with BMPs and applicable permits, coupled with the nature of the grading areas as relatively flat and in the case of the WWTP site, enclosed, erosion and siltation impacts associated with grading for the Proposed Project would be less than significant.

In accordance with the City's *General Plan/Local Coastal Land Use Plan*, grading at the WWTP site would occur within an environmentally sensitive area (City of Carpinteria, 2003). Consistent with the City's Environmental Review Guidelines, the Proposed Project would have a potentially significant impact for grading. There is potential for the Proposed Project, including grading activities, to effect environmentally sensitive species, as described in Section 3.4 Biological Resources, and implementation of the mitigation measures included in this EIR would reduce these impacts to less than significant. The AWWP and associated facilities that would be constructed at the WWTP site would be within the mapped environmentally sensitive area. Due to the WWTP site as a developed parcel and the implementation of the SWPPP and BMPs, impacts to an environmentally sensitive area associated with erosion and sedimentation from grading and excavation during construction would be less than significant.

#### ***Environmental Commitments***

CVWD would obtain and comply with necessary construction permits, including the General Construction Permit and SWPPP, as described in Section 2.10, *Environmental Commitments*.

#### ***Significance Determination Before Mitigation***

Less than Significant.

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### 3.9 Greenhouse Gas Emissions

This section describes the existing environmental and regulatory setting regarding global climate change and greenhouse gases in the Study Area. Potential impacts related to greenhouse gas emissions are considered, as well as consistency with applicable plans that address global climate change. Impacts would be less than significant and mitigation measures are not required.

#### 3.9.1 Physical Environmental Setting – Greenhouse Gas Emissions

GHGs are pollutants known to increase the greenhouse effect in the earth's atmosphere, adding to global climate change impacts. A number of pollutants have been identified as GHGs. The State of California definition of GHGs in the Health and Safety Code, Section 38505(g) includes carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Some greenhouse gases, such as carbon dioxide, occur naturally and are emitted to the atmosphere through natural processes. Other GHGs (e.g., fluorinated gases) are created and emitted solely through human activities. The most common GHGs that result from human activity are carbon dioxide, followed by methane and nitrous oxide.

- Carbon Dioxide (CO<sub>2</sub>): Carbon dioxide enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is also removed from the atmosphere (or “sequestered”) when it is absorbed by plants as part of the biological carbon cycle.
- Methane (CH<sub>4</sub>): Methane is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills.
- Nitrous Oxides (NO<sub>2</sub>): Nitrous oxide is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste.
- Fluorinated Gases: Hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride are synthetic, powerful greenhouse gases that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances (i.e., CFCs, HCFCs, and halons). Fluorinated gases are typically emitted in smaller quantities, but because they are potent greenhouse gases, they are sometimes referred to as high global warming potential gases (high global warming potential [GWP] gases).
  - Hydrofluorocarbons are manmade chemicals that have historically replaced chlorofluorocarbons used in refrigeration and semi-conductor manufacturing. Perfluorocarbons are manmade chemicals that are by-products of aluminum smelting and uranium enrichment.
  - Sulfur hexafluoride is a manmade chemical that is largely used in heavy industry to insulate high voltage equipment and to assist in the manufacturing of cable cooling systems.

GWP was developed to allow comparisons of the global warming impacts of different gases. Specifically, it is a measure of how much energy the emissions of 1 ton of a gas will absorb over a given period, relative to the emissions of 1 ton of carbon dioxide (CO<sub>2</sub>). The larger the GWP, the more that a given gas warms the Earth compared to CO<sub>2</sub> over that time period. The time period usually used for GWPs is 100 years. GWPs provide a common unit of measure, which allows analysts to add up emissions estimates of different gases (e.g., to compile a national GHG inventory), and allows policymakers to compare emissions reduction opportunities across sectors and gases.

- CO<sub>2</sub>, by definition, has a GWP of 1 regardless of the time period used, because it is the gas being used as the reference. CO<sub>2</sub> remains in the climate system for a very long time: CO<sub>2</sub> emissions cause increases in atmospheric concentrations of CO<sub>2</sub> that will last thousands of years.
- Methane (CH<sub>4</sub>) is estimated to have a GWP of 28–36 over 100 years. CH<sub>4</sub> emitted today lasts about a decade on average, which is much less time than CO<sub>2</sub>. But CH<sub>4</sub> also absorbs much more energy than CO<sub>2</sub>. The net effect of the shorter lifetime and higher energy absorption is reflected in the GWP. The CH<sub>4</sub> GWP also accounts for some indirect effects, such as the fact that CH<sub>4</sub> is a precursor to ozone, and ozone is itself a GHG.
- Nitrous Oxide (N<sub>2</sub>O) has a GWP 265–298 times that of CO<sub>2</sub> for a 100-year timescale. N<sub>2</sub>O emitted today remains in the atmosphere for more than 100 years, on average.
- Chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), hydrochlorofluorocarbons (HCFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>) are sometimes called high-GWP gases because, for a given amount of mass, they trap substantially more heat than CO<sub>2</sub>. (The GWPs for these gases can be in the thousands or tens of thousands.)

### Local Greenhouse Gas Inventories

The most relevant GHG inventories for the Study Area have been completed as part of the County of Santa Barbara's ECAP (Santa Barbara County 2015). According to the ECAP 2017 Progress Report (Santa Barbara County 2018), 2016 emissions in the unincorporated area of Santa Barbara County totaled 1,306,833 MTCO<sub>2</sub>e. The largest portion of emissions came from Transportation sources (588,246 MTCO<sub>2</sub>e); then from Building Energy (374,164 MTCO<sub>2</sub>e); Off-Road construction (138,950 MTCO<sub>2</sub>e); Agriculture (119,360 MTCO<sub>2</sub>e); Solid Waste (82,750 MTCO<sub>2</sub>e); and Water and Wastewater (3,364 MTCO<sub>2</sub>e). Despite reductions from Solid Waste and Water and Wastewater sources since the original inventory in 2007, overall emissions in the unincorporated County had increased 14% between 2007 and 2016. The increase was largely due to increased driving and construction activity, increased natural gas use in on-residential buildings, and increased agricultural fertilizer use. According to the ECAP 2017 Progress Report, the County and community are behind in implementing many of the ECAP's emission reduction measures and the unincorporated county's GHG emissions are trending in the wrong direction. Because of the emissions increase, the County and community need to reduce emissions by 26 percent from 2016 levels to reach the ECAP's 2020 target of 15 percent below 2007 levels (Santa Barbara County, 2018).

### 3.9.2 Regulatory Framework – Greenhouse Gas Emissions

#### Federal

There are no Federal Greenhouse Gas regulations or policies that are relevant to the Proposed Project.

#### State

##### ***Executive Order S-3-05***

The Governor issued EO S-3-05 in 2005 which set GHG emission reduction targets: reduce GHG emissions to 2000 levels by 2010; reduce GHG emissions to 1990 levels by 2020; and reduce GHG emissions to 80% below 1990 levels by 2050.

## **AB 32**

In 2006, California passed the California Global Warming Solutions Act of 2006. It required CARB to design and implement emission limits, regulations, and other measures to reduce statewide GHG emissions to 1990 levels by 2020 (representing a 25% reduction in emissions). AB 32 establishes an enforceable statewide cap on global warming emissions and reduction measures phased in by 2012, and through discrete early action measures that could be made effective by 2010. AB 32 established a timeframe for CARB to adopt emissions limits, rules, and regulations, but did not provide thresholds or methodologies for analyzing a project's impacts on global climate change.

### ***Climate Change Scoping Plan***

CARB adopted the *Climate Change Scoping Plan* in December 2008 and an update to the Climate Change Scoping Plan in December 2017. The State intends to achieve GHG reductions in California required by AB 32 and SB 32 (described below). The 2017 Climate Change Scoping Plan contains the strategies California will implement to achieve reduction of 40% below 1990 levels by 2030 and 80% below 1990 levels by 2050. In the 2017 Climate Change Scoping Plan, "CARB recommends that lead agencies prioritize on-site design features that reduce emissions, especially from vehicle miles travelled (VMT), and direct investments in GHG reductions within the project's region that contribute potential air quality, health, and economic co-benefits locally."

### ***EO B-30-15/Senate Bill 32***

In April 2015, the Governor issued EO B-30-15 which sets the State's GHG emissions target for 2030 at 40% below 1990 levels. Similarly, SB 32 (2016) requires that CARB, in its next update to the AB 32 Scoping Plan, "ensure that statewide GHG emissions are reduced to at least 40% below the statewide GHG emissions limit no later than December 31, 2030."

## **Local**

### ***Scope and Content of Air Quality Sections in Environmental Documents***

The Study Area is within the boundaries of the City of Carpinteria and the boundaries of unincorporated Santa Barbara County. The City recognizes air pollution as a regional issue and therefore relies on the standards developed by the SBCAPCD. The SBCAPCD's thresholds of significance, found in the *SBCAPCD Scope and Content of Air Quality Sections in Environmental Documents* (SBCAPCD, 2017) apply to all sources of air pollutants, including equipment and businesses not regulated by the SBCAPCD and motor vehicles. They are recommended to be used for CEQA review of projects in the county for which the SBCAPCD is a responsible agency or a concerned agency. SBCAPCD's thresholds of significance are intended to address cumulative, basin-wide air pollutant impacts. Therefore, if a project's emissions do not exceed the SBCAPCD significance thresholds, it can be assumed that it will not result in a cumulatively considerable net increase of the pollutant.

### ***Energy and Climate Action Plan***

The ECAP (Santa Barbara County, 2015) is a significant part of the County's demonstrated commitment to reducing GHG emissions while protecting the aesthetic qualities and unique resources of Santa Barbara County. The ECAP encapsulates the efforts the County of Santa Barbara has made to reduce GHG emissions and prepare for climate change since it adopted its Santa Barbara County Climate Change Guiding Principles in 2009 (Santa Barbara County 2015). The ECAP satisfies the requirements of Section 15183.5 of the CEQA Guidelines for a Qualified GHG Reduction Strategy, which provides a process to streamline the review of GHG emissions of specific projects.

### 3.9.3 Impact Analysis – Greenhouse Gas Emissions

#### Methodology for Analysis

GHG emissions from construction and operation of the Proposed Project were estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2, consistent with guidance from SBCAPCD (SBCAPCD 2017). Model inputs were developed based on information in Section 2, *Project Description*, draft Project construction schedules developed by Woodard & Curran in March 2019, and default values from the CalEEMod computer program. It was assumed that construction of all Proposed Project components (i.e., the AWPF, pump station, wells, and pipelines) would all commence in July 2021 and proceed simultaneously for approximately 15 months. In reality, construction of the Proposed Project components may be phased and this assumption, therefore, represents a conservative “worst case” scenario. It was assumed that the Proposed Project would implement measures that are required by state law and dust minimization measures that are required by SBCAPCD for all discretionary construction activities.

#### Thresholds of Significance

The SBCAPCD has not set quantitative thresholds of significance for short-term construction-related emissions. According to the SBCAPCD, a proposed stationary source project would have a significant GHG impact, if operation of the project would:

- Emit more than 10,000 metric tons per year CO<sub>2</sub>e; or
- Be inconsistent with an approved GHG emissions reduction plan or GHG mitigation program

Would the Proposed Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
3.9-1: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.9-1: Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### 3.9.4 Impact Statements and Mitigation Discussions

This section discusses potential impacts related to greenhouse gas emissions that could result from implementation of the Proposed Project. Mitigation measures would not be required.

#### Impact 3.9-1: Generate greenhouse gas emissions that may have a significant impact?

The Proposed Project would emit GHGs during construction, which is assumed to start in July 2021 and last approximately 15 months. Construction-related GHG emissions are associated with operation of off-road construction equipment, worker and vendor vehicle trips, and hauling trips. Total GHG emissions from construction of the Proposed Project are estimated to be 948 MTCO<sub>2</sub>e over the entire 15 months of construction. The SBCAPCD has not set quantitative thresholds of significance for short-term construction-related emissions to which emissions associated with construction of the Proposed Project can be compared.



The Proposed Project is expected to be operational in 2022. Long-term emissions of GHGs would result from motor vehicle trips associated with maintenance and operation of the proposed facilities, ongoing energy consumption, and area sources, such as landscaping and architectural coatings. In addition, long-term emissions of GHGs would result from the facilities' water consumption. Operational GHG emissions are associated with the proposed changes at the WWTP site; in other words, the GHG emissions analyzed here do not include emissions from existing energy consumption or mobile sources associated with current site operations. Annual GHG emissions are summarized in Table 3.9-1.

Source	MTCO <sub>2</sub> e
Energy (electricity)	675
Mobile	4.1
Water, Area sources	0.1
Total	679
Threshold	10,000
Significant?	No

Results of the inventory for operational emissions are in the CalEEMod output tables in Appendix C. As shown above, GHG emissions from the Proposed Project would be below SBCAPCD thresholds of significance. The Proposed Project would not generate GHG emissions, directly or indirectly, that may have a significant impact on the environment and no mitigation would be necessary.

**Significance Determination Before Mitigation**

Less than Significant.

**Impact 3.9-2: Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?**

The 2017 Climate Change Scoping Plan (CARB, 2017) focuses primarily on reducing GHG emissions that result from mobile sources and land use development. The Proposed Project would not involve a considerable increase in new vehicle trips or land use changes that would result in an increase in vehicle trips, such as urban sprawl. The 2017 Climate Change Scoping Plan also recognizes that about 2% of the total energy used in the state is related to water conveyance; it calls for, "increased water conservation and efficiency, improved coordination and management of various water supplies, greater understanding of the water-energy nexus, deployment of new technologies in drinking water treatment, groundwater remediation and recharge, and potentially brackish and seawater desalination." By augmenting local water storage, the Proposed Project would offset energy demands associated with imported water supplies. The Proposed Project would not, therefore, conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions. Impacts would be less than significant, and no mitigation would be required.

The SBCAPCD has adopted thresholds of significance for long-term operational GHG emissions from proposed stationary source projects (SBCAPCD 2017). As discussed in Impact 3.8-1, above, the Proposed Project would not conflict with the adopted local thresholds. Therefore, impacts would be less than significant.

One of the proposed injection well sites is within the boundaries of the County of Santa Barbara. The ECAP (County, 2015) is a significant part of the County's demonstrated commitment to reducing GHG emissions while protecting the aesthetic qualities and unique resources of Santa Barbara County. The ECAP includes 53 actions, referred to as emissions reduction measures, which are aggregated into 11 core strategies. The majority of the actions support reducing single-passenger vehicle trips and increasing energy efficiency of the built environment. The injection well would not conflict with these goals. As shown in Table 3.9-1, emissions from mobile sources and energy consumption would be lower than thresholds. Impacts would be less than significant, and no mitigation would be required.

***Significance Determination Before Mitigation***

Less than Significant.

### 3.10 Hazards and Hazardous Materials

Potential impacts related to hazards and hazardous materials are considered in this section, including certain chemicals, health hazards, emergency access, and wildfires. The Proposed Project has the potential to expose people and the environment to hazards and hazardous materials. Mitigation measures shall be implemented to reduce potential impacts related to accidental exposure to hazardous materials, including near schools, and provide for continued emergency access.

#### 3.10.1 Physical Environmental Setting – Hazards and Hazardous Materials

##### Hazardous Materials

Hazardous materials are used throughout the Study Area for residential, commercial, industry, medical practices, research, transportation, construction, and other uses. Through natural events, system failures, and accidents (spills), hazardous materials have the potential to pose a risk to the environment and human health. Numerous local, state, and federal laws exist to regulate the storage, use, handling and transportation of hazardous materials. To increase public safety and awareness of hazardous materials exposure risk, businesses and other entities that handle, store, transport, or use hazardous materials are required to file reports with appropriate authorities and maintain emergency response plans in the event of a hazardous materials release.

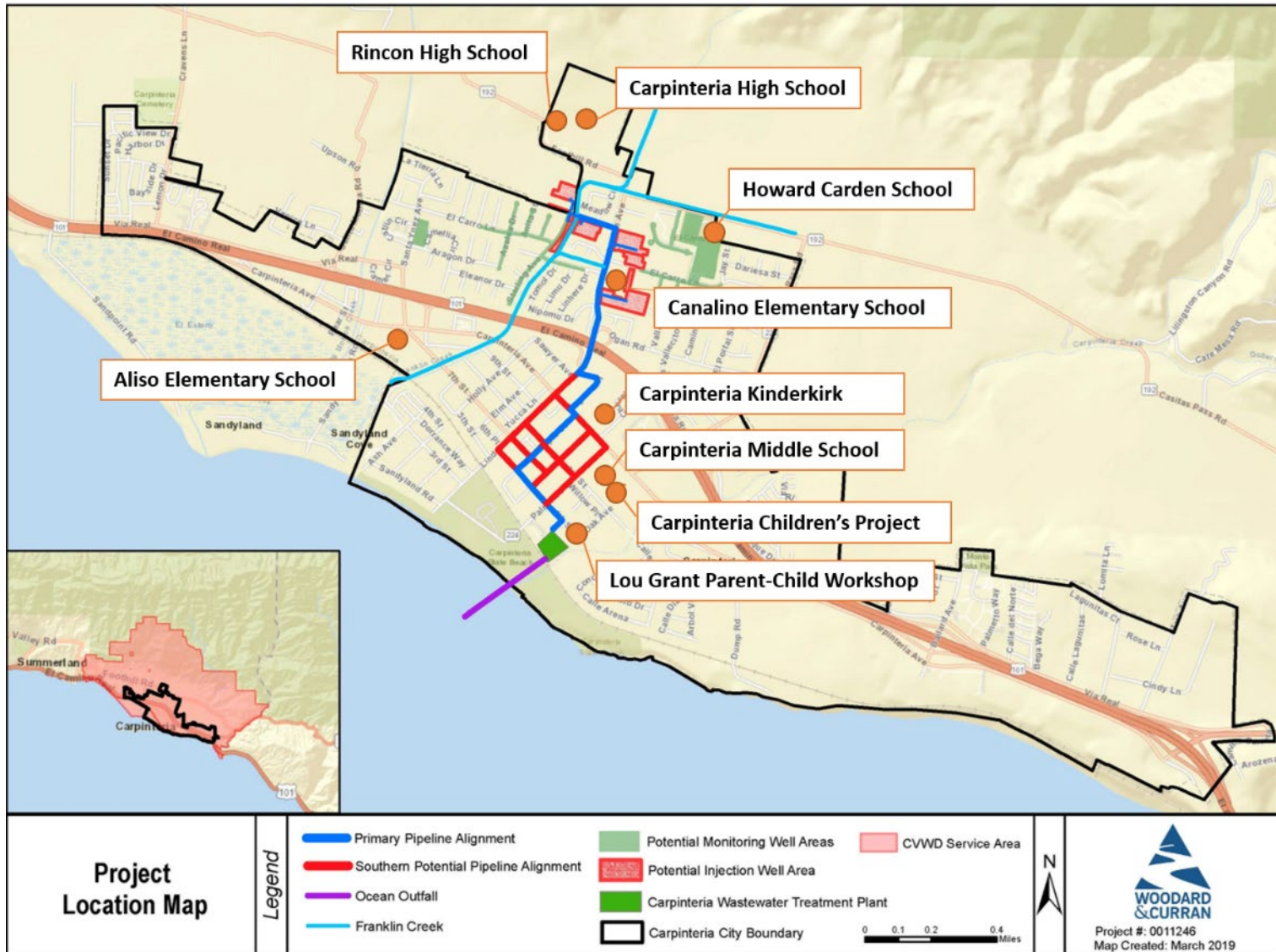
A regulatory agency records search was performed for the Study Area using the SWRCB GeoTracker database (SWRCB, 2018a) and the California Department of Toxic Substances Control (DTSC) EnviroStor database (DTSC, 2018). These lists are a compilation of information from various sources listing potential and confirmed hazardous waste and hazardous substances sites in California. There are no sites of potential concern listed on the DTSC EnviroStor database within one mile of the Proposed Project. There are 23 sites of potential environmental concern listed on the SWRCB GeoTracker database within a quarter mile of the Proposed Project, all of which are closed cases with the exception of three sites. Appendix G includes the EnviroStor and GeoTracker database maps of hazardous sites in the vicinity of the Study Area. The open SWRCB-listed sites include:

- Former Tec/Tyco Facility on 6th Street (approximately 0.25 miles northwest of the WWTP site; listed under the Cleanup Program for 1,1,1-trichloroethane (TCA), cyanide, dichloroethene (DCE), lead, nickel, tetrachloroethylene (PCE), trichloroethylene (TCE)),
- Former Camarillo Auto Repair on Carpinteria Avenue (approximately 0.15 miles northwest of Linden Avenue; listed under the Cleanup Program for chromium, diesel, gasoline, lead, other chlorinated hydrocarbons, other metal, PCE, toluene, TCE), and
- Westland Floral Company Carpinteria, Inc. – Gallup and Stribling Orchards on Foothill Road (approximately 0.1 miles northwest of Franklin Park; listed under the Irrigated Lands Regulatory Program).

The Proposed Project includes facilities, including an AWTP and pump stations, that require routine use and storage of hazardous materials. The AWTP may use and store chemicals such as citric acid, sodium hydroxide, sodium hypochlorite, sodium bisulfite, low pH and high pH cleaners, calcium chloride, ammonium sulfate, antiscalant, and sulfuric acid.

There are nine schools located within a quarter mile of the Proposed Project. Each school, its location and distance from the Proposed Project are listed in Table 3.10-1 and shown in Figure 3.10-1.

Figure 3.10-1. Schools within a Quarter Mile of Proposed Project



**Table 3.10-1. Schools within a Quarter Mile of Proposed Project**

School	Address	Distance from Proposed Project	Proposed Project Component
Canalino Elementary School	1480 Linden Ave	adjacent	Primary Pipeline Alignment
Howard Carden School	5315 Foothill Road	0.25 mile	Well Sites #2 and #3; Monitoring Wells
Carpinteria Middle School	5351 Carpinteria Ave	Adjacent; 0.16 mile	Southern Potential Pipeline Alignment; AWPF
Carpinteria High School	4810 Foothill Road	0.20 mile	Well Site #6; Monitoring Wells
Rincon High School	4698 Foothill Road	0.25 mile	Well Site #6; Monitoring Wells
Aliso Elementary School	4545 Carpinteria Ave	0.25 mile	Monitoring Wells
Lou Grant Parent-Child Workshop	5400 6th Street	0.05 mile	AWPF; Primary Pipeline Alignment
Carpinteria Children's Project	5201 8th Street	0.15 mile	Southern Potential Pipeline Alignment; AWPF
Carpinteria Kinderkirk	1111 Vallecito Road	0.06 mile	Southern Potential Pipeline Alignment; Primary Pipeline Alignment

### Fire Hazards

The City of Carpinteria is located near the urban-wildland interface as it is located just south of the Los Padres National Forest and is surrounded by agricultural lands and open space. The California Department of Forestry and Fire Protection (Cal Fire) issues Fire hazard Severity Zone Maps that designate zones with varying degrees of fire hazard. The fire hazard severity zones include low, moderate, high, and very high, and are based on factors such as fuel type and amount, slope, expected fire weather, and potential for burning embers to be transported by wind. Wildland fire protection is the responsibility of either the state, local government, or the federal government. The majority of the City of Carpinteria is located in a non-Very High Fire Hazard Severity Zone (VHFHSZ) in the Local Responsibility Area (LRA) (California Department of Forestry and Fire Protection [CalFire], 2008).

The City's *General Plan/Local Coastal Land Use Plan* Safety Element designates the portion of the City that includes the Study Area as a Low Fire Hazard Zone due to the low potential for the area to be impacted by wildfire. The surrounding portions of the City area designated as a Moderate Fire Hazard Zone, indicating a slightly greater risk of wildfire due to the closer proximity to wildland areas surrounding the City. The City does not contain any High or VHFHSZs.

## Debris Flows

Debris flows occur when water removes material from a slope or flows off a recent wildfire burn area. Recently updated emergency maps show the WWTP site is in a debris flow risk area and flagged for potential evacuations in the event of high storm risk (Santa Barbara County, 2018). Debris flow risks are discussed and evaluated in Section 3.21, Wildfire.

## Airports

The City of Carpinteria does not have a public airport or private airstrip. The closest public airport is the Santa Barbara Airport, which is located approximately 18 miles to the west of the Study Area.

### 3.10.2 Regulatory Framework – Hazards and Hazardous Materials

#### Federal

##### ***Comprehensive Environmental Response, Compensation, and Liability Act***

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) was enacted in 1980 to fund the cleanup of abandoned or uncontrolled sites contaminated with hazardous materials. In addition to cleanup of hazardous waste at contaminated sites, CERCLA updated the National Oil and Hazardous Substances Contingency Plan, which provides guidelines and procedures for responding to hazardous waste threats.

##### ***Resource Conservation and Recovery Act***

The Resource Conservation and Recovery Act (RCRA) regulates handling and disposal of solid waste, hazardous materials, and underground storage tanks for petroleum or other chemicals of concern. RCRA requires hazardous waste generators to obtain a permit for storage of hazardous waste over 90 days, and treatment for hazardous wastes prior to disposal. RCRA also restricts which facilities can receive hazardous wastes. For solvents, electroplating wastes, heavy metals, and acids, waste generators must coordinate with treatment, storage, and disposal facilities to ensure proper handling of materials. Construction projects similar to the proposed CAPP typically generate solid waste, and may generate hazardous waste (waste that is ignitable, corrosive, or reactive) depending on the construction techniques and materials used. These wastes are regulated by RCRA.

##### ***Federal Hazardous Materials Transportation***

Transportation of hazardous materials is regulated by the Federal Hazardous Materials Transportation Act (HMTA) of 1974 and the Hazardous Materials Transportation Uniform Safety Act (HMTUSA) of 1990. The HMTA was established to provide adequate protection against the risks to life and property inherent in the transportation of hazardous materials. The HMTA sets extensive guidelines for carriers of hazardous materials including the requirements to classify, package, and label materials appropriately, use specific hazardous materials placards for shipments, and have suitable shipping papers at all times. Carriers of hazardous materials must follow Department of Transportation rules, maintain rapid response plans for emergencies, and undergo safety trainings. The HMTUSA was enacted by Congress to clarify conflicting federal, state, and local regulations related to the safe transport of hazardous materials in intrastate, interstate, and foreign commerce.

### **Occupational Safety and Health Standards**

The Occupational Safety and Health Act of 1970 (OSH Act) established that employers are responsible for providing a safe work environment for employees. The Occupational Safety and Health Administration (OSHA) regulates workplace safety through establishing and enforcing industry standards for health and safety, and providing training, outreach, and assistance to industries to promote workplace safety. The OSH Act covers most private employers, but does not cover state or local government employers, nor does it cover hazards regulated by other federal agencies. The OSH Act does apply to state and local governments in California through Cal/OSHA, an OSHA-approved State program.

### **Emergency Planning and Community Right-To-Know Act**

The Emergency Planning and Community Right-To-Know Act requires federal, state, and local governments to create chemical emergency response plans to release of hazardous substances. Hazardous and toxic chemical reporting for facilities is required in order to increase awareness and access to information by the public. Facilities must publicly report accidental releases of certain chemicals and hazardous substances and create and make available Material Safety Data Sheets that describe the chemicals in question and health effects associated with them.

### **National Fire Protection Association Standard Section 704**

National Fire Protection Association Standard Section 704, *Standard System for the Identification of the Hazards of Materials for Emergency Response* provides standards for assessing the hazards of exposure to materials in the event of a fire, spill, or other emergency. It assesses safety based on four criteria: health, instability, flammability, and related hazards (currently limited to unusual reactivity to water or to indicate material is an oxidizer).

### **Uniform Fire Code**

The Uniform Fire Code (UFC) regulated the use, handling, and storage requirements for hazardous materials at facilities. In combination with the Uniform Building Code, it classifies hazards and determines appropriate protective measures. The UFC uses permits to regulated hazardous materials based on these classifications.

## **State**

### **California Health and Safety Code**

California Health and Safety Code Division 20, Chapter 6.5, section 25100 et seq. mandates that facilities that handle, store, use, treat, dispose of, or generate hazardous materials create hazardous-waste management programs. Facilities that generate hazardous wastes in excess of 26,400 pounds per year or extremely hazardous wastes in excess of 26.4 pounds per year must adhere to California Health and Safety Code Section 25244.12 et seq. These facilities must characterize and quantify generated wastes and identify ways to reduce waste generation. They must also develop written documentation that addresses waste reduction, develop a source-reduction evaluation review and plan, and prepare a plan summary and hazardous waste management report and a report summary.

Hazardous materials handling, reporting requirements, and local agency surveillance programs are regulated under the California Health and Safety Code Section 25500 et seq.

General regulations regarding fire and fire protection are included in California Health and Safety Code Division 12.

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### ***Hazardous Waste and Substances Sites List (Cortese List)***

Per California Government Code Section 65962.5, the *Hazardous Waste and Substances Sites List (Cortese List)* is compiled and maintained by the DTSC under the California EPA, and is a list of all sites identified as having hazardous waste releases.

### ***The Bates Bill (AB 337)***

The Bates Bill requires identification of a VHFHSZ and sets requirements for defensible space and fire resistant roofing for new development and roof replacements.

### ***Title 22 and 23 of the California Code of Regulations***

Hazardous materials and wastes are defined, categorized, and listed in Title 22 of the CCR. Title 22, Division 4, Chapter 3 governs the production and use of recycled water, sets standards for recycled water quality for designated uses, and regulates requirements of use sites, conveyance systems, and operational requirements.

### ***Cal/OSHA***

The Division of Occupational Safety and Health (Cal/OSHA) is a division of the California Department of Industrial Relations. Cal/OSHA is the OSHA-approved state program for California, and is responsible for regulating workplace health and safety in California. Cal/OSHA issues permits for activities such as construction of trenches or excavations deeper than five feet into which a worker must descend, construction of buildings or structures more than three stories or 36 feet high, demolition of such structures, and erection or dismantling of vertical shoring systems more than 36 feet or three stories high. Cal/OSHA oversees workplace health and safety in almost all workplaces throughout the State, including the public sector, in contrast to Federal OSHA.

### ***SWRCB California Ocean Plan***

The SWRCB adopted the California Ocean Plan in October 2012 and the plan went into effect in August 2013. The purpose of the California Ocean Plan is to protect the quality of the ocean water for use and enjoyment by the people of the State by requiring control of the discharge of waste to ocean waters. The California Ocean Plan contains water quality objectives. The general requirements for management of waste discharge to the ocean include:

1. Waste management systems that discharge to the ocean must be designed and operated in a manner that will maintain the indigenous marine life and a healthy and diverse marine community.
2. Waste discharged to the ocean must be essentially free of:
  - a. Material that is floatable or will become floatable upon discharge.
  - b. Settleable material or substances that may form sediments which will degrade benthic communities or other aquatic life.
  - c. Substances which will accumulate to toxic levels in marine waters, sediments or biota.
  - d. Substances that significantly decrease the natural light to benthic communities and other marine life.
  - e. Materials that result in aesthetically undesirable discoloration of the ocean surface.
3. Waste effluents shall be discharged in a manner which provides sufficient initial dilution to minimize the concentrations of substances not removed in the treatment.
4. Location of waste discharges must be determined after a detailed assessment of the oceanographic characteristics and current patterns.



## Local

### ***City of Carpinteria General Plan/Local Coastal Land Use Plan – Safety Element***

The City of Carpinteria *General Plan/Local Coastal Land Use Plan* outlines objectives and policies designed to protect the community from hazards and hazardous materials. The City of Carpinteria *General Plan/Local Coastal Land Use Plan* Safety Element includes the following objective and policies to address use of hazardous materials within the City:

- Objective S-6: Minimize the potential risks and reduce the loss of life, property, and the economic and social dislocations resulting from hazardous materials accidents at large industrial facilities, at facilities handling acutely hazardous materials, and along transportation corridors.
  - Policy S-6a. The City should maintain lists of facilities in the planning area that involves the use, storage, and/or transportation of hazardous materials.
  - Policy S-6b. City policies concerning the use, storage, transportation, and disposal of hazardous materials, and regarding underground or above-ground storage tanks shall reflect the County of Santa Barbara and the RWQCB policies and requirements and shall ensure that the use, storage, transportation, and disposal of hazardous materials does not result in hazardous discharge or runoff.
  - Policy S-6c. The City should consider the presence of large industrial facilities, facilities that handle acutely hazardous materials or pesticides, and railroad and utilities rights-of-way in land use planning.
  - Policy S-6d. The City shall support protective measures against the spillage of hazardous materials. Including crude oil, gas and petroleum products, and shall support effective containment and cleanup facilities and procedures for accidental spills that occur.
  - Policy S-6e. Where feasible, new hazardous industrial development shall be located away from existing developed areas.
- Objective S-5: Minimize the potential risks and reduce the loss of life, property, and economic and social dislocation resulting from urban and wildland fires.
  - Policy S-5a. All new structures must adhere to the Carpinteria-Summerland Fire Protection District Ordinance and the Santa Barbara County Fire Department Ordinances, where applicable.
  - Policy S-5b. All new structures, whether within or outside the urban limit zone, must adhere to the City Sprinkler Ordinance.
  - Policy S-5c. Roads shall be installed or improved to the standards specified in the County of Santa Barbara Private Road and Driveway Standard, Section 8 of the County of Santa Barbara Municipal Code.
  - Policy S-5d. The City will work in conjunction with the Carpinteria-Summerland Fire Protection District to adhere to, and enforce, all fire codes.

### ***Santa Barbara County Comprehensive Plan – Hazardous Waste Element***

The Hazardous Waste Element of the *Santa Barbara County Comprehensive Plan* provides goals and policies for hazardous waste generated within the County. Goals and policies related to the Proposed Project include waste minimization, small quantity generators, transportation, emergency response, and contaminated sites.

- Waste Minimization Goal 4-1: To have all hazardous waste generators implement waste minimization procedures to the maximum extent feasible.
- Waste Minimization Goal 4-2: To have all the cities in the County adopt a policy encouraging source reduction, recycling, and onsite treatment.

- Small Quantity Generators Goal 5-1: To have safe and economical collection, treatment, and disposal of hazardous wastes generated by small quantity generators.
- Transportation Goal 7-1: To ensure the safe transport of hazardous wastes from the source of generation to the point of ultimate disposal.

**County of Santa Barbara Coastal Land Use Plan**

The County of Santa Barbara’s *Coastal Land Use Plan* guides planning and development in the coastal areas of the county and is intended to protect coastal resources while still allowing for development. Where there is conflict between the *Coastal Land Use Plan* and the *Comprehensive Plan*, the *Coastal Land Use Plan* takes precedence. Applicable policies of the *Coastal Land Use Plan* related to hazards include:

- Policy 3-2: Revetments, groins, cliff retaining walls, pipelines and outfalls, and other such construction that may alter natural shoreline processes shall be permitted when designed to eliminate or mitigate adverse impacts on local shoreline sand supply and so as not to block lateral beach access.
- Policy 3-9: Water, gas, sewer, electrical, or crude oil transmission and distribution lines which cross fault lines, shall be subject to additional safety standards, including emergency shutoff where applicable.
- Policy 3-11: All development, including construction, excavation, and grading, except for flood control projects and non-structural agricultural uses, shall be prohibited in the floodway unless off-setting improvements in accordance with U.S. Department of Housing and Urban Development (HUD) regulations are provided. If the proposed development falls within the floodway fringe, development may be permitted, provided creek setback requirements are met and finish floor elevations are above the projected 100-year flood elevation, as specified in the Flood Plain Management Ordinance.

**3.10.3 Impact Analysis – Hazards and Hazardous Materials**

**Methodology for Analysis**

The potential impacts related to hazards and hazardous materials were evaluated using the CEQA Guidelines, incorporating the changes adopted in December 2018.

**Thresholds of Significance**

In accordance with the CEQA Guidelines, impacts resulting from hazards and hazardous materials would be significant if the Proposed Project does any of the following:

<b>Would the Proposed Project:</b>	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
3.10-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.10-2: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



3.10-3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.10-4: Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.10-5: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.10-6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.10-7: Expose people or structures either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Criteria Requiring No Further Evaluation

Criteria listed above that do not apply to actions associated with the Proposed Project are identified below, along with supporting rationale as to why further consideration is unnecessary and a No Impact determination is appropriate.

*3.10-5: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?*

The Proposed Project is not located within 2 miles of a public airport or private airstrip. The closest public airport is the Santa Barbara Airport, which is located approximately 18 miles to the west of the Study Area. Therefore, the Proposed Project is not anticipated to result in an airport or airstrip-related safety hazard for people working or residing in the Study Area. No impacts are anticipated.

### 3.10.4 Impact Statements and Mitigation Discussions

This section discusses potential impacts related to hazards and hazardous materials that could result in conjunction with the Proposed Project. Mitigation measures are identified where appropriate.

#### Impact 3.10-1: Potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

The Proposed Project involves construction and operation of an AWPf, conveyance pipelines, pump stations, injection and monitoring wells, backflush piping, and outfall improvements. Construction of the Proposed Project would temporarily increase the routine transport and use of hazardous materials commonly used in construction activities.

Additionally, modifications to the ocean outfall would involve a small boat and hand tools that could release minor amounts of pollutants into the ocean. Limited quantities of miscellaneous hazardous substances, such as gasoline, diesel fuel, hydraulic fluids, paint, and other similar materials, would be brought into the Study Area, used, and stored during the construction of the Proposed Project resulting in a temporary increase in the potential to expose the public or the environment to hazardous materials.

Long term operation of the Proposed Project would involve limited use and quantities of hazardous materials, such as cleaning and degreasing solvents, sodium hypochlorite, ammonium hydroxide, antiscalant, and other materials used in the regular maintenance of the treatment units, pumps, and injection wells. These chemicals would be stored in a covered, contained area near the treatment units. Chemical deliveries to the AWPf would occur via approximately six to eight truck trips per month (see Section 2.5, *Project Objectives*). Carpinteria Middle School, Lou Grant Parent-Child Workshop, and Carpinteria Children's Project are located within one-quarter mile of the proposed AWPf, where the majority of chemical handling would occur. To reduce potential impacts resulting from operation of the AWPf, **Mitigation Measure MM 3.10-1a** would require the amendment and implementation of the existing Hazardous Materials Business Plan for the plant site.

Additional trips to and from the injection well sites for O&M activities may also increase routine transport of hazardous materials, such as gasoline and solvents. Maintenance trips to the injection wells would occur once per week. The potential injection well sites would be located within proximity to schools, parks, and other public facilities or spaces. Operation and maintenance trips to the injection wells would generally include transportation of gasoline, used for the trucks transporting staff to the injection well sites. Exposure of sensitive receptors to this gasoline is consistent with existing levels of exposure, because there would only be one additional truck trip per day in the vicinity of schools, parks, or other public facilities and spaces, which is an insubstantial increase. Occasionally, additional chemicals, such as solvents, may be transported to the injection well sites for maintenance activities. These trips would be less frequent and would have less than significant impact to sensitive receptors due to their infrequency and the low likelihood of exposure, which would only occur in the event of an unforeseen accident, and not as a result of typical operation and maintenance.

The transportation, storage, use, and off-site disposal of hazardous materials would be managed in accordance with applicable laws and regulations to reduce the risk of hazards to the public. During Proposed Project construction and operation, implementation of established safety practices, procedures, and reporting requirements for hazardous materials would be followed to further reduce any risks. Based on the generally small quantities of hazardous materials to be used on site, and the proper storage, use, and disposal of all hazardous materials, no reasonably foreseeable upset or accident conditions involving release of hazardous materials to the environment are expected. However, mitigation to reduce potential impacts associated with chemical handling and spills is recommended due to the expanded chemical use and storage on the WWTP site and proximity of the site to Carpinteria Middle School, as well as the increase in transport of chemicals for O&M of injection wells. To reduce potential construction-related impacts resulting from the routine transport and storage of hazardous materials, **Mitigation Measure MM 3.10-1b** would be implemented requiring the preparation of a Hazardous Materials Management and Spill Prevention and Control Plan for construction phases. This plan shall be prepared prior to construction by the construction contractor to outline policies for handling hazardous materials and procedures to address potential release of hazardous materials into the environment.

With implementation of **Mitigation Measures MM 3.10-1a** and **MM 3.10-1b**, potential impacts resulting from the routine transport, use, or disposal of hazardous materials would be reduced to less than significant levels.

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### ***Significance Determination Before Mitigation***

Potentially Significant.

### ***Mitigation Measures***

**Mitigation Measure MM 3.10-1a** shall apply to the routine use and storage of hazardous materials and chemicals required for operation of the AWPf and associated facilities.

**MM 3.10-1a Preparation of Hazardous Materials Business Plan.** CSD shall amend its existing Hazardous Materials Business Plan (HMBP) for the WWTP to address the addition of the AWPf and pump station. The HMBP shall include, at a minimum, an updated hazardous materials inventory, site plan, emergency response plan, and requirements for employee training. The HMBP shall be amended prior to the use and storage of chemicals during construction or operation of the Proposed Project. The HMBP shall inform staff and contractors of the chemicals that may be used at the site and how to respond to potential hazardous material emergencies or exposure. CSD shall confirm training and signage included in the HMBP are completed and posted at the AWPf and associated chemical storage. CSD shall confirm that the hazardous materials inventory is consistent with chemicals ordered by contractors during construction and by CSD for operation and maintenance of the AWPf, pump station, and associated facilities.

**Mitigation Measure MM 3.10-1b** shall apply to construction of the Proposed Project, as it relates to routine use and transport of hazardous materials.

**MM 3.10-1b Hazardous Materials Management and Spill Prevention and Control Plan.** Before construction begins, CVWD and/or CSD shall require its construction contractor to prepare a Hazardous Materials Management Spill Prevention and Control Plan that includes a project-specific contingency plan for hazardous materials and waste operations. The Plan will be applicable to construction activities and will establish policies and procedures according to applicable codes and regulations, including but not limited to the California Building and Fire Codes, and federal and California Occupational Safety and Health Administration (Cal/OSHA) regulations, to minimize risks associated with hazardous materials spills. Elements of the Plan will include, but not be limited to the following:

- A discussion of hazardous materials management, including delineation of hazardous material storage areas, access and egress routes, waterways, emergency assembly areas, and temporary hazardous waste storage areas;
- Notification and documentation of procedures; and
- Spill control and countermeasures, including employee spill prevention/response training.

### ***Significance Determination after Mitigation***

Less than Significant.

### **Impact 3.10-2: Potential to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?**

Construction of the Proposed Project would temporarily increase the routine transport and use of hazardous materials commonly used in construction activities. Therefore, the Proposed Project has the potential to result in release of hazardous materials through reasonably foreseeable upset or accident conditions during both construction and operation of the Proposed Project. The Proposed Project would be in compliance with applicable policies and

regulations described in Section, 3.10, *Regulatory Framework – Hazards and Hazardous Materials*, which would minimize potential impacts. **Mitigation Measure MM 3.10-1b** would require the preparation of a Hazardous Materials Management and Spill Prevention and Control Plan which would establish policies for preventing construction-related accidents and procedures for handling potential accidents. With implementation of **Mitigation Measure MM 3.10-1b**, impacts would be reduced to less than significant.

### ***Significance Determination Before Mitigation***

Potentially Significant.

### ***Mitigation Measures***

**Mitigation Measure MM 3.10-1b** shall apply to construction of the Proposed Project, as it relates to the use and transport of hazardous materials.

### ***Significance Determination after Mitigation***

Less than Significant.

### **Impact 3.10-3: Potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?**

There are six public elementary, middle, and high schools located within the Study Area, and three pre-schools. As shown in Table 3.10-1 and Figure 3.10-1, these nine schools are all located within one-quarter mile of the Proposed Project. Table 3.10-1 provides the address of each school, distance to the Proposed Project and the project component the school is in proximity to. Although construction activities for the Proposed Project would be conducted in compliance with all applicable regulations for the transport, storage, use, and disposal of hazardous materials and precautions would be taken to reduce potential risks, there is potential for an accidental release of hazardous materials, as discussed under Impact 3.9-2. Given the proximity of these schools to the Proposed Project, there is potential that such an accidental release could occur within one-quarter mile (1,320 feet) of an existing or proposed school. Mitigation Measure 3.9-1b shall apply to construction of the Proposed Project. This mitigation measure shall develop and implement a Hazardous Materials Management and Spill Prevention and Control Plan applicable to the Proposed Project that will include measures for minimizing risks associated with accidental release of hazardous materials, including in proximity of existing or proposed schools. Implementation of this mitigation measure will reduce impacts to less than significant.

The AWPf and pump stations are closed sites and the public is protected from exposure to any chemicals or hazardous materials through appropriate security measures, minimizing potential for exposure. However, as with the other components of the Proposed Project, potential exists for an accidental release of hazardous materials into the environment through transport, use, or disposal of hazardous materials during O&M activities. Implementation of **Mitigation Measure MM 3.10-1a** would be implemented to reduce the potential for an accidental hazardous material release to occur during AWPf operation and to establish policies and procedures for handling such incidents should they occur.

**With Mitigation Measures MM 3.10-1a and MM 3.10-1b**, potential impacts resulting from release of hazardous materials within one-quarter mile of a school would be reduced to less than significant levels.

***Significance Determination Before Mitigation***

Potentially Significant.

***Mitigation Measures***

**Mitigation Measure MM 3.10-1b** shall apply to construction of the Proposed Project, as it relates to the use and transport of hazardous materials near schools. **Mitigation Measure MM 3.10-1a** shall apply to operation of the AWWPF and associated facilities at the WWTP site.

***Significance Determination after Mitigation***

Less than Significant.

**Impact 3.10-4: Potential to be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?**

Records searches for SWRCB GeoTracker and DTSC EnviroStor were performed for a one-mile radius of the Proposed Project to identify the presence of any active hazardous waste sites in the Study Area. Results of the database searches revealed there are 23 hazardous waste sites within a quarter mile radius of the Study Area, including three active sites and four closed cases at the WWTP site. Appendix G includes the EnviroStor and GeoTracker database maps of hazardous sites in the vicinity of the Study Area.

Grading, excavation, or other ground-disturbing activities associated with the Proposed Project are not anticipated to take place within an open hazardous waste site. However, Well Site #6 and the Southern Potential Pipeline Alignment along 6th Street at Linden Avenue are located adjacent to two of the active sites. Well Site #6 is located adjacent to the Westland Floral Company Carpinteria, Inc. – Gallup and Stribling Orchards Foothill Road listed site. This site is listed under the Irrigated Lands Regulatory Program due to the agricultural operations that occur on the site. The Southern Potential Pipeline Alignment along 6th Street at Linden Avenue is adjacent to the Former Tec/Tyco Facility site which is listed under the Cleanup Program for the following potential contaminants of concern: TCA, cyanide, DCE, lead, nickel, PCE, and TCE. If Well Site #6 or the Southern Potential Pipeline Alignment along 6th Street at Linden Avenue are selected for the Proposed Project, impacts would be potentially significant and mitigation to reduce exposure impacts to construction workers and the adjacent population, including a Phase I Environmental Site Assessment, may be required. Depending on the injection well sites and alignments ultimately selected, exposure to hazardous materials may be a potentially significant impact. If Well Site # 6 or the Southern Potential Pipeline Alignment are selected, **Mitigation Measure MM 3.10-4** shall be implemented to reduce the potential to expose people or the environment to hazardous materials through excavation and earth-disturbing activities on or adjacent to hazardous materials sites.

Other Proposed Project components are not anticipated to create a significant hazard to the public or the environment by being located within a site which is included on a list of hazardous materials sites, and as such, there would be no impact.

***Significance Determination Before Mitigation***

Potentially Significant.

### ***Mitigation Measures***

**Mitigation Measure MM 3.10-4** shall apply to construction of Well Site #6 and the Southern Potential Pipeline Alignment along 6th Street at Linden Avenue.

**MM 3.10-4 Contingency Plan for Contaminated Soil and/or Groundwater.** If Well Site #6 or the Southern Potential Pipeline Alignment along 6th Street at Linden Avenue are selected as components of the Proposed Project, CVWD shall conduct a Phase I Environmental Site Assessment to evaluate the potential for contaminated soils within the Project footprint. If the Phase I Environmental Site Assessment is positive, CVWD shall conduct soils testing prior to excavation activities in those sites to evaluate the risk of encountering contaminated soils. If soils testing finds contaminated soils or groundwater, construction will be halted in the area and the type and extent of the contamination shall be evaluated. CVWD will develop a contingency plan to dispose of contaminated soils or groundwater through consultation with appropriate regulatory agencies prior to continuation of work. The contingency plan may include, but not be limited to, a plan for safe handling of contaminated soils, a description of the required personal protective equipment for workers during excavation of contaminated soils, and identification of proper disposal sites and methods. CVWD will designate a monitor to confirm compliance with the contingency plan during excavation activities in the contaminated area.

### ***Significance Determination after Mitigation***

Less than Significant.

### **Impact 3.10-6: Potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

The Proposed Project would involve construction of pipelines primarily within roadway ROWs, which could temporarily block access to some roadways and driveways that are currently used by emergency response vehicles or in emergency evacuations. Linden Avenue is a major thoroughfare in the Study Area, and one of only five roads that provide access across U.S. Highway 101, which bisects the City, and the Study Area. The sole fire station in the City of Carpinteria is located on Walnut Avenue between 8th Street and Carpinteria Avenue. The conveyance pipeline would be construction within roadways adjacent to the fire station and between the fire station and Linden Avenue. A portion of the Southern Potential Pipeline Alignment would be constructed on Walnut Avenue, in front of the fire station. Construction equipment and materials may be transported along Highway 192, north of the Study Area. Highway 192 is a major thoroughfare and may serve as an evacuation route if U.S. Highway 101 is blocked. During construction there is potential for the Proposed Project to impact implementation of an adopted emergency response plan or emergency evacuation plan, and mitigation is required. **Mitigation Measure MM 3.18-1** (in Section 3.18.3, *Impact Analysis -- Transportation*) would require preparation of a Transportation Management Plan and would address how the City shall communicate with emergency response agencies to develop emergency access strategies. With implementation of **Mitigation Measure MM 3.18-1**, potential impacts would be reduced to less than significant levels. Over the long term, the Proposed Project does not have any characteristics that would physically impair or otherwise interfere with emergency response or evacuation in the Study Area.

### ***Significance Determination Before Mitigation***

Potentially Significant.



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### ***Mitigation Measures***

**Mitigation Measure MM 3.18-1**, see Section 3.18.3, *Impact Analysis -- Transportation*, shall be implemented prior to construction of any Proposed Project components.

### ***Significance Determination after Mitigation***

Less than Significant.

### **Impact 3.10-7: Potential to expose people or structures either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?**

According to the CalFire Fire Hazard Severity Zone (FHSZ) maps, the majority of the City of Carpinteria is in a non-VHFHSZ in the LRA (CalFire, 2008). The City's *General Plan/Local Coastal Land Use Plan* Safety Element designates the portion of the City that includes the Study Area as a Low Fire Hazard Zone. To minimize the risk of wildfire from construction activities, **Mitigation Measure MM 3.10-7** shall be implemented, which includes BMPs for construction equipment and staging areas that will minimize the risk of wildfire to less than significant. Given the low fire hazard potential within the Study Area and the measures that would be used during construction to minimize potential fire hazards, direct fire-related impacts would be less than significant.

The AWPf would be located within an area mapped as being within a debris flow risk area, however, which can result following wildfires. As such, there is potential for indirect fire-related impacts in the form of debris flows to affect the WWTP site. Debris flow risks are described and evaluated in Section 3.20, *Wildfire*. Additionally, the WWTP site is walled, which could provide some protection against debris flows, and the AWPf and associated facilities would be constructed in compliance with applicable building and design standards which are intended to prevent damage to the structures from events such as debris flows and flooding to the extent feasible. There is potential for physical damage from debris flow at the WWTP site, though potential losses would be reduced by protective measures in place at the WWTP and compliance with design standards. Potential impacts from indirect wildfire risks are considered less than significant.

### ***Significance Determination Before Mitigation***

Potentially Significant.

### ***Mitigation Measures***

**Mitigation Measure MM 3.10-7** shall apply to construction of all components of the Proposed Project.

**MM 3.10-7 Implement Construction Equipment and Staging Area BMPs.** CVWD and CSD contractors shall be required to clear construction staging areas of dried vegetation and other material that could ignite, and store equipment that heats up only in cleared areas. CVWD and CSD contractors shall be required to keep all construction equipment in good working order and equipped with spark arrestors to prevent potential sparks. CVWD and CSD shall require its contractors to use a spotter during welding activities, and fire extinguishers would be made available at all construction sites. Confirmation of these practices will be made by CVWD or CSD staff or their designated representative through periodic site visits.

### ***Significance Determination after Mitigation***

Less than Significant.

### 3.11 Hydrology and Water Quality

This section provides a description of the existing hydrologic resources in the Study Area, describes the relevant regulatory environment, and evaluates potential impacts on hydrology and water quality from implementation of the Proposed Project. The Proposed Project would not significantly impact local hydrology or water quality due to construction and operational BMPs.

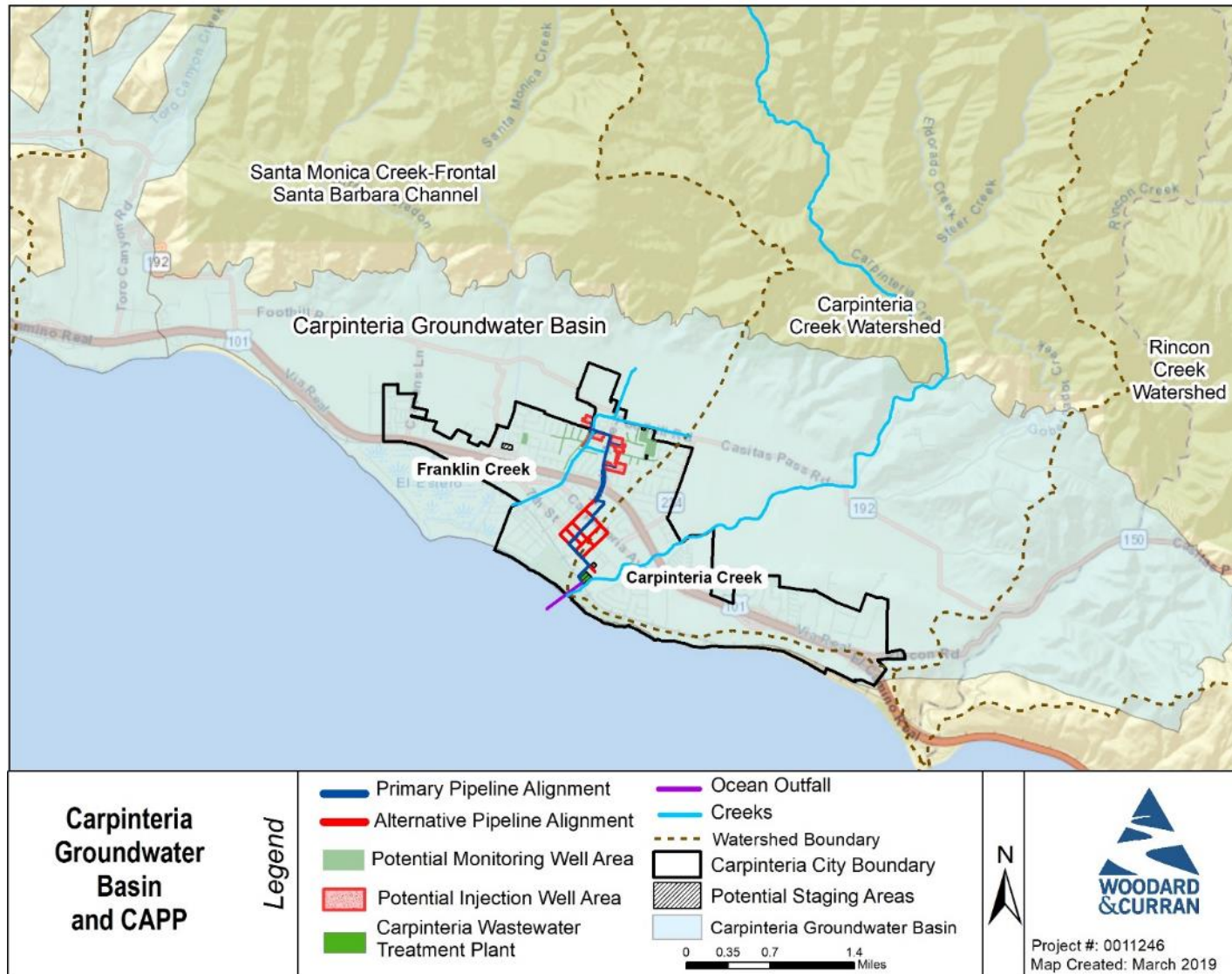
#### 3.11.1 Physical Environmental Setting – Hydrology and Water Quality

##### Surface Water

The Study Area is located in the Carpinteria Creek and Franklin Creek watersheds, which are two of approximately 50 sub-watersheds that comprise the South Coast Watershed. The South Coast Watershed is the southern-most hydrologic unit within the Central Coast Basin (Santa Barbara County Integrated Regional Water Management Plan [SBCIRWMP], 2013). Local creeks and the groundwater basin are shown in Figure 3.11-1. The Carpinteria Creek watershed is in the southeastern portion of the South Coast Watershed and extends approximately 7 miles from the Pacific Ocean to the ridge of the Santa Ynez Mountains, encompassing approximately 9,400 acres. Carpinteria Creek is a perennial creek, even during drought, and is one of the largest ocean-draining watersheds in the region (City of Carpinteria, 2003). Year-round flows in the creek include water from natural springs in the foothills and return flow from agricultural and urban land use. During the rainy season, flows are primarily stormwater, and the creek experiences high seasonal variability. The Carpinteria Lagoon, located at the mouth of Carpinteria Creek, begins 50 feet from the ocean and extends approximately 650 feet along the Carpinteria Creek corridor to the railroad tracks (SBCIRWMP, 2013). The WWTP site is located adjacent to Carpinteria Creek, immediately north of the lagoon.

The Franklin Creek watershed is a sub-watershed of the Santa Monica Creek-Frontal Santa Barbara Channel watershed, and encompasses approximately 3,200 acres (see Figure 3.11-1). It is located south and west of the Carpinteria Creek watershed, and east of the Santa Monica Creek watershed. Franklin Creek flows from the Los Padres National Forest land in the upper watershed towards the coast through agricultural areas and urban areas, to where it drains into the Carpinteria Salt Marsh. The majority of the City of Carpinteria's urban core is in the Franklin Creek watershed. Flows in Franklin Creek are predominately stormwater flows during the wet season, and has low flows year round from agricultural and urban runoff. A series of floods in the 1960s led to channelization of the creek, and within the Study Area the creek is an open, straightened, concrete box channel. The channelization of Franklin Creek extends from the base of the foothills to the Carpinteria Salt Marsh (City of Carpinteria, 2005).

Figure 3.11-1. Surface and Groundwater in the Study Area



Both Franklin Creek and Carpinteria Creek are listed on the SWRCB's 303(d) list of impaired water bodies requiring development of TMDLs. Franklin Creek is listed for sodium, pH, fecal coliform, and toxicity. The TMDL for Nitrogen and Phosphorus Compounds in Streams of the Franklin Creek Watershed was adopted by the Central Coast RWQCB in March 2018. Carpinteria Creek is listed for E. coli, fecal coliform, toxicity, chloride, sodium, nitrate and dissolved oxygen. A TMDL for nitrates is expected in 2023, while the remaining pollutants are expected to have a TMDL in place by 2027.

## Groundwater

The Proposed Project is in the Carpinteria Groundwater Basin (DWR Basin No. 3-18), which extends from beyond the Ventura County line on the east, to Toro Canyon on the west, from the foothills of the Santa Ynez Mountains to the north, and extending offshore to the southwest for over a mile. The groundwater basin is shown in Figure 3.11-1. The Carpinteria Groundwater Basin contains multiple water bearing zones and is divided by the Rincon Creek fault into two storage units. The sustainable yield of the basin averages 3,800 AFY (CVWD, 2012). The groundwater basin's water bearing zones are designated as aquifers A, B, C, and D and are 50-100 feet thick each. Aquifer A is the shallowest of these zones, and is located in the Carpinteria Formation. Aquifers B, C, and D are located in the Casitas formation; Aquifer D is the deepest of the aquifers and represents the base of freshwater in the basin (CVWD, 2012). The Proposed Project would only inject purified water into Aquifers A, B, and C.

According to CVWD's 2015 UWMP, there are no known groundwater contamination issues in the Carpinteria Groundwater Basin. Manganese is a secondary water quality concern and is controlled through a treatment system operated by CVWD (CVWD, 2016a). A search of the SWRCB Groundwater Ambient Monitoring and Assessment Program database shows that monitoring wells within the Study Area detected nitrate levels above the drinking water MCL within the past 10 years in certain areas of the basin. However, levels of nitrate have not exceeded the MCL within the past three years (SWRCB, 2018b).

## Marine and Coastal Waters

The City of Carpinteria is located along California's South Coast, with the Pacific Ocean to the south and west of the city. The portion of the Pacific off the coast from the city is known as the Santa Barbara Channel, which is a biologically rich area home to kelp forests and wide diversity of species. Beach parks have an existing beneficial use of Marine Habitat, meaning use of water that support marine ecosystems. The Basin Plan includes pH requirements between 7.0 and 8.5, dissolved oxygen concentrations no less than 7.0 mg/L, or in excess concentrations of chemicals known to be harmful to fish or wildlife as defined in Table 3-4 of the Basin Plan (RWQCB, 2017). The WWTP discharges treated effluent to the ocean outfall, which extends 1,000 feet into the ocean. Discharge requirements are included in the WWTP's NPDES permit (Order R3-2017-0032, Permit CA0047364), and are designed to be protective of beneficial uses, including marine beneficial uses. Based on data in the region, ocean temperatures range between approximately 54 degrees Fahrenheit and approximately 72 degrees Fahrenheit, and have a salinity between 33.43 and 33.47 parts per thousand (ppt) (Flow Science, 2019).

## Flood Hazards

According to the City's *General Plan/Local Coastal Land Use Plan* (City of Carpinteria, 2003), flooding within the City is generally produced by winter storms occurring between December and March. Several local streams that discharge to the Pacific Ocean traverse the City, including Carpinteria, Santa Monica, Franklin, Arroyo Paredon, and Rincon

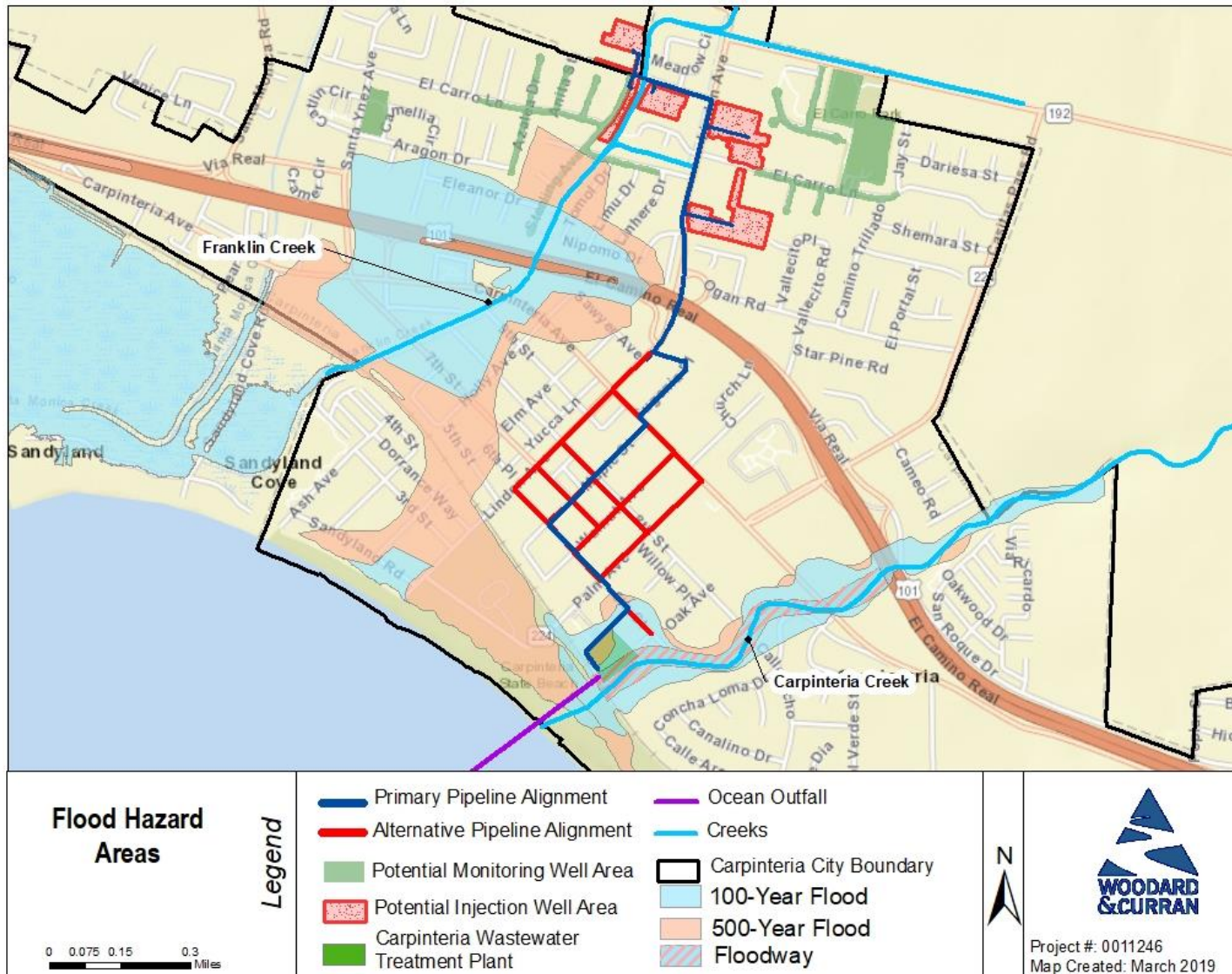
creeks. Portions of Carpinteria, Santa Monica, and Franklin creeks have been channelized by the Santa Barbara County Flood Control and Water Conservation District, USACE, and the NRCS).

There are several flood-prone areas within the City of Carpinteria, generally located in low-lying areas near creeks and the coast. FEMA Flood Insurance Rate Map (FIRM) dated September 2018 shows the WWTP site is located in a Special Flood Hazard Zone (indicating a 100-year storm probability or 0.1% annual chance flood) and a portion of the WWTP site located within Zone X (indicating a 500-year storm probability or 0.2% annual chance flood) (FEMA, 2018a).

Also, a small portion of the WWTP site adjacent to Carpinteria Creek, along the eastern perimeter, was designated as a Regulatory Floodway in a Letter of Map Revision (LOMR) issued by FEMA in April 2018 in response to construction of the Caltrans Linden/Casitas Interchange Project. The LOMR mapped a majority of the WWTP site in the Regulatory Floodway of Carpinteria Creek. In May 2018, the City issued a Carpinteria Creek No-Rise Determination and Certification (River Focus, 2018) that demonstrated proposed development on the WWTP site would have no impact on the revised FEMA Regulatory Floodway or base flood elevation. Subsequently, CSD prepared a comprehensive appeal to the LOMR. This appeal is currently being reviewed by FEMA and, if upheld, would establish floodplain and floodway boundaries based on an alternative hydraulic modeling approach. With respect to the WWTP site, this model maps the regulatory floodway essentially within the banks of Carpinteria Creek.

As shown in Figure 3.11-2, some conveyance pipelines and potential monitoring well sites are located within the Special Flood Hazard Zone. Conveyance pipelines near the WWTP would be installed within the Special Hazard Flood Zone, as well as Zone X. The only conveyance pipelines that would be located in a flood zone would be between the WWTP, 6th Street, and Palm Avenue. The remaining proposed conveyance pipeline alignments are outside of a flood zone. A monitoring well may be installed along Sterling Avenue, a portion of which is in a flood zone. The portion of Sterling Avenue between Malibu Driver and Eleanor Drive is in Zone X, while Sterling Avenue from Eleanor Drive to U.S. Highway 101 is located in a Special Flood Hazard Zone. None of the proposed injection well sites are located within a Flood Hazard Zone.

Figure 3.11-2. Flood Hazard Zones within the Study Area



## Sea Level Rise

Sea level rise is a concern in the region due to its location along the coast. The Ocean Protection Council notes that the effects of sea level rise is already being seen in California, while the *4th Climate Assessment - Central Coast Region Report* indicates Carpinteria is one of the most vulnerable regions for future flooding (OPC, 2017; California Natural Resources Agency, 2018). The City of Carpinteria recently completed a coastal vulnerability analysis, the City of Carpinteria Coastal Vulnerability and Adaptation Project (City of Carpinteria, 2019a). Sea level rise can cause both long-term vulnerabilities and event-based vulnerabilities. Long term trends include sea level rise and coastal erosion while events that trigger vulnerability include extreme tides, waves, El Niño thermal expansion, vertical land movement under seismic episodes, and storm-related elements such as storm surge and fluvial flooding. Climate change science predicts that two key factors of vulnerability, meaning sea level and extreme precipitation, will be impacted, with sea levels forecasted to rise and precipitation changing in intensity and pattern. Vulnerability assessments typically combine factors that are likely to be combined in natural conditions such as higher sea levels in the future coupled with the associated coastal erosion, the wave action and storm surge associated with a storm and the precipitation in land potentially compounding flooding conditions. As sea levels rise, sites may become more vulnerable to flooding during storm events.

The City's vulnerability analysis used modeling based on the guidelines of the California Ocean Protection Council Science Advisory Team Working Group, the California Ocean Science Trust the California Coastal Commission, and uses sound science and engineering methods and practices. The City's coastal vulnerability study based many of the conclusions on coastal hazards on the 2016 County of Santa Barbara Coastal Resilience Project. The report is also consistent with science and findings under the California Fourth Climate Assessment and compares its results with forecasts developed by the U.S. Geological Survey's Coastal Storm Modeling System version 3.0. A summary of the vulnerability analysis as it applies to the project is provided in Appendix H.

Table 3.11-1 summarizes the result of the sea level rise modeling and the flood risks. The flood risks are exclusive of one another (a single event can only be either the 100-year storm or the 500-year storm), and are annual probability, while sea level rise is the probability of reaching 5-foot rise by that year. The probability listed for sea level rise condition should not be interpreted as an annual probability (there is not a return period for sea level rise). Instead, the sea level rise probability needs to be interpreted as the likelihood of the condition to be reached by that year. Once the sea level rise condition is reached, it becomes permanent (sea level is at that level or worse) and the annual probability of the fluvial flooding continues to be 1% and 0.2% annually for the two events.

Condition/Event	Year				
	2020	2060	2080	2100	2150
100-year Storm <sup>1</sup>	1%	1%	1%	1%	1%
500-year Storm <sup>1</sup>	0.2%	0.2%	0.2%	0.2%	0.2%
5-foot Sea Level Rise <sup>2,3</sup>	0%	~1%	~1%	~2%	>30%

<sup>1</sup> Annual probability

<sup>2</sup> Probability of a level at or above that level over current mean sea level

<sup>3</sup> An additional forecast of sea level rise is available, more extreme, referred to as the H++ scenario. It has been generated under different assumptions and methods that don't allow to establish a probability. Under H++ scenario, the 5-foot sea level rise condition could be reached in Carpinteria as early as 2070.

Although initial results did consider the combined impacts of sea level rise and fluvial flooding along Carpinteria Creek, the final published study did not. No studies currently exist for the area that quantitatively assess the combined risk of sea level rise and fluvial flooding. Vulnerability did include a sea level rise condition combined with a storm (a storm with an annual probability of 1%), but that storm was imposed on the ocean/coast only and not on the precipitation inland.

## Water Quality and Public Health

Many communities are located downstream of other communities in the same water supply chain. Where upstream communities treat wastewater and discharge it to rivers or groundwater basins that later form the source of supply for downstream communities result in de facto reuse. Communities that receive imported water are engaged in such de facto reuse, including the City of Carpinteria. As a result, it is appropriate to compare the water quality of potable reuse supplies to quality of conventional water that is part of the de facto reuse system.

Purified water is highly treated recycled water suitable for delivery to existing groundwater basin or reservoir and later recovery for treatment and human use. In other communities around the State, purified water has been historically been recharged into groundwater basins, which act as an environmental buffer as the advanced treated water travels from the recharge point to recovery wells in other parts of the basin. Various projects around the State are in the process of pursuing both groundwater recharge and reservoir augmentation with purified water. Current regulations require adequate residence time in one of these environmental buffers before the water can be recovered and treated for human consumption. Residence time is the time it takes for the purified water to travel from where it is added to the groundwater basin or reservoir to the point where water is recovered for treatment at a drinking water treatment plant. The SWRCB regulates recycled water production and use, including that of purified water for groundwater recharge and recovery. These regulations are based on protection of public health and the environment. The SWRCB's Division of Drinking Water (DDW) regulates potable reuse activities under Title 22 of the California Code of Regulations (CCR), including groundwater recharge with purified water for later recovery and use, and maintains standards for treatment, testing, overall systems, and monitoring. Under DDW's regulations, specific treatment processes must be followed, as well as water quality standards met.

The Water Research Foundation conducted a review of studies focused on health effects of purified water consumption, which was included in the USEPA's *2017 Potable Reuse Compendium* (USEPA, 2017). The 13 studies covered various timeframes, as far back as 1952 through 2007, and around the U.S. as well as Australia, Namibia, and Singapore. None of the studies found significant negative public health effects from potable reuse, and in some cases, positive health effects were noted when compared to members of the public using conventional drinking water sources. Two studies specifically considered pharmaceuticals and endocrine disrupting compounds, while three studies considered impacts on fetal development. Some of these studies found that there was no statistical difference in the levels of pharmaceuticals and endocrine disrupting compounds compared to conventional drinking water, and those that did identify the presence of such compounds found that additional residence time reduced these compounds. No negative impacts to fetal development were identified in humans who used drinking water that included potable reuse supplies. One study found impacts to fetal development in rats, but not mice, though this study did not include human subjects. (USEPA, 2017). The National Academy of Sciences found "...state-of-the-art water reclamation systems can provide a comparable level of protection from contaminants to that experienced in many drinking water supplies today, assuming that quality assurance strategies ensure the reliability of the treatment processes." (National Academy of Sciences [NAS], 2012).



### 3.11.2 Regulatory Framework – Hydrology and Water Quality

#### Federal

##### *Clean Water Act*

The federal CWA is the primary surface water protection legislation throughout the country. By employing a variety of regulatory and nonregulatory tools, including establishing water quality standards, issuing permits, monitoring discharges, and managing polluted runoff, the CWA aims to restore and maintain the chemical, physical, and biological integrity of surface waters to support “the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water.” The CWA regulates both the pollutant content of point-source discharges, as well as addressing polluted runoff (nonpoint-sources).

The Proposed Project is subject to regulations governing discharge from point sources and “wet-weather point sources,” such as urban storm sewer systems and construction sites, as defined in Sections 1311 to 1330 of the CWA (33 U.S.C. 26, Subchapter III). In conjunction, the Proposed Project may be subject to a number of permit requirements, including NPDES permits, Construction Activities Storm Water permits, and Sections 401 and 404 permit(s).

##### Section 303(d)

The TMDL program is required under provisions of the CWA. A TMDL represents the quantity of pollutants that a water body can receive without resulting in impacts to the designated beneficial uses of that water body. Under the current program, if a water body is designated “impaired” by the U.S. Environmental Protection Agency (USEPA) (as delegated to SWRCB and RWQCBs), then a TMDL must be developed and implemented for the specific pollutant. The “impaired” status implies that the assimilative capacity of a particular water body for a specific pollutant has already been exceeded and any additional increment, however small, constitutes a significant cumulative impact. This program produces a biennial “303(d) List of Water Quality Limited Segments” that identifies impaired waters, pollutant stressors, and priority for developing a TMDL to address the impairment.

##### Section 401

CWA Section 401 requires that state water quality standards be met and that construction, dredging, and disposal activities not cause concentrations of chemicals in the water column that exceed state standards. CWA Section 401 requires a water quality certification from the SWRCB (as delegated to RWQCBs) for issuance of a Section 404 permit. If a Section 404 permit is required for the Proposed Project, then a 401 water quality certification from the Central Coast RWQCB would also be required.

##### Section 402

CWA Section 402 states that discharge of pollutants to “waters of the U.S.” is unlawful unless the discharge is authorized and in compliance with an NPDES permit. The USEPA has granted the State primacy in administering and enforcing the provisions of the CWA and the NPDES Program. The NPDES permit program is the primary federal program that regulates point-source and non-point-source discharges to the waters of the U.S. (see also NPDES Program below).

### **Section 404**

CWA Section 404 regulates the discharge of dredged material, placement of fill material, or excavation within “waters of the U.S.” USACE is given the principal authority to regulate discharges of dredged or fill material, under oversight by the USEPA. “Waters of the U.S.” are defined by the CWA as “rivers, creeks, streams, and lakes extending to their headwaters and any associated wetlands.” Wetlands are defined by the CWA as “areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions.” Under Section 404, USACE is responsible for issuing permits (typically called Section 404 permits) authorizing the placement of dredged or fill materials into jurisdictional waters.

### **Safe Drinking Water Act**

The Safe Drinking Water Act is the main federal law that ensures the quality of drinking water. Under this act, the USEPA sets standards for drinking water quality and oversees the states, localities, and water suppliers who implement those standards. The SWRCB DDW is responsible for the enforcement of the federal and California Safe Drinking Water Acts, and for the regulatory oversight of public water systems.

The State’s Drinking Water Source Assessment and Protection Program requires a Drinking Water Source Assessment to assess the potential for contamination and vulnerability of drinking water supplies. The assessment includes a delineation of the area around a drinking water source through which contaminants might move and reach that drinking water supply, an inventory of possible contaminating activities (PCAs) that might lead to the release of microbiological or chemical contaminants within the delineated area, and a determination of the PCAs to which the drinking water source is most vulnerable.

### **National Flood Insurance Program**

FEMA’s National Flood Insurance Program includes a flood hazard mapping program, in which FEMA identifies flood hazards and assesses flood risks. Under this program, FEMA produces Flood Insurance Rate Maps (FIRMs) which delineates flood risk areas and risk levels. Areas identified as at risk for flooding on the FIRMs are referred to as Special Flood Hazard Areas, which are those areas at risk of the 100-year flood (1% annual chance of flooding). It also delineates areas that are in moderate flood hazard areas, or those areas between a 0.2% annual chance of flooding (500-year flood) and 1.0% chance of flooding (a Special Flood Hazard Area). Special Flood Hazard Areas are further divided into zones, which provide information on the degree of flooding within the risk area, including average depth of flooding.

According the FEMA FIRM for the City of Carpinteria (effective September 2018), the WWTP site is partially located in a 100-year flood area and partially located in a 500-year flood area, while the potential monitoring well site area along Sterling Avenue may be within the 100-year flood area and the 500-year flood area. No other portion of the Proposed Project would be located within a flood hazard area (FEMA, 2018a). See detailed discussion of designated and proposed floodways in Flood Hazards section above.

## State

### ***Porter-Cologne Act***

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

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

The Porter-Cologne Act established nine RWQCBs (based on hydrogeologic barriers) and the SWRCB, who are charged with implementing its provisions, have primary responsibility for protecting water quality in California. The SWRCB provides program guidance and oversight, allocates funds, and reviews RWQCB decisions. In addition, the SWRCB allocates rights to the use of surface water. The RWQCBs have primary responsibility for individual permitting, inspection, and enforcement actions in each of nine hydrologic regions.

### ***State Water Resources Control Board and Regional Water Quality Control Boards***

The SWRCB and RWQCBs are responsible for preserving, enhancing, and restoring “the quality of California’s water resources and ensuring their proper allocation and efficient use for the benefit of present and future generations.” The SWRCB develops statewide regulations governing water use and point-source and nonpoint-source pollutant discharge, while the RWQCBs work in smaller regions throughout the State to implement SWRCB policies and regulations. RWQCBs also establish additional region- and area-specific regulations and policies to achieve water quality goals under the CWA and the Porter-Cologne Act.

### ***California Ocean Plan***

The SWRCB adopted the California Ocean Plan in 2012 and amended it in 2015 (SWRCB 2015). The Ocean Plan provides control for the discharge of waste to ocean waters and ensures the protection of beneficial uses of ocean waters. These beneficial uses include:

- Industrial water supply;
- Water contact and non-contact recreation, including aesthetic enjoyment;
- Navigation;
- Commercial and sport fishing;
- Mariculture;
- Preservation and enhancement of designated areas of special biological significance (asbs);
- Rare and endangered species;
- Marine habitat;
- Fish migration;
- Fish spawning and shellfish harvesting

The Ocean Plan sets forth water quality objectives (WQOs) for protection of marine aquatic life and sets forth objectives for bacterial, physical, chemical, and biological characteristics for ocean waters. Compliance is determined from samples collected within the waste field where initial dilution is completed. In cases where there is conflict between

limitations set forth in the Ocean Plan and those set forth in other federal or state legislation, the more stringent limitations apply.

The 2015 update of the Ocean Plan includes an amendment to address issues associated with desalination facilities (Desalination Amendment). The Desalination Amendment, among other objectives, includes implementation provisions for a statewide narrative receiving water limitation for salinity.

### ***Water Quality Control Plan for the Central Coast Basin***

The Study Area lies in the jurisdiction of the Central Coast RWQCB. This region's Water Quality Control Plan for the Central Coast Basin (Basin Plan; RWQCB, 2017) details the existing and potential beneficial surface and groundwater uses in the region, as well as water quality objectives and implementation measures throughout the basin. Beneficial uses for Carpinteria and Franklin Creeks include:

- Municipal Supply (MUN)
- Agricultural Supply (AGR)
- Groundwater Recharge (GRW)
- Contact Water Recreation (REC1)
- Non-Contact Water Recreation (REC2)
- Wildlife Habitat (WILD)
- Cold Fresh Water Habitat (COLD)
- Warm Species Habitat (WARM)
- Migration of Aquatic Organisms (MIGR)
- Spawning, Reproduction, and/or Early Development (SPWN)
- BIOL (Carpinteria Creek only)
- Rare, Threatened and Endangered Species (RARE)
- Estuarine Habitat (EST; Carpinteria Creek only)
- Freshwater Replenishment (FRSH)
- Commercial and Sport Fishing (COMM)
- 

The Basin Plan includes water quality objectives and implementation measures for water quality parameters, including the following:

#### Ocean Waters

- Dissolved Oxygen
- pH
- Radioactivity

#### Inland Surface Waters, Enclosed Bays, and Estuaries

- Color
- Tastes and Odors
- Floating Material
- Suspended material
- Settleable material
- Oil and grease
- Biostimulatory substances
- Sediment
- Turbidity
- pH
- Dissolved oxygen
- Temperature
- Toxicity
- Pesticides
- Chemical constituents
- Methylene blue activated substances
- Phenols
- PCB's
- Phthalate esters
- Radioactivity

The Basin Plan provides water quality criteria for the various beneficial uses identified in the Basin Plan.

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### ***Post-Construction Stormwater Management Requirements***

The Central Coast RWQCB issued Order R3-2013-0032, Approving Post-Construction Stormwater Management Requirements for Development Projects in the Central Coast Region, in July 2013. This order requires the implementation of low impact development (LID) measures that would manage stormwater runoff after construction of projects that increased or replaced impervious surfaces. The post-construction requirements outlined in this order are the minimum criteria; local jurisdictions may implement more stringent measures.

### ***National Pollutant Discharge Elimination System Program***

Individual NPDES Permits (including Discharge Permits for Publicly Owned Treatment Works)

Since 1973, the USEPA has delegated the NPDES permit program to the State of California, who prepares and issues permits. NPDES permits contain effluent limitations that prescribe the level of pollutants allowed in the discharge. These limits are based on either technology-based limits or water-quality based limits. Technology based limits require that the best available technology is used for the removal of pollutants. Water-quality based limits are those limits that are more stringent than technology-based limits and are applied when necessary to achieve water quality standards as set by a basin plan's beneficial uses and water quality objectives. Publicly owned treatment works are issued individual permits that must be reviewed and reissued every five years. The Proposed Project is subject to the NPDES permits for discharge to the Pacific Ocean from the CSD WWTP (Order R3-2017-0032) and for well backflush (Order R3-2016-0035).

### ***General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities***

In California, the SWRCB administers regulations promulgated by the USEPA (55 CFR 47990) requiring the permitting of stormwater-generated discharges under the NPDES. Dischargers whose projects disturb one or more acres of soil are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) (Order 2009-0009 DWQ amended by 2010-0014-DWQ and 2012-0006-DWQ, NPDES Permit CAS000002). Construction activity subject to this permit includes clearing, grading and disturbances to the ground such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the submittal of a Notice of Intent) and the development and implementation of an SWPPP. The SWPPP should contain a site map that shows the construction site perimeter, existing and proposed buildings, lots, roadways, storm water collection and discharge points, general topography both before and after construction, and drainage patterns across the project. The SWPPP must list Best Management Practices (BMPs) the discharger will use to protect storm water runoff and the placement of those BMPs. Additionally, the SWPPP must contain a visual monitoring program; a chemical monitoring program for non-visible pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment.

### ***Policy for Water Quality Control for Recycled Water (Recycled Water Policy)***

The Recycled Water Policy (SWRCB, 2013) outlines policies for safe use of recycled water, and includes permitting and antidegradation analysis for groundwater recharge projects using recycled water. Under the Recycled Water Policy, projects are permitted on a site-specific basis. Groundwater recharge projects must comply with applicable regulations, including monitoring requirements for priority pollutants. Additionally, project proponents must implement a monitoring program for constituents of emerging concern (CEC) that involves development of a quality assurance project plan for monitoring CECs to ensure the project data are of known, consistent, and documented quality and that the monitoring is consistent with the Recycled Water Policy. The monitoring requirements identify health-based CECs,

performance indicator CECs, and CEC surrogates, as well as monitoring locations and frequency. An antidegradation analysis is also required for groundwater recharge with recycled water, consistent with the Antidegradation Policy (SWRCB, 1968).

### ***California Code of Regulations Water Recycling Criteria (Title 22)***

Title 22 of the CCR, Division 4, Environmental Health, Chapters 1 through 3 outline California's health laws related to recycled water. The intent of these regulations is to ensure protection of public health associated with the use of recycled water. The regulations establish acceptable levels of constituents in recycled water for a range of uses and assurance of reliability in the production of recycled water. The SWRCB has jurisdiction over the distribution of recycled wastewater and the enforcement of Title 22 regulations.

### ***Indirect Potable Reuse: Groundwater Replenishment***

Division 4, Chapter 3 of Title 22 addresses groundwater replenishment with recycled water. Article 5.2, *Indirect Potable Reuse: Groundwater Replenishment – Subsurface Application* (i.e., Sections 60320.200 through 60320.230) address Groundwater Replenishment Reuse Projects (GRRPs) using subsurface application. This section includes stringent general, specific treatment and retention time, and monitoring requirements for GRRPs. For example, the proposed regulations must achieve reduction of pathogenic microorganisms; if such criteria cannot be met even after corrections have been made, then application of recycled municipal wastewater (recycled water) must be discontinued. Upfront studies (e.g., hydrogeologic assessment of the groundwater aquifer that could be potentially impacted by the GRRP, source water evaluation), development of an Operation Optimization Plan, and continuous monitoring are integral parts of GRRP implementation that is necessary to ensure that all requirements specified in Article 5.2 are met. The requirements also build in public health protections such as mandating that the recycled water must be retained underground for a period of time sufficient to allow the project sponsor ample response time to identify treatment failures and implement actions and having an approved plan that describes the alternative source of potable water supply to all users.

### ***Lake and Streambed Alteration Program***

The California Department of Fish and Wildlife (CDFW) administers the Lake and Streambed Alteration Program which requires 1602 Streambed Alteration Agreements for projects that would substantially divert or obstruct the natural flow of a river stream or lake; substantially change or use any material from the bed, channel, or bank of any river, stream or lake, or; deposit or dispose of material into any river, stream, or lake. The resulting Lake and Streambed Alteration Agreement includes measures to protect existing fish and wildlife resources, as appropriate to the activity and waterway. The Franklin Creek crossing is expected to require a Lake and Streambed Alteration Agreement if HDD or jack-and-bore trenchless crossing is used.

## **Local**

### ***NPDES Permit for CSD WWTP***

The Central Coast RWQCB issues NPDES permits to individual agencies for operation of WWTPs. The CSD WWTP, which would supply the AWP with secondary treated water, operates under Permit CA0047364. The NPDES permit provides effluent limitations and receiving water quality to ensure for protection of aquatic life and human health.

Discharges of disinfected, secondary treated municipal wastewater through the ocean outfall must meet the effluent limitations for conventional and non-conventional pollutants in Table 3.11-2 and pollutants toxic to marine life in Table 3.11-3, in addition to a variety of carcinogen and non-carcinogen limitations protective of human health.

<b>Table 3.11-2. Effluent Limitations for Conventional and Non-Conventional Pollutants</b>				
Constituent	Unit	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
pH	Standard units	6.0-9.0 at all times		
Biochemical Oxygen Demand 5-day @ 20°C (BOD5)	mg/L	30	45	90
	lbs/day	630	940	1,900
Total Suspended Solids	mg/L	30	45	90
	lbs/day	630	940	1,900
Oil and Grease	mg/L	25	40	75
	Lbs/day	520	830	1,600
Settleable Solids	mL/L	1.0	1.5	3.0
Turbidity	NTU	75	100	225
Total Coliform	MPN/100 mL	-	23	2,300

Source: Order R3-2017-0032, Permit CA0047364 for CSD WWTP

<b>Table 3.11-3. Effluent Limitations for Protection of Marine Aquatic Life</b>				
Parameter	Units	Effluent Limitation		
		6-Month Median	Maximum Daily	Instantaneous Maximum
Cyanide, Total	µg/L	94	376	940
	lbs/day	2	8	20
Total Chlorine Residual	µg/L	190	750	5600
	lbs/day	3.9	16	120
Phenolic Compounds (non-chlorinated)	µg/L	2,800	11,000	28,000
	lbs/day	59	240	590
Chlorinated Phenolics	µg/L	94	376	940
	lbs/day	2.0	7.8	20
Endosulfan	µg/L	0.85	1.7	2.5
	lbs/day	0.018	0.035	0.053

**Table 3.11-3. Effluent Limitations for Protection of Marine Aquatic Life**

Parameter	Units	Effluent Limitation		
		6-Month Median	Maximum Daily	Instantaneous Maximum
Endrin	µg/L	0.19	0.38	0.56
	lbs/day	0.0039	0.0078	0.012
HCH	µg/L	0.38	0.75	1.1
	lbs/day	0.0078	0.016	0.024
Radioactivity	Not to exceed limits specified in 17 CCR, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30253. Reference to Section 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.			
Chronic Toxicity	TU	-	94	-

Source: Order R3-2017-0032, Permit CA0047364 for the CSD WWTP

**NPDES Permit for Small Municipal Separate Storm Sewer Systems**

SWRCB's Water Quality Order 2013-0001-DWQ (i.e., NPDES General Permit CAS000004) Waste Discharge Requirements (WDRs) for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4s) (General Permit) is the MS4 permit applicable to the City of Carpinteria's stormwater system. Referred to as the Phase II MS4 permit, it applies to small MS4s and regulates discharges from small stormwater systems. Discharges from the MS4 may not cause or threaten to cause pollution or nuisance as defined by Water Code Section 13050, and pollution control measures are required for certain non-stormwater discharges that are discharged through the MS4, including, but not limited to, the following sources that may apply to the Proposed Project: water line flushing, diverted stream flows, rising groundwater, uncontaminated groundwater infiltration, uncontaminated pumped groundwater, discharges from potable water sources, foundation drains, flows from riparian habitats and wetlands, and incidental runoff from landscaped areas. Permits may be required for some of these non-stormwater flows. Effluent limitations included in the MS4 permit include a prohibition on discharge of hazardous substances equal or in excess of a reportable quantity listed in 40 CFR, Part 117 or Part 302. Further, permittees must implement pollution control measures, meet applicable TMDL waste load allocations, and comply with special protections for discharges to Areas of Special Biological Significance. The nearest Area of Special Biological Significance to the Proposed Project is the area around the Santa Barbara Channel Islands, approximately 20 miles offshore from the Proposed Project.

The MS4 permit also requires development of a Post Construction Stormwater Management Program, which includes site design measures, source control measures, LID design standards, among others. For projects that create or replace between 2,500 and 5,000 square feet of impervious surface, one or more of the following site design measures are required: stream setbacks and buffers, soil quality improvements, tree planting and preservation, rooftop and impervious surface area disconnection, porous pavement, green roofs, vegetated swales, and rain barrels and cisterns.

For projects that create or replace 5,000 square feet or more of impervious surface, the MS4 permit requires that projects implement measures for site design, source control, runoff reduction, storm water treatment and baseline hydromodification management. LID must also be implemented. The Central Coast Regional Water Quality Control Board's Order R3-2013-0032 approved post-construction requirements consistent with the MS4 permit. The County of Santa Barbara developed LID standards as part of its Stormwater Technical Guide for Low Impact Development (County of Santa Barbara, 2017), to provide guidance for how small MS4s could comply with these requirements.



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### **Groundwater Management Plan**

CVWD's *Groundwater Management Plan*, adopted in 1996, was developed in response to AB 3030 (AB3030) which provides for management of groundwater basis to protect water quality, maximize water supply, and minimize legal battles over groundwater. The *Groundwater Management Plan* describes the Carpinteria Groundwater Basin, its capacity, groundwater levels, and the status of the basin's quality and use. Although the Plan noted that use of the groundwater basin was increasing, aggressive management of the basin was not found to be necessary at that time. The Plan called for implementation of a monitoring program to track basin status and help identify potential concerns early if detected. The resulting monitoring program produces annual reports.

### **City of Carpinteria Municipal Code**

Chapter 15.50 of the City of Carpinteria's Municipal Code contains floodplain management regulations. Special flood hazard areas are defined as the 100-year flood area or greater, as shown in the FEMA FIRMs (Zone A, AO, AI-A30, AE, A99, AM, VI -V30, VE or V). As such, this applies to portions of the WWTP site partially located in the 100-year flood area and partially located in a 500-year flood area, as well as the potential monitoring well site area along Sterling Avenue (FEMA, 2018a).

- Chapter 15.50.160 – Standards of Construction includes provisions for construction standards for projects located in all special flood hazards areas. It includes standards for anchoring, construction materials and methods, and elevation and floodproofing. Non-residential construction shall be floodproofed below the base flood elevation and have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. Alternatively, fully enclosed areas which are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwater.
- Chapter 15.50.170 – Standards for Utilities requires that all new and replacement water supply and sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the system and discharge from the systems into flood waters.
- Chapter 15.50.200 – Floodways includes provisions related to designated floodways. It prohibits encroachments, including fill, new construction, substantial improvement, and other new development unless certification by a registered professional engineer is provided demonstrating that encroachments shall not result in any increase in the base flood elevation during the occurrence of the base flood discharge, and that all new construction, substantial improvement, and other proposed new development shall comply with all other applicable flood hazard reduction provisions of Chapter 15.50.

Chapter 15.50.160 and 15.50.200 apply to the following proposed AWPf structures: process building, equalization tank, interprocess tank, RO flush tank, and chemical storage tanks. Chapter 15.50.170 applies to all CAPP facilities.

### **City of Carpinteria General Plan/Local Coastal Land Use Plan**

The City of Carpinteria's *General Plan/Local Coastal Land Use Plan* Safety Element includes the following objectives and policies relevant to flood hazards and the Proposed Project:

- Objective S-4: Minimize the potential risks and reduce the loss of life, property and the economic and social dislocations resulting from flooding.
  - Policy S-4a. All new development proposed in the 100-year floodplain must adhere to the County of Santa Barbara Floodplain Management Ordinance, Chapter 15-A of the County Code.
  - Policy S-4b. The development of critical facilities within the 100-year floodplain should be discouraged.

- Policy S-4c. Setbacks from flood control channels, as determined by the Santa Barbara County Flood Control District, will be required to allow access to maintain and enable proper operation of the channels.
- Policy S4-e. The City shall establish setback guidelines for land use planning purposes along natural creek, river, or stream floodplains, and identify and pursue opportunities to eliminate existing concrete channels and/or banking from creeks, rivers, or streams.

The Open Space, Recreation and Conservation Element includes the following objectives and policies relevant to hydrology and water quality:

- Objective OSC-6: Preserve the natural environmental qualities of creekways and protect riparian habitat
  - Policy OSC-6d. Carry out and maintain all permitted construction and grading within stream corridors in such a manner so as to minimize impacts on biological resources and water quality such as increased runoff, creek bank erosion, sedimentation, biochemical degradation, or thermal pollution.
  - Policy OSC-6e. Natural drainage patterns and runoff rates and volumes shall be preserved to the greatest degree feasible by minimizing changes to natural topography, and minimizing the areas of impervious surfaces created by new development.
  - Policy OSC-6f. All development shall be evaluated for potential adverse impacts to water quality and shall consider Site Design, Source Control and Treatment Control BMPs in order to minimize polluted runoff and water quality impacts resulting from the development. In order to maximize the reduction of water quality impacts, BMPs should be incorporated into the project design in the following progression: (1) Site Design BMPs, (2) Source Control BMPs, and (3) Treatment Control BMPs.
- Objective OSC-10. Conserve all water resources, and protect the quality of water
  - Policy OSC-10a. Minimize the erosion and contamination of beaches. Minimize the sedimentation, channelization and contamination of surface water bodies.
  - Policy OSC-10c. Degradation of the water quality of groundwater basins, nearby streams or wetlands, or any other waterbody shall not result from development. Pollutants such as sediments, litter, metals, nutrients, chemicals, fuels or other petroleum hydrocarbons, lubricants, raw sewage, organic matter and other harmful waste shall not be discharged into or alongside any waterbody during or after construction

### ***City of Carpinteria Creeks Preservation Program***

The City's Creeks Preservation Program includes a set of objectives and policies that support creek health and apply in addition to those objectives and policies of the *General Plan/Local Coastal Land Use Plan* and the regulations in the municipal code. Objectives and policies relevant to the Proposed Project in relation to hydrology and water quality include:

- Objective 2 Preserve and restore aquatic, riparian and upland habitats occurring within and adjacent to local creeks, including sensitive communities and species. Sensitive communities and species are defined as those designated as endemic, rare, threatened, endangered, or of concern by the federal, state, and/or local governments.
  - Implementation Measure 2.1.2 A setback of 50 feet from top of the upper bank of creeks or existing edge of riparian vegetation (dripline), whichever is farther, is required for all new development. This setback may be increased to account for site-specific conditions.

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### ***Santa Barbara County Floodplain Management Ordinance***

The County of Santa Barbara's Floodplain Management Ordinance, Chapter 15A of the County Code, includes measures to protect against flood hazards and impacts of flooding to the local economy. Section 15A-16 establishes standards of construction for developing in all areas of special flood hazards. Section 15A-16 includes requirements for anchoring, construction materials and methods to resist and minimize flood damage, minimum elevation requirements and floodproofing measures. Section 15A-17 includes protective measures for utilities and potential impacts associated with flooding. Well Site #6 is the only component of the Proposed Project within unincorporated Santa Barbara County, and is not located within a flood hazard area. Therefore, these requirements are not anticipated to apply to the Proposed Project.

### ***Stormwater Technical Guide for Low Impact Development***

Under the Central Coast RWQCB's MS4 permit for Santa Barbara County (Order R3-2013-0032), post-construction requirements for stormwater runoff are required for projects that create or replace 2,500 square feet or more of impervious area. Santa Barbara County, in conjunction with the cities of Buellton, Carpinteria, Goleta, Guadalupe, Santa Maria, and Solvang, developed the *Stormwater Technical Guide for Low Impact Development*, which was updated in 2017. This document provides a guide for consideration of LID measures to control stormwater runoff when developing a stormwater management plan for new projects that will help with compliance with the MS4 permit (County of Santa Barbara, 2017).

### ***Santa Barbara County Coastal Land Use Plan***

The County's *Coastal Land Use Plan* is part of its *Comprehensive Plan*, and applies to the coastal areas of the County, including the Study Area. The following policies of the *Coastal Land Use Plan* are relevant to the Proposed Project related to hydrology and water quality as evaluated in this section:

- Policy 3-11: All development, including construction, excavation, and grading, except for flood control projects and non-structural agricultural uses, shall be prohibited in the floodway unless off-setting improvements in accordance with HUD regulations are provided. If the proposed development falls within the floodway fringe, development may be permitted, provided creek setback requirements are met and finish floor elevations are above the projected 100-year flood elevation, as specified in the Flood Plain Management Ordinance.
- Policy 3-12: Permitted development shall not cause or contribute to flood hazards or lead to expenditure of public funds for flood control works, i.e., dams, stream channelizations, etc.
- Policy 9-37: The minimum buffer strip for major streams in rural areas, as defined by the land use plan, shall be presumptively 100 feet, and for streams in urban areas, 50 feet. These minimum buffers may be adjusted upward or downward on a case-by-case basis. The buffer shall be established based on an investigation of the following factors and after consultation with the Department of Fish and Game and Regional Water Quality Control Board in order to protect the biological productivity and water quality of streams:
  - 1) soil type and stability of stream corridors;
  - 2) how surface water filters into the ground;
  - 3) slope of the land on either side of the stream; and
  - 4) location of the 100-year flood plain boundary.

Riparian vegetation shall be protected and shall be included in the buffer. Where riparian vegetation has previously been removed, except for channelization, the buffer shall allow for the reestablishment of riparian vegetation to its prior extent to the greatest degree possible.

- Policy 9-38: No structures shall be located within the stream corridor except: public trails, dams for necessary water supply projects, flood control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development; and other development where the primary function is for the improvement of fish and wildlife habitat. Culverts, fences, pipelines, and bridges (when support structures are located outside the critical habitat) may be permitted when no alternative route/location is feasible. All development shall incorporate the best mitigation measures feasible.
- Policy 9-40: All development, including dredging, filling, and grading within stream corridors, shall be limited to activities necessary for the construction of uses specified in Policy 9-38. When such activities require removal of riparian plant species, revegetation with local native plants shall be required except where undesirable for flood control purposes. Minor clearing of vegetation for hiking, biking, and equestrian trails shall be permitted.
- Policy 9-41: All permitted construction and grading within stream corridors shall be carried out in such a manner as to minimize impacts from increased runoff, sedimentation, biochemical degradation, or thermal pollution.

### 3.11.3 Impact Analysis – Hydrology and Water Quality

#### Methodology for Analysis

The potential impacts to hydrology and water quality were evaluated using the CEQA Guidelines, incorporating the changes adopted in December 2018, as well as the City of Carpinteria’s Environmental Review Guidelines.

#### Thresholds of Significance

In accordance with the CEQA Guidelines and the City’s Environmental Review Guidelines, an impact to hydrology and water quality would be significant if the Proposed Project does any of the following:

<b>Would the Proposed Project:</b>	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
3.11-1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.11-2: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.11-3: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i) result in substantial erosion of siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
v) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
v) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Criteria Requiring No Further Evaluation

Criteria listed above that do not apply to actions associated with the Proposed Project are identified below, along with supporting rationale as to why further consideration is unnecessary and a No Impact determination is appropriate.

*3.11-2: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?*

The Proposed Project is intended to supplement natural recharge of the Carpinteria Groundwater Basin with 1.0 MGD (and ultimately 1.2 MGD) of wastewater treated to Title 22 standards for groundwater replenishment. The Proposed Project would have a beneficial effect on the groundwater basin by increasing groundwater levels and helping contribute to local water supply. As such, the Proposed Project is not anticipated to decrease groundwater supplies or interfere substantially with groundwater recharge.

### 3.11.4 Impact Statements and Mitigation Discussions

This section discusses potential impacts to hydrology and water quality that could result in conjunction with the Proposed Project. Mitigation measures are identified where appropriate.

#### Impact 3.11-1: Potential to violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

##### *Surface Water and Stormwater*

As part of CWA Section 402, the USEPA established regulations under the NPDES program to control direct storm water discharges from construction activities disturbing one acre or more of land. In California, the SWRCB administers the NPDES permitting program. The Proposed Project is subject to multiple NPDES permits, for example, one for construction activities (i.e., the State’s Construction General Permit), one for discharge to the Pacific Ocean from the CSD WWTP (Order R3-2017-0032), and one for well backflush (Order R3-2016-0035). The RWQCB would issue Waste Discharge Requirements (WDRs) permit for groundwater replenishment prior to initiation of injection of advanced treated water into the groundwater basin.

Construction of the Proposed Project would require coverage under the SWRCB's NPDES General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit) (Order 2009-0009-DWQ). The Construction General Permit requires preparation and implementation of an SWPPP containing BMPs to control sediment and other construction-related pollutants in stormwater discharges. At the WWTP site, stormwater would be contained onsite and conveyed to the headworks for treatment; there are no stormwater discharges from the WWTP site. CVWD would obtain and comply with necessary permits, including the General Construction Permit, and preparation of a SWPPP would address all components of the Proposed Project (see Section 2.10, *Environmental Commitments*). Compliance with the General Construction Permit and preparation of an SWPPP would be required for all other components of the Proposed Project. BMPs contained in the SWPPP would include but not be limited to general housekeeping practices such as sweeping up of site debris, proper waste disposal procedures, use of tarps on any stockpiles, containment of building materials, and inspection for leaks and spills from construction vehicles. Stormwater discharges from the Proposed Project site during construction are not expected to violate existing water quality standards or waste discharge requirements set by the RWQCB. With implementation of the SWPPP, impacts to the water quality of surface waters are anticipated to be less than significant.

Discharges of treated water from the WWTP are covered under the CSD's NPDES permit for the CSD WWTP (Order R3-2017-0032, Permit CA0047364). Compliance with this permit reduces water quality impacts resulting from discharge of recycled water by setting effluent limitations and discharge specifications for the CSD WWTP and requiring CSD to comply with the Monitoring and Reporting Program, visually inspect the ocean outfall and diffuser structure at least once per year. This permit would be updated to reflect the new CAPP components. Compliance with this permit would ensure surface water impacts from operation of the AWPf would be less than significant.

The post-construction stormwater runoff requirements of the MS4 permit (Order R3-203-0032) would apply to the injection well sites and work completed at the WWTP site, both of which would exceed the impervious surface thresholds that trigger the policy. Stormwater runoff controls are in place at the WWTP, and all stormwater on the WWTP site is captured and routed back to the WWTP headworks for treatment. There is no runoff offsite from the WWTP, and additional LID measures would not be required.

Conveyance pipelines would be primarily constructed within roadway ROWs, which already include stormwater controls. Monitoring wells would each be less than 2,500 square feet of impervious surface and would not trigger this requirement. Due to the distance between sites, individual injection well sites are treated independently for post-construction requirements associated with impervious surfaces, and would be responsible for managing their respective runoff. The Proposed Project may result in more than 2,500 square feet of impervious surface at each injection well site (full disturbed area after construction anticipated up to 6,000 square feet), which would classify them a Tier 2 project under the stormwater management program. Tier 2 projects require runoff be treated with an approved and appropriately sized LID treatment system prior to discharge from the site; that disturbance of natural drainage features be limited; that clearing, grading, and soil compaction be limited; impervious surfaces be minimized; and runoff be minimized by dispersing it to landscape or permeable pavements. A stormwater control plan would be required to secure the appropriate land use permits from the City of Carpinteria and Santa Barbara County. Compliance with the required permits would necessarily include implementation of a stormwater control plan that controls runoff from the Proposed Project in a manner protective of surface water quality, and impacts would be less than significant.

If trenchless crossing of Franklin Creek employs HDD, there is potential for frac-out to occur. Frac-out is the unplanned release of drilling fluids to the surface during HDD. Although drilling fluid is typically bentonite and non-toxic, if frac-out occurs in the creek, it can result in sedimentation in the creek or other water quality impacts. If HDD is used, **Mitigation Measure MM 3.11-1a** would be implemented. This mitigation measure requires development of a Frac-Out Plan that

would include measures to protect aquatic resources and potential special-status plants and wildlife, along with monitoring for frac-out occurrence and appropriate responses to frac-out events to minimize release of drilling fluids into waterways. With these measures in place, potential water quality impacts from frac-out would be less than significant.

### **Groundwater Quality**

The Proposed Project would be issued a WDR for injection of advanced treated wastewater into the Carpinteria Groundwater Basin. The permit would be based on 22 CCR Division 4, Chapter 3, *Water Recycling Criteria*, which establishes regulations for groundwater replenishment reuse projects, and specifically Article 5.2, *Indirect Potable Reuse: Groundwater Replenishment – Subsurface Application*. This regulation requires the Proposed Project to address the following:

- Pathogen control
- Compliance with drinking water standards (primary and secondary maximum contaminant levels)
- Controls of unregulated chemicals (action levels and notification levels)
- Total organic carbon
- Total nitrogen
- Response Retention Time
- Source water, product water, and groundwater monitoring and reporting
- Alternative source of drinking water supply to all users should the regulations be violated

Groundwater model simulations for the Proposed Project were completed in 2019, results of which are presented in Appendix I. This modeling simulated three injection and pumping scenarios to evaluate the potential groundwater mounding effects and modeled the distance tracers would be expected to travel to evaluate the potential minimum aquifer retention times for the Proposed Project. The modeling determined that the Proposed Project would not be feasible in an injection-only scenario. Without increasing pumping to recover a portion or all of the water injected into the groundwater basin by the Proposed Project, groundwater levels would rise above ground level and daylighting and other adverse effects could occur. The Proposed Project is intended to increase the availability of local water supply, and water injected into the groundwater basin would be recovered. As such, the injection-only scenario would not be implemented.

The modeling also evaluated increasing pumping to correspond to the expected volume of water to be injected by the Proposed Project, as well as maximizing pumping to the full capacity of CVWD's two nearest recovery wells. Maximizing pumping from existing recovery wells was considered to be a short-term emergency measure that would occur for only one year. Increasing pumping to align with the volume of water injected would maintain groundwater levels similar to existing baseline levels, and groundwater daylighting would not be expected to occur except in the wettest of years. Simulation of particle tracers considered the distance traveled at each of the three aquifers (Aquifer A, Aquifer B, and Aquifer C) over three months, six months, and one year. Under both scenarios where pumping is increased over existing pumping, particle tracers would not reach either of the two closest groundwater wells in any of the three aquifers within the timeframes evaluated. The modeling concluded that residence time would likely be sufficient to meet the requirements of the SWRCB DDW, which regulates groundwater replenishment and reuse, but recommended a field tracer study be completed to confirm the simulated results.

Title 22 requires an Engineering Report to be approved by the SWRCB DDW that describes compliance with the GRRP regulations. A field tracer study would be required as part of the Title 22 Engineering Report to confirm the simulated

results and ensure compliance with DDW requirements necessary to secure the appropriate permits. Additionally, an Antidegradation Analysis would be completed in support of the Title 22 Engineering Report that evaluates the potential for the Proposed Project to negatively impact ambient groundwater quality. This Antidegradation Analysis would be considered in the permitting process for the Proposed Project. DDW conditional approval and recommendations are included in the WDRs. Receipt of WDRs from the Central Coast RWQCB to operate the Proposed Project in accordance with Title 22 requirements would ensure that the project will not result in water quality impacts to nearby water supply wells. With compliance of applicable permits and water quality regulations, the Proposed Project is not anticipated to violate any water quality standards or waste discharge requirements. Impacts to nearby drinking water wells are anticipated to be less than significant.

### **Marine Water Quality**

The Proposed Project would alter the quality and volume of water discharged through the ocean outfall, releasing a higher concentration of salinity than is currently discharged by the WWTP. A dilution study was completed for the Proposed Project, included here as Appendix J, that evaluated the dilution of brine effluent after discharge from the ocean outfall, as modified by the Proposed Project, under summer and winter conditions and varying flow conditions, compared to that of existing conditions. As demonstrated in Table 3.11-4, the Proposed Project would have a higher dilution ratio than current conditions as a result of a lower overall flow and the duckbill valve modifications at the outfall which change the geometry of the outfall. Changes in the brine discharge would therefore have a less than significant impact to water quality related to salinity of the water column. Potential water quality impacts to habitat quality and species is discussed in Section 3.4, *Biological Resources*.

<b>Table 3.11-4. Dilution Study Results</b>							
<b>Scenario</b>		<b>Effluent discharge flow rate (mgd)</b>	<b>Season</b>	<b>Effluent salinity (ppt)</b>	<b>Effluent temp. (°F)</b>	<b>Average Dilution</b>	<b>Centerline Dilution</b>
<b>Current Diffuser Configuration</b>							
Permitted Conditions	1	2.5	Warm	1.5	78	67	36
	2	2.5	Cool	1.5	69	68	36
<b>Modeled Diffuser Configuration</b>							
Permitted Discharges, Modified Outfall	3	2.5	Warm	1.5	78	74	41
	4	2.5	Cool	1.5	69	75	41
Proposed Project – Normal Operation	5	1.5	Warm	1.5	78	93	50
	6	1.5	Cool	1.5	69	97	51
Proposed Project – 100% AWP Operation Year-Round	7	0.3	Warm	9	78	200	111
	8	0.3	Cool	9	69	220	114

### **Water Quality for Health and Safety**

The City of Carpinteria's Environmental Compliance Guidelines identify a water quality impact as significant if it would result in significant human health and safety impacts through generation of highly noxious substances, generation of



large amounts of substances that are cumulatively hazardous, or result in deterioration of drinking water source quality. Permits required for construction of the Proposed Project would prohibit the generation of noxious substances that could enter surface or groundwaters, or generation of cumulatively significant pollutants that could enter surface or groundwaters.

Construction of the Proposed Project would not adversely affect drinking water source quality because construction activities would not occur near Lake Cachuma, where imported water and Cachuma project water is stored (two of CVWD's drinking water sources), nor would it adversely impact groundwater quality. As demonstrated in the groundwater modeling (Appendix I) and described above, operation of the Proposed Project is not anticipated to negatively impact drinking water wells in the vicinity of the Proposed Project. Implementation of the CAPP would not result in significant human health and safety impacts or deterioration of drinking water source quality.

### ***Purified Recycled Water for Public Health***

Water produced by the Proposed Project would be purified water suitable for groundwater recharge and recovery, and would be subject to applicable water quality standards and permits for such use. The National Academy of Sciences (NAS, 2012) evaluation of the risks of potable reuse found that chemical contaminants in potable reuse projects are unlikely to exceed that of conventional water supplies, and that pathogen risks are more uncertain in potable reuse projects compared to conventional water supplies, but "...do not appear to be any higher, and may be orders of magnitude lower than currently experienced..." in some conventional drinking water systems. It also concluded that "there is no evidence that the current regulatory framework fails to protect public health when planned or de facto reuse occurs..." though it notes that updating the federal Safe Drinking Water Act to address treatment or monitoring requirements for reuse could improve protection of public health (NAS, 2012). DDW's Expert Panel on developing uniform guidelines for direct potable reuse considered antibiotic resistant bacteria (ARB) and antibiotic resistant genes (ARG) in water reuse, and noted that "considering all the available information a combination of secondary wastewater treatment and advanced water treatment processes...leading to a finished potable water is likely to reduce ARB and ARG concentrations in recycled water to levels well below those found in conventional treated drinking water." (SWRCB, 2016). The Proposed Project would employ advanced water treatment processes and current modeling indicates the selected environmental buffer would have a residence time that meets or exceeds what is anticipated to be required by regulatory agencies.

Standards for water produced by the Proposed Project are designed to be protective of human and environmental health; as a result, water produced by the Proposed Project would not be cumulatively hazardous, nor would it result in deterioration of the quality of drinking water sources. Final injection well site selection would be based on a combination of factors, including groundwater movement and residence time, such that residence time would be consistent with requirements from the SWRCB DDW for potable reuse via groundwater recharge. The Proposed Project would therefore have a less than significant impact on public health related to the quality of the product water and injection into the groundwater basin.

### ***Other Water Quality Considerations***

The City's Environmental Compliance Guidelines also consider a water quality impact significant if it would significantly impact biological communities. As demonstrated in Section 3.4, *Biological Resources*, construction activities could result in potential impacts to water quality in Franklin Creek and Carpinteria Creek, and **Mitigation Measures MM 3.4-3a, MM 3.4-3b, and MM 3.4-3c** shall be implemented to minimize disturbances that could result in sediments in the creeks, trash entering waterways, and water quality impacts from runoff and spills/leakage. CVWD would obtain and comply with necessary construction permits, including the General Construction Permit and SWPPP, as described

in Section 2.10, *Environmental Commitments*. Additionally, the presence of existing rumble strips at the WWTP site help to prevent dust from being carried offsite and help avoid potential sedimentation impacts on surface water quality. With implementation of these mitigation measures, construction impacts to water quality for biological communities would be less than significant. Operation of the Proposed Project would have a less than significant impact on biological communities as related to water quality.

### ***Environmental Commitments***

CVWD would obtain and comply with necessary construction permits, including the General Construction Permit and SWPPP, as described in Section 2.10, *Environmental Commitments*.

### ***Significance Determination Before Mitigation***

Potentially Significant.

### ***Mitigation Measures***

**Mitigation Measures MM 3.4-3a, MM 3.4-3b, and MM 3.4-3c** (see Section 3.4, *Biological Resources*) shall be implemented during construction for activities within 50 feet of Franklin Creek and Carpinteria Creek, to minimize potential water quality impacts that could negatively affect biological communities.

**Mitigation Measure MM 3.11-1** shall be implemented prior to and during trenchless crossings.

**MM 3.11-1 Frac-Out Prevention and Contingency Plan.** Prior to constructing a trenchless crossing of Franklin Creek, a *Frac-Out Prevention and Contingency Plan* shall be developed. At minimum the plan shall prescribe the following measures to ensure protection of aquatic resources, special status plants and wildlife:

- Procedures to minimize the potential for a frac-out associated with horizontal directional drilling;
- Procedures for timely detection of frac-outs;
- Procedures for timely response and remediation in the event a frac-out; and
- Monitoring of drilling and frac-out response activities by a qualified biologist

### ***Significance Determination after Mitigation***

Less than Significant.

**Impact 3.11-3: Potential to substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:**

- i) result in substantial erosion or siltation?
- ii) substantially increase the rate or amount of surface runoff in a manner which would result flooding?
- iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?
- iv) Impede or redirect flood flows?
- v) risk release of pollutants due to Project inundation (if in flood hazard, tsunami, or seiche zones)

**vi) conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?**

The Basin Plan includes water quality objectives for groundwater related to taste and odor and radioactivity that affect beneficial uses. The Proposed Project would inject purified water into the groundwater basin. Water produced by the Proposed Project is subject to the water quality standards in its permits and regulated by the SWRCB DDW. It would not include radionuclides in concentrations that are harmful to human, animal, plant or aquatic life, or lead to accumulation of such radionuclides in the food web. The Basin Plan also includes limits on bacteria levels, organic chemicals, inorganic chemicals, and radioactivity for water designated with Municipal Water Supply as a beneficial use. The Basin Plan also includes water quality objectives for water used for agricultural supply. The WWTP's WDR permit would include product water quality requirements consistent with the Basin Plan; compliance with this permit would result in less than significant impact related to conflicts with a water quality control plan.

CVWD's *Groundwater Management Plan*, adopted in 1996, identified the need for ongoing monitoring of the basin and analysis of groundwater levels and water quality. It also noted the continuing need to main the basin as a suitable source of drinking water (CVWD, 1996). Annual reporting found some wells are showing a trend of increasing concentration of TDS and localized increases in nitrate concentrations. Some wells are also showing increase in chlorides. The Proposed Project would inject purified water, which is low in TDS and other constituents into the groundwater basin, and would not exacerbate these potential issues. As such, potential impacts associated with conflicts with a groundwater management plan would be less than significant.

***Erosion/Siltation***

Construction activities associated with the Proposed Project, such as demolition of asphalt, concrete work, and drilling, could introduce additional pollutants and sediment into water runoff and flow into nearby storm drains. Construction activities including concrete work and drilling for injection wells and monitoring wells, as well as excavation activities for wells, pipelines, and the AWPf, may result in loose sediment, which can be picked up by surface water or wind into nearby storm drains and into waterways. In accordance with the State's Construction General Permit, BMPs would be implemented during construction to control sediment and other construction materials from being discharged off-site in stormwater runoff. (see Section 2.10, *Environmental Commitments*), **Mitigation Measure MM 3.4-3c** details construction BMPs that will be implemented to avoid dust, erosion, and siltation impacts to Franklin and Carpinteria creeks during construction. This mitigation measure is described in Section 3.4, *Biological Resources* and would form the basis for a Lake and Streambed Alteration Agreement. Once construction is complete, soil-disturbing activities associated with operation of the Proposed Project would be limited to potential driving or parking on unpaved areas for injection well maintenance. Neither construction nor operation of the Proposed Project would have a substantial impact on erosion or siltation, and impacts would be less than significant.

***Stormwater and Flooding***

The proposed injection well sites and conveyance pipelines are not located within a flood hazard zone. As such, there will be no flood-related impacts associated with those components of the Proposed Project. As described in Impact 3.10-1, above, injection well sites would be designed in compliance with the post-construction stormwater management requirements of the MS4 permit, and would implement LID to minimize stormwater pollution and would not result in flooding. The ocean outfall is underwater and not subject to flood related impacts. As described above, some proposed locations for monitoring wells are located within a flood zone; once constructed, flooding and stormwater would not affect monitoring wells. During flood events, access to monitoring wells in the flood zone may be limited, but this impact would be temporary and not impact long-term ability to access and use the monitoring well. Further, monitoring wells

would only be visited once per month for monitoring, reducing the potential for flooding that impairs ability to access monitoring wells would occur at the same time that access is required. As such, flood and stormwater impacts associated with monitoring wells are less than significant.

Construction of the AWPf could alter the existing drainage pattern of the WWTP site. All runoff from the AWPf would be contained within the WWTP site, which currently captures and conveys stormwater to its headworks for treatment. No runoff occurs from the WWTP site and existing stormwater drainage facilities at the WWTP site would be sufficient to address potential runoff from Proposed Project facilities constructed at the WWTP site. The Proposed Project would not result in the stormwater volumes or pollutant loading in excess of existing WWTP facilities. As such, significant impacts resulting from runoff volumes are not anticipated.

According to the FEMA FIRM for the City of Carpinteria (effective September 2018), the WWTP site is partially located in a 100-year flood area and partially located in a 500-year flood area (FEMA, 2018a). The proposed AWPf facilities are located within the portion of the site designated in the 100-year flood zone (see Figure 3.11-2). However, the 2018 LOMR submitted by the City of Carpinteria changes nearly the entire WWTP site to Regulatory Floodway. CSD has submitted an appeal, to the LOMR based on a Carpinteria Creek No-Rise Determination and Certification (River Focus, 2018) that demonstrates proposed development on the WWTP site would have no impact on the FEMA Regulatory Floodway or base flood elevation. Given the location of the WWTP site within a 100-year flood area, the Proposed Project has the potential to flood during storm events, and regardless of the outcomes of the LOMR appeal, the special flood hazard designation for the WWTP site would apply, requiring the AWPf to comply with the City's municipal code for flood damage protection.

A majority of the AWPf structures, including the process building and chemical storage tanks, could be inundated during a 100-year flood event. City General Plan Policy S-4b discourages development of critical facilities within the 100-year floodplain. However, because the WWTP site currently exists, this policy is considered not applicable to the AWPf construction. City Municipal Code Section 15.50.160 requires floodproofing and/or design of below-grade spaces with entry and exit of flood waters. City Municipal Code Section 15.50.170 requires the design of new water and sewer facilities to minimize infiltration of flood waters into the system and discharge from these systems into flood waters. City Municipal Code Section 15.50.160 prohibits encroachment on flood areas unless design can assure no increase in base flood elevation. AWPf site design measures would consider these Municipal Code requirements in design of flood protection for the new AWPf facilities. The primary flood risk would be related to stormwater that falls directly on the WWTP site, which would be managed through proper design of onsite drainage facilities. The Proposed Project would consider and comply with policies and regulations established in the City's Municipal Code Section 15.50.

### **Sea Level Rise**

Sea level rise may increase risk of flooding, especially during storm events which may impact flood levels along Carpinteria Creek. An analysis of the City's Final City of Carpinteria Coastal Vulnerability and Adaptation Project was completed and included as Appendix H. Of the Proposed Project's aboveground components, only the AWPf and conveyance pipelines adjacent to the WWTP site are located within an area potentially affected by sea level rise in the long-term future. No other components of the Proposed Project were modeled by the City's vulnerability analysis as having potential to be impacted by sea level rise. The WWTP site is critical infrastructure for the City of Carpinteria, and is currently enclosed by CMU block wall, which provides protection from potential flooding from offsite sources of flood risk. The probability of sea level rise of five feet by 2100 is approximately 2%, and represents the degree of sea level rise that would directly affect the WWTP site, absent compounding effects of fluvial flooding. From the temporal perspective, the City's results indicate that the WWTP site is vulnerable to some hazards (specifically the 100-year storm fluvial flooding and 500-year storm fluvial flooding) now and into the future. Results also indicate that vulnerability

driven by sea level rise combined with coastal hazards is not a concern before late in the century (2070 under H++ and later under other hazards). For the lifecycle of the current Proposed Project (estimated to be 30 years for the AWWPF, pump station, and injection wells), and well beyond that through 2100, sea level rise does not represent a significant hazard. The CSD WWTP is relatively well protected by its existing design and exterior berm. Although the CSD's wastewater collection system and pump facilities may need to address seawater intrusion earlier in this century (likely 2080 timeframe), those shall be addressed by CSD separate from the proposed CAPP. Sea level rise impacts on the Proposed Project (WWTP and adjacent pipelines) are considered less than significant.

### ***Water-Related Seismic Hazards***

The portion of the Study Area south of U.S. Highway 101, including the WWTP site, is identified in the City's *General Plan/Local Coastal Land Use Plan* as located within the potential limits of tsunami inundations and is susceptible to the seismic hazard of tsunami (tidal waves; City of Carpinteria, 2003). More recent tsunami mapping by the California Emergency Management Agency, in partnership with University of Southern California and California Geological Survey, shows the only part of the Study Area within a tsunami inundation area is a portion of the WWTP site. The proposed above-ground AWWPF and associated facilities could be vulnerable to these hazards as they could be damaged during such events. If such an event occurs there is potential for chemicals or other pollutants to be released by the AWWPF. The existing flood wall at the WWTP would provide some protection against tsunami, and standard structural and geotechnical engineering practices, such flood protection measures for chemical storage tanks, would be adequate for the proposed AWWPF to reduce the risk of damage from tsunami. Standard structural and geotechnical engineering practices would also provide a degree of protection against debris flow, as described in Section 3.8, *Geology and Soils*. Impacts associated with water-related seismic hazards, such as tsunami inundation, would be less than significant.

### ***Environmental Commitments***

CVWD would obtain and comply with necessary construction permits, including the General Construction Permit and SWPPP, as described in Section 2.10, *Environmental Commitments*.

### ***Significance Determination Before Mitigation***

Less than Significant.

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### 3.12 Land Use and Planning

This section addresses the physical and regulatory settings for the Study Area as related to land use and planning. The impact analysis evaluates the potential adverse impacts of the Proposed Project related to land use and planning that could result from the implementation of the Proposed Project.

#### 3.12.1 Physical Environmental Setting – Land Use and Planning

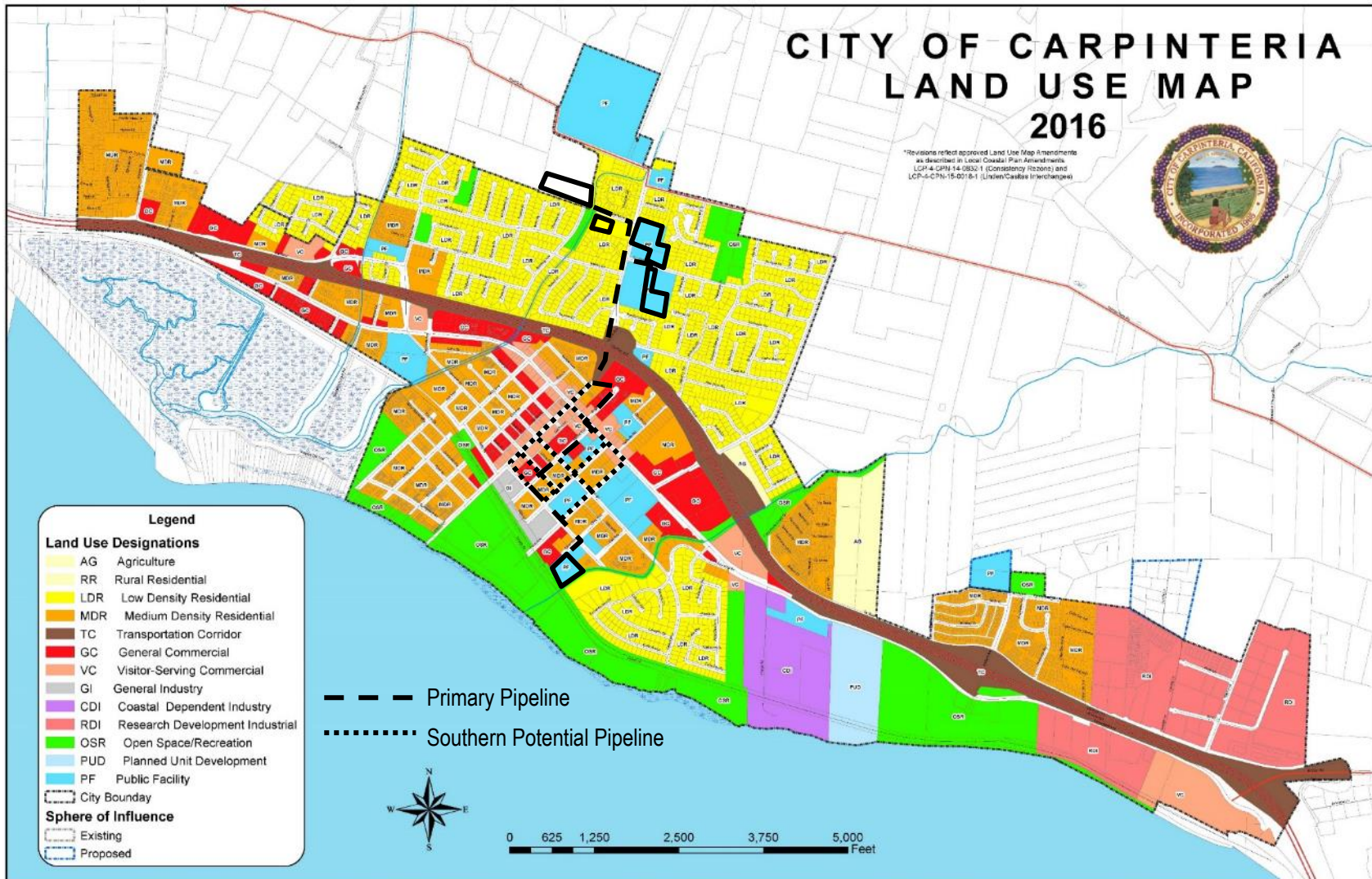
##### Land Use

The Study Area is in an urbanized area of the City of Carpinteria and an agricultural parcel in unincorporated Santa Barbara County. Within the portion of the Study Area in the City, land use north of U.S. Highway 101 is primarily single family residential. Well Sites #1, #2, and #3 are zoned as community facility districts. Well Site #4 is also zoned as single family residential and is currently used by a church. There are recreational lands between El Carro Lane and Highway 192 that are used as parks with baseball fields, lawns, and associated amenities. There are also recreational lands at Aragon Drive and Santa Ynez Avenue used as a neighborhood park. The community facility parcel along Linden south of El Carro Lane includes school and educational facilities, while the community facility along Linden north of El Carro Lane is a church and associated church-owned field (City of Carpinteria, 2016).

South of U.S. Highway 101, the City is a mix of commercial, residential, recreation, and community facilities, with limited utilities and industrial. The central business district is located along Linden Avenue between Carpinteria Avenue and 6th Street, as well as along Carpinteria Avenue between Linden and Holly Avenue. Additional commercial land uses extend along Carpinteria Avenue from east of Carpinteria Creek to the Central Business District at Linden, and from Holly west to Reynolds Avenue. Commercial land uses are also located along Eugenia Place and Maple Avenue between U.S. Highway 101 and 8th Street, and adjacent to the railroad tracks between Elm Avenue and Palm Avenue (City of Carpinteria, 2016). Recreational land uses south of U.S. Highway 101 are primarily located along the coast, including beaches and the Carpinteria Bluffs, located across the rail track from the WWTP (City of Carpinteria, 2016). Community Facilities are present adjacent to the WWTP along 6th Street, at 6th Street and Walnut, 8th Street between Palm and Oak Avenue, and along 8th Street near Carpinteria Avenue. Additional community facilities are located north of Carpinteria Avenue along Vallecito Road (City of Carpinteria, 2016). These community facilities are generally schools, churches, and public buildings. Industrial sites are located at 6th Street and Palm Avenue, and 6th Street and Maple Avenue. The remaining property within the Study Area south of U.S. Highway 101 is generally a mix of single family and multifamily residential (City of Carpinteria, 2016). Figure 3.12-1 shows the City's land uses in the vicinity of the Study Area.

Unincorporated County within the Study Area is primarily zoned agriculture, including Well Site #6 (County of Santa Barbara, 2016)

Figure 3.12-1. Land Use in Study Area





## Planning

The Proposed Project is located in both the City of Carpinteria and in unincorporated Santa Barbara County. The City of Carpinteria falls entirely within the Coastal Zone. As such, it is subject to both the *Santa Barbara County Comprehensive Plan* (County of Santa Barbara, 2010) and the *General Plan/Local Coastal Land Use Plan* for the City (City of Carpinteria, 2003). It is also subject to California Coastal Commission oversight as a result of being within the Coastal Zone.

## Coastal Land Use

The Study Area is located on the coast, with the ocean outfall extending 1,600 feet from the WWTP into the Pacific Ocean. Coastal land uses between the WWTP site and the outfall include Carpinteria State Beach and associated recreational uses. Popular uses of the State Beach include swimming, surf fishing, tidepooling, and camping (California State Parks, 2014).

### 3.12.2 Regulatory Framework – Land Use and Planning

The regulatory setting describes relevant federal, State, and local laws, regulations, plans, and their associated agencies, that have jurisdiction over land use and planning in the Study Area.

## Federal

### ***Coastal Zone Management Act***

The Coastal Zone Management Act was passed by Congress in 1972. It provides for management of coastal resources, and aims to protect, restore, and enhance coastal resources through three programs administered by the National Oceanic and Atmospheric Administration (NOAA) in partnership with coastal States. In California, the Coastal Zone Management Act is administered in partnership with the California Coastal Commission. The National Coastal Zone Management Program balances competing land and water issues. The National Estuarine Research Reserve System protects estuaries for use as field laboratories that improve understanding of estuaries and interactions between estuaries and human activity. The Coastal and Estuarine Land Conservation Program assists with acquisition of coastal property or easements for conservation purposes.

## State

### ***California Coastal Commission***

The California Coastal Commission (Coastal Commission) was established in 1972, and became a permanent body under the California Coastal Act of 1976. The Coastal Commission is responsible for regulating land and water use in the coastal zone. Development in the coastal zone general requires a coastal permit from the Coastal Commission or local government. The Coastal Commission also administers the federal Coastal Zone Management Act through the Coastal Management Program, and has regulatory control over all federal activities and federally licensed activities that affect coastal resources (Coastal Commission, 2019). The Coastal Commission also oversees Local Coastal Programs developed by local agencies.

## Local

### **Local Coastal Program**

LCPs are planning documents that help guide developments in coastal areas and protect coastal resources. They are regulated by the Coastal Commission and required under the California Coastal Act of 1976. The City of Carpinteria incorporated its LCP into the City's *General Plan/Local Coastal Land Use Plan*. Santa Barbara County has a separate LCP (titled *Coastal Land Use Plan*), which takes precedence over its *Comprehensive Plan* where conflicts exist.

### **City of Carpinteria General Plan/Local Coastal Land Use Plan**

The City's *General Plan/Local Coastal Land Use Plan* includes objectives and policies related to land use and planning for the City. The Land Use Element identifies the types and intensities of allowable land use for different parcels in the City. The following land use policies are relevant to the Proposed Project:

- Objective LU-1: Establish the basis for orderly, well planned urban development while protecting coastal resources and providing for greater access and recreational opportunities for the public.
  - Policy LU-1c: Where policies in the Land Use Element overlap, the policy that is most protective of resources (e.g., land, water, air, etc.) shall take precedence.
  - Policy LU-1d. Ensure that the type, location and intensity of land uses planned adjacent to any parcel designated open space/recreation or agriculture are compatible with these public resources and will not be detrimental to the resources.
- Objective LU-2: Protect the natural environment within and surrounding Carpinteria.
  - Policy LU-2b. Regulate all development, including agriculture, to avoid adverse impacts on habitat resources. Standards for habitat protection are established in the Open Space, Recreation and Conservation Element policies.

### **Santa Barbara County Coastal Land Use Plan**

The County's *2014 Coastal Land Use Plan* applies to the coastal zone in the county and is a separate element of the County's *General Plan* (called the *Comprehensive Plan*). Where conflicts exist between the *Coastal Land Use Plan* and other elements of the *Comprehensive Plan*, the *Coastal Land Use Plan* takes precedence. The *Coastal Land Use Plan* is intended to protect coastal resources and public access while still allowing for development in a planned and managed way. In general, the *Coastal Land Use Plan* is consistent with other land use regulations in the region, though there is a stronger emphasis on expanding public access opportunities to beaches, preserving prime agricultural land, and protecting environmental sensitive habitats. Although the *Coastal Land Use Plan* governs land uses in a variety of manners, sections most relevant to the Proposed Project and this Land Use and Planning analysis include Section 3.2, *Development*, which addresses development and land uses generally and Section 3.8, *Agriculture*, which addresses land use and development associated with agricultural parcels.

## **3.12.3 Impact Analysis – Land Use and Planning**

### **Methodology for Analysis**

The potential impacts related to land use and planning were evaluated using the CEQA Guidelines, incorporating the changes adopted in December 2018.

### Thresholds of Significance

In accordance with the CEQA Guidelines, impacts to land use and planning would be significant if the Proposed Project does any of the following:

<b>Would the Proposed Project:</b>	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
3.12-1) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.12-2) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Criteria Requiring No Further Evaluation

Criteria listed above that do not apply to actions associated with the Proposed Project are identified below, along with supporting rationale as to why further consideration is unnecessary and a No Impact determination is appropriate.

*3.12-1: Physically divide an established community?*

The Proposed Project’s facilities include underground pipelines, additional facilities within the footprint of the existing WWTP site, ocean outfall modifications, and injection wells that would be located either underground or on minimally used sections of existing lots. The Proposed Project would not construct roadways, large structures, or other features that would physically divide a community. Therefore, there would be no impact.

#### 3.12.4 Impact Statements and Mitigation Discussions

This section discusses potential impacts to land use and planning that could result in conjunction with the Proposed Project. Mitigation measures are identified where appropriate.

**Impact 3.12-2: Potential to cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?**

Because of the distributed facilities associated with the CAPP, multiple land use plans, policies, and regulations apply. The AWPf and pump station would be located at the existing WWTP site and would be consistent both with the existing zoning (Utility District) and use (wastewater treatment). The City implements a height restriction of 30 feet on structures in areas zoned for utilities, including the WWTP site. The AWPf structure would be 20 feet above grade, while the tallest tank, the equalization tank, would be 27 feet tall, within the City’s height restriction.

Both the City and County require a 50-foot construction setback from creeks for built infrastructure to protect sensitive biological resources including sensitive habitat communities and special status species. The WWTP site is adjacent to Carpinteria Creek, and activities located within 50 feet of the creek may be subject to the setback requirements or may require a Coastal Commission exemption and/or amendment to the City’s LCP. However, all Proposed Project facilities are designed to remain outside of this 50-foot setback, in compliance with City and County policy. The WWTP site is

walled, with an approximately 3-foot tall CMU block wall topped by a chain link fence along the east edge of the property bordering the creek. Because all construction at the WWTP site would be within this developed, enclosed area, at least 50 feet from Carpinteria Creek, the potential for construction at the WWTP site to directly affect the adjacent creek is less than significant.

Because the entire City is within the Coastal Zone, CVWD will be required to obtain a CDP from the City. However, for prior capital projects that received discretionary review by the Coastal Commission and the City of Carpinteria Community Development Department, it was determined that the 50-foot setback was not applicable to the WWTP parcel based on the fact that the entire site was developed prior to establishment of the setback policy. This determination considered the current condition of the site, bounded by a concrete embankment/floodwall and paved in its entirety, and on historical conditions when treatment tanks and infrastructure were located well within 50 feet of the bank. This finding would mean that even if the Proposed Project were within 50 feet of Carpinteria Creek at the WWTP, the setback would not apply. However, as designed, all permanent AWPf facilities constructed under the Proposed Project would be located outside of the 50-foot setback area. This configuration is primarily intended to optimize plant operation. Potential conflicts with the City and County LCP policies on creek setbacks from the AWPf and pump station would therefore be less than significant.

The conveyance and backflush pipelines would be located underground, and generally within the roadway ROWs and in locations designated for public infrastructure. They would therefore be consistent with applicable land use plans, policies, and regulations of agencies with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect. Easements would be acquired as necessary to connect injection wells to pipelines installed in ROWs. Once installed, conveyance and backflush pipelines would not affect aboveground land use, nor would they conflict with applicable land use plans, policies, or regulations. Potential environmental impacts from conflicts with land use plans and policies from pipelines would be less than significant.

The injection wells would be located on a variety of property types. Well Site #1 is a school property, where a well would be located on the edge of a field or playground. CVWD would time construction to reduce interference with community needs (see Section 2.10, *Environmental Commitments*). Construction at and adjacent to Well Site #1 would occur during the summer months, to avoid construction during the school year. Conveyance pipeline construction on Linden near Canalino Elementary School would be scheduled during the school's winter break, in late December and early January. The injection well would be located on the edge of the property, and would use a portion of the property currently used for sports fields by the adjacent school. Once constructed, it would have a footprint of 6,000 square feet and would reduce the field size by that amount. This is a small portion of the property, which has a field that is approximately 2.5 acres. The proposed location of the injection well on this site would be on the far side of the field from the existing baseball diamond and across the field from the existing play area. As such, the injection well would not substantially interfere with existing use of the property.

Three well sites (Well Sites #2, #3, and #4) are on church-owned properties. Wells at these sites would be located in either parking lots or fields owned by and adjacent to churches. Construction of the injection well at Well Site #2 and #3 may require temporary impacts to adjacent fields (within the well site properties) during installation of pipelines between the main lines and the wells themselves. Pipeline trenches may temporarily interfere with use of a portion of a church-owned field at Well Site #3, and a portion of parking lot for Well Sites #3 and #4. CVWD would time construction to reduce interference with community needs (see Section 2.10, *Environmental Commitments*). Coordination with property owners would occur to minimize interference with use of these sites, such as adjusting the construction schedule to occur when use of the sites are less frequent or less intensive. Potential land use impacts of injection well construction would be temporary and less than significant.

Well Site #6 is an agricultural site within the unincorporated County. This site is currently home to greenhouses, and the well would be located in an open area adjacent to existing greenhouses. The wells would either be underground or aboveground within a fenced enclosure. If underground, the wells would not conflict with the existing land uses or policies because they would limit disturbance of existing land uses to primarily during construction. Aboveground wells would have a greater impact on land use due to the larger footprint and greater visibility. However, location of the well within the selected sites would be partially based on reduction of impacts to existing land uses, including avoidance of construction within the 50-foot creek setback for Well Sites #4 and #6, which are adjacent to Franklin Creek. The potential for injection wells to result in significant environmental impacts from conflicts with applicable land use plans and policies would be less than significant.

None of the proposed injection wells would be located within parking lots or other locations within the identified well site properties that would result in permanent or long-term reduction of parking spaces. Although some parking may be temporarily unavailable during construction, the Proposed Project would not result in a violation of the parking requirements for the properties. Injection wells would be designed and constructed in compliance with applicable development standards for the zoning for each identified well site. Construction of injection wells would create temporary noise and transportation impacts that could temporarily interfere with existing land uses, but implementation of **Mitigation Measures MM 3.14-1a, MM 3.14-1b, MM 3.14-1c** (see Section 3.14, *Noise*) and **Mitigation Measure MM 3.18-1** (see Section 3.18, *Transportation*) would reduce these temporary impacts to less than significant, as identified in Sections 3.14 and 3.18, respectively.

Monitoring wells would be located in roadway ROWs in residential zones within the City of Carpinteria, or within parks zoned as recreational. Monitoring wells are limited in size and footprint (maximum 3 feet in diameter) and once installed would not substantially interfere with existing use of these properties due to location and size. Construction of monitoring wells would create temporary noise and transportation impacts that could temporarily interfere with existing land uses, but implementation of **Mitigation Measures MM 3.14-1a, MM 3.14-1b, MM 3.14-1c** (see Section 3.14, *Noise*) and **Mitigation Measure MM 3.18-1** (see Section 3.18, *Transportation*) would reduce these temporary impacts to less than significant, as identified in Sections 3.14 and 3.18, respectively.

Ocean outfall modifications would be undertaken with hand tools and are not expected to create substantial disturbance to the surrounding area or seafloor during construction. Construction activities would include divers and a support boat and would not require beach closures or other restrictions on coastal use during construction. As related to land use and planning, operation of the modified outfall would occur in a manner consistent with existing use. Duckbill valves were specifically selected for the outfall modifications to protect both marine life and the outfall. As discussed in Section 3.11, *Hydrology and Water Quality*, and Section 3.4, *Biological Resources*, the changes in effluent quality and quantity from the Proposed Project would not substantially affect marine life, and would thereby not detract from existing land uses of surf fishing and sea life observation that occurs at Carpinteria State Beach. All work completed on the outfall would be done in compliance with applicable permits and regulations. As such, it is anticipated that any potential impacts on land use from the outfall modifications would be less than significant.

### ***Environmental Commitments***

CVWD would time construction to reduce interference with community needs, as directed in Section 2.10, *Environmental Commitments*.

### ***Significance Determination Before Mitigation***

Potentially Significant.

***Mitigation Measures***

**Mitigation Measures MM 3.14-1a, MM 3.14-1b, and MM 3.14-1c** (see Section 3.14, *Noise*), and **Mitigation Measure MM 3.18-1** (see Section 3.18, *Transportation*) shall apply to construction of injection and monitoring wells that generate noise, vibration, or transportation impacts that substantially interfere with existing residential uses.

***Significance Determination after Mitigation***

Less than Significant.

### 3.13 Mineral Resources

This section presents the physical and regulatory setting for mineral resources within and surrounding the Study Area. The impact analysis evaluates the potential adverse impacts of the Proposed Project related to mineral resources that could result from the implementation of the Proposed Project. The only known mineral resource in the Study Area is oil and gas, whose availability would not be affected by the Proposed Project, and impacts to mineral resources would be less than significant.

#### 3.13.1 Physical Environmental Setting – Mineral Resources

##### Minerals

Mineral resource mapping from the California State Geologist classifies the Study Area as Mineral Resource Zone (MRZ)-3 (DOC, 1989). MRZ-3 designates areas containing mineral deposits whose significance cannot be evaluated from available data. The City's *General Plan/Local Coastal Land Use Plan* states that there are no non-oil mineral resources in significant quantities within the City's planning area (City of Carpinteria, 2003). The County's *Comprehensive Plan* identifies mineral resources within its jurisdiction, excluding offshore oil resources, and does not indicate the presence of mineral resources in the portion of the Study Area in unincorporated Santa Barbara County (County of Santa Barbara, 2010).

##### Oil and Gas

Oil is the only substantial mineral resource known to be present within the City's planning area. Oil extraction activities consist of offshore drilling and extraction platforms, onshore oil storage facilities, a crew boat base, a product transportation terminal, and a natural gas processing plant (City of Carpinteria, 2003). There are ten oil platforms currently off the coast of Carpinteria – Platforms A, B, C, Hillhouse, Habitat, Henry, Hogan, Houchin, Gail, and Grace – which are located between four and ten miles offshore. Of these platforms, only Platforms Grace, Gail, and Habitat pipe extracted resources to facilities within the City of Carpinteria. Platform Grace ceased production in 1998. The Carpinteria Processing Facility is located approximately 0.6 miles east of the WWTP site, along the coast. The facility includes a crude oil storage tank, pipeline shipping pumps, metering skids, a gas compression plant, a natural gas liquids recovery plant, offices, tanks, maintenance shops and various equipment and facilities. The facility produces approximately 3,700 thousand standard cubic feet of gas per day and 4602 barrels of oil per day (City of Carpinteria, 2019). Although mining activities had the highest average salary in the city, it made up less than 1% of jobs in 2015 (City of Carpinteria, 2017b).

#### 3.13.2 Regulatory Framework – Mineral Resources

##### Federal

There are no federal regulations related to mineral resources that apply to the Proposed Project.

##### State

There are no state regulations related to mineral resources that apply to the Proposed Project.

##### Local

*Carpinteria General Plan/Local Coastal Land Use Plan*

The City of Carpinteria’s *General Plan/Local Coastal Land Use Plan* Open Space, Recreation and Conservation Element identifies oil as the only known mineral resource in the City, but notes that onshore oil operations are generally defunct. *General Plan/Local Coastal Land Use Plan* goals and policies associated with oil resources are generally limited to staying informed about oil operations in the area and are not relevant to the Proposed Project.

**County of Santa Barbara Coastal Land Use Plan**

The County’s 2014 *Coastal Land Use Plan* applies to coastal areas of the County, including the Study Area. Policies in the *Coastal Land Use Plan* take precedence over *Comprehensive Plan* policies where conflicts exist. There are no policies in the County’s *Coastal Land Use Plan* related to mineral resources that are relevant to the Proposed Project.

**3.13.3 Impact Analysis**

**Methodology for Analysis**

The potential impacts related to mineral resources were evaluated using the CEQA Guidelines, incorporating the changes adopted in December 2018.

**Thresholds of Significance**

In accordance with the CEQA Guidelines, impacts to mineral resources would be significant if the Proposed Project does any of the following:

<b>Would the Proposed Project:</b>	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
3.13-1: Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.13-2: Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Criteria Requiring No Further Evaluation**

Criteria listed above that do not apply to actions associated with the Proposed Project are identified below, along with supporting rationale as to why further consideration is unnecessary and a No Impact determination is appropriate.

*3.13-2: Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?*

No mineral resource recovery sites have been identified by any local plans within the Study Area, though offshore oil operations exist in the region. Modifications to the ocean outfall, which is located at a depth of 21 to 24 feet below mean sea level, would have no impact on offshore oil drilling activities. The Proposed Project would not result in the loss of availability of known mineral resources that would be of value to the region or the state, or as delineated on a local plan.



### 3.13.4 Impact Statements and Mitigation Discussions

This section discusses potential impacts to mineral resources that could result in conjunction with the Proposed Project. Mitigation measures are identified where appropriate.

#### **Impact 3.13-1: Potential to result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?**

The California DOC designated the Study Area as MRZ-3, indicating that the significance of mineral resources could not be evaluated from available data (DOC, 1989). The majority of proposed pipeline alignments would be constructed within areas where current infrastructure exists, primarily within ROWs. Proposed injection well sites include an educational campus, two church-owned properties, a park, and an agricultural parcel. These sites are located within the City and surrounded by residential neighborhoods and agricultural land uses. Due to their location within developed, urban areas, the proposed well sites are not anticipated to be converted to mineral resource extraction in the foreseeable future. Monitoring wells would be constructed within roadway ROWs or at neighborhood parks. These sites are within residential neighborhoods and therefore unlikely to be developed for mineral resources. The AWPf would be constructed entirely within the existing WWTP site, which is critical infrastructure for the City of Carpinteria. Conversion of this site to mineral resource extraction would require an overhaul of the City's sewer infrastructure, so this site would not be used for mineral resource extraction in the future, and construction of the AWPf on this site would not impact mineral resources. Upgrades to the ocean outfall would alter the existing outfall but would not change its location or size. As such, outfall modifications from the Proposed Project would not change the availability of mineral resources in the Study Area. Because of the Proposed Project's location within an urbanized area and on properties unlikely to be used for mineral resources in the foreseeable future, impacts would be less than significant and no mitigation would be required.

#### ***Significance Determination***

Less than Significant.

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### 3.14 Noise

This section presents a description of the existing ambient noise of the Study Area, provides relevant regulatory information, and evaluates potential impacts of an increase in ambient noise from implementation of the CAPP. The Proposed Project has the potential to result in noise and vibration levels in excess of applicable standards. The mitigation measures identified in this section would reduce potential impacts to levels that are less than significant.

#### 3.14.1 Physical Environmental Setting – Noise

Noise is generally defined as any sound that is loud, unpleasant, unexpected, or undesired. Sound is a vibratory disturbance, or a mechanical energy transmitted in the form of a wave of pressure and displacement in air that the human ear can detect. The level of annoyance that noise causes depends on several factors including magnitude, duration, and the time at which the noise occurs. Sound can be described in terms of loudness (amplitude) and frequency (pitch). The commonly used unit for frequency is cycles per second, called hertz (Hz). The standard unit for measurement of the loudness of sound is decibel (dB). Decibels are based on logarithmic scale. Use of this logarithmic scale reveals that the total sound from two individual 70 dBA sources is 73 dBA, not 140 dBA (i.e., doubling the source strength increases the sound pressure by three dBA) (Caltrans, 2013a).

Because the human ear is not equally sensitive to all sound frequencies, a specific frequency-dependent rating scale was devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear. The basis for compensation is the faintest sound audible to the average ear at the frequency of maximum sensitivity. This dBA scale is used by most authorities to regulate environmental noise (Caltrans, 2013a).

#### Human Perception of Noise

People tend to compare an intruding noise with existing background noise. For most people, the threshold of hearing is close to 10 dBA. Everyday sounds normally range from 30 dB (very quiet) to 100 dB (very loud). With respect to human response to changes in noise levels, a one dBA increase is unnoticeable, a three dBA increase is barely noticeable, a six dBA increase is readily noticeable, and a 10 dBA increase is judged to be twice as loud (Caltrans, 2013a).

#### Noise Assessment Metrics

Several rating scales have been developed for measurement of noise. They are designed to account for the known health effects of noise on people. The most common noise scales when dealing with traffic, community, and environmental noise are defined below:

- Maximum Noise Level or Peak Noise Level (L<sub>max</sub>): The maximum instantaneous noise level during a specified period of time
- Minimum Noise Level (L<sub>min</sub>): The minimum instantaneous noise level during a specified period of time
- Statistical Descriptor, L<sub>X</sub>: The noise level exceeded X% of a specific period of time
- Equivalent Noise Level (L<sub>eq</sub>): the equivalent steady-state noise level in a specified period of time that would contain the same amount of energy as the time-varying noise level during the same period. L<sub>eq</sub> is essentially the average sound level.
- Day-Night Noise Level (L<sub>dn</sub>): a measure of the overall noise experienced during the entire day. The 24-hour L<sub>eq</sub> with a 10 dBA “penalty” for noise events that occur during the noise-sensitive night hours between 10:00 p.m.

and 7:00 a.m. In other words, 10 dBA is “added” to noises that occur in the nighttime hours, and this generates a higher reported noise level when determining compliance with noise standards. The Ldn attempts to account for increased human sensitivity to noise during the quieter period of the day, where home and sleep is the most probable activity;

- Community Noise Equivalent Level (CNEL): the equivalent (or average) sound level during a 24-hour day. The CNEL recognizes that noise occurring at night tends to be more disturbing by adding 4.77 dBA to actual evening (7:00 p.m. to 10:00 p.m.) noise levels and 10 dBA to actual nighttime (10:00 p.m. to 7:00 a.m.) noise levels. CNEL is the predominant rating scale used now in California for land use compatibility assessment.

## Existing Noise Sources and Levels

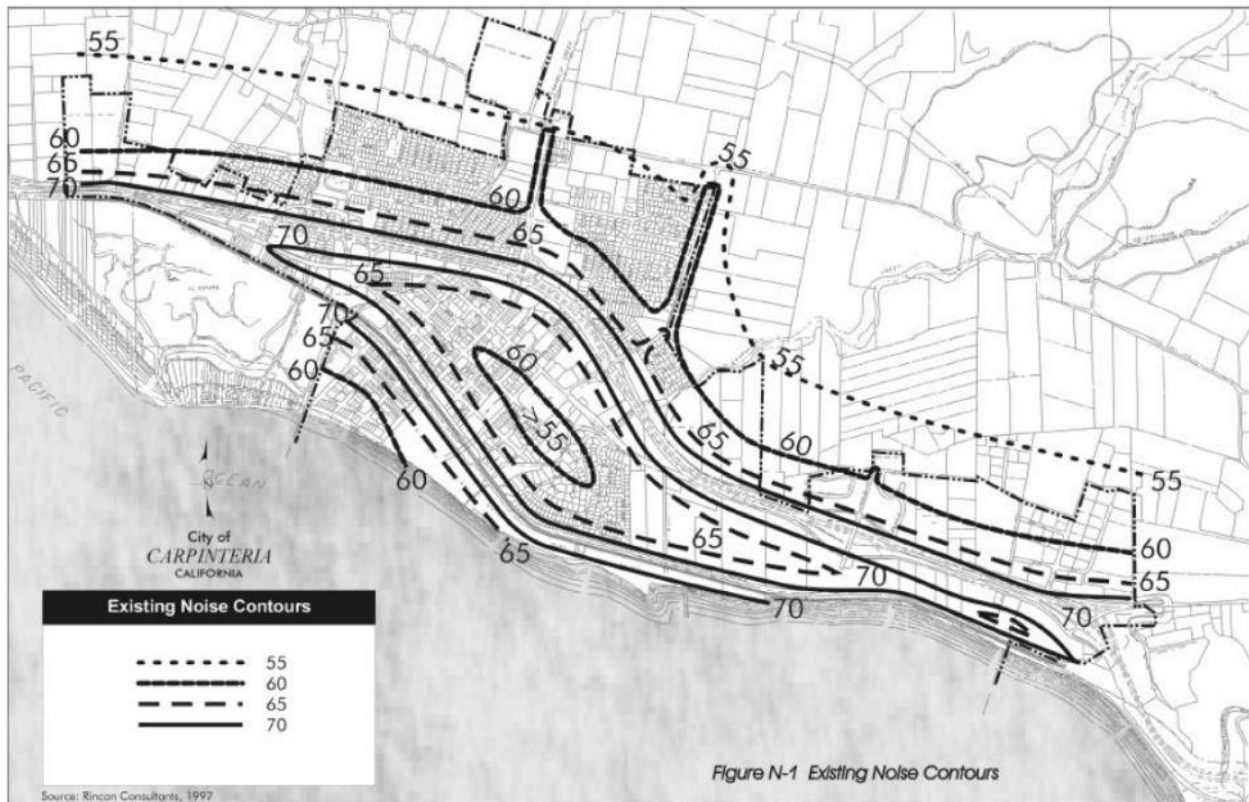
The primary noise sources affecting the Study Area include automobile and rail traffic, agricultural and industrial activity, and periodic nuisance noises, such as those generated by construction activities. U.S. Highway 101 crosses the Study Area north of Carpinteria Avenue. Carpinteria Avenue and Linden Avenue are considered major arterial roadways and generate traffic that contributes to noise within the Study Area. The Union Pacific Railroad generally follows the coastline through the City and is located south of the CSD WWTP site. Per the City’s Noise Element, the Proposed Project is located in areas with existing noise levels of between 55 dB and 70 dB (City of Carpinteria, 2003). As shown in Figure 3.14-1, the U.S. Highway 101 and railroad corridors and immediate surrounding areas are currently impacted by ambient noise levels of 70 dB, which is the highest level considered “conditionally acceptable” by the City for residential uses. Figure 3.14-1 demonstrates that U.S. Highway 101 and the railroad are the primary noise sources within the Study Area. The AWPf is located in a 70 dB area, while Well Sites #1 through #4 are in the 60 dB area (a portion of Well Site #1 is in a 65dB area) and Well Site #6 is in a 55 dB area. Future noise contours for the City of Carpinteria show that generally the Proposed Project’s components will be located in 60 dB up to 70 dB areas.

Other sources of noise include industrial plant operations, heavy equipment, and truck traffic, which can affect residential areas and other sensitive land uses within the Study Area. Natural sources of noise include ocean waves, wind and wildlife (e.g. birds). These sources collectively contribute to the ambient noise environment.

## Sensitive Receptors

Some land uses are considered more sensitive to ambient noise levels than others due to the noise exposure (in terms of duration and insulation from noise) and the types of activities typically involved. Land uses that are typically considered sensitive to noise generally include residences, schools, churches, hospitals, and convalescent care facilities. Consequently, the noise standards for sensitive land uses are more stringent than for those at less sensitive uses. Potential sensitive receptors are distributed throughout the Study Area, and due to the geographic extent of the Proposed Project, construction and operation may occur within 50 feet of multiple sensitive receptors. Educational facilities located within a quarter mile from the Proposed Project are identified in Figure 3.10-1. in Section 3.10, *Hazards and Hazardous Materials*.

**Figure 3.14-1. City of Carpinteria Existing Noise Contours**



### Noise Attenuation (Reduction)

As sound (noise) spreads from the source to the receptor, the attenuation in relation to distance depends on surface characteristics, atmospheric conditions, and the presence of physical barriers. Stationary point sources of noise, including stationary mobile sources such as idling vehicles or construction equipment, attenuate at a rate of 6 to 7.5 dBA per doubling of distance from the source, depending on environmental conditions. Widely distributed noise, such as a large industrial facility spread over many acres or a street with moving vehicles, would typically attenuate at a lower rate, approximately 3 to 4.5 dBA per doubling of distance (Caltrans, 2013a).

The surface characteristics between the source and the receptor may result in additional sound absorption and/or reflection. Atmospheric conditions such as wind speed, temperature, and humidity may affect noise levels. The presence of a barrier between the source and the receptor may attenuate noise levels. The attenuation depends on the size of the barrier and the frequency of the noise. A noise barrier may be any natural or human-made feature such as a hill, tree, building, wall, or berm (Caltrans, 2013a).

### Vibration

Ground vibration consists of rapidly fluctuating motions or waves, measured in decibels. Construction activities, train operations, and street traffic are some of the most common external sources of vibration that can be noticeable inside residences. Different subsurface geologic conditions and distances from the source of vibration will result in different vibration levels with different frequencies and intensities. Vibration amplitudes will decrease with increasing distance from the source. High frequency vibrations attenuate much more rapidly than low frequencies, such that low

frequencies tend to dominate the spectrum at large distances from the source. Discontinuities in the soil strata can also cause diffractions or channeling effects that affect the spread of vibration over long distances.

Human response to vibration is difficult to quantify. Vibration can be felt or heard well below the levels that produce damage to structures. The duration and the frequency of the vibrations effect human response. Generally, as the duration and frequency of vibrations increase, the potential for adverse human response increases. Sensitivity to vibrations at different frequencies varies. In general, the sensitivity to low-frequency vibrations is higher.

Vibrations in buildings may be perceived as motion of building surfaces or rattling of windows, items on shelves, and pictures hanging on walls. Vibration of building components can take the form of an audible low-frequency rumbling noise, which is referred to as ground-borne noise. Ground-borne noise is usually a problem only when the originating vibration is dominated by frequencies in the range of 60 to 200 Hz, or when the structure and the source of vibration are connected by foundations or utilities, such as sewer and water pipes.

To assess a project's vibration impacts, Caltrans has prepared a publication regarding vibration impact assessments. The Transportation and Construction Vibration Guidance Manual (Caltrans, 2013b) uses peak particle velocity (PPV) to quantify vibration amplitude. PPV is the maximum instantaneous peak of the vibratory motion.

### **3.14.2 Regulatory Framework – Noise**

#### **Federal**

##### ***Noise Control Act of 1972***

The federal Noise Control Act of 1972 (Public Law 92-574) directed the USEPA to promote an environment that reduces noise pollution to protect the public health and welfare.

##### ***Federal Transit Administration Vibration Criteria and Guidelines***

The Federal Transit Administration (FTA) has identified vibration criteria/guidelines for ground-borne vibration based on the buildings near roads and transit corridors. Based on the FTA's document Transit Noise and Vibration Impacts Assessments Manual (FTA, 2018), construction-period vibration levels of 0.2 in/sec PPV should be considered as damage threshold for "non-engineered timber and masonry buildings" and 0.12 in/sec PPV for "buildings extremely susceptible to vibration damage." These vibration threshold criteria are stated in PPV which is most applicable to construction related vibration sources (i.e., machinery and equipment).

#### **State**

The California Department of Public Health has established noise guidelines to facilitate land use planning. These guidelines have been incorporated into the City of Carpinteria's Environmental Review Thresholds Manual.

#### **Local**

##### ***City of Carpinteria General Plan/Local Coastal Land Use Plan – Noise Element***

The Noise Element of the City's *General Plan/Local Coastal Land Use Plan* provides goals and polices to address the various noise sources that impact the City, including transportation-related noise sources, industrial and agriculture-related noise sources, and nuisance noise. Acceptable noise levels established in the Noise Element for each land use category are shown in Table 3.14-1. Applicable noise-related objectives and policies are listed below:

- Objective N-3: The City will minimize the adverse effects of traffic generated noise from City streets on residential and other sensitive land uses.
  - Policy N-3a: The City will encourage site planning and traffic control measures that minimize the effects of traffic noise.
- Objective N-4: Minimize the noise spillover from industrial operations into adjacent residential neighborhoods and other sensitive uses.
  - Policy N-4a: The City will require that automobile and truck access to industrial and commercial properties adjacent to residential areas be located at the maximum practical distance from the residential area.
  - Policy N-4b: The City will limit the use of motorized landscaping equipment, parking lot sweepers, or other high-noise equipment on commercial properties if their activity will result in noise that adversely affects residential areas.
  - Policy N-4c: The City will require that the hours of truck deliveries to industrial and commercial properties adjacent to residential uses be limited unless there is no feasible alternative or there are overriding transportation benefits by scheduling deliveries at another hour.
  - Policy N-4d: The City will work with the agricultural industry and County government to address conflicts on a case-by-case basis and develop noise mitigation as practicable.
- Objective N-5: The City will minimize the effects of nuisance noise effects on sensitive land uses.
  - Policy N-5a: The City will address nuisance noise on a case-by-case basis and develop appropriate mitigation measures such as scheduling of events or activities during hours when effects would be minimal.
  - Policy N-5b: The City will require that construction activities adjacent to sensitive noise receptors be limited as necessary to prevent adverse noise impacts.
  - Policy N-5c: The City will require that construction activities employ techniques that minimize the noise impacts on adjacent uses.




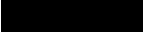
**Table 3.14-1. Acceptable Noise Levels, City of Carpinteria General Plan - Noise Element**

Land Use Category	Community Noise Exposure Ldn or CNEL, dBA					
	55	60	65	70	75	80
Residential: Low-Density Single Family, Duplex, Mobile Homes						
Residential: Multiple Family						
Transient Lodging: Motels, Hotels						
Schools, Library, Churches, Hospitals, Nursing Homes						

**Table 3.14-1. Acceptable Noise Levels, City of Carpinteria General Plan - Noise Element**

Land Use Category	Community Noise Exposure Ldn or CNEL, dBA					
	55	60	65	70	75	80
Auditoriums, Concert Halls, Amphitheaters						
Sports Arena, Outdoor Spectator Sports						
Playgrounds, Neighborhood Parks						
Golf Courses, Riding Stables, Water Recreation, Cemeteries						
Office Buildings, Business, Commercial, and Professional						
Industrial, Manufacturing, Utilities, Agriculture						

**Key:**

 Normally Acceptable	 Normally Unacceptable
 Conditionally Acceptable	 Clearly Unacceptable

**City of Carpinteria Municipal Code**

**Section 12.04.410 – Noise, Dust, and Debris Requirements**

Construction contractors are required to implement measures to reduce noise, dust, and debris when excavating within a street or roadway ROW and construction noise is limited during the hours of 10:00 p.m. to 7:00 a.m. to levels that do not disturb neighbors' sleep.

**Section 15.16.170 – Hours During Which Construction May Occur**

Construction is limited to the hours of 7:00 a.m. to 8:00 p.m. Monday through Friday, 8:00 a.m. to 8:00 p.m. on Saturday, and 10:00 a.m. to 8:00 p.m. on Sunday. After-hours permits may be acquired if determined that it is required and serves the public interest. Under Section 15.16.180(B), the Planning Commission or Director has the right to impose more restrictive hours of construction than those listed in Section 15.16.170 as a condition of approval.



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### ***City of Carpinteria Environmental Review Thresholds Manual***

The City of Carpinteria's Environmental Review Thresholds Manual provides thresholds for the purpose of establishing an equitable and expeditious process of environmental review which maximized environmental protection. The noise threshold determines whether a project may increase substantially the ambient noise levels for adjoining areas, or if the project will be subject to substantial ambient noise levels. Thresholds are based on guidelines provided in the Noise Element of the *General Plan/Local Coastal Land Use Plan*. Two sources of sound impacts are evaluated: short-term construction noise and long-term noise associated with project activities. The effect of ambient noise levels on the project is evaluated on a long-term basis.

#### Noise Thresholds

- a. A proposed development that would generate noise levels in excess of 65 dB CNEL and could affect sensitive receptors would be considered to have a significant impact.
- b. Outdoor living areas of noise sensitive uses that are subject to noise levels in excess of 65 dB CNEL would be considered to be significantly impacted by ambient noise. A significant impact would also occur where interior noise levels cannot be reduced to 45 dB CNEL or less.
- c. A project will have a significant effect of the environment if it will increase substantially the ambient noise levels for adjoining areas.

#### Noise Threshold Criteria

Significant noise impact problems in the City are primarily associated with transportation facilities. Noise in the vicinity of railroads and major traffic ways exceeds health and welfare criteria for noise exposure in relation to residential use. Specifically, citizens are exposed to noise from the U.S. Highway 101, major roadways, the Southern Pacific Railroad line and stationary sources. While noise from commercial, industrial, agricultural, and population activities may be part of the ambient noise at any location, rarely do these generate noise of the same magnitude as transportation sources.

Controlling the impact of transportation noise must be approached by both quieting vehicles and by protecting sensitive land uses in locations where noise impact is excessive. The City's primary opportunities to manage transportation noise impacts lie in:

- a. Planning for compatible uses near existing transportation facilities.
- b. Imposing design standards on proposed sensitive development near existing transportation facilities.
- c. Incorporating noise control features into the design of new or expanded traffic ways to protect existing sensitive areas.

In the planning of land uses, 65 dB Day-Night Average Sound Level is regarded as the maximum exterior noise exposure compatible with noise-sensitive uses (i.e., residential, hospitals, nursing homes, education facilities, churches, etc.) unless mitigation features are included in project designs.

#### Noise from Adjacent Stationary Uses (Noise Generators)

1. A project which would generate noise levels at the property line which exceed the City's Noise Ordinance Standards is considered potentially significant.
2. If non-residential use, such as commercial, industrial, or school use, is proposed adjacent to an existing residential use, the noise level of the non-residential use should not exceed the residential standards of 65 dBA CNEL at the adjoining property line. Although the noise level could be consistent with the City's Noise Ordinance Standards, a

noise level above 65 dBA CNEL at the residential property line could be considered a significant environmental impact.

#### Temporary Construction Noise

Temporary construction noise which exceeds 75 dBA CNEL for 12 hours within a 24-hour period at residences would be considered significant. Additionally, where temporary construction noise would substantially interfere with normal business communication, or affect sensitive receptors, such as day care facilities, hospitals or schools, temporary impacts would be considered significant.

For the Noise level analysis, an increase in noise would be considered significant if any of the following conditions occurred for an extended period of time:

- An increase in noise levels of 10 dB(a) if the existing noise levels are below 55 dBA
- An increase in noise levels that exceeds noise level standards if the existing noise levels are between 55 and 60 dBA, or
- An increase in noise levels of 5 dBA if the existing noise levels are above 60 dBA

Project noise impacts are significant if they raise existing levels from below to above the applicable criterion, or if noise resulting from the project increases the average ambient levels which are already above the applicable criterion by more than 3 dB, or if project-generate noise results in a 5 dB increase and the resulting level remains below the maximum considered normally acceptable.

#### ***Santa Barbara County Code of Ordinances***

##### Section 40-2 – Noises Prohibited

Nighttime noises are restricted between 10:00 p.m. and 7:00 a.m. Sunday through Thursday, and midnight and 7:00 a.m. Friday and Saturday to levels less than 60 dB at the edge of the property line, or those that are not clearly discernable 100 feet from the property line.

### **3.14.3 Impact Analysis – Noise**

#### **Methodology for Analysis**

The potential impacts related to noise and vibration were evaluated using the CEQA Guidelines, incorporating the changes adopted in December 2018. The City's Environmental Review Thresholds for noise, described above, were also used.

Temporary construction noise from various pieces of construction equipment was estimated using the Federal Highway Administration's Roadway Construction Noise Model Version 1.1, 12/08/2008.

#### **Thresholds of Significance**

In accordance with the CEQA Guidelines, an impact resulting from noise or vibration would be significant if the Proposed Project does any of the following:

Would the Proposed Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
3.14-1) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.14-2) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.14-3) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Criteria Requiring No Further Evaluation

Criteria listed above that do not apply to actions associated with the Proposed Project are identified below, along with supporting rationale as to why further consideration is unnecessary and a No Impact determination is appropriate.

#### 3.14-3: Expose people to excessive aircraft noise?

The Proposed Project would not be located near an airport or private airstrips. It would therefore not be constructed within an airport land use plan or within two miles of an airport or airstrip. The nearest airport is Santa Barbara Municipal Airport, located approximately 18 miles northwest of the Proposed Project. As a result, the Proposed Project would not expose people to excessive noise levels associated with an airport or airstrip. There would be no impact.

### 3.14.4 Impact Statements and Mitigation Discussions

This section discusses potential noise impacts that could result in conjunction with the Proposed Project. Mitigation measures are identified where appropriate.

#### Impact 3.14.1: Temporary or permanent increase in ambient noise levels in excess of applicable standards?

##### Short-Term Impacts

Potential short-term noise impacts of the Proposed Project would be related to noises generated by construction activities, and would be temporary, lasting only for the duration of a specific construction activity. Construction noises would also change depending on location of construction activity; for example, noise associated with pipeline construction would be heard at different properties over time as progress is made installing the pipeline and construction activities move through the Study Area. The City's Environmental Guidelines allow for temporary construction-related noises to reach 75 dBA at residences for no more than 12 hours per 24-hour period before the noise would be considered significant. Temporary construction noise that affects certain sensitive uses, including

schools, would also be considered significant. Temporary construction that occurs outside of times authorized under the City and County Municipal Codes would also be considered significant and require a permit.

The Proposed Project involves construction and operation of an AWPf, conveyance and backflush pipelines, injection and monitoring wells, and other related facilities. The Proposed Project could result in short term construction-related noise impacts throughout the Study Area as a result of operating heavy construction equipment, delivery and hauling truck trips, and construction worker activities. Typical noise levels for construction equipment is provided in Table 3.14-2. None of the construction-generated noises would be considered to occur over an extended period of time for a given receptor because construction activities would change over time, and are expected to be limited in duration.

<b>Table 3.14-2. Typical Construction Equipment Noise Levels</b>	
<b>Equipment</b>	<b>Typical Noise Levels (dBA, at 50 feet)</b>
Rotary Drill Rig	85 <sup>1</sup>
Excavators	81
Backhoe	78
Graders	85
Crane	81
Scraper	84
Compactor	83
Dump Truck	76
Front End Loader	79
Water Trucks	84 <sup>2</sup>
Pavers	77
Roller	80
Flat-bed Delivery Trucks	74
Forklifts	75 <sup>2</sup>
Concrete Mixer Truck	79
Jack Hammer	89
Compressors	78
Horizontal Boring Hydraulic Jack	80
Pneumatic Tools	85
Auger Drill Rig	84
Impact Pile Driver	101
Source: Federal Highway Administration, 2006. 1 Noise measurements from well drilling at CVWD's El Carro #2 in 2010.	

Table 3.14-2. Typical Construction Equipment Noise Levels	
Equipment	Typical Noise Levels (dBA, at 50 feet)
2 Water truck noise level was assumed to be comparable to a tractor. Forklift noise level was assumed to be comparable to a man lift.	

The Proposed Project would install conveyance and backflush pipelines adjacent to a variety of land use types, including noise-sensitive land uses such as schools, churches, and residential properties. Well Site #1 is located at a school and Well Sites #2, #3, and #4 are located on church-owned properties. Monitoring wells may be located within residential neighborhoods, a noise-sensitive receptor. Pipeline and well installation near schools would be limited to outside the normal school year (see Section 2.10, *Environmental Commitments*), which would avoid substantial interference with school activities. Pipeline and well installation near schools would therefore be subject to the 75 dBA CNEL threshold for temporary construction noises.

Injection well construction may require the use of rotary drill rigs, graders, scrapers, compactors, water trucks, pavers, rollers, flat-bed trucks, forklifts, and concrete mixer trucks at different times during construction. The loudest of these would be the rotary drill rig and a grader, which can generate noises of 85 dBA at 50 feet. A grader would be used to prepare the site for the well pad, and would be operated during daytime hours, at a distance as close as 25 feet from residences. At this distance, a grader would generate 87 dBA Leq during daytime construction hours. Daytime construction activities would generate noises that temporarily exceed 75 dBA and have the potential to exceed 75 dBA CNEL for 12 hours within a 24-hour period. Further, 24-hour drilling would be needed for injection wells, which would primarily involve the use of a rotary drill rig. Drilling of the injection wells could span up to three weeks of 24-hour construction. A rotary drill rig generates noise of 85 dBA at 50 feet. The nearest residential receptors could be as close as 25 feet away from the rotary drill rig during 24-hour well construction. Depending on how often the rotary drill rig would be operating at full capacity during 24-hour drilling activities, noise at the residential receptors would be in the range of to 84 to 91 dBA Leq, and would exceed the temporary construction noise threshold of 75 dBA CNEL for 12 hours within a 24-hour period. Impacts from well drilling would be potentially significant before mitigation. For sensitive receptors less than 100 feet away, such as residential and church properties adjacent to Well Site #4, noise levels would range from 72 to 79 dBA Leq. Based on noise measurements during construction of CVWD's El Carro Well in 2010, use of 24-foot high sound walls with an STC rating of 25 would result in instantaneous noise levels ranging from the high 60s to a high of 72 dBA. Use of sound walls or sound blankets, along with other mitigation activities described in **Mitigation Measure MM 3.14-1a**, would be required to reduce noise from 24-hour well drilling to 75 dBA CNEL. For sensitive receptors within 100 feet of nighttime drilling, the mitigation measures also include temporary housing to ensure that no residents are exposed to noise levels in excess of 75 dBA CNEL. Section 2.10, *Environmental Commitments* also directs CVWD and CSD to avoid nighttime construction whenever possible, so that construction impacts (other than well drilling) are minimized.

Similar to injection wells, monitoring well construction, which would involve the use of a rotary drill rig, flat-bed trucks, jackhammers, and forklifts, may require 24-hour drilling and may be located within residential roadways or near other residential properties. Jackhammers would generate noise levels of 89 dBA at 50 feet and be used to remove existing paving in the roadway if monitoring wells are constructed within a roadway. Jackhammers would only be used during daytime construction. At a distance of 25 feet to the nearest residences, noise from a jackhammer would be 87.9 dBA Leq, and would be potentially significant before mitigation. Drilling activities that could occur outside of daytime construction hours would generate 85 dBA at 50 feet from the rotary drill rig, and up to 91 dBA Leq at 25 feet from the rotary drill rig, which would exceed the temporary construction noise threshold of 75 dBA CNEL for 12 hours within a

24-hour period. Impacts from well drilling would be potentially significant before mitigation. Use of sound walls and sound blankets, as described in **Mitigation Measure MM 3.14-1a**, would be required to reduce noise to 75 dBA CNEL for 12 hours within a 24-hour period. For sensitive receptors within 100 feet of nighttime drilling, the mitigation measures also include temporary housing to ensure that no residents are exposed to noise levels in excess of 75 dBA CNEL. Section 2.10, *Environmental Commitments* also directs CVWD and CSD to avoid nighttime construction whenever possible, so that construction impacts (other than well drilling) are minimized. Implementation of these mitigation measures would reduce noise impacts from well drilling to less than significant levels.

Some equipment likely to be used during construction of the AWPf and associated facilities at the WWTP site would have short-term noise levels that exceed standards, such as jack hammers or compactors, both of which generate noise levels over 80 dBA at 50 feet. Additionally, pile drivers for deep foundation work for the equalization tank can generate noise levels over 100 dBA at 50 feet. If cast-in-drilled-hole (CIDH) techniques are used for drilled caissons instead of driven piles, noise levels associated with deep foundation work would be less than driven piles, because it would require use of an auger drill rig with a noise level of 84 dBA at 50 feet. Sensitive receptors adjacent to the WWTP site include potential sensitive species along Carpinteria Creek, which runs adjacent to the southeastern property line, residences neighboring the northeastern property line, and the Lou Grant Parent-Child Workshop which is approximately 250 feet from the northeastern property line. The loudest single construction activity at the WWTP site would be the deep foundation work for the equalization tank, which may require an impact pile driver. The equalization tank would be located approximately 120 feet from Carpinteria Creek, and approximately 250 feet from the property line adjacent to residences. Pile driving activities would occur during daytime hours and would generate noise levels of 101 dBA at 50 feet. Noise for pile driving, without mitigation, would be 87 dBA Leq at Carpinteria Creek and 80 dBA Leq at the residences. Although pile driving noise would not be constant during construction, it would be expected to generate noise greater than 75 dBA CNEL over 12 hours within a 24-hour period. Impacts from pile driving (if this construction method is used) would be potentially significant before mitigation. Noise mitigation measures, including sound walls and sound blankets as described in **Mitigation Measure MM 3.14-1a**, would be required to reduce noise to a less than significant level.

CVWD and CSD anticipate using drilled caissons for deep foundation work for the equalization tank (i.e., CIDH techniques), instead of driven piles. If drilled caissons are used, an auger drill rig would be used, which generates noise levels of 84 dBA at 50 feet. The auger drill rig's noise would naturally attenuate to 70 dBA Leq at Carpinteria Creek and 63 dBA Leq at the residential property line. As with pile driving, drilled caissons would not require 24-hour construction. As a result, noise levels would be below the 75 dBA CNEL over 12 hours within a 24-hour period threshold, and not require mitigation. Other construction equipment would be used at the WWTP site for construction of the AWPf and associated facilities. Assuming the auger drill rig is operating simultaneously with a man lift and a front-end loader, CIDH construction activities would generate noise levels of 72 dBA Leq at Carpinteria Creek and 66 dBA Leq at adjacent residential property lines. Therefore, drilled caissons (if this construction method is used) would not be expected to exceed the 75 dBA CNEL threshold established in the City's Environmental Guidelines.

There is potential that CVWD would use trenchless methods for pipeline installation, including the potential crossing of Franklin Creek. The portion of Franklin Creek that would be crossed is adjacent to noise-sensitive receptors, including residential properties and a church. HDD construction would require the use of drilling and pumping equipment that could generate temporary noise levels above 75 dBA, requiring sound attenuation measures such as limiting construction hours, sound walls, and sound blankets, as described in **Mitigation Measure MM 3.14-1a**. If jack-and-bore is used for a trenchless crossing, a horizontal boring hydraulic jack would be required, which would generate noise levels of 80 dBA at 50 feet and 82 dBA Leq at the potentially closest residential receptors at a distance of 25 feet. Due to the location of the potential trenchless crossing near noise-sensitive receptors, it is likely that it would exceed

the construction noise threshold and result in significant noise impacts. However, implementation of **Mitigation Measure MM 3.14-1a** would reduce noise impacts to less than significant levels.

**Mitigation Measure MM 3.14-1a** would ensure that construction-related measures are in place that ensure consistency with the City and County ordinances and policies related to noise. **Mitigation Measure MM 3.14-1a** would also require notification to residents that are located within 500 feet of construction activities, which would alert people located within the Study Area that construction would take place, providing them an opportunity to prepare for a temporary increase in noise, thereby alleviating potential annoyance that could be caused by temporary construction-related noise. With implementation of these mitigation measures, noise impacts related to short term construction activities resulting from the Proposed Project would be considered less than significant.

As discussed in Section 3.5, *Marine Biological Resources*, marine mammals are sensitive to underwater noise; however, project activities propose only limited marine construction inclusive of pneumatic drivers and drills, which are not expected to impact marine species, particularly marine mammals and sea turtles. Although noise impacts to marine species are not anticipated, **Mitigation Measures MM 3.4-1a, MM 3.5-1a and MM 3.5-1b** would reduce any potential impacts, including noise impacts, to marine mammals and sea turtles to less than significant levels by training workers on identification of sensitive species (including marine mammals), requiring avoidance measures for marine mammals and sea turtles, and conducting marine biological surveys prior to construction to identify and where feasible avoid, special status species.

### **Long-Term Impacts**

While construction would create temporary changes in noise levels, noise generated by the Proposed Project during operation has the potential to permanently affect ambient noise levels. The City of Carpinteria's Guidelines for the Implementation of the California Environmental Quality Act (Environmental Review Guidelines), include thresholds for determining level of significance for noise impacts of a project. Generally, noise in excess of 65 dB CNEL for sensitive receptors, noise in excess of 65 dB for outdoor living areas, and 45 dB for interior noise levels is considered significant. Noise impacts are also considered significant if they substantially increase the ambient noise levels for adjacent properties. Traffic noise levels for industrial uses are considered significant if they exceed 75 dBA CNEL.

Operational noise from the Proposed Project would be generated by the pump station, and equipment at the injection wells and AWPf. Injection pumps would be located at the WWTP site in the pump station. The pump station at the WWTP site would be within a building or enclosure, which would reduce ambient noise associated with the pumps, and would be located within the WWTP site, rather than in the immediate vicinity of residences or businesses. If a noise source is completely enclosed and completely shielded with a solid barrier located close to the source, 10 dBA of noise shielding can be assumed. If a building stands between the noise source and the receptor and completely shields the noise source, 15 dBA of noise shielding can be assumed (Federal Highway Administration, 2006). Furthermore, the proposed AWPf facilities would be located more than 100 feet away from noise-sensitive receptors. Sound levels naturally attenuate due to distance. For point sources, such as the proposed pump station, equipment, and injection wells, attenuation with distance is 6 dB per doubling of distance (FTA 2006). As described in Section 2.4, *Purpose and Need for Proposed Project*, the pump station would be completely enclosed within a building. Assuming four pumps operating 50% of the time, noise generated by the pump station at the WWTP site would be 68 dBA Leq at a distance of 100 feet. The existing noise contour of the residences is between 65 and 70 dB (see Figure 3.14-1). In accordance with the City's Environmental Guidelines, noise impacts would be potentially significant if it results in noise levels exceeding 65 dB at residences. However, the pump station would be further shielded from residences by other buildings on the WWTP site, including the AWPf process building and the existing maintenance building (see Figure 2-1). With total shielding of 15 dBA, at a distance of 100 feet, four pumps in a fully enclosed building would

generate a total noise of 63 dBA Leq, below the 65 dBA threshold for residences. Section 2.10, *Environmental Commitments* also directs CVWD and CSD to avoid nighttime activities whenever possible, so that operational impacts (such as truck and maintenance trips) are minimized at night. Therefore, impacts to ambient noise levels would be less than significant.

The Proposed Project's pipelines would be underground and are therefore not anticipated to result in significant noise impacts during operation. The well head facilities would either be underground (monitoring wells), or aboveground (injection wells) within a landscaped, fenced area. The only noise generating activity at the injection well sites would be the backflush pumps. Backflush pumps would operate for approximately one hour once per week at each injection well. These pumps would be 75 hp pumps that operate at 700 gallons per minute, and are expected to generate noise of 84 dBA Leq, at a distance of 25 feet, unbuffered (per Federal Highway Administration Noise Handbook). However, backflush pumps would be submerged within the underground portion of the injection well, above the well screen (150 feet bgs to 225 feet bgs). As such, noise from the backflush pumps would be dampened by both the water in the well and the compacted soils surrounding the well. With complete shielding from the well itself, noise from the pumps is calculated to be a maximum of 69 dBA Leq; however, noise from the pumps is expected to be imperceptible. Ambient noise levels adjacent to the injection well sites are not expected to be substantially increase as a result of project operations. Maintenance activities at the wells may generate temporary noise from truck trips, but such temporary noises would generally occur during daytime hours and be consistent with existing sources of ambient noises. Injection wells are not anticipated to generate a significant permanent increase in ambient noise levels.

As described above, operational noise levels are not anticipated to create a significant noise impact for neighboring properties and sensitive receptors. The location of noise-generating equipment is such that noise will be attenuated by their enclosures and any slight increase in ambient noise levels is less than significant.

### ***Environmental Commitments***

CVWD and CSD would avoid nighttime activities where possible during construction and operation, as directed in Section 2.10, *Environmental Commitments*.

### ***Significance Determination Before Mitigation***

Potentially Significant.

### ***Mitigation Measures***

**Mitigation Measures MM 3.14-1a** shall apply to the Proposed Project construction activities. **Mitigation Measures MM 3.4-1a** (see Section 3.4, *Biological Resources*), **MM 3.5-1a**, and **MM 3.5-1b** (see Section 3.5, *Marine Biological Resources*) shall apply to the Proposed Project activities associated with the ocean outfall improvements.

**MM 3.14-1a. Noise Control Measures to Reduce Construction Noise.** In order to comply with the affected City and County Municipal Codes and noise ordinances, CVWD's and CSD's construction contractors shall implement the following measures:

- **Limit Construction Hours:** Construction hours shall be limited to times authorized under the City and County Municipal Codes and as allowed by applicable permits. For the City of Carpinteria, construction is limited to the hours of 7:00 a.m. to 8:00 p.m. Monday through Friday, 8:00 a.m. to 8:00 p.m. on Saturday, and 10:00 a.m. to 8:00 p.m. on Sunday. After-hours permits may be acquired if determined that it is required and serves the public interest. For the County of Santa Barbara, construction-related noise is restricted between 10:00 p.m. and



7:00 a.m. Sunday through Thursday, and midnight and 7:00 a.m. Friday and Saturday to levels less than 60 dB at the edge of the property line, or those that are not clearly discernable 100 feet from the property line.

- **After-Hours Construction:** If construction outside of the City and County restricted hours is required, CVWD and CSD shall obtain CUP approval for such activities prior to initiation of construction. For each site requiring after-hours construction within 1,000 feet of residential areas, CVWD or its contractor shall install a temporary sound wall barrier around the site of construction activities. The sound wall barrier shall be 24 feet in nominal height with blanketed wall panels having a minimum sound transmission class rating of 25 to mitigate noise levels to less than 75 dBA CNEL at the property line of the receptor. Sound levels shall be continuously monitored throughout construction activities to ensure adequate noise reduction.
- **Equipment Location and Shielding:** CVWD and CSD shall require its contractors to locate stationary noise-generating construction equipment such as air compressors and generators as far as possible from homes and businesses within the City of Carpinteria. At the well sites, the contractor shall install a temporary sound barrier between the construction site and potential sensitive receptors such as residential areas or schools during construction to mitigate elevated noise levels. Sound barriers may include sound blankets or sound walls, or other appropriate features. The final selection of noise barriers will be reviewed and approved by CVWD and the City during the CUP approval process.
- **Temporary Housing during After-Hours Construction:** For residences within 100 feet of nighttime drilling where sound attenuation may be unable to reduce noise levels to 75 dBA at the property line, CVWD may temporarily provide alternative housing (e.g., hotel accommodations) for those residents who request such accommodations and whose properties fall within areas where after-hours construction noises cannot feasibly be mitigated to less than 75 dBA
- **Locate Staging Areas away from Sensitive Receptors:** The contractor shall select construction staging areas as far as feasibly possible from sensitive receptors. Prior to construction, the construction contractor shall identify and receive approval of the construction staging areas from the City of Carpinteria Public Works Department via written approval from a City engineer.
- **Install and Maintain Mufflers on Construction Equipment in Excess of 85 dBA:** Construction equipment that generates noise in excess of 85 dBA at 100 feet shall be fitted with mufflers to reduce noise to less than 85 dBA when measured 100 feet from the equipment. CVWD and CSD shall require the contractor to maintain construction equipment with specified noise-muffling devices to achieve stated performance measures. Noise testing shall be required to demonstrate the equipment has been installed and is properly reducing noise levels.
- **Idling Prohibition and Enforcement:** CVWD and CSD shall prohibit unnecessary idling of internal combustion engines. In practice, this would mean turning off equipment if it would not be used for five or more minutes.
- **Install Measures to Reduce Vibration:** Should pile driving or a vibratory roller be required for Proposed Project construction, the contractor shall conduct vibration monitoring at any residences or buildings located less than 50 feet from construction activities using such equipment. Ground vibration levels at the nearest residential structure to the construction site shall be monitored using vibration sensor(s) or velocity transducer with adequate sensitivity capable of measuring peak particle velocity level in the frequency range of 1 Hz to 100 Hz. If the vibration level due to construction activities exceeds the Proposed Project's criteria of 0.2 inch/second, the contractor shall make modifications/revisions to construction methods for approval by CVWD and CSD. Measures may include features such as use of roller compactor in lieu of vibratory compactors to ensure that the PPV remains at less than the 0.2 inch/second threshold.
- **Pre-Construction Notification:** At least one week prior to construction, written notifications to residents within 500 feet of the Proposed Project shall be sent, identifying the type, duration, and frequency of construction

activities. For sensitive receptors, written notification shall either be hand-delivered or sent via certified mail. Signage shall also be posted at the construction site. Notifications shall also identify a mechanism for residents to complain to CVWD for construction related noise.

- **Schedule Construction on School Property Outside the School Year:** If Well Site #1 is selected for an injection well, construction at Well Site #1 shall be limited to school holidays (summer, winter, or spring break) as appropriate for the required construction timeframe.
- **Appoint a Primary Point of Contact:** CVWD and CSD will appoint a staff member to act as primary point of contact for their respective components of the Proposed Project. This point of contact shall serve as a public information officer to receive comments from the public, as well as provide updated project information as appropriate during the project planning, design, and construction stages.

**Significance Determination after Mitigation**

Less than Significant.

**Impact 3.14.2: Generation of excessive groundborne vibration or groundborne noise?**

Construction activities associated with the Proposed Project would result in temporary groundborne vibration. Groundborne vibrations would be considered significant if they are felt by humans at a level that causes annoyance, or if they occur at levels that could result in damage to structures or utilities. Caltrans' Transportation and Construction Vibration Guidance Manual (September 2013) indicates vibrations at 0.035 PPV and higher are distinctly perceptible by humans, and become disturbing at 0.17 PPV. As demonstrated in Table 3.14-3, at 25 feet, all listed construction equipment, with the exception of the small bulldozer, would be perceptible. Only the vibratory roller and the impact pile driver would potentially be termed "disturbing" at 25 feet. If caisson drilling is used instead of driven piles, only the vibratory roller would be potentially termed "disturbing" at 25 feet.

<b>Equipment</b>	<b>Typical Vibration Source Levels PPV at 25 feet (in/sec)</b>
Vibratory roller	0.210
Large bulldozer	0.089
Caisson drilling	0.089
Loaded trucks	0.076
Jack hammer	0.035
Small bulldozer	0.003
Impact pile driver	0.644
Source: FTA, 2006.	

The vibration impacts of the Proposed Project could be significant during construction, particularly those associated with nighttime drilling. Injection and monitoring well construction may require the use of 24-hour drilling, which potentially would be located near residences or other sensitive receptors. Vibration impacts associated with 24-hour drilling, though temporary, would be potentially significant. Construction of the AWPF and pipelines are unlikely to have sustained vibration impacts; however, if pile driving for the AWPF deep foundation work is used, it may be felt by

adjacent receptors. Vibration attenuates quickly with distance. According to the Federal Transit Administration Transit Noise and Vibration Impact Assessment Manual (FTA 2018), vibration from the impact pile driver would attenuate to 0.0611 PPV at Carpinteria Creek and to 0.020 at the residences 250 feet away, below the level of becoming disturbing, but above the level that would be perceptible to humans.

Implementation of **Mitigation Measure MM 3.14-1a** would ensure that construction-related vibration does not exceed applicable thresholds. Where applicable, the construction contractor would use equipment that does not generate vibration impacts in lieu of equipment known to produce high levels of vibration. Further, **Mitigation Measure MM 3.14-1a** would ensure that adequate noticing takes place to reduce annoyance to nearby sensitive receptors. For sensitive receptors within 100 feet of nighttime drilling, the mitigation measures also include temporary housing to ensure that no residents are exposed to vibration in excess of 0.17 PPV. Section 2.10, *Environmental Commitments* also directs CVWD and CSD to avoid nighttime construction whenever possible, so that construction impacts (other than well drilling) are minimized. With the incorporation of **Mitigation Measure MM 3.14-1a**, construction of the Proposed Project would not expose persons to or generate excessive groundborne vibration or groundborne noise levels. Construction-related impacts would be considered less than significant after mitigation.

Operation of the Proposed Project is not anticipated to result in vibrations that would disturb residents or businesses, as vibrations would only be expected by the pump station and injection well equipment. The pump station would be located on the creek side of the AWPf site, away from other land uses, and wells would either be underground or located sufficiently far from existing structures to minimize potential vibrations felt nearby.

With implementation of **Mitigation Measure MM 3.14-1a**, the Proposed Project would not expose persons to or generate excessive groundborne vibration or groundborne noise levels and impacts would be reduced to a less than significant level.

### ***Environmental Commitments***

CVWD and CSD would avoid nighttime activities where possible during construction and operation, as directed in Section 2.10, *Environmental Commitments*.

### ***Significance Determination Before Mitigation***

Potentially Significant.

### ***Mitigation Measures***

**Mitigation Measures MM 3.14-1a** shall apply to the Proposed Project construction activities.

### ***Significance Determination after Mitigation***

Less than Significant.

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### 3.15 Population and Housing

This section describes the physical and regulatory setting for population and housing. The environmental analysis evaluates the potential impacts of the Proposed Project to population and housing. Impacts to population and housing are anticipated to be less than significant.

#### 3.15.1 Physical Environmental Setting – Population and Housing

The U.S. Census Bureau's American Community Survey (ACS) estimates the City of Carpinteria's population is 13,593, using the most recent 2013-2017 5-Year estimates (ACS, 2019a). ACS data showed the City had a total of 5,961 housing units, of which 5,136 were occupied in 2017. Just under half of these units are single-family detached homes (ACS, 2019b). Projected residential buildout within the City is 6,321 residential units, with the majority of growth in attached single-family homes and multi-family developments of varying size. Per the City's *General Plan/Local Coastal Land Use Plan*, the City is near buildout due to land use constraints. Santa Barbara County Association of Governments (SBCAG) projects the City's population will reach its maximum of 14,700 people by 2045, with five-year population growth slowing to 1% or less by 2030. SBCAG also projects a smaller growth in households for the City of Carpinteria, with households projected to number 5,700 units by 2050 (SBCAG, 2019). CVWD's service area extends beyond the City boundaries. CVWD serves approximately 15,600 people and has 3,566 residential accounts (single-family and multi-family), and its service area population is projected to grow to 16,400 people by 2040 (CVWD, 2016).

The Town Map included in the City's *General Plan/Local Coastal Land Use Plan* shows the Proposed Project would be located within the Downtown/Old Town District south of U.S. Highway 101, and within the Canalino/Santa Monica/El Carro sub-area north of U.S. Highway 101. Conveyance pipelines would also run through the Linden Avenue Corridor and Downtown Core District. South of the highway, land use is a mix of commercial, public facilities, and medium-density residential. North of the highway is generally low-density residential land use, with some public facilities, primarily schools (City of Carpinteria, 2003).

#### 3.15.2 Regulatory Framework – Population and Housing

##### Federal

There are no federal regulations associated with population and housing that are relevant to the Proposed Project.

##### State

There are no state regulations associated with population and housing that are relevant to the Proposed Project.

##### Local

##### ***Regional Housing Needs Allocation***

The State requires communities develop a Regional Housing Needs Allocation (RHNA) Plan to be incorporated into General Plan Housing Elements by cities and counties in the region. Within Santa Barbara County, the RHNA Plan is developed by SBCAG. The RHNA Plan evaluates projected population growth and jobs, affordability of housing, and other factors that affect housing problems to identify housing needs and allocate a share of the region's housing need to jurisdictions within the RHNA Plan. Housing needs are subdivided into household income to help jurisdictions plan for the appropriate number and mix of housing affordable to various income levels. Jurisdictions use the RHNA Plan when updating their General Plan Housing Elements to assure zoning and land is available to accommodate their

projected housing need. The RHNA projections for Carpinteria have been incorporated into the City's *General Plan/Local Coastal Land Use Plan*, and subsequently in CVWD's 2016 UWMP population projections, which form the basis for projected water demands in CVWD's service area.

### ***City of Carpinteria General Plan/Local Coastal Land Use Plan***

The City of Carpinteria's *General Plan/Local Coastal Land Use Plan* Housing Element is updated every eight years and plans for existing and future housing needs in the community in compliance with the RHNA Plan. The 2015-2023 Housing Element includes the following goals and policies relevant to the Proposed Project organized by program category:

Program Category 1: Make Sites Available to Accommodate the RHNA.

- Goal 1: Attain additions to the housing supply that meet the housing needs of all economic segments
- Goal 1: Maintain a jobs-housing balance or ration within the 0.75 to 1.25 range suggested by SBCAG
  - Policy – Adequate Sites: Provide sufficient sites to the General Plan/Coastal Plan and zoning map to meet the housing needs allocated to the City by the RHNA Plan
  - Policy – Public Services and Facilities: Ensure that public services and facilities have the capacity to support the need for the new residential development allocated to the City by the RHNA Plan.

### ***County of Santa Barbara Comprehensive Plan***

The County of Santa Barbara's *Comprehensive Plan* Housing Element includes goals and policies to address housing development and needs. The portion of the County within the Study Area is not zoned for residential use; therefore Housing Element policies are not relevant to the Proposed Project. Although in limited circumstances, the County allows for farmworker or agricultural employee housing in non-residential areas, such as uses of Well Site #6 are unlikely given the existing use of the property for greenhouses. Further, the site is not currently used to house agricultural workers, nor has it housed workers in recent years. However, in limited circumstances, the County does allow for farmworker or agricultural employee housing in non-residential areas, such as Well Site #6.

### ***County of Santa Barbara Coastal Land Use Plan***

The County of Santa Barbara's *Coastal Land Use Plan* includes policies to address housing development in the coastal zone in the County. The portion of the County within the Study Area is not zoned for housing; therefore housing policies in the *Coastal Land Use Plan* are not relevant to the Proposed Project.

## **3.15.3 Impact Analysis – Population and Housing**

### **Methodology for Analysis**

The potential impacts to public services were evaluated using the CEQA Guidelines, incorporating the changes adopted in December 2018.

### **Thresholds of Significance**

In accordance with the CEQA Guidelines, an impact to public services would be significant if the Proposed Project does any of the following:

Would the Proposed Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
3.15-1: Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.15-2: Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Criteria Requiring No Further Evaluation

Criteria listed above that do not apply to actions associated with the Proposed Project are identified below, along with supporting rationale as to why further consideration is unnecessary and a No Impact determination is appropriate.

*3.15-2: Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

The Proposed Project would not require demolition of existing housing, nor create long-term disturbances to residential activities that would lead to the displacement of substantial numbers of people and necessitate construction of replacement housing. It would not affect the availability of sewer or water services to existing residents, and would not indirectly cause long-term displacement as a result of service interruption.

### 3.15.4 Impact Statements and Mitigation Discussions

This section discusses potential impacts to land use that could result in conjunction with the Proposed Project. Mitigation measures are identified where appropriate.

#### Impact 3.15-1: Potential to induce substantial unplanned population growth in an area, either directly or indirectly?

The Proposed Project would create up to 1.2 MGD of new purified water supply that would be recharged into the groundwater basin for later recovery. This water would be used to meet demands in CVWD’s service area, including residential and commercial uses. CVWD’s 2016 UWMP indicates that the City has reached its General Plan build-out population, meaning there is limited opportunity for additional growth within the City. The 2016 UWMP notes that there is potential for the City to add up to 250 more units, though ACS data indicates the City is approximately 360 units away from build-out. CVWD serves a population that extends beyond the city limits and into unincorporated Santa Barbara County. The 2016 UWMP explains that there is projected to be conversion of undeveloped lands in the unincorporated areas to ranchettes or small farm operations. Population served by CVWD is conservatively anticipated to reach 16,400 persons by 2040. In 2015, CVWD delivered 4,143 AF of water to its customers. Total water demands are projected to increase to 4,205 AF by 2040.

CVWD’s primary water supplies are groundwater, imported water through the SWP, and local surface water captured as Lake Cachuma through the Cachuma Project. During drought, CVWD increases its use of groundwater to supplement for shortages in delivers from the SWP and the Cachuma Project. As a result of the 2012-2016 drought,

groundwater met 71% of CVWD's demands in 2015, nearly double the annual average pumping by CVWD. In 2015, the SWP delivered only 22% of CVWD's maximum allocation, while the Cachuma Project delivered 17% of CVWD's maximum allocation. In water year 2016, deliveries from the Cachuma Project dropped to 0 AF. Historically, the Cachuma Project has supplied 52% of CVWD's water, though available water is anticipated to decrease due to sedimentation, water rights, releases for environmental needs, and changing hydrologic conditions. During drought years, SWP supplies are often limited, and CVWD often chooses not to fully utilize its SWP allocation in wet, normal, and dry years (CVWD, 2016).

CVWD's capital improvement program is designed to help move towards creation of a flexible, reliable, and robust water system. The need for projects that support locally controlled supplies was emphasized by the low volumes of water available from the Cachuma Project and the SWP during the 2012-2016 drought, as well as the threat to the conveyance system from Lake Cachuma to CVWD's system posed by local disasters. The South Coast Conduit is the single pipeline that conveys water from Lake Cachuma to water districts along the South Coast, including CVWD. During the January 9, 2018 debris flow event that occurred during an intense downpour on steep slopes burned the month before by the Thomas Fire, there was concern that the South Coast Conduit had been damaged, though inspections in the days after the event found the pipeline had survived undamaged (Montecito Water District, 2018).

As identified in the Project Description, one of the objectives of the Proposed Project is to reduce CVWD's reliance on surface water and storage and Lake Cachuma. The CAPP would increase supply reliability by creating a drought-resistant supply that is less affected by regional or statewide disasters or accidents. There is limited opportunity for development in CVWD's service area due to the City's near-build-out condition and land use designations in the unincorporated portion of CVWD's service area. Additionally, no new housing would be constructed as a result of the Proposed Project. Water created by the Proposed Project would be used to serve existing and planned demands, and offset demands for water stored in Lake Cachuma, consistent with the Proposed Project's objectives. As such, the Proposed Project would not induce substantial unplanned population growth in the area.

### ***Significance Determination***

Less than significant.



### 3.16 Public Services

This section presents the physical and regulatory setting for public services within and surrounding the Proposed Project. The impact analysis evaluates the potential adverse impacts of the Proposed Project related to public services that could result from the implementation. Based on a review of local plans, the Proposed Project would not result in any significant impacts related to public services.

#### 3.16.1 Physical Environmental Setting – Public Services

##### Fire Protection

The Carpinteria-Summerland Fire Protection District provides fire protection services within the Study Area, including the portion of the Proposed Project in the City of Carpinteria and in the unincorporated County. There is one fire station located within the Study Area on Walnut Avenue between Carpinteria Avenue and 8th Street. The Carpinteria-Summerland Fire Protection District also has mutual aid agreements with the Ventura County and Santa Barbara County Fire Departments to provide additional fire protection services, as necessary. Additional assistance can be obtained through various state agencies such as the Governor’s Office of Emergency Services, CalFire, the State Fire Marshall, and the CDFW, and federal agencies including US Forest Service, National Park Service, Bureau of Land Management, and the Department of Defense. The Santa Barbara County Fire Department generally responds to wildland fires, or fires occurring in undeveloped areas commonly covered by heavily vegetation (City of Carpinteria, 2003).

##### Police Services

The Santa Barbara County Sheriff’s Department provides law enforcement services, and the California Department of Highway Patrol provides traffic enforcement services within the Study Area (City of Carpinteria, 2003). The Santa Barbara County Sheriff’s Department’s Coastal Division, which serves Carpinteria, unincorporated Montecito, Summerland, and Carpinteria Valley is housed at the Carpinteria Station, located at 5775 Carpinteria Avenue, approximately 0.65 miles southwest of the Proposed Project. The nearest California Highway Patrol station is located in Goleta, approximately 17 miles north of the Study Area, and its jurisdiction extends from the Ventura County Line, approximately two miles south of the Study Area to Gaviota State Beach, approximately 40 miles north of the Study Area.

##### Schools

Schools, both public and private institutions, at preschool, elementary, middle school, high school, and college levels are located in and around the Study Area. Nine schools are located within a quarter mile of the Proposed Project, and include:

- Canalino Elementary School
- Carpinteria Middle School
- Rincon High School
- Howard Garden School
- Carpinteria High School
- Aliso Elementary School
- Lou Grant Parent-Child Workshop
- Carpinteria Children’s Project
- Carpinteria Kinderkirk

School addresses, distances from the Proposed Project, and nearby project components are provided in Section 3.10, *Hazards and Hazardous Materials*.

## Parks

The City of Carpinteria Parks and Recreation Department is responsible for oversight of the City's Recreation Programs, parks, community pool, and Veteran's Memorial Building. There are several types of recreation-oriented open space within the Study Area, including public parks, natural areas, pedestrian, equestrian, and bicycle trails, and coastal access and beaches. The City's parks and recreation facilities are planned as a network interconnected by a trail system for pedestrians and bicycles. The Carpinteria Community Pool is in the Study Area on the corner of Carpinteria Avenue and Palm Avenue. Parks and recreation facilities located within proximity (0.25 mile) to the Study Area include Tomol Interpretive Play Area, Carpinteria Garden Park, El Carro Park, and Franklin Park. In addition to City parks, the Study Area includes Carpinteria State Beach, which is located along the Pacific Ocean shoreline across the railroad tracks from the WWTP site.

### 3.16.2 Regulatory Framework – Public Services

#### Federal

##### *Uniform Crime Reporting Program*

The Federal Bureau of Investigation currently collects information on over 14,500 law enforcement agencies across the nation through the Uniform Crime Reporting (UCR) Program. The UCR Program defines law enforcement officers as individuals who ordinarily carry a firearm and a badge, have full arrest powers, and are paid from governmental funds set aside specifically for sworn law enforcement representatives. While the UCR Program records number of law enforcement officers per 1,000 inhabitants, there are currently neither national requirements nor recommendations for staffing level ratios. The national average of sworn officers per 1,000 inhabitants was 2.4 in 2011, with the highest in cities with fewer than 10,000 residents.

#### 3.16.3 State

##### *California Penal Code*

All law enforcement agencies within the State of California are organized and operated in accordance with the applicable provisions of the California Penal Code. This code sets forth the authority, rules of conduct, and training for peace officers. Under State law, all sworn municipal and county officers are State Peace Officers.

##### *California Department of Forestry and Fire Protection: State Responsibility Areas*

Non-federal areas identified as having a fire hazard are referred to as State Responsibility Areas (SRAs) because the State has the primary financial responsibility of preventing and suppressing fires. The agency responsible for suppressing fires in SRAs is CalFire. Local fire agencies are responsible for suppressing fires in private property within City limits. Legislative mandates passed in 1981 (SB 81) and 1982 (SB 1916) that became effective on July 1, 1986, required the CalFire to develop and implement a system to rank the fire hazards in California. Areas were rated as moderate, high or very high based primarily on fuel types. Thirteen different fuel types were considered using the 7.5-minute quadrangle maps by the US Geological Survey as base maps. SRAs include all lands regardless of ownership, except for cities and federal lands. The Study Area is primarily within the City of Carpinteria, and no part of the Study Area is included in the CalFire SRA maps. Immediately north of Highway 192, outside the Study Area, is rated moderate.

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### ***The Bates Bill, AB 337***

The Bates Bill (adopted September 29, 1992) was a direct result of the great loss of lives and homes in the Oakland Hills “Tunnel Fire” of 1991. The Bates Bill Process is used to identify VHFHSZs in LRAs. Government Code Section 51178 specifies that the Director of CalFire, in cooperation with local fire authorities, shall identify areas that are VHFHSZs in LRAs, based on consistent statewide criteria and the expected severity of fire hazard. The LRA map for the Study Area shows that it is in a non-VHFHSZ.

Although the State has financial responsibility for SRAs, it is not the State’s responsibility to provide fire protection services to any building or structure located within a wildland area, unless CalFire has entered into a cooperative agreement with a local agency for those purposes pursuant to PRC Section 4142. Under AB 3819, passed in 1994 (AB 3819), “Class A” roofing, minimum clearances of 30 feet around structures, and other fire defense improvements are required in VHFHSZs.

Government Code Section 51178 states that a local agency may, at its discretion, exclude from the requirements of Section 51182 an area identified as a VHFHSZ by CalFire. Conversely, local agencies may include areas not identified as a VHFHSZ by CalFire, following a finding that the requirements of Section 51182 are necessary for effective fire protection.

PRC Section 4290 requires minimum statewide fire safety standards pertaining to road standards for fire equipment access; standards for signs identifying streets, roads, and buildings; minimum private water supply reserves for emergency fire use; and fuel breaks and greenbelts.

### **Local**

#### ***City of Carpinteria General Plan/Local Coastal Land Use Plan***

The Public Facilities and Services Element of the *General Plan/Local Coastal Land Use Plan* includes goals, objectives, and policies related to providing essential public services, implementing regulations in the interest of the public health and safety, and providing for the general welfare of the community. Objectives and policies specifically related to the Proposed Project include:

- Objective PF-1: To ensure the provision of adequate water supplies by minimizing consumption and investigating new sources either in existing supply or outside existing sources
  - Policy PF-1a. The City shall encourage reclamation and groundwater recharge programs (projects) where appropriate

#### ***Santa Barbara County Office of Emergency Management and Emergency Management Plan***

The Santa Barbara County Office of Emergency Management (SBCOEM) is responsible for planning and coordination of the Santa Barbara Operational Area, which includes the cities of Buellton, Carpinteria, Goleta, Guadalupe, Lompoc, Santa Barbara, Santa Maria, and Solvang. The SBCOEM acts as a liaison between these cities, special districts including the SBCAPCD, fire districts, sanitary districts, school districts, vector control districts, and water districts, and volunteer organizations such as the American Red Cross. The SBCOEM also coordinates with adjoining offices of emergency services in Ventura and San Luis Obispo counties through several annual meetings.

The Santa Barbara County Emergency Management Plan was developed for use by the County and the cities within the Santa Barbara Operational Area (County of Santa Barbara, 2013). The Emergency Management Plan addresses

the planned response to extraordinary emergency situations associated with natural disasters, technological incidents, and national security emergencies.

### 3.16.4 Impact Analysis – Public Services

#### Methodology for Analysis

The potential impacts to public services were evaluated using the CEQA Guidelines, incorporating the changes adopted in December 2018.

#### Thresholds of Significance

In accordance with the CEQA Guidelines, an impact to public services would be significant if the Proposed Project does any of the following:

#### Would the Proposed Project:

	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
3.16-1: Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Schools?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Parks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### 3.16.5 Impact Statements and Mitigation Discussions

This section discusses potential impacts to public services that could result in conjunction with the Proposed Project. Mitigation measures are identified where appropriate.

**Impact 3.16-1: Potential to result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services: fire protection, police protection, schools, parks, other public facilities?**

The Proposed Project facilities would be located throughout the Study Area and would include pipelines, pump stations, monitoring and injection wells, and construction of an AWP. The Proposed Project would serve existing and planned demands and would not include residential or commercial development that would directly induce population growth

or change existing demand for public services (e.g., fire and police protection, schools, parks) (see Section 3.15, *Population and Housing*). The operation and maintenance requirements for the Proposed Project would be minimal, and therefore would not substantially increase the need for new staff from any of public protection services entities (e.g., police and fire). Because implementation of the Proposed Project would not change the demand for any of the public services, it would not require additional equipment or resources for those public service providers.

Several of the injection and monitoring wells and backflush storage tank may be located on school property or other public or semi-public sites, while one or more monitoring wells may also be located on public park sites, as shown in Figure 2-6. El Carro Park and Carpinteria Valley Memorial Park are potential monitoring well sites. Potential injection Well Site #1 would be located Canalino Elementary School's field area. Each injection well, including backwash water holding tank, is anticipated to have an operational footprint of 6,000 square feet (60 feet by 100 feet). Thus, there is a potential to reduce the available useable space at these sites. The locations of the wells have not yet been selected within the available sites, and impacts to these public or semi-public facilities would be considered in the selection of the location within the sites to reduce the potential impacts to the useable space of these public facilities to the extent feasible. Injection wells, one of which would be constructed with an aboveground storage tank, would be secured with fencing and visually screened as described in **Mitigation Measure MM 3.3-1** (see Section 3.1.1, *Physical Environmental Setting – Aesthetics*) to reduce potential impacts to the aesthetic character of the well site.

During construction, accidents could occur in the work area requiring emergency response. However, accidents resulting in the need for emergency response would not be expected to significantly increase response times as such incidents would likely occur as a single incidence which could be handled by current emergency response services.

The Proposed Project could result in delayed response times for emergency services such as police and fire protection services due to construction-related traffic delays and/or detours as discussed in Section 3.18, *Transportation*. **Mitigation Measure MM 3.18-1**, which requires a Transportation Management Plan that considers the needs of emergency services and potential impacts to response times, would reduce this potential impact to less than significant levels. The Proposed Project is not anticipated to result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, require new or physically alter government facilities, or cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives. Impacts related to public services would be less than significant.

#### ***Significance Determination before Mitigation***

Potentially Significant.

#### ***Mitigation Measures***

**Mitigation Measure MM 3.3-1** (see Section 3.1.1, *Physical Environmental Setting – Aesthetics*) shall apply to the injection well sites. **Mitigation Measure MM 3.18-1** (see Section 3.18, *Transportation*) shall apply to all Project components.

#### ***Significance Determination After Mitigation***

Less than Significant.

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### 3.17 Recreation

This section provides a summary of the recreation environment in the Study Area and evaluates the potential impacts of the Proposed Project related to recreation. The Proposed Project would not result in impacts related to substantial physical deterioration of or the need to construct or expand recreation facilities.

#### Physical Environmental Setting – Recreation

There are a number of parks and recreation areas located in the vicinity of the Proposed Project. The City of Carpinteria's Parks and Recreation Department is responsible for eleven parks within the City's boundaries. Of these parks, nine are located within 0.5-mile of the Proposed Project (City of Carpinteria, 2003; City of Carpinteria, 2018):

- Carpinteria Creek Park: approximately 1 acre, located adjacent to both Carpinteria Creek Park and a bike path. This park is approximately 0.5 miles north east of the AWPf.
- Memorial Park: approximately 2 acres in size, and a potential monitoring well site, 0.4 miles west of the conveyance pipelines. Located off Santa Ynez Avenue, it contains play equipment, lawns, barbeques, and picnic areas.
- Salt Marsh Nature Park: approximately 7 acres and 0.5 miles west of the Proposed Project. Salt Marsh Nature Park is a salt wetland offering walking trails, tours, and interpretive signage. Migrating birds travel to and through this park, and additional use restrictions are in place, including a prohibition on dogs and bicycles at this park.
- Tar Pits Park: approximately 9 acres, located approximately 0.3 miles from the AWPf. Tar Pits Park is currently accessible only by foot or bicycle, and provides beach access and hiking.
- Heath Ranch Park: approximately 2 acres, and 0.25 miles west of Well Site #6, on Eucalyptus Lane and Chaparral Drive. This park is also a City of Carpinteria Historical Landmark as it is home to the ruins of the adobe home build by Russell Health, a prominent member of the community in the 1850s.
- El Carro Park: approximately 8 acres and located at El Carro Lane between Casitas Pass Road and Linden Avenue. This park is between 0.10 and 0.15 miles east of Well Sites #1, 2, and 3, and is a potential monitoring well site. It is home to a variety of recreational and sports fields, a playground, restrooms, barbeques, and picnic areas.
- Franklin Creek Park: just over 1 acre in size, and running north-south along the western bank of Franklin Creek between Meadowview Lane and El Carro Lane and bounded by the creek and Sterling Avenue to the east and west. It is located across Franklin Creek from Well Site #4 and catty-corner (across Meadowview Lane) from Well Site #6. Franklin Creek Park is a passive recreation area that contains swings.
- Tomol Interpretive Play Area: this small play area is located approximately 0.1 miles from the Southern Potential Pipeline Alignment, 0.25 miles from the AWPf, and 0.12 miles from the Primary Pipeline Alignment.
- Carpinteria Garden Park: approximately 1-acre community garden in downtown Carpinteria, located approximately 0.3 miles from the WWTP, and 0.1 miles from the conveyance pipeline. Contains 104 raised beds available to interested community members, as well as a fruit tree orchard and Chumash foraging garden.
- Carpinteria City Beach: approximately 0.3 miles southwest of the Primary Pipeline Alignment. Approximately 4 acres of beach between Linden Avenue and the Carpinteria Salt Marsh.

The City Parks and Recreation Department is also responsible for the Carpinteria Community Pool, located at the corner of Carpinteria Avenue and Palm Avenue.

Carpinteria State Beach, a State park, is also within 0.5-mile of the Proposed Project. Carpinteria State Beach, including its picnic areas, campgrounds, and lawns, are located approximately 20 meters south of the CSD WWTP site, on the southwest side of the railroad tracks. Carpinteria State Beach is approximately 1 mile long and visited by over 840,000 people annually, with heaviest use in the summer months (California State Parks, 2009).

### **3.17.1 Regulatory Framework – Recreation**

#### **Federal**

There are no federal regulations associated with recreation that are relevant to the Proposed Project.

#### **State**

##### ***SWRCB California Ocean Plan***

The SWRCB adopted the California Ocean Plan, the State's water quality control plan for California ocean waters, in October 2012 and the plan went into effect in August 2013. The purpose of the California Ocean Plan is to protect the quality of the ocean water for use and enjoyment by the people of the State by requiring control of the discharge of waste to ocean waters. The California Ocean Plan identifies both water contact and non-contact recreation as a beneficial use for all ocean waters of the State. As a result, it established water quality objectives for bacteria for contact recreation areas, including coastal waters adjacent to public beaches such as Carpinteria State Beach. Bacterial standards for water contact apply to a zone that extends 1,000 feet from the shoreline or the 30-foot depth contour.

#### **Local**

##### ***City of Carpinteria General Plan/Local Coastal Land Use Plan – Open Space, Recreation, and Conservation Element***

The Open Space, Recreation, and Conservation Element of the City of Carpinteria *General Plan/Local Coastal Land Use Plan* provides objectives and policies related to parks and recreation needs of the community, including the following:

- Objective OSC-14: Provide for adequate park and recreation facilities to meet the needs of the community and visitors.

##### ***County of Santa Barbara Coastal Land Use Plan***

The County of Santa Barbara's *Coastal Land Use Plan*, which addresses land use in the coastal zone, including the Study Area, emphasizes access to the County's beaches, among other planning and land use policies. Section 3.7 Coastal Access and Recreation includes policies aimed at protecting the public's right to access the beach and enjoy recreational opportunities at and along the shoreline. Policy 7-8 specifically calls for increased opportunities for beach access in the Carpinteria Valley.



### 3.17.2 Impact Analysis – Recreation

#### Methodology for Analysis

The potential impacts to recreation were evaluated using the CEQA Guidelines, incorporating the changes adopted in December 2018.

#### Thresholds of Significance

In accordance with the CEQA Guidelines, an impact to recreation would be significant if the Proposed Project does any of the following:

<b>Would the Proposed Project:</b>	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
3.17-1: Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.17-2 Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 3.17.3 Criteria Requiring No Further Evaluation

Criteria listed above that do not apply to actions associated with the Proposed Project are identified below, along with supporting rationale as to why further consideration is unnecessary and a No Impact determination is appropriate.

*3.17-2: Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

The Proposed Project would include construction of an AWPF, conveyance pipelines, injection and monitoring wells, backwash piping, and improvements to the existing ocean outfall and would not increase or require the construction or expansion of recreation facilities. No further analysis is required.

### 3.17.4 Impact Statements and Mitigation Discussions

This section discusses potential impacts related to recreation that could result in conjunction with the Proposed Project. Mitigation measures are identified where appropriate.

#### **Impact 3.17-1: Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**

The Proposed Project would include construction of an AWPF, conveyance pipelines, injection and monitoring wells, backwash piping, and improvements to the existing ocean outfall. It would not construct housing or increase the residential population within the City of Carpinteria. As demonstrated in Section 3.15, *Population and Housing*, the

Proposed Project would serve existing and planned demands in accordance with the City's General Plan/*Local Coastal Land Use Plan* and CVWD's 2016 UWMP, and would not result in substantial or unplanned population growth. It would therefore not result in additional people who may use the existing recreational facilities, and as such, the Proposed Project would not increase the use of existing neighborhood or regional parks or other recreational facilities. Additionally, ocean discharges would be compliant with applicable permits, such as the WDR, which includes effluent quality requirements that would be consistent with the bacteria limits in the Ocean Plan. As such, Proposed Project discharges would not interfere with continued recreation activities at Carpinteria State Beach. Therefore, the Proposed Project would have a less than significant impact on deterioration of such facilities, and no mitigation would be required.

***Significance Determination***

Less than Significant.

### 3.18 Transportation

This section provides a summary of the transportation environment in the Study Area and evaluates the potential impacts of the Proposed Project related to transportation. The Proposed Project has the potential to disrupt emergency response and traffic flow during Proposed Project construction due to work in the roadway ROWs when pipelines are being installed. These potential impacts are temporary and short-term in nature and would be reduced to less than significant through implementation of the mitigation measures, including a Transportation Management Plan and coordination with emergency services to ensure that traffic is safely routed during construction activities.

#### 3.18.1 Physical Environmental Setting – Transportation

##### Vehicle Transportation and Circulation System

The City's *General Plan/Local Coastal Land Use Plan* provides information regarding circulation and transportation planning for the City of Carpinteria. Existing arterial streets, or high-capacity urban roadways that deliver traffic from collector roads to freeways and between urban center, within the Study Area include Linden Avenue and Carpinteria Avenue. Linden Avenue runs through downtown Carpinteria from the coast to the north end of the City and crosses Carpinteria Avenue, which runs in an east-west direction along the central business district. Existing collector streets, roadways that connect local streets to arterial streets, within the Study Area include El Carro Lane, Ogan Road, and 8th Street.

The County's *Comprehensive Plan Circulation Element* (Santa Barbara County, 2014) provides guidance for determining consistency of projects with applicable circulation and land use policies. The only road in the unincorporated county that is adjacent to the Study Area is State Highway 192 (Foothill Road), which runs along the northern boundary of Well Site #6. This road generally meets the classification of a two-lane expressway. In the Study Area, Foothill Road is a two-lane major road without grade separation at intersections.

##### Alternative Transportation

Alternative transportation facilities are located throughout the Study Area. The Santa Barbara Metropolitan Transit District (MTD) provides public transit services within the City of Carpinteria. There are two bus routes within the Study Area; Route 36 and Route 20. Route 36 runs along Linden Avenue from 5th Street to Carpinteria Avenue, crosses U.S. Highway 101 along Casitas Pass to Ogan, north along Camino Trillado, and west along El Carro Lane to Linden. It continues along Malibu to Sterling, and again along El Carro Lane to Santa Ynez where the route turns south back to Carpinteria Avenue and Linden Avenue. Route 20 provides service between Carpinteria and downtown Santa Barbara. Within the City of Carpinteria, it runs along Carpinteria Avenue between Santa Ynez and south to Rincon Road, where it turns west again along Via Real to Bailard Avenue before rejoining Carpinteria Avenue headed back to Santa Barbara.

As described in Section 3.16, *Recreation*, there are bicycle lanes throughout the Study Area. The entire extent of Carpinteria Avenue is designated in the City's *General Plan/Local Coastal Land Use Plan* as a State Bikeway Route, while Linden Avenue is designated as a Class II and Class III Bikeway to the south and north of U.S. Highway 101, respectively. A portion of 8th Street within the Study Area is designated as a Class III Bikeway.

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### 3.18.2 Regulatory Framework – Transportation

#### Federal

There are no federal regulations associated with transportation that are relevant to the Proposed Project.

#### State

There are no State regulations associated with transportation that are relevant to the Proposed Project.

#### Local

##### ***Regional Transportation Plan***

Transportation in Santa Barbara County is planned through the SBCAG in a regional effort. Fast Forward 2040: Regional Transportation Plan and Sustainable Communities Strategy (RTP) was adopted by the SBCAG Policy Board on August 17, 2017. The RTP is a long-range planning document that defines how the region plans to invest in the transportation system over a 20-year period based on regional goals, multi-modal transportation needs for people and goods, and estimates of available funding to provide a balanced approach to addressing long-term regional needs. The RTP includes a Sustainable Communities Strategy, as required by SB 375, which sets forth a forecasted development pattern for the region and is integrated with the transportation network and other transportation measures and policies to reduce GHG emissions from passenger vehicles and light trucks to achieve the GHG reduction targets set by CARB. The goals and objectives of the RTP include:

- Environment: Foster patterns of growth, development, and transportation that protect natural resources and lead to a healthy environment.
  - Reduce GHG emissions in compliance with CARB Regional Targets
  - Reduce criteria pollutant emissions
- Mobility and System Reliability: Optimize the transportation system to improve accessibility to jobs, schools, and services, allow the unimpeded movement of people and goods, and ensure the reliability of travel by all modes.
  - Reduce travel times for all modes
  - Reduce congestion
  - Work cooperatively with schools and school districts to reduce congestion surrounding schools
- Equity: Ensure that the transportation and housing needs of all socio-economic groups are adequately served.
- Health and Safety: Improve public health and ensure the safety of the regional transportation system.
  - Reduce the frequency and severity of collisions on the transportation network
  - Increase public outreach and education
- A Prosperous Economy: Achieve economically efficient transportation patterns and promote regional prosperity and economic growth.
  - Reduce congestion
  - Optimize network performance to reduce time lost to commuting

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### ***City of Carpinteria General Plan/Local Coastal Land Use Plan – Circulation Element***

The Carpinteria *General Plan/Local Coastal Land Use Plan* Circulation Element designates an efficient system of streets and highways that will provide adequate linkages between land uses in the City. Circulation Element objectives include:

- Objective C-1: To improve the community's ability to access U.S. Highway 101 and areas north of the freeway through the improvement of interchanges.
- Objective C-2: To designate scenic routes so as to provide for scenic enjoyment of and maintain and enhance the natural beauty of the lands and views along the roadways of the Carpinteria Valley.
- Objective C-3: Provide a balanced transportation network with consistent designations and standards for roadways that will provide for the safe and efficient movement of goods and people through the community.
- Objective C-4: Improve the Carpinteria Avenue corridor to ensure adequate traffic flow, safe bicycle use and improved aesthetic qualities.
- Objective C-5: Provide a system of safe and functional truck routes.
- Objective C-7: Build demand for alternative transportation use by increasing ease, effectiveness, and social acceptability, and through foresighted planning.
- Objective C-8: Support and develop safe, direct, and well-maintained bicycle and pedestrian systems and recreational boating facilities that serve all segments of the public.
- Objective C-9: Promote the use of public transit systems that provide mobility to all city residents and reduce automobile congestions within the capabilities of the community.

Per the City's *General Plan/Local Coastal Land Use Plan*, projects contributing peak hour trips to intersections that operate at an estimated future level of service (LOS) that is better than a LOS C shall be found consistent with City policies. Projects contributing peak hour trips to intersections that operate at an estimated future level of service that is better than LOS C would be considered consistent with implementation policies for Objectives C-3a-C-4b unless the project results in a change in V/C (volume/capacity) ratio greater than 0.20 for an intersection operating at LOS A or 0.15 for an intersection operating at LOS B. A project must not result in a change of V/C ratio of greater than 0.10 for intersections operating at an estimated LOS C, or result in a contribution of more than 15 peak hour trips for LOS D, 10 peak hour trips for LOS E, or five peak hour trips for LOS F. For intersections operating at an estimated future LOS that is less than or equal to LOS C, a project must meet additional criteria to be consistent with the implementation policies for Objectives C-3a-C-4b.

### ***Santa Barbara County Comprehensive Plan – Circulation Element***

The *Santa Barbara County Comprehensive Plan – Circulation Element* identifies key roadway links throughout the unincorporated areas of the County, and along with the other elements, guides decisions regarding new development and provides clear traffic capacity guidelines that are intended to maintain acceptable levels of service on the County's roadways and intersections, while allowing reasonable growth within the communities of the unincorporated area. The County's *Comprehensive Plan* provides a policy capacity of average daily trips (ADT) of 16,000 in urban areas and 11,000 in rural areas for two-lane expressways. Consistency with the County's *Comprehensive Plan* Circulation Element requires that projects do not contribute ADTs where estimated future volume exceeds the policy capacity. If estimated future volume exceeds policy capacity, but the project contributes ADTs less than or equal to 2% of remaining capacity or 40 ADTs, whichever is greater, the project would be consistent with the *Comprehensive Plan*. Similarly, if the estimated future volume exceeds acceptable capacity but not design capacity, and a project does not contribute

more than 25 ADTs, it would be consistent with the Plan. Where estimated future volume exceeds design capacity, projects must not contribute more than 10 ADTs to be consistent with the *Comprehensive Plan*.

### 3.18.3 Impact Analysis – Transportation

#### Methodology for Analysis

The potential impacts to transportation were evaluated using the CEQA Guidelines, incorporating the changes adopted in December 2018.

#### Thresholds of Significance

In accordance with the CEQA Guidelines, an impact to transportation would be significant if the Proposed Project does any of the following:

Would the Proposed Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
3.18-1: Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.18-2: Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.18-3: Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.18-4: Result in inadequate emergency access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### Criteria Requiring No Further Evaluation

Criteria listed above that do not apply to actions associated with the Proposed Project are identified below, along with supporting rationale as to why further consideration is unnecessary and a No Impact determination is appropriate.

##### 3.18-2 Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

The Proposed Project includes construction of an AWP, conveyance pipelines, injection and monitoring wells, pump station, backwash system, and modifications to the existing ocean outfall and would not conflict with Section 15064.3, subdivision (b) of the CEQA Guidelines, the criteria for analyzing transportation impacts. CEQA Guidelines Section 15064.3(b) provides specific considerations for evaluating transportation impacts including: 1) Land Use Projects, 2) Transportation Projects, 3) Qualitative Analysis, and 4) Methodology. Potential traffic impacts are evaluated in the sections below per CEQA Guidelines Section 15064.3(b)(3), Qualitative Analysis. A qualitative analysis of transportation impacts is appropriate for the Proposed Project as there is no existing model or method available to estimate VMTs for the Proposed Project and transportation impacts would primarily be construction-related and would not substantially increase VMT during operation of the Proposed Project, as discussed below. Construction-related transportation impacts are qualitatively analyzed in the sections below and would be mitigated to a less than significant level. Therefore, the

Proposed Project would be consistent with the criteria for analyzing transportation impacts per CEQA Guidelines Section 15064.3(b) and there would be no impact.

### 3.18.4 Impact Statements and Mitigation Discussions

This section discusses potential impacts to transportation resources that could result in conjunction with the Proposed Project. Mitigation measures are identified where appropriate.

#### **Impact 3.18-1: Potential to conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?**

There are three primary plans that address the circulation system in the City of Carpinteria, including 1) SBCAG RTP, 2) City of Carpinteria *General Plan/Local Coastal Land Use Plan – Circulation Element*, and 3) County of Santa Barbara *Comprehensive Plan – Circulation Element*. Each of these plans address the various modes of transportation including roadway, bicycle, pedestrian, and transit, and include objectives and policies related to these modes of transportation. The plans and their objectives and policies that relate to the Proposed Project are detailed in Section 3.18.2 above.

The Proposed Project involves construction and operation of an AWPf, conveyance and backwash pipelines, injection wells, and other related facilities. The conveyance and backwash pipelines and monitoring well components would be located almost entirely underground. Once constructed, the Proposed Project would not conflict with adopted policies, plans, or programs regarding roadways, public transit, bicycle, or pedestrian facilities, as the Proposed Project would not permanently impact the circulation system, increase traffic congestion, contribute to additional VMT or average daily trips, or result in other long-term transportation-related impacts. All roadway ROWs impacted during construction would be returned to pre-construction conditions upon completion. As discussed in Section 3.15, *Population and Housing*, the Proposed Project would not directly or indirectly induce unplanned population growth. CVWD's 2016 UWMP indicates that the City has reached its General Plan build-out population, meaning there is limited opportunity for additional growth within the City. As discussed in Section 2, *Project Description*, one of the objectives of the Proposed Project is to reduce CVWD's reliance on surface water and storage and Lake Cachuma and increase supply reliability by creating a drought-resistant supply. The Proposed Project would therefore not significantly increase VMT by inducing population growth. Deliveries of AWPf chemicals would require six to eight truck trips per month depending on chemical supplier and logistics. The increase in VMT resulting from O&M-related vehicle trips would be negligible.

During construction, however, the Proposed Project may temporarily change the provision of roadways, public transit, bicycle and/or pedestrian facilities within the Study Area. Specifically, lane and/or road closures may be required where pipelines would be installed in roadway ROWs. Impacts would vary based upon the location of the individual segments and corresponding roadways that would be impacted. Table 2-2 in Section 2, *Project Description* shows each potential pipeline alignment and provides an anticipated construction time during which each segment would potentially be impacted, assuming that construction takes place at an average rate of 150 linear feet per day. Construction equipment and material would be staged temporarily either within the construction zone on roads or vacant parcels near the construction area which may impact transit stops, bicycle and/or pedestrian facilities. Assuming an average crew of 10 people, including inspectors, construction could generate up to eight round-trip trips per day. In addition, during peak construction, the Proposed Project would require an average of four to five round-trip concrete delivery and/or soil export truck trips per day (assuming up to 45 cubic yards per day). During construction, other materials would be delivered requiring an estimated average materials delivery round trips of one to two per day.

South of U.S. Highway 101, Linden Avenue is the main roadway that runs through Carpinteria's downtown area. Carpinteria Avenue is the only continuous street running through the City on the south side of U.S. Highway 101 and

is the primary roadway through the City's downtown area. The proposed pipeline alignments would likely follow local streets to the south of U.S. Highway 101 to reduce construction-related traffic impacts on Linden and Carpinteria Avenues, to the extent practicable. There would likely be a small pipeline segment located on Carpinteria Avenue from Eugenia Place and Maple Avenue. However, final selection of the pipeline alignments may change and could result in significant traffic impacts along Linden and Carpinteria Avenues, both of which are high-traffic, arterial roadways. CVWD would work with City staff to develop a Transportation Management Plan, which would be implemented as **Mitigation Measure MM 3.18-1**. The Transportation Management Plan would include applicable measures, such as the use of flaggers, signage, cones, and other traffic control measures, to reduce construction-related traffic congestion as well as clearly define temporary detour routes. CVWD would also work with the City's Public Works Department to coordinate planned pavement repair projects over the next couple years and the proposed pipeline alignment routes to coincide where feasible. Additionally, timing of construction would be considered with regard to the adjacent land uses (schools, etc.) to minimize potential traffic impacts to those uses to the extent feasible. Specifically, construction adjacent to schools would occur when school is out of session, if deemed necessary, to reduce congestion impacts. County roads are not anticipated to be impacted by the Proposed Project because they are likely to only be used to transport materials to and from staging and construction areas. No excavation is anticipated within roadways in the unincorporated portion of the Study Area.

The proposed pipeline alignments are located along bus and bicycle routes that would likely be impacted during construction of the Proposed Project by roadway and lane closures. Construction of the conveyance pipeline may affect MTD Route 20 stops at Carpinteria Avenue and Maple Street and Carpinteria Avenue and Palm, as well as MTD Route 26 stops along Linden Avenue between 6th Street and Carpinteria Avenue, along Carpinteria Avenue at Maple and at Palm, and again along El Carro Lane between Camino Trillado and Linden Avenue. Impacts to alternative transportation facilities such as bus, bicycle, and pedestrian routes would be addressed in the Transportation Management Plan, through implementation of **Mitigation Measure MM 3.18-1**, which would identify detour routes for alternative transportation.

Although construction-related impacts would be temporary in nature, potentially significant impacts resulting from construction within roadway ROWs, particularly in the downtown area, would require mitigation to effectively manage traffic congestion and potential vehicle, public transportation, bicycle, and pedestrian detour routes. Operational impacts resulting from the Proposed Project are not anticipated. With implementation of **Mitigation Measure MM 3.18-1**, potential impacts resulting from a conflict with an applicable program, plan, ordinance, or policy addressing the circulation system would be reduced to less than significant levels.

### ***Significance Determination Before Mitigation***

Potentially Significant.

### ***Mitigation Measures***

**Mitigation Measure MM 3.18-1** shall apply to construction activities requiring lane or road closures or detours that would impact any mode of transportation including mass transit, roadway, bicycle and pedestrian facilities.

**MM 3.18-1 Develop and Implement a Transportation Management Plan. Prior to construction, a Transportation Management Plan shall be developed by CVWD.** The Transportation Management Plan shall be implemented by CVWD and/or its construction contractor during construction of the Proposed Project and shall conform to Caltrans' Transportation Management Plan Guidelines. Such a plan shall include, but is not limited to:



- **Transportation Routes:** CVWD shall determine construction staging site locations and potential road closures, alternate routes for detours, and planned routes for construction-related vehicle traffic. It shall also identify alternative safe routes and policies to maintain safety along bike and pedestrian routes during construction.
- **Coordination with Emergency Services:** CVWD shall coordinate with the police, fire, and other emergency services to alert these entities about potential construction delays and alternate emergency access routes if necessary. To the extent possible, CVWD shall minimize the duration of disruptions/closures to roadways and critical access points for emergency services.
- **Coordination with Recreation Facilities:** CVWD shall also coordinate with any affected recreational facilities owners/operators to minimize the duration of disruptions/closures to recreational facilities and adjacent access points.
- **Coordination with MTD:** If the Proposed Project will affect access to existing MTD bus stops, the Transportation Management Plan shall also include temporary, alternative bus stops, as determined in coordination with MTD.
- **Coordination with Schools:** CVWD shall coordinate timing of construction with the nine schools in the vicinity of the Proposed Project to minimize construction impacts during the regular school year.
- **Transportation Control and Safety:** The Transportation Management Plan shall provide for traffic control measures including flag persons, warning signs, lights, barricades, cones, and/or detour routes to provide safe passage of vehicular, bicycle and pedestrian traffic and access by emergency responders.
- **Plan Approval:** This plan shall be submitted to the City's planning or public works departments for review and acceptance by the City Transportation Safety Committee, Transportation Committee, and City Public Works Director/City Engineer, as well as any necessary permits acquired prior to construction.
- **Public Notification:** Prior to beginning construction, written notice shall be provided regarding potential road closures as described in the Transportation Management Plan. Notice shall be delivered to potentially affected properties within a 500-foot radius, as determined by the City's Public Works Director/City Engineer. The notice shall contain a brief description of the work, work dates, and contact information of the Contractor's superintendent and the Engineer. The notice shall be delivered at ten (10) calendar days and again at two (2) working days prior to beginning the work. The notice shall be in the form of a door hanger made of index paper with the size of 14 inches by 4.5 inches. The notice shall be in English with translation in Spanish. A revised notice will be delivered in the event of delays in schedule, as soon as reasonably possible after a delay is identified and revised schedule known.
- **Resurfacing Standards:** Where impervious surfaces such as roadway ROWs or sidewalks, are disturbed by construction activities (e.g., excavation, staging, etc.), these surfaces shall be restored to pre-construction conditions and in accordance with applicable City and County standards.

### ***Significance Determination after Mitigation***

Less than Significant.

### **Impact 3.18-3: Potential to substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**

During construction, the Proposed Project could temporarily change the configuration of intersections and roadways within the Study Area. Specifically, lane or roadway detours or closures may be required where pipelines would be installed within roadway ROWs. Construction equipment and materials would be staged temporarily on nearby vacant lots, within the construction zone or roads, or in the shoulder area of the roadway. Because lane detours or closures

could increase conflicts between vehicles, bicyclists, and pedestrians, potential impacts would be considered significant. Implementation of **Mitigation Measure MM 3.18-1** would require development and implementation of a Transportation Management Plan, which would reduce potential impacts resulting from hazards caused by a changed configuration or design feature to a less than significant level.

***Significance Determination Before Mitigation***

Potentially Significant.

***Mitigation Measures***

**Mitigation Measure MM 3.18-1** (above) shall apply to construction activities requiring lane or road closures or detours that could increase traffic hazards.

***Significance Determination after Mitigation***

Less than Significant.

**Impact 3.18-4: Potential to result in inadequate emergency access?**

Construction activities for the Proposed Project would have temporary effects on traffic flow and lane configurations at specific intersections and roadways, which could similarly affect emergency access and response times in the Study Area. Construction activities could temporarily block access to some roadways and driveways that are currently used by emergency response vehicles or in emergency evacuations. **Mitigation Measure MM 3.18-1** would require the development and implementation of a Transportation Management Plan which would outline temporary detour routes and alternative emergency access routes. CVWD would coordinate with local emergency response agencies such as police and fire to alert these entities about potential construction delays and detours. CVWD would minimize the duration of disruptions/closures to roadways and critical access points for emergency services to the extent feasible. With implementation of **Mitigation Measure MM 3.18-1**, impacts to emergency access would be reduced to less than significant levels.

***Significance Determination Before Mitigation***

Potentially Significant.

***Mitigation Measures***

**Mitigation Measure MM 3.18-1** (above) shall apply to construction activities requiring lane or road closures or detours that could negatively impact emergency access.

***Significance Determination after Mitigation***

Less than Significant.

### 3.19 Tribal Cultural Resources

This section provides a description of the existing cultural resources in the Study Area, provides relevant regulatory information, and evaluates potential impacts on cultural resources from implementation of the CAPP. The Proposed Project has the potential to impact tribal cultural resources through ground-disturbing construction activities. The mitigation measures identified in this section would reduce potential impacts to levels that are less than significant.

#### 3.19.1 Physical Environmental Setting – Tribal Cultural Resources

The Carpinteria Valley area was historically populated by the Native American group known as the Chumash. The Chumash occupied the region from San Luis Obispo County to Malibu Canyon on the coast, and inland as far as the western edge of the San Joaquin Valley, and the four northern Channel Islands. There are many archaeological sites recorded within the Carpinteria Valley. Native American consultation for other projects within the area indicates the Study Area is considered highly sensitive to the Chumash and the tribe have expressed concerns that buried resources, including human burials, could potentially occur within the Study Area.

A *Cultural Resources Assessment Report* was prepared in March 2019 by Rincon Consultants, Inc. for the Proposed Project, including construction of an AWP, injection wells, conveyance pipelines, backwash pipelines, pump station, monitoring wells, and modifications to the existing ocean outfall. A field survey of the Study Area and associated cultural resources, including tribal cultural resources, was conducted on January 30, 2019. The complete *Cultural Resources Assessment Report* for the CAPP is provided in Appendix E.

Multiple records searches were conducted to review all recorded historical and archaeological resources within a 0.5-mile radius of the Study Area. On January 23, 2019, Rincon conducted a search of the CHRIS-CCIC to identify any previously recorded cultural resources, including tribal cultural resources, and previously conducted cultural resources studies within the Study Area. The CHRIS-CCIC records search identified 23 previously recorded cultural resources within a 0.5-mile radius of the Study Area. These include 12 historic buildings, five historic period archaeological sites, four prehistoric archaeological sites, and two prehistoric isolated artifacts. The only previously recorded cultural resource mapped within the Study Area is prehistoric archaeological site CA-SBA-7, a large prehistoric/ethnohistoric village site that is thought to represent the remains of the Chumash village of Mishopshow. Although previous archaeological investigations found fragments of shells west of Carpinteria Creek in the vicinity of the CSD WWTP site, evidence for the presence of CA-SBA-7 in the vicinity of the current Study Area remains questionable and the site's substantial cultural deposits are concentrated on the east side of Carpinteria Creek outside of the Study Area. No cultural resources or artifacts other than the fragmented shells have been recorded on the west side of Carpinteria Creek within the Study Area.

#### 3.19.2 AB 52 Consultation

AB 52 provides for local agencies to extend an invitation to Native American groups to engage in consultation on proposed private and public development projects to assure that potential impacts to Native American cultural resources are adequately addressed. More specifically, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by written notification including a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section (PRC Section 21080.1).

CVWD sent letters inviting local tribes to participate in AB 52 consultation on February 11, 2019. Two tribal representative requested additional project information, which was provided via email, and additional email exchanges and calls have been made with these representatives; no formal consultation has occurred. Although the AB 52 consultation process has been formally concluded, CVWD will meet with tribal representatives upon request and will continue to notify tribal representatives as appropriate of Proposed Project activities.

### **3.19.3 Regulatory Framework – Tribal Cultural Resources**

#### **Federal**

##### ***National Historic Preservation Act (Section 106)***

Section 106 of the NHPA applies when a project, activity, or program is funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including those carried out by or on behalf of a federal agency; those carried out with federal financial assistance; and those requiring a federal permit, license or approval. Cultural resources are considered during federal undertakings chiefly under Section 106 of NHPA of 1966 (as amended) through one of its implementing regulations, 36 CFR 800 (Protection of Historic Properties), as well as NEPA. Properties of traditional, religious, and cultural importance to Native Americans are considered under Section 101(d)(6)(A) of NHPA, and Section 106 of Title 36 CFR at 800.3 through 800.10.

Compliance with Section 106 requires a sequence of steps. The steps include 1) identification of the area that will be affected by the proposed undertaking (i.e., the APE); 2) identification of historic or archaeological properties; 3) evaluation of the eligibility of the properties for listing on the National Register of Historic Places; 4) determination of the level of effect of the undertaking on eligible properties; and 5) consultation with concerned parties and agreement in the form of a Memorandum of Agreement on avoidance, minimization, or mitigation of adverse effects on eligible properties.

##### ***National Register of Historic Places***

The National Register of Historic Places is the official list of the Nation's historic places worthy of preservation. Authorized by the NHPA, the National Park Service's National Register of Historic Places is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect America's historic and archeological resources. Properties are evaluated based on age, integrity, and significance.

- Age and Integrity: Is the property old enough to be considered historic (generally at least 50 years old) and does it still look much the way it did in the past?
- Significance: Is the property associated with events, activities, or developments that were important in the past? With the lives of people who were important in the past? With significant architectural history, landscape history, or engineering achievements? Does it have the potential to yield information through archeological investigation about our past?

##### ***American Indian Religious Freedom Act***

The American Indian Religious Freedom Act of 1978 protects the rights of Native Americans to exercise their traditional religions by ensuring access to sites, use and possession of sacred objects, and the freedom to worship through ceremonies and traditional rites.

### ***Archaeological Resources Protection Act***

The Archeological Resources Protection Act of 1979 was enacted to protect archaeological resources and sites which are on public lands and Indian lands, and to foster increased cooperation and exchange of information between governmental authorities, the professional archaeological community, and private individuals. Archaeological resources are defined as any material remains of past human life or activities that are of archaeological interest and at least 100 years old, requires federal permits for their excavation or removal and sets penalties for violators.

### ***Native American Graves Protection and Repatriation Act***

The Native American Graves Protection and Repatriation Act of 1989 describes the rights of Native American lineal descendants and Indian tribes, and Native Hawaiian organizations with respect to the treatment, repatriation, and disposition of Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony, referred to collectively in the statute as cultural items, with which they can show a relationship of lineal descent or cultural affiliation.

## **State**

### ***California Office of Historic Preservation***

The OHP, as an office of the California Department of Parks and Recreation, implements the policies of the NHPA on a statewide level. The OHP also maintains the CHRIS. The State Historic Preservation Officer is an appointed official who implements historic preservation programs within the State's jurisdictions. The OHP also works closely with federally and non-federally recognized tribes to ensure the preservation and protection of cultural sites, ancestral lands, and tribal traditions.

### ***California Register of Historical Resources***

Created by AB 2881, which was signed into law on September 27, 1992, the California Register is "an authoritative listing and guide... identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1(a)). The criteria for eligibility for the California Register are based upon National Register criteria (PRC Section 5024.1(b)). Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register of Historic Places (PRC Section 5024.1(d)).

To be eligible for the California Register, a prehistoric or historic property must be significant at the local, state, and/or federal level under one or more of the following criteria:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Is associated with the lives of persons important in our past;
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- Has yielded, or may be likely to yield, information important in prehistory or history.

A resource eligible for the California Register must meet one of the criteria of significance described above and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the

reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the National Register, but it may still be eligible for listing in the California Register.

### **California Environmental Quality Act**

CEQA is the principal statute governing environmental review of projects occurring in the State. CEQA requires lead agencies to determine if a proposed project would have a significant effect on archaeological resources (PRC Section 21000 et seq.). As defined in Section 21083.2 of the PRC, a “unique” archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

In addition, CEQA Guidelines Section 15064.5 broadens the approach to CEQA by using the term “historical resource” instead of “unique archaeological resource.” The CEQA Guidelines recognize that certain historical resources may also have significance. The CEQA Guidelines recognize that a historical resource includes: (1) a resource in the California Register; (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1 (k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1 (g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency’s determination is supported by substantial evidence in light of the whole record.

### **AB 52**

AB 52 provides for local agencies to extend an invitation to Native American groups to engage in consultation on proposed private and public development projects to assure that potential impacts to Native American cultural resources are adequately addressed. More specifically, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by written notification including a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section (PRC Section 21080.1).

### **Local**

City of Carpinteria General Plan/Local *Coastal Land Use Plan* - Open Space, Recreation, and Conservation Element

The Open Space, Recreation, and Conservation Element of the City of Carpinteria General Plan/Local *Coastal Land Use Plan* identifies culturally significant locations within the City. Objective OSC-16 and Policy OSC-16a, as described below, are intended to preserve cultural resources within the City.

- Objective OSC-16: Preserve Carpinteria’s cultural resources.
  - Policy OSC-16a: Carefully review any development that may disturb important archaeological or historically valuable sites.



### County of Santa Barbara Coastal Land Use Plan

The County of Santa Barbara’s *Coastal Land Use Plan* guides planning and development in the coastal areas of the county, and is intended to protect coastal resources while still allowing for development. Where there is conflict between the *Coastal Land Use Plan* and the *Comprehensive Plan*, the *Coastal Land Use Plan* takes precedence. Applicable policies of the *Coastal Land Use Plan* include:

- Policy 10-1: All available measures, including purchase, tax relief, purchase of development rights, etc., shall be explored to avoid development on significant historic, prehistoric, archaeological, and other classes of cultural sites.
- Policy 10-2: When developments are proposed for parcels where archaeological or other cultural sites are located, project design shall be required which avoids impacts to such cultural sites if possible.
- Policy 10-3: When sufficient planning flexibility does not permit avoiding construction on archaeological or other types of cultural sites, adequate mitigation shall be required. Mitigation shall be designed in accord with guidelines of the State Office of Historic Preservation and the State of California Native American Heritage Commission.
- Policy 10-5: Native Americans shall be consulted when development proposals are submitted which impact significant archaeological or cultural sites.

### 3.19.4 Impact Analysis – Tribal Cultural Resources

#### Methodology for Analysis

The potential impacts to tribal cultural resources were evaluated using the CEQA Guidelines, incorporating the changes adopted in December 2018.

#### Thresholds of Significance

In accordance with the CEQA Guidelines and the City’s Environmental Review Guidelines, an impact to tribal cultural resources would be significant if the Proposed Project does any of the following:

**Would the Proposed Project:**

<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
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Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- |   |                          |                                     |                          |                          |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|
| 3.19-1: Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|

- 3.19-2: A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.

### 3.19.5 Impact Statements and Mitigation Discussions

This section discusses potential impacts to tribal cultural resources that could result in conjunction with the Proposed Project. Mitigation measures are identified where appropriate.

**Impact 3.19-1: Potential to cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).**

A *Cultural Resources Assessment Report* (Appendix E) was prepared in March 2019 to evaluate the potential for existing cultural resources to occur within the Study Area. A CHRIS-CCIC records search found 23 previously recorded cultural resources within a 0.5-mile radius of the Study Area. Of the 23 previously recorded resources, only one was mapped within the APE for the Proposed Project: prehistoric archaeological site CA-SBA-7. CA-SBA-7 is a large prehistoric/ethnohistoric village site that is thought to represent the remains of the Chumash village of Mishopshow. Although previous archaeological investigations found fragments of shells west of Carpinteria Creek, evidence for the presence of CA-SBA-7 in the vicinity of the current Study Area is minimal and the site's substantial cultural deposits are concentrated on the east side of Carpinteria Creek outside of the Study Area.

A 2004 site record update provided an evaluation of CA-SBA-7 for California Register listing. The site was identified as eligible under two criteria: Criterion A for its association with Spanish exploration and as a major archaeological site where aspects of prehistory were defined and Criterion D for its contribution of significant data. The site is also listed as California Historic Landmark #535. Landmarks preceding #770 are not automatically eligible for listing in the California Register, so the site remains unlisted but is likely eligible for California Register listing.

Construction of the Proposed Project would require grading and excavation, primarily within public ROWs and within previously developed or disturbed areas. Given the cultural sensitivity of the area, the presence of prehistoric archaeological site CA-SBA-7, and the grading and excavation activities that would occur during Proposed Project construction, there would be potential to uncover archeological or other significant tribal cultural resources during construction. **Mitigation Measure MM 3.6-2a** would require archaeological and Native American monitoring during initial ground-disturbing activities in the vicinity of CA-SBA-7 (i.e., the AWPf and directly adjacent conveyance pipelines). **Mitigation Measure MM 3.6-2b** would require construction activities to halt if unanticipated discovery of cultural resources occurs. **Mitigation Measure MM 3.6-3** would require compliance with the State of California Health and Safety Code 7050.5, including immediately halting construction activities and notifying the County Coroner's office upon discovery of human remains. Additionally, CVWD would implement cultural resources training for construction workers, including archeological and tribal resource identification (see Section 2.10, *Environmental Commitments*).



With implementation of environmental commitments and **Mitigation Measures MM 3.6-2a, MM 3.6-2b, and MM 3.6-3**, impacts to tribal cultural resources that are listed or eligible for listing in the California Register would be reduced to less than significant.

### ***Environmental Commitments***

CVWD shall implement cultural resource training to construction workers, including archeological and tribal resource identification, as described in Section 2.10, *Environmental Commitments*.

### ***Significance Determination Before Mitigation***

Potentially Significant.

### ***Mitigation Measures***

**Mitigation Measure MM 3.6-2a** shall apply to initial ground-disturbing activities in the vicinity of CA-SBA-7. **Mitigation Measures MM 3.6-2b and MM 3.6-3** shall apply to all Project components. See Section 3.6, *Cultural Resources*.

### ***Significance Determination after Mitigation***

Less than Significant.

**Impact 3.19-2: Potential to cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe?**

As discussed under Impact 3.19-1 above, a CHRIS-CCIC records search found 23 previously recorded cultural resources within a 0.5-mile radius of the Study Area, one of which was mapped within the Study Area: CA-SBA-7. CA-SBA-7 was mapped as extending into the WWTP site. Prehistoric archaeological site CA-SBA-7 is a large prehistoric/ethnohistoric village site that is thought to represent the remains of the Chumash village of Mishopshow. Previous archaeological investigations found fragments of shells west of Carpinteria Creek in the vicinity of the current Study Area. However, the site's substantial cultural deposits are concentrated on the east side of Carpinteria Creek outside of the Study Area. No cultural resources or artifacts have been recorded on the west side of Carpinteria Creek other than the shell fragments. Given the disturbed nature of the WWTP, it is expected that any potential cultural resources that may have been present within the Study Area have been substantially disturbed and/or destroyed.

Prehistoric archaeological site CA-SBA-7 is an important tribal cultural resource mapped within the Study Area. Although it is not anticipated that construction of the Proposed Project would substantially impact this resource, there is potential to encounter other previously uncovered tribal cultural resources during ground-disturbing construction activities. To reduce potential impacts to significant tribal cultural resources that may be encountered during Proposed Project construction, **Mitigation Measure MM 3.6-2a** would require archaeological and Native American monitoring during initial ground-disturbing activities in the vicinity of CA-SBA-7 (i.e., the AWPf and directly adjacent conveyance pipelines). **Mitigation Measure MM 3.6-2b** would require construction activities to halt if unanticipated discovery of cultural resources occurs. **Mitigation Measure MM 3.6-3** would require compliance with the State of California Health

and Safety Code 7050.5, including immediately halting construction activities and notifying the County Coroner's office upon discovery of human remains. Additionally, CVWD would implement cultural resources training for construction workers, including archeological and tribal resource identification (see Section 2.10, *Environmental Commitments*). With implementation of environmental commitments and **Mitigation Measures MM 3.6-2a, MM 3.6-2b, and MM 3.6-3**, impacts to significant tribal cultural resources would be reduced to less than significant.

### ***Environmental Commitments***

CVWD shall implement cultural resource training to construction workers, including archeological and tribal resource identification, as described in Section 2.10, *Environmental Commitments*.

### ***Significance Determination Before Mitigation***

Potentially Significant.

### ***Mitigation Measures***

**Mitigation Measure MM 3.6-2a** (see Section 3.6, *Cultural Resources*) shall apply to initial ground-disturbing activities in the vicinity of CA-SBA-7. **Mitigation Measures MM 3.6-2b and MM 3.6-3** shall apply to all Project components.

### ***Significance Determination after Mitigation***

Less than Significant.

### 3.20 Utilities and Service Systems

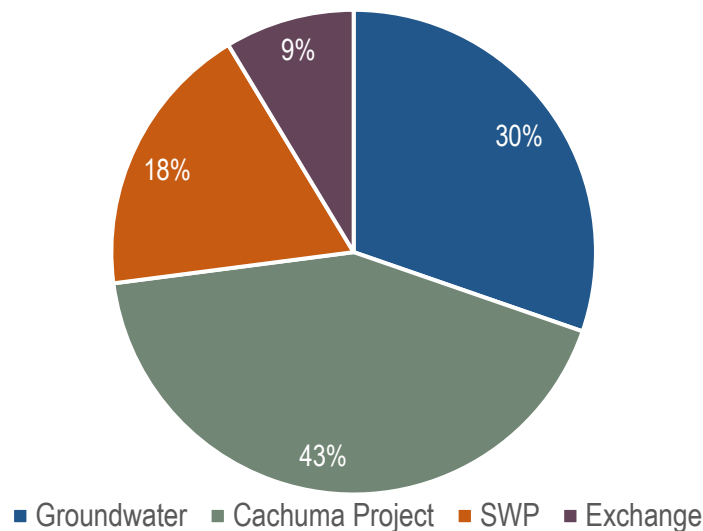
This section describes the existing utilities and service systems within the Study Area, and addresses the potential environmental impacts related to utilities and service systems that may be caused by the Proposed Project. Construction of an AWPf, conveyance pipelines, and injection and monitoring wells are the primary components of the Proposed Project, and potential impacts of these facilities are addressed throughout this EIR. No additional mitigation measures are necessary to reduce environmental impacts from the CAPP components.

#### 3.20.1 Physical Environmental Setting - Utilities and Service Systems

##### Water Supply

Water supply and distribution for the Study Area is provided by CVWD. CVWD owns and operates five municipal wells with a combined capacity to produce approximately 3.98 MGD, three potable water reservoirs (Shepard Mesa, Foothill, and Gobernador) with a combined storage capacity of 10.68 AF, and approximately 78 miles of distribution pipelines. CVWD's water supplies include groundwater from the Carpinteria Groundwater Basin and surface water from the Cachuma Project and State Water Project (SWP), as well as exchanges with other agencies (see Figure 3.20-1). CVWD does not currently serve recycled water (CVWD, 2003).

**Figure 3.20-1. Projected Normal Year Water Supplies without CAPP**



##### Wastewater

Wastewater collection and treatment for the Study Area is provided by CSD. CSD's collection system includes approximately 46 miles of pipelines and a 2.5 MGD capacity WWTP (CSD, 2017). Treated water is disposed via an ocean outfall that extends approximately 1,000 feet offshore. The WWTP treats to secondary standards with chemical disinfection and does not currently produce recycled water. CSD was a project partner in development of the 2016 *Recycled Water Facilities Plan* and in the Proposed Project.

## Stormwater

Stormwater quality and flooding potential in the Study Area is described in Section 3.11, *Hydrology and Water Quality*. The City of Carpinteria's stormwater system is regulated under a Phase II MS4 Permit, which was issued by the SWRCB on February 5, 2013 (SWRCB, 2013). The City of Carpinteria is responsible for maintenance of stormwater drainage facilities within the Study Area. CSD is responsible for maintenance of stormwater facilities on the WWTP site. Santa Barbara County Flood Control District also owns and maintains certain stormwater facilities within the Study Area, including the Franklin Creek channel.

## Solid Waste

Solid waste services for the Study Area, including roll-off services for construction projects, are provided by E.J. Harrison and Sons, Inc. Solid waste is transported to the Gold Coast Material Recovery Facility and residual is ultimately deposited in the Simi Valley landfill approximately 26 miles south of the transfer station (CMWD, 2003). Marborg Industries also provides roll-off service for construction projects in the Study Area (City of Carpinteria, 2019c). Construction solid waste is transported to Marborg's Construction and Demotion Recycling and Transfer Facility in the City of Santa Barbara before final disposal at the Tajiguas Landfill, located approximately 37 miles northwest of the Study Area.

The City of Carpinteria Watershed Management Program was created in January 2010 to address water quality standards and covers aspects of solid waste such as street sweeping, recycling programs, and education.

## Utilities

The Southern California Gas Company and Southern California Edison provide natural gas and electricity, respectively, within the Study Area.

### 3.20.2 Regulatory Framework – Utilities and Service Systems

#### Federal

There are no relevant Federal regulations related to utilities and service systems that are applicable to the Proposed Project.

#### State

##### ***California Integrated Waste Management Act***

The California Integrated Waste Management Act (AB 939) created the California Integrated Waste Management Board and mandated waste management planning. It also required implementation of plans to divert a minimum of 50% of solid waste from landfills by 2000. The act also prioritized (in order) source reduction, recycling and composting, and environmentally safe transformation and land disposal for integrated waste management.

##### ***State AB 341***

AB 341 was passed in 2011 and requires mandatory commercial recycling to achieve a minimum of 75% recycling rate of solid waste, administered under the jurisdiction of the Department of Recourse Recycling and Recovery (CalRecycle). CalRecycle's 2015 AB 341 Report to the Legislature recommended moving organics out of the landfill as one of its key strategies for achieving compliance with AB 341. Further, CalRecycle estimates that construction and

demolition materials comprise 29% of total disposed solid waste, and approximately 75% of construction and demolition materials could be diverted from the waste stream (CalRecycle, 2015).

### **Senate Bill 1383**

SB 1383 was passed in 2016, which sets methane reduction targets aimed to reduce emissions of short-lived climate pollutants. As related to solid waste management, SB 1383 calls for a reduction of organic waste disposal of 50% by 2020 and 75% by 2025, from 2014 levels (CalRecycle, 2019).

### **Local**

#### **City of Carpinteria General Plan/Local Coastal Land Use Plan – Public Facilities and Services Element**

*The City of Carpinteria General Plan/Local Coastal Land Use Plan – Public Facilities and Services Element describes providers of domestic water service, sanitary sewer services, solid waste disposal, natural gas, and electricity within the City. Water supply policies include:*

- Objective PF-1: To ensure the provision of adequate water supplies by minimizing consumption and investigating new sources either in existing supply or outside existing sources.
  - PF-1a. The City shall encourage reclamation and groundwater recharge programs (projects) where appropriate.
  - PF-1b. The City in conjunction with the Carpinteria Valley Water District will establish a database of the most current water resource information and monitor/maintain this baseline data. Further, all development shall comply with the Districts water resource management policies.
  - PF-1c. The City shall develop fair and consistent procedures that will encourage development proposals most responsive to community goals with regard to protection of water resources.
  - PF-1d. The City shall reevaluate existing water facility regulations and amend said codes to require new development to utilize water efficient devices responsive to our water source area.

This section includes objectives and policies to ensure essential public services, including utilities, are provided within the City. The Open Space, Recreation & Conservation Element encourages water conservation measures that will help to ensure adequate water supplies are available to meet demands. Water conservation policies include:

- Objective OSC-10. Conserve all water resources, and protect the quality of water.
  - OSC-10a. Minimize the erosion and contamination of beaches. Minimize the sedimentation, channelization and contamination of surface water bodies.
  - OSC-10b. Continue to support water conservation measures to provide an adequate supply of water to the community. Water conservation may measure as low-flow plumbing fixtures and drought tolerant landscape plans for new development.
  - OSC-10c. Degradation of the water quality of groundwater basins, nearby streams or wetlands, or any other waterbody shall not result from development. Pollutants such as sediments, litter, metals, nutrients, chemicals, fuels or other petroleum hydrocarbons, lubricants, raw sewage, organic matter and other harmful waste shall not be discharged into or alongside any waterbody during or after construction.

#### **2016 Urban Water Management Plan**

The CVWD 2016 UWMP was prepared per requirements by DWR and the California Water Code (Sections 10610 to 10656) and provides planning information on the reliability and future availability of CVWD water supplies and promotes

water demand management and efficient water use. The UWMP considers existing and future development within CVWD’s service area and provides goals, objectives, and strategies required to maintain a reliable water supply for its customers. The 2016 UWMP includes discussion of recycled water for groundwater recharge as well as groundwater banking via aquifer storage and recovery, though potential supplies available from these projects were not included in CVWD’s supply projections.

**Carpinteria Valley Recycled Water Facilities Plan**

CVWD, the City of Carpinteria, and CSD partnered to prepare the 2016 Carpinteria Valley *Recycled Water Facilities Plan* to identify a cost-effective recycled water program and provide steps for implementing that program. The Proposed Project resulted from this *Recycled Water Facilities Plan* as groundwater recharge through injection of advanced treated water was one of two selected alternatives recommended for consideration.

**Sewer System Management Plan**

The *Sewer System Management Plan* was prepared by CSD in September 2017. The *Sewer System Management Plan* provides a plan and schedule to properly manage, operate, and maintain all components of the sewer sanitary system to help reduce and prevent sanitary sewer overflows and to mitigate impacts resulting from overflows that do occur.

**Santa Barbara County-Wide Integrated Stormwater Resource Plan**

The *Santa Barbara County-Wide Integrated Stormwater Resource Plan* was developed to promote a watershed-based solution to stormwater and dry weather runoff management and implementation of treatment through projects that replicate natural hydrology and watershed processes, as well as provide multiple benefits. This framework for stormwater management provides water quality benefits by reducing the volume of runoff and associated pollutants entering receiving waters, in addition to maintaining a healthy watershed and providing other social, community, and environmental benefits.

**3.20.3 Impact Analysis – Utilities and Service Systems**

**Methodology for Analysis**

The potential impacts to utilities and service systems were evaluated using the CEQA Guidelines, incorporating the changes adopted in December 2018.

**Thresholds of Significance**

In accordance with the CEQA Guidelines, an impact to utilities and service systems would be significant if the Proposed Project does any of the following:

<b>Would the Proposed Project:</b>	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
3.20-1: Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.20-2: Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.20-3: Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.20-4: Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.20-5: Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.20-6: Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Criteria Requiring No Further Evaluation

Criteria listed above that do not apply to actions associated with the Proposed Project are identified below, along with supporting rationale as to why further consideration is unnecessary and a No Impact determination is appropriate.

*3.20-5 Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*

Solid waste disposal for the Proposed Project would occur during construction activities and would not impact landfills beyond their permitted capacities. The Proposed Project would be constructed and operated in compliance with all applicable solid waste regulations. Operation of the Proposed Project would not result in the production or disposal of substantial solid waste. Thus, no further evaluation is required.

*3.20-6: Comply with federal, state, and local statutes and regulations related to solid waste?*

During construction, the contractor would be required to dispose of excavated soil and solid wastes generated during construction in accordance with local solid waste disposal requirements. Once constructed, operation and maintenance activities would not be expected to generate solid waste. Thus, no further evaluation is required.

### 3.20.4 Impact Statements and Mitigation Discussions

This section discusses potential impacts to utilities and service systems that could result in conjunction with the Proposed Project. Mitigation measures are identified where appropriate.

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### **Impact 3.20-1: Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?**

The water supply associated with the Proposed Project includes recycled water provided by the CSD WWTP. Wastewater treated at the WWTP is currently treated at full secondary treatment level. The Proposed Project includes construction and operation of an AWPf at the WWTP site to treat secondary wastewater to full Title 22 recycled water requirements for subsurface application (groundwater replenishment). The Proposed Project would be subject to multiple NPDES permits; for example, one for discharge to the Pacific Ocean from the CSD WWTP (Order R3-2017-0032), one for well backwash (Order R3-2016-0035), and one for construction activities (Construction General Permit). The Proposed Project would operate in full compliance with RWQCB regulations. Section 3.11, *Hydrology and Water Quality* describes in detail the applicable Title 22 regulations established by the SWRCB, which would be adhered to as part of the Proposed Project. Compliance with the CSD's NPDES for the CSD WWTP, which covers discharges of recycled water from the WWTP, would reduce water quality impacts resulting from discharge of recycled water by setting effluent limitations and discharge specifications for the CSD WWTP and requiring CSD to comply with the Monitoring and Reporting Program, as well as visually inspect the ocean outfall and diffuser structure at least once per year. This permit would be updated to reflect the new CAPP components. The RWQCB would issue a Waste Discharge Requirements (WDRs) permit for groundwater replenishment prior to injection of advanced treated water into the groundwater basin. The permit would be based on 22 CCR Division 4, Chapter 3, *Water Recycling Criteria*, which establishes regulations for groundwater replenishment reuse projects, and specifically Article 5.2, *Indirect Potable Reuse: Groundwater Replenishment – Subsurface Application*. Groundwater replenishment regulations are fully detailed in Section 3.11, *Hydrology and Water Quality*.

Water required for Proposed Project construction would primarily result from dust abatement, pipe flushing, and equipment testing. As discussed in Section 3.11, *Hydrology and Water Quality*, water used or produced during construction and dewatering would be disposed of in accordance with the SWRCB's NPDES General Permit for Discharges of Storm Water Associated with Construction Activity - Construction General Permit (Order 2009-0009-DWQ). Onsite treatment would be used as needed to ensure turbidity is within the allowable discharge levels. Water testing equipment may be able to be discharge sample water without treatment. In accordance with the SWRCB's NPDES General Permit for Discharges of Storm Water Associated with Construction Activity - Construction General Permit, an SWPPP containing BMPs to control sediment and other construction-related pollutants in stormwater discharges would be prepared and implemented.

The Proposed Project would comply with the applicable wastewater treatment permits and regulations and would not exceed wastewater treatment requirements of the Central Coast RWQCB. Impacts related to RWQCB wastewater treatment requirements would be less than significant.

#### ***Significance Determination Before Mitigation***

Less than Significant

### **Impact 3.20-2: Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects?**

The Proposed Project would provide advanced treatment of 1.0 MGD (and ultimately 1.2 MGD) of wastewater generated at the WWTP for injection of purified water into the groundwater basin to help enhance groundwater supply in the Study Area. The Proposed Project would be designed to serve existing and planned future water demands as



established in City's General Plan/*Local Coastal Land Use Plan*, as well as the CVWD 2016 UWMP. Given that the Proposed Project was designed to meet planned demands consistent with applicable General Plan/*Local Coastal Land Use Plan* and growth projections, and the Proposed Project itself includes construction of a new AWPf to help meet those demands, the Proposed Project would not result in the need for relocation or construction of a new water or wastewater treatment facility. The AWPf would be constructed at the WWTP site, which includes existing electric power and stormwater drainage facilities. The existing electrical infrastructure would need to be expanded to accommodate the AWPf. Options for electrical expansion include either upsizing the WWTP's existing electrical transformer or adding a new electrical service to the WWTP site. However, either method of electrical infrastructure expansion would not be expected to result in substantial environmental effect beyond what is covered under this EIR due to the nature of the work and location (e.g., use of existing utilities rights of way, and on-site work at the WWTP site). The Proposed Project would not result in the need for new natural gas, or telecommunications facilities or require relocation of existing facilities. Additional stormwater drainage facilities would be included in the design of the AWPf as necessary (see Section 3.11, *Hydrology and Water Quality*).

Conveyance pipelines, injection wells, and monitoring wells would be designed and sited to avoid conflict with existing underground utilities, including existing water and sewer lines, power, gas, and telecommunications facilities. An Underground Services Alert search is standard practice for design of water supply infrastructure. As a result, there would be no potential for conflict with existing utilities or need to construction additional facilities beyond those included in the Proposed Project for the pipelines and wells.

Construction of pipelines and above-ground facilities for the Proposed Project could temporarily affect drainage during construction activities. As described in Section 3.11, *Hydrology and Water Quality*, there could be potential for above-ground facilities to affect drainage on a long-term basis, because the WWTP is located in the 100- year flood area (as of the 2018 FIRM). However, a Carpinteria Creek No-Rise Determination and Certification (River Focus, 2018) has demonstrated that proposed development on the WWTP site would have no impact on the FEMA Regulatory Floodway or base flood elevation. All runoff from the AWPf would be contained within the WWTP site, which currently captures and conveys stormwater to its headworks for treatment. No runoff occurs from the WWTP site and existing stormwater drainage facilities at the WWTP site would be sufficient to address potential runoff from Proposed Project facilities constructed at the WWTP site. The Proposed Project would not result in the construction of new stormwater drainage facilities or expansion of existing facilities other than the facilities included as part of the Proposed Project. As such, significant impacts resulting from additional required storm drain facilities are not anticipated. Impacts related to construction of additional utilities beyond those included in the CAPP would be less than significant.

### ***Significance Determination Before Mitigation***

Less than Significant

### **Impact 3.20-3: Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years?**

The Proposed Project would provide a supply of advanced treated wastewater for injection into the Carpinteria Groundwater Basin to enhance existing local groundwater supply and reduce ocean discharges. Secondary treated water from the CSD WWTP would supply the AWPf for advanced treatment. The WWTP has a capacity 2.5 MGD and the average dry weather inflow to the plant is approximately 1.12 MGD. The secondary treated wastewater currently produced at the WWTP would be sufficient to supply the 1.0 MGD capacity AWPf, which would provide CVWD with a drought-resistant water supply during normal, dry, and multiple dry year scenarios. The purpose of the CAPP is to

provide supply reliability for CVWD in dry years. Therefore, there would be sufficient water supplies available to serve the Proposed Project during normal, dry, and multiple-dry years and impacts would be less than significant.

***Significance Determination Before Mitigation***

Less than Significant

**Impact 3.20-4: Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?**

The wastewater produced at the CSD's WWTP is currently discharged to the Pacific Ocean via an ocean outfall. The WWTP has a capacity of 2.5 MGD and the average dry weather inflow to the plant is approximately 1.12 MGD. As such, there are sufficient wastewater supplies for the initial 1.0 MGD capacity of the AWPf.

The Proposed Project is not anticipated to result in any compliance issues with respect to CSD's NPDES discharge permit issued by the Central Coast RWQCB, nor require or result in the construction of new or expanded water or wastewater treatment facilities other than those proposed by and evaluated within this EIR. Sufficient wastewater supplies would be available to serve the initial AWPf capacity and impacts would be less than significant.

***Significance Determination Before Mitigation***

Less than Significant.

### 3.21 Wildfire

This section discusses the potential impacts related to wildfire. The Proposed Project has the potential to impact emergency access and response due to lane and/or road closures required during construction of conveyance pipelines. Mitigation measures shall be implemented to reduce potential impacts related to wildfire.

#### 3.21.1 Physical Environmental Setting – Wildfire

The City of Carpinteria is located near the urban-wildland interface as it is located just south of the Los Padres National Forest and surrounded by agricultural lands and open space. The California Department of Forestry and Fire Protection (Cal Fire) issues Fire hazard Severity Zone Maps that designate zones with varying degrees of fire hazard. The fire hazard severity zones include low, moderate, high, and very high, and are based on factors such as fuel type and amount, slope, expected fire weather, and potential for burning embers to be transported by wind. Wildland fire protection is the responsibility of either the state, local government, or the federal government. The City of Carpinteria is within a LRA. The majority of the City of Carpinteria is in a non-VHFHSZ (CalFire, 2008).

The City's General Plan/Local *Coastal Land Use Plan* Safety Element designates the portion of the City that includes the Study Area as a Low Fire Hazard Zone due to the low potential for the area to be impacted by wildfire. The surrounding portions of the City area designated as a Moderate Fire Hazard Zone, indicating a slightly greater risk of wildfire due to the closer proximity to wildland areas surrounding the City. The City does not contain any High or VHFHSZs.

#### Debris Flows

Debris flows occur when water removes material from a slope or flows off a recent wildfire burn area. Recently updated emergency maps show the WWTP site is in a debris flow risk area and flagged for potential evacuations in the event of high storm risk (Santa Barbara County, 2018).

On January 9, 2018, Santa Barbara County experienced a debris flow in Montecito, approximately seven miles west of the City of Carpinteria. The debris flow was caused by intense rainfall in a short period of time that fell in an area that had experienced wildfire in the month before the storm. The area of the debris flow is characterized by steep arroyos and canyons that had been stripped of vegetation from the Thomas Fire. As a result of the severity of that event and associated loss of life and property, emergency management agencies updated debris flow risk maps for the areas downslope from the Thomas Fire burn area, which includes the Study Area. The SBCOEM debris flow mapping from December 2018 shows debris flow risk downslope of canyons north of Foothill Road/Highway 192, as well as along Carpinteria Creek and Santa Monica Creek (SBCOEM, 2018). The WWTP site is at risk of experiencing debris flow that could occur along Carpinteria Creek. None of the proposed injection well sites or monitoring well sites would be located within a debris flow risk area, and only conveyance pipelines immediately adjacent to the WWTP site between 6th Street and Palm Avenue would be located within a debris risk area.

#### 3.21.2 Regulatory Framework – Wildfire

##### Federal

##### ***National Fires Protection Association***

National Fire Protection Association Standard Section 704, *Standard System for the Identification of the Hazards of Materials for Emergency Response* provides standards for assessing the hazards of exposure to materials in the event

of a fire, spill, or other emergency. It assesses safety based on four criteria: health, instability, flammability, and related hazards (currently limited to unusual reactivity to water or to indicate material is an oxidizer).

### **Uniform Fire Code**

The UFC regulates the use, handling, and storage requirements for hazardous materials at facilities. In combination with the Uniform Building Code, it classifies hazards and determines appropriate protective measures. The UFC uses permits to regulated hazardous materials based on these classifications.

### **State**

#### **California Health and Safety Code**

General regulations regarding fire and fire protection are included in Division 12 of the California Health and Safety Code.

#### **The Bates Bill, AB 337**

The Bates Bill requires identification of VHFHSZs and sets requirements for defensible space and fire-resistant roofing for new development and roof replacements. According to Cal Fire's LRA Map for Santa Barbara County (2008), the City of Carpinteria is designated as a non-VHFHSZ.

### **Local**

#### **City of Carpinteria General Plan/Local Coastal Land Use Plan – Safety Element**

The Safety Element of the City of Carpinteria General Plan/Local Coastal Land Use Plan includes policies intended to reduce potential risks and damages related to wildfires.

- Objective S-5: Minimize the potential risks and reduce the loss of life, property, and economic and social dislocation resulting from urban and wildland fires.
  - Policy S-5a. All new structures must adhere to the Carpinteria-Summerland Fire Protection District Ordinance and the Santa Barbara County Fire Department Ordinances, where applicable.
  - Policy S-5b. All new structures, whether within or outside the urban limit zone, must adhere to the City Sprinkler Ordinance.
  - Policy S-5c. Roads shall be installed or improved to the standards specified in the County of Santa Barbara Private Road and Driveway Standard, Section 8 of the County of Santa Barbara Municipal Code.
  - Policy S-5d. The City will work in conjunction with the Carpinteria-Summerland Fire Protection District to adhere to, and enforce, all fire codes.

### **3.21.3 Impact Analysis – Wildfire**

#### **Methodology for Analysis**

The potential impacts related to wildfire were evaluated using the CEQA Guidelines, incorporating the changes adopted in December 2018.

## Thresholds of Significance

In accordance with the CEQA Guidelines, impacts resulting from wildfire would be significant if the Proposed Project does any of the following:

### Would the Proposed Project:

	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:				
3.21-1: Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.21-2: Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.21-3: Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.21-4: Expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### 3.21.4 Impact Statements and Mitigation Discussions

This section discusses potential impacts related to wildfires that could result in conjunction with the Proposed Project. Mitigation measures are identified where appropriate.

#### Impact 3.21-1: Substantially impair an adopted emergency response plan or emergency evacuation plan?

The Proposed Project involves construction and operation of an AWP, conveyance and backwash pipelines, injection and monitoring wells, and other related facilities. Construction activities for the Proposed Project would have temporary effects on traffic flow and lane configurations at specific intersections and roadways, which could similarly affect emergency access and response times in the Study Area. Construction activities could temporarily block access to some roadways and driveways that are currently used by emergency response vehicles or in emergency evacuations.

**Mitigation Measure MM 3.18-1** would require the development and implementation of a Transportation Management Plan which would outline temporary detour routes and alternative emergency access and evacuation routes. CVWD would coordinate with local emergency response agencies such as police and fire to alert these entities about potential construction delays and detours. CVWD would minimize the duration of disruptions/closures to roadways and critical access points for emergency services to the extent feasible. With implementation of **Mitigation Measure MM 3.18-1**, impacts to emergency access would be reduced to less than significant levels.

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***Significance Determination Before Mitigation***

Potentially Significant

***Mitigation Measures***

**Mitigation Measure MM 3.18-1** shall require a Transportation Management Plan for temporary detour routes and alternative emergency access and evacuation routes. See Section 3.18, *Transportation*.

***Significance Determination after Mitigation***

Less than Significant.

**Impact 3.21-2: Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?**

As discussed in Section 3.10, *Hazards and Hazardous Materials*, the majority of the City of Carpinteria is in a non-VHFHSZ in the LRA (CalFire, 2008). There are no areas within the City or the Study Area that are within a designated VHFHSZ. The City's General Plan/Local *Coastal Land Use Plan* Safety Element designates the portion of the City that includes the Study Area as a Low Fire Hazard Zone. Additionally, as discussed in Section 3.15, *Population and Housing*, the Proposed Project would not construct housing and would not expose residents to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. As a precautionary measure against wildfire risk, however, **Mitigation Measure MM 3.10-7** would be implemented to require construction staging areas be cleared of dried vegetation and other material that could ignite, and equipment that heats up to be stored only in cleared areas. Additionally, **Mitigation Measure MM 3.10-7** would require all construction equipment be kept in good working order and equipped with spark arrestors to prevent potential sparks, a spotter be utilized during welding activities, and fire extinguishers be made available at all construction sites. **Mitigation Measure MM 3.10-7** would minimize the potential for the Proposed Project to exacerbate wildfire risk and impacts would be less than significant.

***Significance Determination Before Mitigation***

Potentially Significant.

***Mitigation Measures***

**Mitigation Measure MM 3.10-7** shall require construction staging areas be cleared of dried vegetation and other material that could ignite, equipment that heats up to be stored only in cleared areas, all construction equipment be kept in good working order and equipped with spark arrestors to prevent potential sparks, a spotter be utilized during welding activities, and fire extinguishers be made available at all construction sites. See Section 3.10, *Hazards and Hazardous Materials*.

***Significance Determination after Mitigation***

Less than Significant

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**Impact 3.21-3: Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?**

The Proposed Project would construct an AWPf, conveyance and backwash pipelines, injection and monitoring wells, and other related facilities. As part of the AWPf, water, wastewater, and electrical service would be provided as on the WWTP site. Electrical power would be needed for well and pump operation. No new roads or utility service in previously-undeveloped areas would be needed, as all Proposed Project facilities are located in urbanized areas of the City of Carpinteria. Maintenance of Proposed Project facilities would include daily or periodic inspections inspection and maintenance of the various AWPf, pump stations, pipelines, and injection wells, routine maintenance of the facilities and infrastructure, and chemical deliveries as described in Section 2.8, *Operations and Maintenance*. These activities are not expected to exacerbate risk of fire. Potential impacts to the environment associated with chemical deliveries is addressed under Impact 3.10-1 in Section 3.10, *Hazards and Hazardous Materials*.

Potential risk of fire associated with construction of the Proposed Project would be reduced to less than significant levels with implementation of **Mitigation Measure MM 3.10-7**, which would require clearing construction staging areas of dried vegetation and other material that could ignite and storing equipment that heats up only in cleared areas and that all construction equipment be kept in good working order and quipped with spark arrestors to prevent potential sparks, a spotter be utilized during welding activities, and fire extinguishers be made available at all construction sites. Therefore, impacts related to increased risk of fire due to new or expanded utilities would be reduced to less than significant after implementation of mitigation.

***Significance Determination Before Mitigation***

Potentially Significant.

***Mitigation Measures***

**Mitigation Measure MM 3.10-7** shall require construction staging areas be cleared of dried vegetation and other material that could ignite, equipment that heats up to be stored only in cleared areas, all construction equipment be kept in good working order and quipped with spark arrestors to prevent potential sparks, a spotter be utilized during welding activities, and fire extinguishers be made available at all construction sites. See Section 3.10, *Hazards and Hazardous Materials*.

***Significance Determination after Mitigation***

Less than Significant.

**Impact 3.21-4: Expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?**

Per the City's General Plan/Local *Coastal Land Use Plan*, the Study Area does not fall with the areas designated as having a high landslide potential. However, on January 9, 2018, Santa Barbara County experienced a debris flow in Montecito, approximately seven miles west of the City of Carpinteria. The debris flow was caused by intense rainfall in a short period of time that fell in an area that had experienced wildfire in the month before the storm. The area of the debris flow is characterized by steep arroyos and canyons that had been stripped of vegetation from the Thomas Fire. As a result of the severity of that event and associated loss of life and property, emergency management agencies

recently updated debris flow risk maps for the areas downslope from the Thomas Fire burn area, which includes the Study Area. The updated emergency maps show the WWTP site is in a debris flow risk area and flagged for potential evacuations in the event of high storm risk (Santa Barbara County, 2018). The new SBCOEM debris flow mapping shows debris flow risk downslope of canyons north of Foothill Road/Highway 192, as well as along Carpinteria Creek and Santa Monica Creek (SBCOEM, 2018). The WWTP site is at risk of experiencing debris flow that could occur along Carpinteria Creek. None of the proposed injection well sites or monitoring well sites would be located within a debris flow risk area, and only conveyance pipelines immediately adjacent to the WWTP site between 6th Street and Palm Avenue would be located within a debris risk area.

The Proposed Project would not exacerbate the risk of debris flows occurring because any such debris flows would originate upstream of the WWTP site, and neither construction activities nor operational activities of the Proposed Project would trigger a debris flow event. The WWTP site and adjacent parcels are designated by SBCOEM, however, as parcels that would be evacuated under severe threat from storm events that are predicted to have the potential to cause a debris flow. In the event that evacuations are ordered for properties within the debris flow risk area that includes the WWTP site, employees would evacuate to areas designated as outside the evacuation area. Because the WWTP site is a critical service facility, it would only be required to evacuate if the threat is severe. Risk of injury or death associated with debris flows are possible, but AWPf staff would comply with evacuation orders under severe circumstances. Additionally, the WWTP site is walled, which could provide some protection against debris flows, and the AWPf and associated facilities would be constructed in compliance with applicable building and design standards which are intended to prevent damage to the structures from events such as debris flows and flooding to the extent feasible. There is potential for physical damage from debris flow at the WWTP site, though potential losses would be reduced by protective measures in place at the WWTP and compliance with design standards. As critical infrastructure, the WWTP would be a priority for recovery efforts following a debris flow event. In the event of a fire creating conditions suitable for landslides and debris flows, the state of the area would return to pre-fire conditions over time as vegetation regrows and roots begin to hold the soil in place which would minimize potential for erosion, landslides, and debris flows.

Compliance with engineering and construction standards and regulations for the AWPf components, compliance with evacuation orders, and the walls surrounding the WWTP property that would provide protection against debris flows, impacts to people or structures resulting from runoff, post-fire slope instability, or drainage changes would be less than significant.

***Significance Determination Before Mitigation***

Less than Significant.



## 3.22 Environmental Justice

This section describes environmental justice, the characteristics of the Study Area as related to environmental justice, and presents the regulatory setting relevant to the Proposed Project and environmental justice. Environmental justice is not required under CEQA, and was evaluated here in accordance with NEPA guidelines. The Proposed Project would not result in disproportionate impacts to low-income, minority, or tribal populations, or other groups of people.

### 3.22.1 Physical Environmental Setting – Environmental Justice

Environmental justice is defined by the U.S. Environmental Protection Agency (USEPA) as:

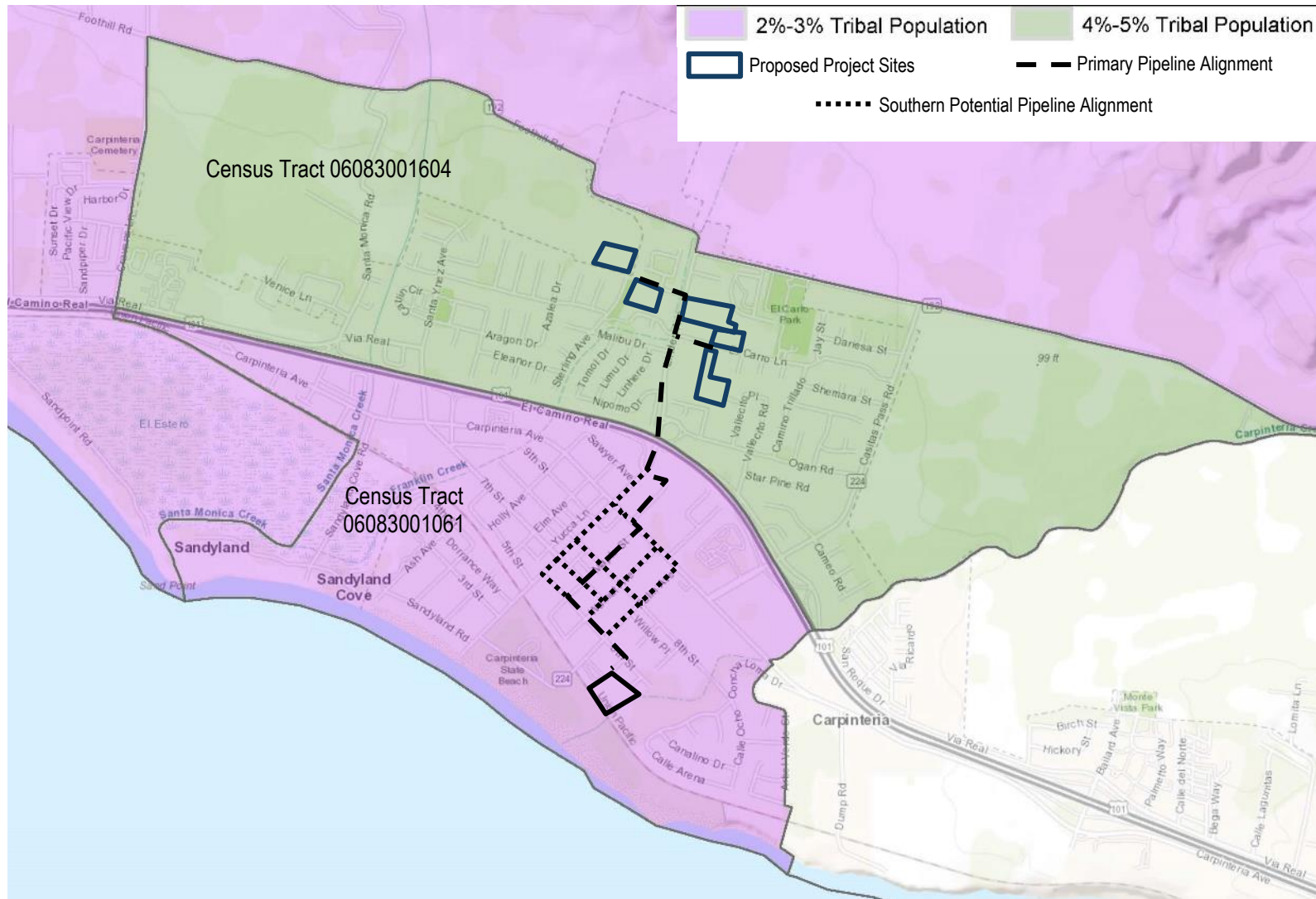
“The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means no group of people, including racial, ethnic, or economic groups should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of Federal, state, local, and tribal programs and policies.” (USEPA, 2018).

### Demographics

The City of Carpinteria is predominantly Caucasian, with residents identifying as white making approximately 73% of total residents, and 48% identifying as non-Hispanic or Latino white. Approximately 45% of the population identified as Hispanic or Latino, while just under 7% identified as non-white and non-Hispanic or Latino (ACS, 2019a). The County of Santa Barbara, though substantially larger than the City, has a similar ethnic and racial makeup as the City, with just over 45% of the population identifying as non-Hispanic or Latino white, nearly 45% identifying as Hispanic or Latino, and approximately 10% identifying as non-white and non-Hispanic or Latino (ACS, 2019d).

Historically, the Study Area was home to the Chumash tribe, and the County is home to over 9,400 people of Native American descent, including Chumash and other tribes, representing 2.1% of the overall population in the County (ACS, 2019d). Approximately 1.6% of the City of Carpinteria’s population is of Native American descent, and tribal resources in the Study Area are noted in Section 3.18 *Tribal and Cultural Resources* (ACS, 2019a). Figure 3.22-1 shows the tribal population within the Study Area.

Figure 3.22-1. Tribal Population within the Study Area



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## Economic Setting

Santa Barbara County's top job sectors include government, leisure and hospitality, educational and health services, farm, and professional and business services. Compared to the state as a whole, the County has a higher than proportion of farm, government, and leisure and hospitality workers (SBCAG, 2019). The City of Carpinteria's top job sectors are professional/business/information services, manufacturing, leisure services, and agriculture. These sectors include some of the higher average salaries, as well as some of the lower average salaries, for industries in the City (City of Carpinteria, 2017).

The U.S. Census' American Community Survey (ACS) provides estimates of community characteristics for non-Census years. Data is provided at the Census blockgroup, tract, and Census-designated place scale, which can be mapped. The City of Carpinteria has a median household income (MHI) of \$69,834. Approximately 32% of households earn less than \$50,000 per year, while approximately 54% earn less than \$75,000 per year. Nearly 8% of the population of the City are living below the poverty level (ACS, 2019c). The poverty level varies depending on the number of people in a household, and the 2017 federal poverty level for California, which aligns with the ACS data used in this analysis, ranges from \$12,060 for a single-person household and up to \$41,320 for an eight-person household (ASPE, 2017).

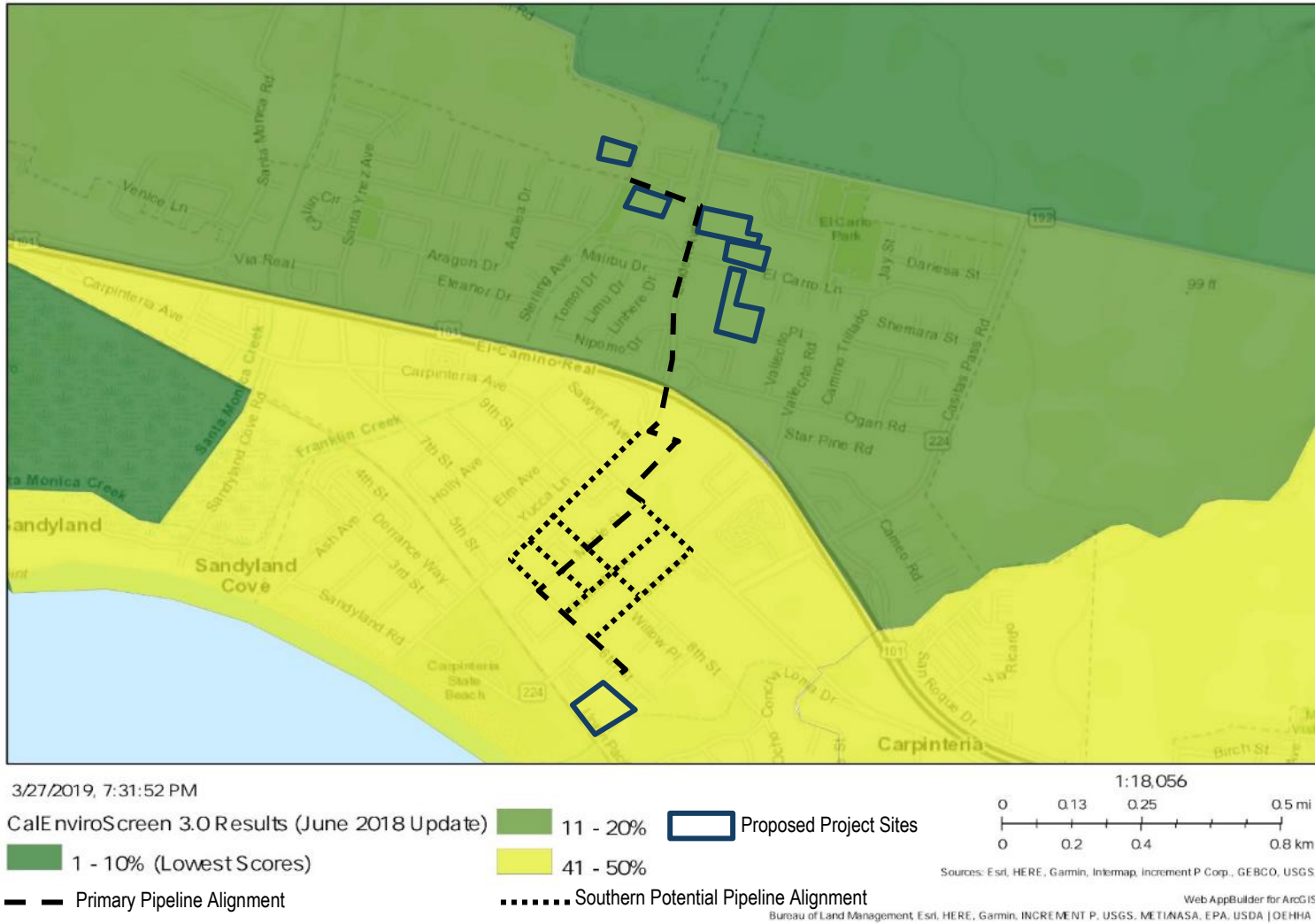
DWR defines a disadvantaged community as having an MHI that is 80% of the statewide MHI. Within the City of Carpinteria, one census blockgroup meets DWR's criteria for a disadvantaged community; it is bounded by U.S. Highway 101 to the north, the railroad to the south, Franklin Creek to the west, and Linden Avenue to the east. This blockgroup has an MHI of \$45,917 (DWR, 2019).

Unemployment in the City of Carpinteria is approximately 4.5%, while the County as a whole has an unemployment rate of 4.2% (ACS, 2019b; ACS, 2019e). This is similar to statewide and national unemployment rates.

## Environmental Justice

Environmental justice is measured in many ways, but considers minority status, income, and factors that make communities more sensitive to pollution. The California Environmental Protection Agency and Office of Environmental Health Hazard Assessment produces a mapping tool called CalEnviroScreen to help identify communities that are disproportionately burdened by multiple sources of pollution that factors in existing pollution burden and population characteristics. Higher scores (percentiles out of 100%) indicate a higher risk of disproportionate impacts from pollution when considering community factors. Projects that would be constructed in communities with high CalEnviroScreen scores, or that would create pollution in such communities, may have environmental justice impacts. The Study Area south of U.S. Highway 101 has a CalEnviroScreen score of 40-45%, while the Study Area north of the freeway has a CalEnviroScreen score of 15 to 20%, as shown in Figure 3.22-2 (Office of Environmental Health Hazard Assessment, 2018). Note that CalEnviroScreen provides percentiles in 5% increments, but maps communities in 10% increments.

Figure 3.22-2. CalEnviroScreen 3.0 Scores for Study Area



### 3.22.2 Regulatory Setting – Environmental Justice

#### Federal

##### *Executive Order 12898*

Executive Order 12898: Federal actions to Address Environmental Justice in Minority Populations and Low-Income Populations prohibits discrimination against or exclusion of individuals and populations during the conduct of federal activities. It requires all federal agencies to identify and address disproportionately high and adverse human health or environmental effects of its programs and activities on minority and low-income populations. It also notes the importance of the NEPA public process in soliciting input from communities which may be affected by a proposed action.

#### State

There are no state regulations related to environmental justice relevant to the Proposed Project.

#### Local

There are no local regulations related to environmental justice relevant to the Proposed Project.

### 3.22.3 Impact Analysis – Environmental Justice

#### Methodology for Analysis

The Council on Environmental Quality developed guidance for evaluating environmental justice under NEPA in 1997 (Council on Environmental Quality, 1997). It acknowledges there is no standard way to evaluate potential environmental justice impacts of a project but recommends consideration of six guiding principles, which help to understand affected communities, providing a basis for evaluating the potential for disproportionate high and adverse effects on low-income populations, minority populations, or tribes.

#### Thresholds of Significance

Based on consideration of the six guiding principles recommended by the Council on Environmental Quality, impacts to environmental justice resulting from the Proposed Project would be significant if the Proposed Project does any of the following:

<b>Would the Proposed Project:</b>	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
3.22-1: Would have disproportionately high and adverse human health or environmental effects on low-income populations, minority populations, or Indian tribes?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### 3.22.4 Impact Statements and Mitigation Discussions

This section discusses potential impacts to environmental justice that could result from the Proposed Project. Mitigation measures are identified where appropriate.

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### **Impact 3.22-1: Potential to have disproportionately high and adverse human health or environmental effects on low-income populations, minority populations, or Indian tribes?**

The CalEnviroScreen 3.0 analysis shows that environmental justice impacts are not a concern in the Study Area (see Figure 3.22-2 above), with the Study Area scoring between 15-45%. The Proposed Project would have a less than significant impact associated with environmental justice concerns. To further support this assessment, this EIR evaluates the presence of low-income populations, minority populations, and tribes compared to the population as a whole and in relation to the Proposed Project location. Direct impacts from the Proposed Project would primarily occur in the vicinity of proposed CAPP components. Potential impacts that are experienced further from the Proposed Project facilities would generally be experienced by the community as a whole and would not disproportionately impact a given segment of the population.

A portion of the Study Area is located in an economically disadvantaged community, west of Linden Avenue and south of U.S. Highway 101. The only portion of the Proposed Project that would be located in this disadvantaged area is the potential conveyance pipeline that would extend down Linden Avenue. This pipeline would primarily be located within the downtown business district of Linden Avenue, and would not be located within a residential area. The primary pipeline alignment would not be located in this disadvantaged community, but would be adjacent to it, as would other potential pipeline alignments for the Proposed Project. Construction impacts could affect residents through increased traffic, noise, and dust, but impacts would be temporary. Once construction is completed, operation and maintenance of the conveyance pipeline would not create environmental impacts along Linden Avenue. As such, there would be no disproportionately high and adverse effects on low-income populations.

The Study Area is in two U.S. Census Tracts (Tract 06083001061 and Tract 06083001604). The first of these encompass the City of Carpinteria between the freeway and coast, and the Carpinteria Marsh and Arbol Verde Street on the far side of Carpinteria Creek from the Proposed Project. The second tract includes the area between the freeway and Highway 192/Foothill Road, and Carpinteria Creek to the east and Cravens Lane to the west. ACS data indicates that while the tract south of the freeway has a slightly lower minority population than the tract north of the freeway, they are similar percentages of minority (47% and 51%, respectively). The U.S. Census tract in the unincorporated area of the County to the west and north of the Study Area has a substantially lower minority population (29%), but has a substantially lower population density and includes the predominantly white community of Summerland. The U.S. Census tract to the east of the Study Area, that includes the remainder of the City of Carpinteria is 63% minority, higher than that of the Study Area. Potential impacts from the Proposed Project would therefore not disproportionately affect minority populations.

ACS data demonstrates that the Study Area population is approximately 1.2% American Indian or Alaskan Native south of the freeway, and approximately 4% American Indian or Alaskan Native north of the freeway. Proposed Project components south of the freeway would include conveyance pipelines, the AWPf, and associated facilities. The proposed components located north of the freeway would include conveyance pipelines, injection wells, monitoring wells, and the backwash tank. Once construction is complete, the potential impacts from these components would be less than significant, and would not disproportionately impact tribes.

Minority, disadvantaged, and tribal populations within the Study Area are limited. Construction and operation of the Proposed Project would not have a disproportionate negative impact on minority, disadvantaged, or tribal populations.

#### ***Significance Determination Before Mitigation***

Less Than Significant

## 4. ALTERNATIVES ANALYSIS

This section meets CEQA Guidelines Section 15126.6 requirements regarding analysis of alternatives in an EIR. Alternatives should be limited to those that meet most of the project's basic objectives, are potentially feasible, and would avoid or substantially reduce any of the significant effects of the project.

### 4.1 Selection of Alternatives

CEQA Guidelines Section 15126.6 provides the following criteria for selecting alternatives:

1. An EIR must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation. The lead agency is responsible for selecting project alternatives and must publicly disclose its reasoning for selecting those alternatives. The alternatives addressed in an EIR should be governed by a rule of reason. Not every conceivable alternative must be addressed, nor do infeasible alternatives need to be considered (Section 15126.6(a)). When addressing feasibility, factors taken into account may include site suitability, economic viability, availability of infrastructure, other plans or regulatory limitations, jurisdictional boundaries, and the proponent's ability to reasonably acquire, control, or otherwise have access to an alternative site (Section 15126.6(f)(1)).
2. Evaluation is to focus on those alternatives that can avoid or substantially lessen any significant environmental effects of the project, even if the alternative would be more costly or would impede, to some degree, the attainment of the project objectives (identified in Section 2, *Proposed Project*) (Section 15126.6(c)).
3. The EIR should identify alternatives that were considered by the lead agency but were rejected as infeasible and the reasons for the lead agency's determination (Section 15126.6(c)).
4. A "No Project" alternative must be evaluated and the EIR must also identify an environmentally superior alternative (Section 15126.6(e))

The discussion should not consider those alternatives whose implementation is remote or speculative, and the analysis need not be presented in the same level of detail as the assessment of the proposed project. Based on the CEQA Guidelines, several factors should be considered in determining the range of alternatives to be analyzed in an EIR and the level of detail provided for each alternative. These factors include:

1. The potential for the proposed project to result in significant impacts;
2. The ability of alternatives to reduce or avoid the significant impacts from the proposed project;
3. The ability of the alternatives to attain most of the primary objectives of the proposed project; and
4. The feasibility of the alternatives.

The analysis in this EIR indicates the Proposed Project would not result in any potentially significant and unavoidable impacts; as a result, none of the alternatives examined here would avoid a significant impact associated with the Proposed Project. However, they would lessen or avoid potentially significant impacts of the Proposed Project before mitigation.

The alternatives included in this analysis were selected based on CVWD's *2016 Recycled Water Facilities Plan*, which evaluated four types of recycled water projects, each of which had multiple project components, for a total of 10 project alternatives. The alternatives considered in the *2016 Recycled Water Facilities Plan* were developed based on potential customers, location of customers in relation to the CSD WWTP, level of treatment required to meet demands, storage, hydraulic criteria, and potential distribution system. From that evaluation, alternatives for the EIR were identified based on how closely they met the Proposed Project's objectives, and their potential to have less environmental impact than the Proposed Project.

## 4.2 Proposed Project

As identified in Section 2, *Project Description*, the objectives of the Proposed Project are to develop a sustainable and locally controlled future water supply by:

1. Creating a new, drought-resistant, reliable supply of local water.
2. Producing approximately 1,000 AFY advanced treated water suitable for groundwater recharge and potable reuse (at 1.0 MGD capacity), with the ability to expand to up to 1,200 AFY (at 1.2 MGD capacity).
3. Reducing CVWD’s reliance on surface water and storage at Lake Cachuma.

The Proposed Project is located in the City of Carpinteria and unincorporated Santa Barbara County, California. It would involve construction of an AWPf, injection wells, conveyance pipelines, backwash pipelines, pump station, monitoring wells, and modifications to the existing ocean outfall. The AWPf treatment train would include MF/UF, RO, AOP, with UV and free chlorine. The AWPf, as well as a pump station, would be constructed entirely within the CSD WWTP site. Modification of the ocean outfall would involve the addition of duckbill valves to the existing ports and modification of port angles, which would require divers and a support boat to accomplish. Construction of injection wells and monitoring wells would both require various well drilling equipment, and may require 24-hour drilling. Pipeline construction would involve primarily open trench construction, with the potential for some trenchless technologies (jack-and-bore and horizontal directional drilling). The Proposed Project would involve the crossing of Franklin Creek either through a pipe bridge or open trench construction. As shown in Figure 2-1 (Section 2, *Project Description*), the Proposed Project is primarily located within the City of Carpinteria’s municipal boundaries, with the exception of one potential injection well site (Well Site #6) and associated pipeline.

The Proposed Project would produce approximately 1,100 AFY (1 MGD) of purified water from the WWTP for injection into the local groundwater basin, to be extracted later for CVWD potable water supply. The Proposed Project also includes expansion of the AWPf from 1.0 MGD to 1.2 MGD based on projected future increases in WWTP flows. Table 4-1 shows the Proposed Project components.

## 4.3 Project Alternatives

Three alternatives to the Proposed Project were identified: No Project Alternative, Surface Spreading Alternative, and Agricultural Irrigation Offset Alternative. A summary of the three project alternatives’ components as compared to the Proposed Project are provided in Table 4-1, and additional information on each alternative is provided in the following sections.

<b>Table 4-1. Summary of Proposed Project and Alternatives Components</b>				
<b>Components</b>	<b>Proposed Project</b>	<b>No Project</b>	<b>Surface Spreading<sup>1</sup></b>	<b>Agricultural Irrigation Offset<sup>2</sup></b>
<b>Treatment Facilities</b>				
Advanced water purification	Yes	No	Yes	No
Non-potable recycled water	No	No	No	Yes
<b>Conveyance Facilities</b>				
12-inch pipeline (linear feet)	7,600	-	9,130	7,400
8-inch pipeline (linear feet)	1,100	-	-	12,800



<b>Table 4-1. Summary of Proposed Project and Alternatives Components</b>				
<b>Components</b>	<b>Proposed Project</b>	<b>No Project</b>	<b>Surface Spreading<sup>1</sup></b>	<b>Agricultural Irrigation Offset<sup>2</sup></b>
6-inch pipeline (linear feet)	-	-	-	10,000
<b>Recharge Facilities</b>				
Injection wells (wells)	3	-	-	-
Spreading basins (acres)	-	-	7.2	-
<b>Other Facilities</b>				
Pump station (HP)	40 (x3)	-	80	210
Ocean outfall modifications	Yes	No	Yes	Yes
Monitoring wells (wells)	3	-	3	-
Backwash tank	1	-	-	-
Discharge structures	-	-	1	-
Customer connections	-	-	-	31
Potable Water Turnout	-	-	-	-
<b>Crossings</b>				
U.S. Highway 101 within Linden Avenue Bridge	Yes	No	Yes	No
U.S. Highway 101 at Casitas Pass	No	No	No	Yes
Railroad Crossing at Linden Avenue	No	No	No	Yes
Drainage Channel at Foothill Road	No	No	No	Yes
Franklin Creek	Yes	No	No	No
Carpinteria Creek	No	No	No	Yes
Surface Spreading: Alternative 3B in the 2016 Recycled Water Facilities Plan Agricultural Irrigation Offset: Alternative 2B in the 2016 Recycled Water Facilities Plan				

## No Project Alternative

The No Project Alternative is the “business as usual” alternative. Under this alternative, the CAPP would not be implemented and the proposed AWPf and associated pump station, injection wells, monitoring wells, and conveyance pipelines would not be constructed (see Table 4-1). Therefore, 1.2 MGD of purified water would not be produced and CVWD’s service area would continue to be dependent on the existing supply, causing strain on the groundwater basin during drought or cutback conditions. Although no action is analyzed in this alternative, CVWD would likely need to find another source of supply to ensure supply reliability in the event of reduced availability of water stored in Lake Cachuma in the future, which could have separate environmental impacts.

The No Project Alternative assumes existing conditions at the time the Notice of Preparation is filed or at the time the environmental analysis commenced. This document reflects existing conditions (baseline conditions) present as of January 7, 2019.

The No Project Alternative would not meet CVWD's objectives for developing a local water supply, producing advanced treated water, or offsetting surface water in Lake Cachuma.

### Surface Spreading Alternative

The Surface Spreading Alternative proposes to construct the 1.0 MGD AWPf and then recharge all available purified water via surface spreading in recharge basins overlying the unconfined area of the Carpinteria Groundwater Basin. The exact location of potential recharge basins is not evaluated in this analysis because private property would likely need to be purchased. For a complete analysis of this alternative, further hydrogeologist investigation would be needed in the proposed recharge area to confirm that the recycled water percolates at an acceptable rate. A percolation rate of 6 inches per day for 1 MGD of purified water was used to estimate the need for 7.2 acres of basins. Table 4-1 shows a comprehensive list of components required for the Surface Spreading Alternative. The *2016 Recycled Water Facilities Plan* (CVWD, 2016) evaluated multiple groundwater recharge alternatives, some of which included recharge using spreading basins, and others that included injection wells. Figure 4-1 shows all of the groundwater recharge alternatives evaluated in the *2016 Recycled Water Facilities Plan*, including the Surface Spreading Project Alternative considered in this EIR. This Alternative is referred to as Alternative 3B in the *Recycled Water Facilities Plan*. Potential spreading basin sites were not identified for this alternative before it was determined to be a non-preferred alternative; as such, spreading basins are assumed to be located in the unconfined area of the groundwater basin, near the northern terminus of the Alternatives 3A+3B pipeline shown in the figure.

The Surface Spreading Alternative would meet all three of CVWD's objectives for developing a local water supply, producing advanced treated water, and offsetting surface water in Lake Cachuma.

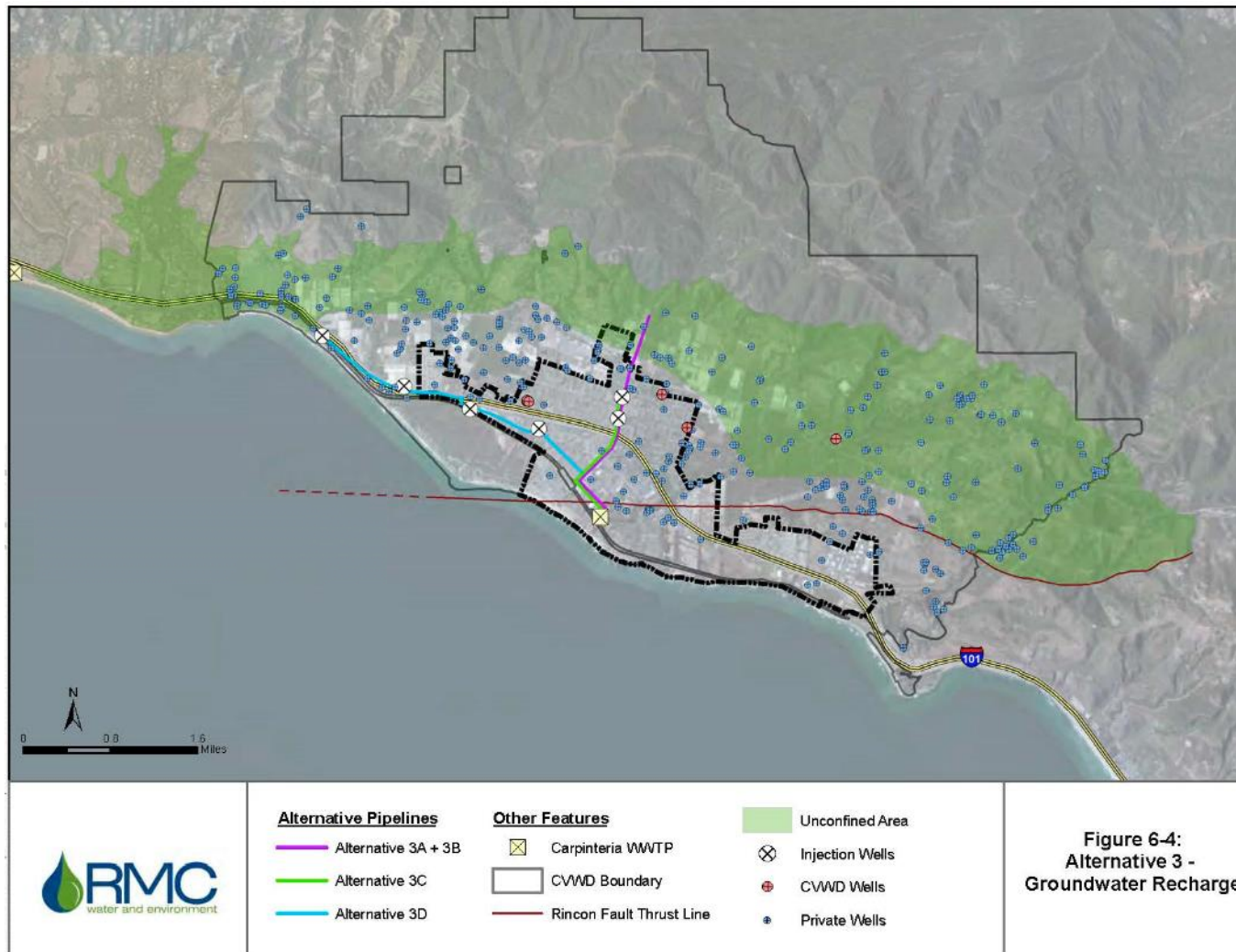
#### 8.5.1.3 Agricultural Irrigation Offset Alternative

The Agricultural Irrigation Offset Alternative considers recycled water service to agricultural irrigation customers that primarily use groundwater and are located close enough to the WWTP that the connections would require minimal conveyance infrastructure. This alternative, shown in Figure 4-2, would serve some of the largest agricultural irrigation customers based on their groundwater use. This alternative would include construction of a partial-RO treatment train to produce tertiary recycled water for non-potable irrigation.

Approximately 1,050 AFY (or 1.0 MGD, comparable to the Proposed Project) of potential agricultural irrigation demand was identified northeast of the WWTP, in the vicinity of Carpinteria Creek. For the purposes of this alternatives analysis, it was assumed that approximately 70% of the demand would connect to the system (725 AFY), which represents a reasonable level of participation considering not all potential customers will elect to connect to the system and the cost of some laterals may not justify connecting the demands. Connecting the large, anchor customers would be essential for this alternative to be feasible. Table 4-1 shows a comprehensive list of components required for the Agricultural Offset Alternative.

The Agricultural Irrigation Offset Alternative would not meet CVWD's objective for producing advanced treated water, but would instead meet its local supply and surface water offset objectives through production and delivery of non-potable recycled water.

Figure 4-1. Groundwater Recharge Alternatives Considered in the 2016 Recycled Water Facilities Plan



Note: The Surface Spreading Alternative is equivalent to Alternative 3B in the Recycled Water Facilities Plan. Recharge basin sites were not identified during evaluation of the alternatives in the Recycled Water Facilities Plan, and are therefore not shown in this map. This alternative would not include injection wells or pipelines for Alternatives 3C or 3D that are shown in this figure

Figure 4-2. Agricultural Irrigation Offset Alternative

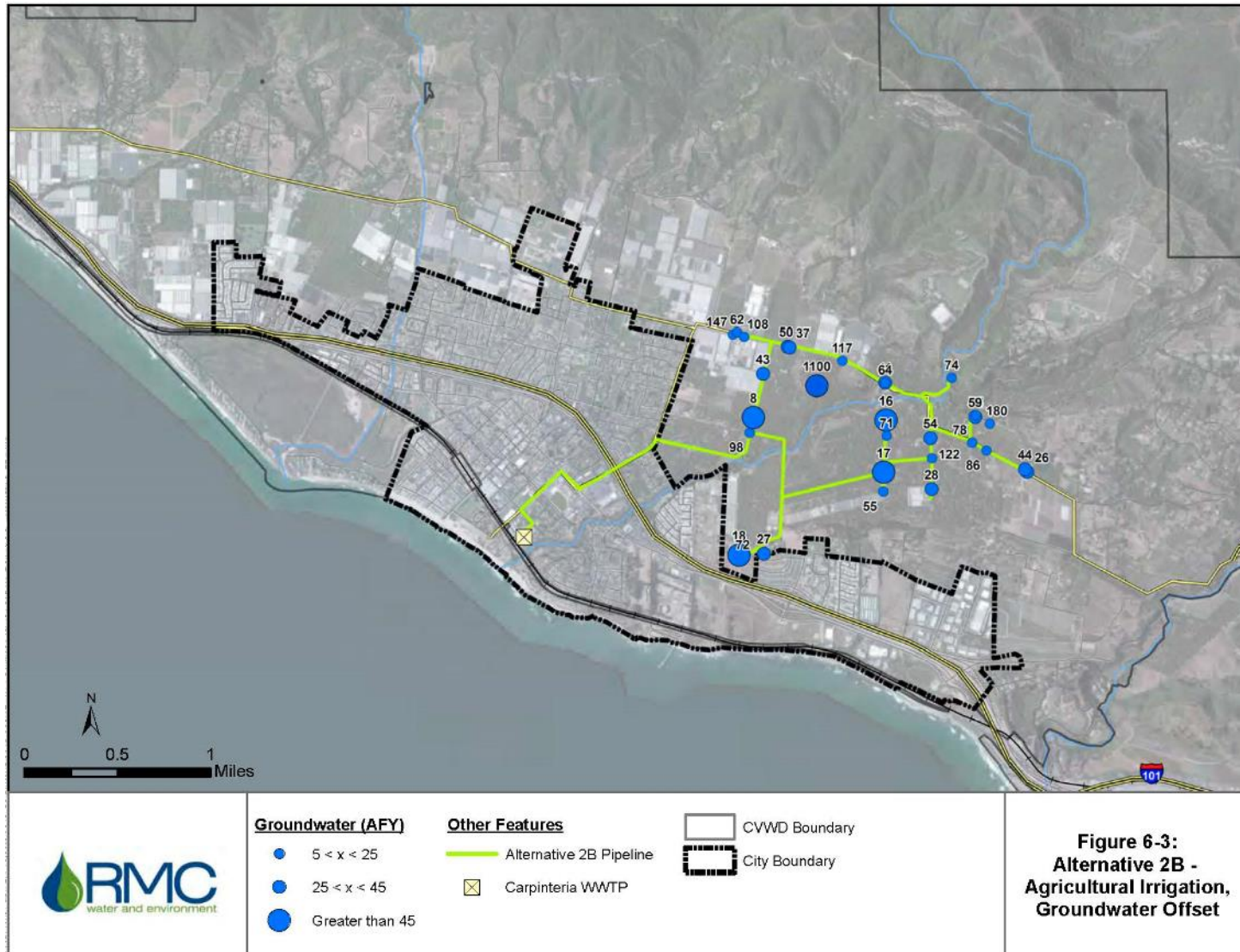


Figure 6-3:  
Alternative 2B -  
Agricultural Irrigation,  
Groundwater Offset

#### 4.4 Potentially Significant Impacts of Proposed Project

As shown in Table 4-2, implementation of the Proposed Project would result in potentially significant impacts to a number of resource areas, although all identified impacts would be reduced to less than significant with implementation of recommended mitigation measures. Resources that would potentially be impacted by the Proposed Project and require mitigation include:

- Aesthetics
- Biological Resources
- Marine Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Noise
- Transportation
- Tribal Cultural Resources
- Wildfire

The impact analysis for the Proposed Project is presented in Section 3, *Environmental Analysis*, along with detailed mitigation measures that would be implemented to reduce the potential impacts to less than significant. The majority of the potential impacts stem from construction-related activities of the project. Potential operational impacts from the Proposed Project would be limited to lighting (aesthetics), potential exposure to chemicals used at the AWP in the event of spill or accident (hazards and hazardous materials), and the location of the Proposed project within a seismically active region (geology and soils) that also has a history of wildfires (wildfire).

#### 4.5 Potential Impacts from Project Alternatives

Potential impacts associated with the three alternatives to the Proposed Project were identified and compared to the potential impacts analyzed for the Proposed Project. Table 4-2 provides an overview of the potential environmental impacts of the alternatives with respect to the potential impacts of the Proposed Project. The Agricultural Offset plus Surface Spreading Alternative would have the combined impacts of the Agricultural Irrigation Offset Alternative and the Surface Spreading Alternative, and therefore its potential impacts have not been separately analyzed.

<b>Table 4-2. Comparison of Project Alternative Impacts to the Proposed Project</b>				
<b>Impact Statement</b>	<b>Level of Significance<sup>1,2</sup></b>			
	<b>Proposed Project</b>	<b>No Project</b>	<b>Surface Spreading</b>	<b>Agricultural Irrigation Offset</b>
<b>3.1 Aesthetics</b>				
<b>Impact 3.1-1:</b> Potential to have a substantial adverse effect on a scenic vista.	LTS	No Impact (Less)	LTS (Same)	LTS (Less)
Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	No Impact	No Impact	No Impact	No Impact
<b>Impact 3.1-2:</b> In non-urbanized areas, potential to substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality.	LTS	No Impact (Less)	LTS (Same)	LTS (Less)
<b>Impact 3.1-3:</b> Potential to create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.	LTS-M	No Impact (Less)	LTS-M (Same)	LTS-M (Less)
<b>3.2. Agriculture and Forestry Resources</b>				
<b>Impact 3.2-1:</b> Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.	LTS	No Impact (Less)	LTS-M (Greater)	LTS (Same)
<b>Impact 3.2-2:</b> Conflict with existing zoning for agricultural use, or a Williamson Act contract.	LTS	No Impact (Less)	LTS-M (Greater)	No Impact (Less)
Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resource Code section 12220 (g)), timberland (as defined by Public Resource Code	No Impact	No Impact	No Impact	No Impact

**Table 4-2. Comparison of Project Alternative Impacts to the Proposed Project**

Impact Statement	Level of Significance <sup>1,2</sup>			
	Proposed Project	No Project	Surface Spreading	Agricultural Irrigation Offset
section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)				
Result in the loss of forest land or conversion of forest land to non-forest use	No Impact	No Impact	No Impact	No Impact
<b>Impact 3.2-3:</b> Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.	LTS	No Impact (Less)	LTS (Same)	No Impact (Less)
<b>Impact 3.2-4:</b> Meet or exceed the agricultural thresholds identified in the City's Environmental Review Guidelines.	LTS	No Impact (Less)	LTS-M (Greater)	LTS (Same)
<b>3.3 Air Quality</b>				
Impact 3.3-1 Conflict with or obstruct implementation of the applicable air quality plan.	LTS	No Impact (Less)	LTS (Same)	LTS (Same)
Impact 3.3-2 Result in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment	LTS	No Impact (Less)	LTS (Greater)	LTS (Greater)
Impact 3.3-3 Expose sensitive receptors to substantial pollutant concentrations	LTS	No Impact (Less)	LTS (Greater)	LTS (Greater)
Impact 3.3-4 Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people	LTS	No Impact (Less)	LTS (Greater)	LTS (Greater)
<b>3.4 Terrestrial Biological Resources</b>				
<b>Impact 3.4-1:</b> Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status	LTS-M	No Impact (Less)	LTS-M (Greater)	LTS-M (Greater)

**Table 4-2. Comparison of Project Alternative Impacts to the Proposed Project**

Impact Statement	Level of Significance <sup>1,2</sup>			
	Proposed Project	No Project	Surface Spreading	Agricultural Irrigation Offset
species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or USFWS.				
<b>Impact 3.4-2:</b> Have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or USFWS.	LTS-M	No Impact (Less)	LTS-M (Greater)	LTS-M (Greater)
<b>Impact 3.4-3:</b> Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	LTS-M	No Impact (Less)	LTS-M (Same)	LTS-M (Greater)
<b>Impact 3.4-4:</b> Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites.	LTS	No Impact (Less)	LTS-M (Greater)	LTS-M (Less)
<b>Impact 3.4-5:</b> Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance	LTS-M	No Impact (Less)	LTS-M (Greater)	LTS-M (Same)
Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan	No Impact	No Impact	No Impact	No Impact
<b>3.5 Marine Biological Resources</b>				



**Table 4-2. Comparison of Project Alternative Impacts to the Proposed Project**

Impact Statement	Level of Significance <sup>1,2</sup>			
	Proposed Project	No Project	Surface Spreading	Agricultural Irrigation Offset
<b>Impact 3.5-1:</b> Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or USFWS.	LTS-M	No Impact (Less)	LTS-M (Same)	LTS-M (Less)
<b>Impact 3.5-2:</b> Have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or USFWS.	LTS-M	No Impact (Less)	LTS-M (Same)	LTS-M (Less)
<b>Impact 3.5-3:</b> Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	LTS-M	No Impact (Less)	LTS-M (Same)	LTS-M (Less)
<b>Impact 3.5-4:</b> Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites	LTS-M	No Impact (Less)	LTS-M (Same)	LTS-M (Less)
<b>Impact 3.5-5:</b> Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance	LTS-M	No Impact (Less)	LTS-M (Same)	LTS-M (Less)
Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan	No Impact	No Impact	No Impact	No Impact
<b>3.5 Cultural Resources</b>				
<b>Impact 3.5-1:</b> Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5.	LTS	No Impact (Less)	LTS (Same)	LTS (Same)
<b>Impact 3.5-2:</b> Cause a substantial adverse change in the significance of a unique archeological resource pursuant to Section 15064.5.	LTS-M	No Impact (Less)	LTS-M (Greater)	LTS-M (Same)

**Table 4-2. Comparison of Project Alternative Impacts to the Proposed Project**

Impact Statement	Level of Significance <sup>1,2</sup>			
	Proposed Project	No Project	Surface Spreading	Agricultural Irrigation Offset
<b>Impact 3.5-3:</b> Disturb any human remains, including those interred outside of formal cemeteries.	LTS-M	No Impact (Less)	LTS-M (Greater)	LTS-M (Same)
<b>3.6 Energy</b>				
<b>Impact 3.6-1:</b> Result in wasteful, inefficient, or unnecessary consumption of energy	LTS	LTS (Less)	LTS (Greater)	LTS (Greater)
<b>Impact 3.6-2:</b> Require the development of new sources of energy	LTS	LTS (Less)	LTS (Same)	LTS (Same)
<b>Impact 3.6-3:</b> Conflict with renewable energy plan	LTS	LTS (Greater)	LTS (Same)	LTS (Same)
<b>3.7 Geology and Soils</b>				
<b>Impact 3.7-1:</b> Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? ii) Strong seismic ground shaking? iii) Seismic-related ground failure, including liquefaction? iv) Landslides?	LTS-M	No Impact (Less)	LTS-M (Same)	LTS-M (Same)
<b>Impact 3.7-2:</b> Result in substantial soil erosion or the loss of topsoil.	LTS	No Impact (Less)	LTS (Greater)	LTS (Greater)
<b>Impact 3.7-3:</b> Be located on geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.	LTS-M	LTS (Less)	LTS-M (Same)	LTS-M (Same)

<b>Table 4-2. Comparison of Project Alternative Impacts to the Proposed Project</b>				
<b>Impact Statement</b>	<b>Level of Significance<sup>1,2</sup></b>			
	<b>Proposed Project</b>	<b>No Project</b>	<b>Surface Spreading</b>	<b>Agricultural Irrigation Offset</b>
<b>Impact 3.7-4:</b> Be located on expansive soil, as defined in Table 18 1 B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.	LTS-M	LTS (Less)	LTS-M (Same)	LTS-M (Same)
Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater	No Impact	No Impact	No Impact	No Impact
<b>Impact 3.7-5:</b> Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	LTS-M	No Impact (Less)	LTS-M (Same)	LTS-M (Less)
<b>Impact 3.7-6:</b> Exceed the City of Carpinteria's thresholds of significance for erosion or siltation	LTS	No impact (Less)	LTS-M (Greater)	LTS-M (Less)
<b>3.8 Greenhouse Gas Emissions</b>				
<b>Impact 3.6-1:</b> Generate greenhouse gas emissions that may have a significant impact	LTS	LTS (Less)	LTS (Greater)	LTS (Greater)
<b>Impact 3.3-2:</b> Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases	LTS	LTS (Greater)	LTS (Same)	LTS (Same)
<b>3.9 Hazards and Hazardous Materials</b>				
<b>Impact 3.9-1:</b> Potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	LTS-M	No Impact (Less)	LTS-M (Same)	LTS-M (Greater)
<b>Impact 3.9-2:</b> Potential to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	LTS-M	No Impact (Less)	LTS-M (Same)	LTS-M (Greater)

**Table 4-2. Comparison of Project Alternative Impacts to the Proposed Project**

Impact Statement	Level of Significance <sup>1,2</sup>			
	Proposed Project	No Project	Surface Spreading	Agricultural Irrigation Offset
<b>Impact 3.9-3:</b> Potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	LTS-M	No Impact (Less)	LTS-M (Same)	LTS-M (Greater)
<b>Impact 3.9-4:</b> Potential to be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.	LTS-M	No Impact (Less)	LTS-M (Greater)	LTS-M (Greater)
For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area	No Impact	No Impact	No Impact	No Impact
<b>Impact 3.9-5:</b> Potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	LTS-M	No Impact (Less)	LTS-M (Same)	LTS-M (Greater)
<b>Impact 3.9-6:</b> Potential to expose people or structures either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	LTS-M	No Impact (Less)	LTS-M (Same)	LTS-M (Same)
<b>3.10 Hydrology and Water Quality</b>				
<b>Impact 3.10-1:</b> Potential to violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality	LTS-M	No Impact (Less)	LTS-M (Greater)	LTS-M (Greater)
<i>Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin</i>	No impact	LTS-M (Greater)	No Impact	No Impact
<b>Impact 3.10-2:</b> Potential to substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: i) result in substantial erosion	LTS	No impact (Less)	LTS-M (Greater)	LTS-M (Less)

**Table 4-2. Comparison of Project Alternative Impacts to the Proposed Project**

Impact Statement	Level of Significance <sup>1,2</sup>			
	Proposed Project	No Project	Surface Spreading	Agricultural Irrigation Offset
of siltation; ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding; iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; iv) Impede or redirect flood flows; v) risk release of pollutants due to Project inundation (if in flood hazard, tsunami, or seiche zones); vi) conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan				
<b>3.11 Land Use and Planning</b>				
Physically divide an established community	No Impact	No Impact	No Impact	No Impact
<b>Impact 3.11-1.</b> Potential to cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.	LTS-M	No Impact (Less)	LTS (Less)	LTS (Less)
<b>3.12 Mineral Resources</b>				
<b>Impact 3.12-1:</b> Potential to result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.	LTS	No Impact (Less)	LTS (Same)	No Impact (Less)
Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan	No Impact	No Impact	No Impact	No Impact
<b>3.13 Noise</b>				
<b>Impact 3.13.1:</b> Temporary or permanent increase in ambient noise levels in excess of applicable standards.	LTS-M	No Impact (Less)	LTS-M (Less)	LTS-M (Greater)

<b>Table 4-2. Comparison of Project Alternative Impacts to the Proposed Project</b>				
<b>Impact Statement</b>	<b>Level of Significance<sup>1,2</sup></b>			
	<b>Proposed Project</b>	<b>No Project</b>	<b>Surface Spreading</b>	<b>Agricultural Irrigation Offset</b>
<b>Impact 3.13.2:</b> Generation of excessive groundborne vibration or groundborne noise.	LTS-M	No Impact (Less)	LTS-M (Less)	LTS-M (Greater)
For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the project area to excessive noise levels	No Impact	No Impact	No Impact	No Impact
<b>3.14 Population and Housing</b>				
<b>Impact 3.14-1:</b> Potential to induce substantial unplanned population growth in an area, either directly or indirectly.	LTS	No Impact (Less)	LTS (Same)	LTS (Same)
Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.	No Impact	No Impact	No Impact	No Impact
<b>3.15 Public Services</b>				
<b>Impact 3.15-1:</b> Potential to result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services: fire protection, police protection, schools, parks, other public facilities?	LTS	No Impact (Less)	LTS-M (Greater)	LTS (Same)
<b>3.16 Recreation</b>				
<b>Impact 3.16-1:</b> Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated	LTS	No Impact (Less)	LTS-M (Greater)	LTS (Less)

<b>Table 4-2. Comparison of Project Alternative Impacts to the Proposed Project</b>				
<b>Impact Statement</b>	<b>Level of Significance<sup>1,2</sup></b>			
	<b>Proposed Project</b>	<b>No Project</b>	<b>Surface Spreading</b>	<b>Agricultural Irrigation Offset</b>
Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment	No Impact	No Impact	No Impact	No Impact
<b>3.17 Transportation</b>				
<b>Impact 3.17-1:</b> Potential to conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities	LTS-M	No Impact (Less)	LTS-M (Greater)	LTS-M (Greater)
Conflict or be inconsistent with CEQA Guidelines Section 15064.3(b)	No Impact	No Impact	No Impact	No Impact
<b>Impact 3.17-2:</b> Potential to substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	LTS-M	No Impact (Less)	LTS-M (Same)	LTS-M (Less)
<b>Impact 3.17-3:</b> Potential to result in inadequate emergency access.	LTS-M	No Impact (Less)	LTS-M (Same)	LTS-M (Greater)
<b>3.18 Tribal Cultural Resources</b>				
<b>Impact 3.18-1:</b> Potential to cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k).	LTS-M	No Impact (Less)	LTS-M (Greater)	LTS-M (Greater)
<b>Impact 3.18-2:</b> Potential to cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native	LTS-M	No Impact (Less)	LTS-M (Greater)	LTS-M (Greater)

**Table 4-2. Comparison of Project Alternative Impacts to the Proposed Project**

Impact Statement	Level of Significance <sup>1,2</sup>			
	Proposed Project	No Project	Surface Spreading	Agricultural Irrigation Offset
American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.				
<b>3.19 Utilities and Service Systems</b>				
<b>Impact 3.19-1:</b> Potential to exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.	LTS	No Impact (Less)	LTS (Same)	LTS (Same)
<b>Impact 3.19-2:</b> Potential to require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects.	LTS	LTS (Less)	LTS (Same)	LTS (Same)
<b>Impact 3.19-3:</b> Potential to have insufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years.	LTS	No Impact (Less)	LTS (Same)	LTS (Same)
<b>Impact 3.19-4:</b> Potential to result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments.	LTS	No Impact (Less)	LTS (Same)	LTS (Same)
Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals	No Impact	No Impact	No Impact	No Impact
Comply with federal, state, and local statutes and regulations related to solid waste	No Impact	No Impact	No Impact	No Impact
<b>3.20 Wildfire</b>				



**Table 4-2. Comparison of Project Alternative Impacts to the Proposed Project**

Impact Statement	Level of Significance <sup>1,2</sup>			
	Proposed Project	No Project	Surface Spreading	Agricultural Irrigation Offset
<b>Impact 3.20-1:</b> Substantially impair an adopted emergency response plan or emergency evacuation plan.	LTS-M	No Impact (Less)	LTS-M (Same)	LTS-M (Same)
<b>Impact 3.20-2:</b> Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.	LTS-M	No Impact (Less)	LTS-M (Greater)	LTS-M (Greater)
<b>Impact 3.20-3:</b> Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment	LTS-M	No Impact (Less)	LTS-M (Same)	LTS-M (Same)
<b>Impact 3.20-4:</b> Expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes	LTS	No Impact (Less)	LTS (Greater)	LTS (Greater)
<b>3.21 Environmental Justice</b>				
<b>Impact 3.22-1:</b> Potential to have disproportionately high and adverse human health or environmental effects on low-income populations, minority populations, or Indian tribes.	LTS	No Impact (Less)	LTS (Same)	LTS (Same)
LTS = Less than Significant; LTS-M = Less than Significant with Mitigation Incorporated; SU = Significant and Unavoidable Alternatives are evaluated as having Less, Same, or Greater degree of impact than the Proposed Project, in the parentheses				

### 4.5.1 No Project Alternative

The No Project Alternative represents no action. However, with the No Project Alternative, CVWD would not have an additional, local water source to increase supply reliability in times of drought or SWP and Cachuma Water Project allocation reductions. Although this could result in the need to implement water conservation measures and may lead CVWD to pursuing other supply reliability, water conservation, and/or water reuse projects in order to meet demands, those projects are speculative at this time and not considered in this analysis.

#### **Aesthetics**

The No Project Alternative represents no action and would not result in any direct aesthetic impacts. No structures or infrastructure would be constructed, no scenic views or vistas would be obstructed, and no aesthetic impacts would result. As such, aesthetic impacts would be less than the Proposed Project.

#### **Agriculture and Forestry Resources**

The No Project Alternative would not require construction or other activities that would impact existing agriculture and forestry resources. Although there is potential that CVWD would need to pursue other supply options in the future under the No Project Alternative to improve supply reliability, the location of such projects are unknown and it would be speculative to assume they would be located within agricultural or forestry areas, so no impact is assumed. No impact to agriculture and forestry would be expected under the No Project Alternative. As such, the agriculture and forestry impacts would be less than the Proposed Project.

#### **Air Quality**

Under the No Project Alternative, the AWP, pump station, wells, pipelines, and ocean outfall would not be constructed. Long-term, annual maintenance activities such as maintenance vehicle trips, landscaping, and architectural re-coating would not take place. As a result, there would be no emissions of criteria pollutants or odors and the No Project Alternative would not expose nearby sensitive receptors to pollutants. However, under the No Project Alternative, the existing groundwater supply would be further stressed during drought conditions and CVWD may pursue other supply reliability, water conservation, or water reuse projects. Because the No Project Alternative would not construct any new facilities and, therefore, would not result in direct emissions of criteria pollutants or odors, it would not result in air quality impacts and impacts would be less than the Proposed Project.

#### **Biological Resources**

The No Project Alternative would not involve construction activities that would result in noise or vibrations that could disturb sensitive species, nor would it involve excavation activities that could affect plant or wildlife, either directly or through air or water quality impacts. Therefore, the No Project Alternative would not directly or indirectly result in impacts to biological resources or habitat. The No Project Alternative would not require construction within riparian habitat or sensitive natural communities, nor would it interfere with protected wetlands because it would not involve construction activities in or near wetlands. Because it would not require any construction activities, the No Project Alternative would also not interfere with wildlife movement or corridors, nor would it conflict with any plans or ordinances protecting biological resources. For these reasons, the No Project Alternative's potential impact to biological resources would be less than the Proposed Project.

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## Marine Biological Resources

Impacts to marine biological resources could occur if construction or operational activities occur within the marine environment or in a manner that results in changes to inputs to the marine environment. The No Project Alternative would not require modifications to the ocean outfall, and therefore would not result in direct impacts to marine species or habitat. Because the No Project Alternatives would not involve construction or other activities within riparian areas or wetlands, it would not impact habitats or creeks that connect with the marine environment, and would therefore have no indirect impacts to marine biological resources. The No Project Alternative would have no impact on marine biological resources and therefore would not conflict with an existing plan or policy intended to protect biological resources. The No Project Alternative would have less potential impact than the Proposed Project on marine biological resources.

## Cultural Resources

The No Project Alternative represents no action and would not result in any impacts to cultural resources. Prehistoric archaeological site CA-SBA-7 was found to be located within the Study Area, specifically at the WWTP site along Carpinteria Creek. With the No Project Alternative, potential impacts to this resource would be avoided, because construction at the WWTP site would not occur. Therefore, potential impacts to cultural resources resulting from the No Project Alternative would be less than the Proposed Project.

## Energy

Under the No Project Alternative, there would be no construction-related fossil fuel energy consumption associated with operation of off-road construction equipment, worker vehicles, or material delivery and hauling trucks. The No Project Alternative would not change the existing level of electrical energy demand required to operate CVWD's existing facilities. Therefore, it would not directly result in the wasteful, inefficient, or unnecessary consumption of energy. However, under the No Project Alternative, CVWD would not offset deliveries of SWP imported water, which is more energy intensive than local supplies. Thus, the energy savings from not constructing and operating the CAPP would be offset, at least in part, by continuing to rely on a more energy-intensive water supply. The No Project Alternative would not result in the need to develop new energy supplies because it would not construct new energy-consuming facilities. The No Project Alternative would not directly develop new groundwater recharge or local drinking water supplies. For this reason, it would conflict with applicable renewable energy plans; however, those impacts would be considered less than significant.

## Geology and Soils

Under the No Project Alternative, there would be no construction or new facilities within a seismically active area. Although the Study Area is within a seismically active region, the No Project Alternative would not increase the risk or cause injuries or loss related to earthquake fault ruptures, seismic ground shaking, seismic-related ground failure, liquefaction, or landslides above existing levels of risk for the community. Although the No Project Alternative would not increase risks associated with seismic activities, the existing water system is at higher risk than the Proposed Project from interruptions associated with seismic activities due to the longer distance between the source of supply (SWP and Cachuma Project water) stored at Lake Cachuma, which is provided via a single pipeline to CVWD's system. Although there would not be direct seismic impacts of the No Project Alternative, those facilities could be at greater risk of upset in the future. The No Project Alternative would not involve excavation, and would therefore have no impact on soil erosion, nor would have potential to directly or indirectly destroy paleontological resources. Nor would the No Project Alternative involve septic tanks or alternative wastewater disposal systems. The No Project Alternative would

have a less than significant impact related to geology and soils, and would have less impacts than the Proposed Project related to geology and soils.

### **Greenhouse Gas Emissions**

Under the No Project Alternative, there would be no construction-related GHG emissions associated with operation of off-road construction equipment, worker vehicles, or material delivery and hauling trucks. The No Project Alternative would not change the existing level of GHG emissions from operation of CVWD's existing facilities. Therefore, it would not directly result in significant emissions of GHG. However, under the No Project Alternative, CVWD would not offset deliveries of SWP imported water, which is more energy intensive than local supplies. Thus, the energy (as associated GHG emissions) savings from not constructing and operating the Proposed Project would be offset, at least in part, by continuing to rely on imported water. The No Project Alternative would not directly develop new groundwater recharge or local drinking water supplies. For this reason, it would conflict with applicable GHG reduction plans; however, those impacts would be considered less than significant.

### **Hazards and Hazardous Materials**

The No Project Alternative represents no action and would not result in any direct impacts related to hazards or hazardous materials. As with the Proposed Project, the No Project Alternative would not be located within two miles of an airport or within an airport land use plan. Because the No Project Alternative would not result in direct impacts related to hazards and hazardous materials, overall impacts related to hazards and hazardous materials would be less than the Proposed Project.

### **Hydrology and Water Quality**

Under the No Project Alternatives, there would be no excavation or other construction activities that would produce dust or erosion, nor would this alternative involve transportation and use of construction materials or chemicals that could affect water quality during construction. As a result, the No Project Alternative would not generate potential pollutants that could impact surface water quality. The potential to substantially alter a drainage pattern or a site or area is related to changes in impervious surfaces, grading, excavation, or alterations to stream channels. The No Project Alternative would not involve any construction activities that would do this, and there would be no impact to changes in drainage patterns. This impact would be less than that of the Proposed Project for drainage patterns.

Because the No Project Alternatives would not change existing treatment levels or otherwise alter discharges from the WWTP, it would not contribute to potential violations of waste discharge requirements or water quality standards. Under existing conditions, groundwater comprises a portion of CVWD's water supplies, and its use increases during drought or when supplies stored at Lake Cachuma are limited. Under the No Project Alternative, groundwater pumping would continue without increased recharge. There is potential for groundwater supplies to substantially decrease under the No Project Alternative, especially during drought or if CVWD's allocation of water stored in Lake Cachuma decreases. This potential impact to groundwater supplies from no action would be potentially significant and would require some future action by CVWD to manage and/or expand supplies. This potential impact on groundwater resources would be greater than that of the Proposed Project.

The No Project Alternative would not result in any facilities being constructed, demolished, or relocated. For these reasons, the No Project Alternative would have no impact related to the creation of new flood hazards associated with locating facilities within a flood hazard zone, impeding or redirecting flood flows, or increasing risk of pollutant release

from flood, tsunami, or seiche. The No Project Alternative would have less flood-related impacts than the Proposed Project.

### **Land Use and Planning**

The No Project Alternative would not involve construction of new facilities. It therefore would not physically divide an established community, nor would it conflict with any existing land use plan, policy, or regulation. The No Project Alternative would have no impact on land use and planning. The No Project Alternative would have less potential land use and planning impacts than the Proposed Project.

### **Mineral Resources**

Under the No Project Alternative, no excavation would be required, nor would any additional facilities be built. The only mineral resources identified in the Study Area by local planning documents were offshore oil resources. Because the No Project Alternative would not involve construction activities offshore, or create facilities onshore that would interfere with the ability to access offshore oil resources, there would be no impact to mineral resources from the No Project Alternative. Although the Study Area is unlikely to be converted to mineral resource extraction activities, the No Project Alternative would not construct any new facilities that could interfere with such conversion if it were to occur. As such, the No Project Alternative would have no impact to mineral resources. The No Project Alternative would have less impact on mineral resources than the Proposed Project.

### **Noise**

Under the No Project Alternative, there would be no construction-related noise or vibration associated with operation of off-road construction equipment, worker vehicles, or material delivery and hauling trucks. The No Project Alternative would not change the existing ambient noise level in the Study Area because it would not add noise-generating pumps or other equipment. Therefore, it would not result in temporary or permanent increases in ambient noise levels, increases in groundborne vibration, or increases in groundborne noise. Because there is no airport within two miles of the Study Area, there would be no impact associated with noise from an airport. Noise impacts from the No Project Alternative would be less than that of the Proposed Project.

### **Population and Housing**

Under the No Project Alternative, no facilities would be constructed to support population growth, including utilities, infrastructure, businesses, or housing. It would not displace substantial numbers of existing people or housing. Although the No Project Alternative would mean that no actions would be taken to improve supply reliability, which could affect services in the Study Area, the City of Carpinteria and CVWD do not project substantial population growth, and would likely be able to meet future water demands (albeit with groundwater overdraft considering drought or emergency conditions) without the Proposed Project. The No Project Alternative would have no impact to population and housing, and less of a potential impact than the Proposed Project.

### **Public Services**

No Project Alternative represents no action; therefore, this alternative would not result in impacts to public services, including fire protection, police protection, schools, parks, or other public facilities. The No Project Alternative would not result in any reduction of useable space at park or school sites and would therefore have a lesser impact to public services than the Proposed Project which would construction injection wells and a backwash tank within a portion of school and park properties. No impact to public services or recreation would occur under the No Project Alternative.

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## Recreation

Under the No Project Alternative, no construction would occur; therefore, this alternative would not result in impacts to recreation facilities. The No Project Alternative would not result in any reduction of useable space at park sites and would therefore have a lesser impact to recreation than the Proposed Project, which would construction injection wells and a backwash tank on a portion of recreational areas. No impact to recreation would occur under the No Project Alternative.

## Transportation

The No Project Alternative represents no action; therefore, this alternative would not result in impacts to transportation. The Proposed Project would result in significant impacts to prior to mitigation related to construction activities. Because no construction would occur under the No Project Alternative, transportation impacts would be less than those under the Proposed Project and no impact would occur.

## Tribal Cultural Resources

The No Project Alternative represents no action and would not result in any impacts to cultural resources. Prehistoric archaeological site CA-SBA-7 was found to be located within the Study Area, specifically at the WWTP site along Carpinteria Creek. With the No Project Alternative, potential impacts to this resource would be avoided, as construction at the WWTP site would not occur. Therefore, potential impacts to tribal cultural resources resulting from the No Project Alternative would be less than the Proposed Project. No impact to tribal cultural resources would occur under the No Project Alternative.

## Utilities and Service Systems

The No Project Alternative represents no action. The AWPF would not be constructed at the WWTP site, and would not result in the need for new electric power, natural gas, or telecommunications facilities or require relocation of existing facilities. Additional stormwater drainage facilities would be included in the design of the AWPF as necessary. With the No Project Alternative, CVWD would likely have to implement other projects to increase local water supply reliability and would result in the need for expanded or new facilities or infrastructure to meet existing and planned demands in the future. At a minimum, CVWD might have to incur additional power costs associated with pumping from a depleted aquifer. However, impacts associated with the No Project Alternative would likely be less than significant. The No Project Alternative would result in less impacts to utilities and service systems than the Proposed Project.

## Wildfire

The No Project Alternative represents no action; therefore, this alternative would not result in impacts related to wildfire. The Proposed Project would result in potential impacts to emergency response or emergency evacuation and may result in exacerbation of wildfire risk during construction; however, these impacts would be mitigated to less than significant levels. With the No Project Alternative, construction would not occur and impacts to emergency response or emergency evacuation and impacts related to exacerbation of wildfire risk would be avoided. The No Project Alternative would not result in wildfire-related impacts and impacts would therefore be lesser than that of the Proposed Project.

## Environmental Justice

The No Project Alternative would not involve any construction of new facilities, and would therefore not create construction-related impacts to any community experiencing environmental justice issues, nor would it

disproportionately impact a low income or minority community. As such, there would be no environmental justice impacts and environmental justice impacts would be less than the Proposed Project.

#### 4.5.2 Surface Spreading Alternative

The Surface Spreading Alternative would require similar construction as the Proposed Project, including an AWWPF, conveyance pipelines, monitoring wells, and a new pump station. Additional components of this alternative would include additional pipelines, land acquisition for recharge basins, and a discharge structure.

##### Aesthetics

The Surface Spreading Alternative would result in similar long-term aesthetic impacts as the Proposed Project. Construction-related disturbances would also be similar among the two alternatives. Although this alternative would not include the injection wells and backwash tanks, it would instead include a discharge structure and recharge basins that could result in additional aesthetic impacts, depending on their location. Many of the proposed facilities, such as pipelines and monitoring wells, would be located below grade, same as they would under the Proposed Project and would not substantially impact views or aesthetic resources in the long-term. As with the Proposed Project, 24-hour well drilling may occur which could result in a substantial short-term light and glare impact. Aesthetic impacts would be less than significant with mitigation for potential construction-related nighttime light and glare impacts. As such, this alternative would have a similar impact as the Proposed Project in that it could potentially impact aesthetic resources such as scenic and visual resources through creation of a new source of light or glare associated with nighttime construction activities.

##### Agriculture and Forestry Resources

The Surface Spreading Alternative would have a greater impact to agriculture and forestry than the Proposed Project. While the Surface Spreading Alternative would involve groundwater recharge like the Proposed Project, the method of groundwater recharge is different. This alternative requires 7.2 acres for surface spreading basins and groundwater percolation, while the Proposed Project's use of injection wells does not require large areas of land conversion. The exact location of potential recharge basin conversion was not evaluated in the *Recycled Water Facilities Plan* (CVWD, 2016) because private property would likely need to be purchased. It is possible that some of this land might be classified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, particularly because the spreading basins are likely to be located at the northern terminus of the pipeline for this alternative, which is located near agricultural areas. Additionally, some of this agricultural land near the northern terminus of the alternative's pipeline are Williamson Act lands, conversion of which may result in a conflict. Unlike the Proposed Project, this alternative would involve construction of spreading basins on 7.2 acres of land, potentially farmland, which would exceed the City of Carpinteria's environmental threshold of development of more than five acres of Prime Farmland. Mitigation would be required to reduce impacts to agricultural resources if the spreading basins in this alternative were located on designated farmland. Therefore, the Surface Spreading Alternative's land acquisition and conversion may have a greater impact than the Proposed Project.

##### Air Quality

The Surface Spreading Alternative would involve construction of more facilities than the Proposed Project (e.g., more linear feet of conveyance pipeline, recharge basins, discharge structure), therefore short-term construction related emissions of criteria pollutants and odors, and the risk of exposure of sensitive receptors to construction-related air pollution, would be greater than the Proposed Project. However, air quality impacts are still expected to be less than

significant under this Alternative because quantitative thresholds for short-term emissions from land use projects are not in place in the South Central Coast Air Basin; the SBCAPCD is in attainment of national ambient air quality standards and therefore exempt from General Conformity analysis; the additional facilities would likely be constructed at a similar pace to the Proposed Project facilities; and estimated short-term emissions from the Proposed Project are far below the SBCAPCD Rule 202 thresholds for stationary source projects' short-term emissions. Long-term, annual maintenance activities such as maintenance vehicle trips, landscaping, and architectural re-coating would be similar to the Proposed Project. Long-term activities associated with operation of the surface spreading ponds are not expected to be associated with substantial levels of criteria pollutant, odors, or toxic air contaminant emissions. Therefore, long-term impacts related to criteria pollutants, odors, and sensitive receptors, would be slightly higher than the Proposed Project, but less than significant.

## Biological Resources

The Surface Spreading Alternative would require similar construction activities as the Proposed Project related to conveyance pipelines, monitoring wells, pump station, and AWWPF. It would not include construction of injection wells and backwash tanks, but would include construction of recharge basins and a discharge structure. Sensitive species are known to exist in the Study Area, as identified in the *Biological Resources Assessment* for the Proposed Project (Appendix D) and described in Section 3.4, *Biological Resources*. This alternative would have similar potential impacts to sensitive biological species as the Proposed Project related to construction at the WWTP, monitoring wells, pump station, and pipelines due to the similar types, size, and likely locations of those facilities. The Surface Spreading Alternative would therefore have potentially significant, but mitigable, impacts related to effects on riparian habitat, and wetlands, consistent with those of the Proposed Project.

Unlike the Proposed Project, the Surface Spreading Alternative would also require 7.2 acres for construction of recharge basins. Although sites have not been identified for where these recharge basins may be located, it is likely that they would be located on currently undeveloped land or would convert agricultural land. Given the biological resources present in the area, the Surface Spreading Alternative could have a potentially significant impact on biological resources, including sensitive species. If undeveloped land is used for recharge basins, this alternative could interfere with wildlife movement through habitat conversion and potential fragmentation. This alternative could also result potential conflict with the City's tree preservation policy, depending on whether trees protected by the policy are present on the selected recharge basin site. It is likely that the additional potential biological impacts from the Surface Spreading Alternative could be mitigated through measures such as site selection, conservation banking, or restoration. If the recharge basins are located near riparian habitat or wetlands, this alternative could have greater impacts on these resources than the Proposed Project.

## Marine Biological Resource

Impacts to marine biological resources would primarily occur, if at all, from activities associated with the modifications to the ocean outfall. The Surface Spreading Alternative would include construction of a 1.2 MGD AWWPF, similar to the Proposed Project. This alternative would therefore reduce outfall flows by the same amount as the Proposed Project, requiring modification to the ocean outfall. As such, this alternative would have similar levels of impacts to marine biological resources as the Proposed Project, including potential, but mitigable impacts, to marine species and habitat.

## Cultural Resources

The Surface Spreading Alternative would require similar construction as the Proposed Project, as well as recharge basins and a discharge structure. Ground disturbing activities would primarily occur at the WWTP site, within roadway



ROWs, and for construction of the recharge basins. Prehistoric archaeological site CA-SBA-7 was found to be located within the Study Area, specifically at the WWTP site along Carpinteria Creek. No other cultural resources were found within the Proposed Project's ground disturbance footprint. However, this alternative would require 7.2 acres of land for the recharge basin. It was not determined what land would be used and therefore, ground disturbing activities associated with alternative could potentially result in additional impacts to cultural resources due to the historical presence of Native American in the region. Therefore, this alternative has the potential to result in a greater impact to cultural resources than the Proposed Project.

## Energy

The Surface Spreading Alternative would involve construction of more facilities than the Proposed Project, therefore, short-term construction related fossil fuel energy consumption would be greater than the Proposed Project. Similar to the Proposed Project, this Alternative would implement typical construction practices, and would comply with CARB In-Use Off-Road Diesel-Fueled Fleets Regulations. O&M would be similar to the Proposed Project and involve maintenance activities, vehicle trips, and as-needed repairs to the recharge basins. The level of energy consumption from construction and operation would be typical for facilities of similar size and type and would not result in wasteful, inefficient, or unnecessary energy consumption, nor would it require the development of new sources of energy. Groundwater recharge would support water and energy conservation goals of the applicable renewable energy plans. Therefore, impacts related to energy would be slightly higher than the Proposed Project, but less than significant.

## Geology and Soils

The Surface Spreading Alternative would require similar construction as the Proposed Project, as well as recharge basins and a discharge structure. Although the Study Area does not lie within an Alquist-Priolo fault rupture zone, the Study Area has potential to be impacted by seismic ground shaking due to the seismically active nature of the region and close proximity of four potentially active faults. This alternative would be designed in compliance with applicable standards and codes to protect against impacts of seismic ground shaking. As with the Proposed Project, a geotechnical report for the WWTP site would be necessary to inform design of the AWPf to be consistent with seismic conditions at the site. Therefore, the Surface Spreading Alternative would result in similar impacts related to seismic events as the Proposed Project and would be less than significant with mitigation.

The City's General Plan/Local *Coastal Land Use Plan* shows a portion of the Study Area is in potentially high expansive soils. As with the Proposed Project, some components of this alternative would be located outside of the areas of potentially high expansive soils, though some components (e.g., monitoring well sites) may be located within expansive soils. Additionally, this alternative would require approximately 7.2 acres of land for the spreading basins. Because of the potential for expansive soils exists within portions of the Project Area, mitigation requiring soils testing/surveys and protective measures in areas with liquefaction potential or expansive soils would be needed to reduce impacts to less than significant levels. Additionally, due to construction of the recharge basins, impacts to soil erosion or loss of top soils would be greater than the Proposed Project. However, as with the Proposed Project, this alternative would be required to comply with the Construction General Permit and development of an SWPPP, which would reduce erosion and loss of top soils from storm water runoff. Therefore, the Surface Spreading Alternative would result in similar impacts related to expansive soils, erosion, liquefaction, lateral spreading, or subsidence as the Proposed Project and would be less than significant with mitigation.

The AWPf would be located within an area mapped as being within a debris flow risk area. As with the Proposed Project, this alternative would not exacerbate the risk of debris flows occurring because any such debris flows would originate upstream of the WWTP site, and neither construction activities nor operational activities would trigger a debris

flow event. Additionally, the WWTP site is designated as a site that would be evacuated in the event of a potential debris flow, the WWTP site is walled, and the AWPf and associated facilities would be constructed in compliance with applicable building and design standards. Therefore, this alternative would result in similar impacts related to landslides and debris flows as the Proposed Project and would be less than significant.

A paleontological assessment was prepared for the Proposed Project (see Appendix F) and determined there is a low paleontological sensitivity in the Study Area between 0 and 15 feet bgs because soils are generally too young to contain fossilized materials. The pipeline and recharge basin components of this alternative would all remain above this 15-foot threshold. The monitoring wells would involve augering at depths greater than 15 feet bgs; though, disturbance to paleontological resources would be limited due to the small diameter for the auger, and impacts would be less than significant. As such, impacts to paleontological resources resulting from the Surface Spreading Alternative would be less than significant with mitigation and similar to the Proposed Project.

### **Greenhouse Gas Emissions**

The Surface Spreading Alternative would involve construction of more facilities than the Proposed Project, therefore short-term construction related GHG emissions would be greater than the Proposed Project. Operations would be similar to the Proposed Project and involve maintenance activities, vehicle trips, and as-needed repairs to the recharge basins. The level of GHG emissions from construction and operation of the Proposed Project were estimated to be far below the 10,000 MT CO<sub>2</sub>e threshold. Therefore, this Alternative is expected to have less than significant GHG emissions impacts. Groundwater recharge would support water and energy conservation goals of the applicable GHG reduction plans. Therefore, impacts related to GHG emissions would be slightly higher than the Proposed Project, but less than significant.

### **Hazards and Hazardous Materials**

The Surface Spreading Alternative would result in similar hazardous materials impacts as the Proposed Project through routine transport of hazardous materials during construction and operation, through accidental release of hazardous materials, or by being located on or adjacent to a listed hazardous materials site. Construction related impacts for the AWPf and piping would generally be the same for this Alternative and the Proposed Project, as they would both have a similar sized disturbance area and construction would likely take approximately the same amount of time. However, this alternative would also include 7.2 acres of recharge basins, which could potentially be located on or near a listed hazardous materials site. Depending on the site, this alternative could result in a greater impact related to creating a significant hazard to the public or environment from being located on a listed hazardous materials cleanup site. Operational impacts related to routine transport or accidental release of hazardous materials would be similar to the Proposed Project. Therefore, hazards and hazardous materials impacts to the public or environment resulting from this alternative may, overall, be greater than the Proposed Project.

### **Hydrology and Water Quality**

The Surface Spreading Alternative would involve similar construction-related risks to hydrology and water quality as the Proposed Project related to construction of monitoring wells, AWPf, pump station, and conveyance pipelines associated with erosion and alteration of the existing drainage pattern. It would potentially increase water quality impacts from construction related to erosion due to the recharge basins and discharge structure under this Alternative that would not be required for the Proposed Project, and would alter the drainage pattern at the recharge basin sites. Mitigation measures would be required to reduce potential water quality impacts from construction activities to less than significant.

This Alternative would alter the drainage pattern at the recharge basin sites, and have potentially significant impacts to drainage. Similar to the Proposed Project, impervious surfaces over 2,500 square feet would require compliance with City codes for stormwater management, reducing the potential impacts of this Alternative on stormwater and flood flows. The recharge basins may be located within a flood hazard zone if they are located north and west of Linden Avenue and U.S. Highway 101, near Carpinteria High School. If located within a flood hazard area, the recharge basins would need to include design features that provide flood protection measures. The basins would also need to be designed in a manner that minimized the risk of breach that could cause downslope flooding or debris flows in surrounding areas. Flood impacts would be potentially significant and require mitigation measures, which is greater than under the Proposed Project.

Implementation of groundwater recharge under this Alternative would have similar water quality impacts as the Proposed Project, because both would use purified water to recharge the groundwater basin. The WDRs for the WWTP would be updated to incorporate the AWPf under this Alternative, similar to the Proposed Project. Compliance with the updated WDRs would result in less than significant groundwater quality impacts from this Alternative. Because this Alternative would recharge the same volume of purified water as the Proposed Project, it would reduce outfall discharges by the same amount as the Proposed Project and be in compliance with the updated WDRs. This alternative would have less than significant water quality impacts.

Overall, hydrology and water quality impacts of the Surface Spreading Alternative could be greater than under the Proposed Project due to larger excavated area and potential for placement of the recharge basins in the floodway. However, it is likely that hydrology and water quality impacts could still be reduced to less than significant with implementation of mitigation measures.

## Land Use and Planning

Land use and planning impacts resulting from the Surface Spreading Alternative would be similar to, but slightly greater than, the Proposed Project due to the similar components with the addition of the recharge basins. Components of this alternative would not physically divide a community because the pipelines would be located underground, the AWPf and pump station would be located within the footprint of the existing WWTP site, and recharge basins would most likely be located on mountainous edge of the community. The Surface Spreading Alternative would comply with applicable land use plans, policies, and regulations. Similar to the Proposed Project, the AWPf would be located on the WWTP site, which is located adjacent to Carpinteria Creek. Both the City and County require a 50-foot construction setback from creeks for built infrastructure to protect sensitive biological resources, and all AWPf construction activities would be located outside of the 50-foot buffer on the currently developed WWTP site. Because all construction at the WWTP site would be within the developed, enclosed area, the potential for construction at the WWTP site to directly affect the adjacent creek is low. Therefore, land use and planning impacts resulting from this alternative would be less than significant, and less than the Proposed Project.

## Mineral Resources

The Study Area is designated as MRZ-3, indicating that the significance of mineral resources could not be evaluated from available data. The majority of proposed pipeline alignments would be constructed within areas where current infrastructure exists, primarily within ROWs. The recharge basin site has not been determined; however, this site would likely be located near the northern terminus of the Alternative's pipeline, surrounded by residential neighborhoods and agricultural land uses. Although the potential recharge basins would reduce the ability to access mineral resources at the selected site, planning documents for the City indicate that mineral resource extraction is not in the City's foreseeable future. Therefore, the potential recharge basin site is not anticipated to be of significance for mineral

resource extraction. Monitoring wells would be constructed within residential neighborhoods and therefore unlikely to be developed for mineral resources. The AWPf would be constructed entirely within the existing WWTP site, which is critical infrastructure for the City of Carpinteria and would not be used for mineral resource extraction in the future. Because this alternative would be located within an urbanized area and on properties unlikely to be used for mineral resources in the foreseeable future, impacts would be less than significant, similar to the Proposed Project.

## Noise

The Surface Spreading Alternative would involve construction of more facilities than the Proposed Project, therefore this Alternative would have a more significant impact related to temporary noise and groundborne vibration than the Proposed Project. Permanent noise impacts could result from operation of the discharge structure; however, the recharge basins are likely to be sited at the located on mountainous edge of the community away from sensitive receptors. Those noises would likely be less than the noise emitted during operation of the Proposed Project's injection wells, depending on the wells' orientation and distance from residential areas. Although this alternative is likely to have slightly lower noise levels than the Proposed Project, with implementation of Mitigation Measures to reduce construction noise and minimize noise during operation, impacts would be less than significant.

## Population and Housing

The Surface Spreading Alternative would require similar construction as the Proposed Project. The City's General Plan/Local Coastal Land Use Plan identifies the City as being near build-out with minimal planned growth. Additionally, the General Plan encourages maintaining an agricultural buffer around the City, making it unlikely that the recharge basins would be constructed on a site that would otherwise be converted to residential housing. As with the Proposed Project, this alternative would not displace existing people or housing because it would not involve demolition of housing nor create long-term disturbances to residential activities that would lead to the displacement of substantial numbers of people or necessitate construction of replacement housing. Therefore, impacts under the Surface Spreading Alternative would be the same as the Proposed Project, resulting in a less than significant impact.

## Public Services

The Surface Spreading Alternative would result in similar impacts to public services and recreation as the Proposed Project and would not substantially impact or result in the need for new or expanded government or recreation facilities. This alternative would not include the injection wells, which may be located above ground on public park or school property with an approximate footprint of 6,000 square feet. Although this alternative would not result in a decrease in usable park or school space due to injection wells, it would require acquisition of 7.2 acres of land for the recharge basins. This land was not selected and could potentially be located on recreation or park land, and may require mitigation. Therefore, impacts to public services and recreation facilities associated with this alternative could result in a greater impact than the Proposed Project.

## Recreation

The Surface Spreading Alternative would not substantially impact or result in the need for new or expanded recreation facilities because it would not result in population growth or relocation. This Alternative would not include the injection wells, which may be located above ground on public park or school property with an approximate footprint of 6,000 square feet. Although this Alternative would not result in a decrease in usable park space due to injection wells, it would require acquisition of 7.2 acres of land for construction of the spreading basins. This land was not yet selected and could potentially be located on recreation or park or school land and require mitigation. Therefore, impacts to

recreation facilities associated with this alternative could result in a greater impact than the Proposed Project. Impacts to recreation facilities under the Surface Spreading Project Alternative would be less than significant with mitigation.

## **Transportation**

The Surface Spreading Alternative could result in substantial impacts to transportation, similar to the Proposed Project, generally related to construction of pipelines in roadway ROWs. Due to the increased length of pipeline under this Alternative as compared to the Proposed Project, impacts to transportation during construction would be greater than the Proposed Project, but mitigable in the same way. During operation, maintenance activities for this Alternative would have similar transportation impacts as the Proposed Project. As with the Proposed Project, the Surface Spreading Alternative could impact the circulation system, increase hazards due to design features or incompatible uses, or impact emergency access during construction. These potential impacts would be mitigated to less than significant levels.

## **Tribal Cultural Resources**

Potential impacts to tribal cultural resources would primarily occur as a result of excavation activities. The Surface Spreading Alternative would require greater excavation than the Proposed Project. Potential sites for the recharge basins under this Alternative have not been identified but would likely be located near the northern terminus of the proposed pipeline, and on undeveloped sites. Prehistoric archaeological site CA-SBA-7 was found to be located within the Study Area, specifically at the WWTP site along Carpinteria Creek. No other cultural resources were found within the Proposed Project's ground disturbance footprint, though the region is the historic home of the Chumash, and is known to have tribal cultural resources. There is potential that ground disturbing activities associated with the recharge basins could potentially result in additional impacts to tribal cultural resources and require mitigation. Therefore, this Alternative has the potential to result in a greater impact to tribal cultural resources compared to the Proposed Project. The Surface Spreading Alternative would have a less than significant impact after mitigation.

## **Utilities and Service Systems**

The Surface Spreading Alternative would provide a supply of purified water to supplement the Carpinteria Groundwater Basin to enhance existing local groundwater supply and reduce ocean discharges. Although a different recharge method would be used under this Alternative compared to the Proposed Project, the treatment process would be the same, and would comply with RWQCB regulations. Additionally, this Alternative would not require the relocation or construction of other utilities, create additional wastewater flows that would affect CSD's ability to provide wastewater treatment, or result in insufficient water supplies, similar to the Proposed Project. Therefore, the Surface Spreading Alternative would result in similar impacts to utilities and service systems as the Proposed Project. Impacts under this alternative would be less than significant before mitigation.

## **Wildfire**

The Surface Spreading Alternative would result in similar wildfire-related impacts as the Proposed Project and could result in impacts to emergency response and access. Additionally, construction of the recharge basins in urban-wildland interface areas would exacerbate wildfire risk during construction related to the use of construction equipment. Mitigation would be required to reduce wildfire risks associated with construction, especially for construction of the recharge basins, which may be located near less developed areas that could be at higher risk of wildfire. This alternative's potential wildfire risks would be greater than the Proposed Project, but could be mitigated to less than significant.

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## Environmental Justice

The Surface Spreading Alternative would have substantial overlap in Project Area with the Proposed Project, and would have similar environmental justice impacts. As with the Proposed Project, the Surface Spreading Alternative would be in an area that has a CalEnviroScreen 3.0 score between 31%-50%, and would have a less than significant impact associated with environmental justice concerns. This Alternative would also be located within the same U.S. Census Tracts as the Proposed Project and would similarly not disproportionately impact minority or Native American populations. This Alternative would construct a pipeline along Linden Avenue, adjacent to a low-income disadvantaged community, similar to the Proposed Project, but would only have temporary and not disproportionate impacts to these communities. Environmental justice impacts from this alternative would be less than significant, similar to the Proposed Project.

### 4.5.3 Agricultural Irrigation Offset Alternative

The Agricultural Irrigation Offset Alternative would construct partial RO treatment facilities, conveyance pipelines, a new pump station, and ocean outfall modifications. Compared to the Proposed Project, this alternative would include a larger pump station and approximately 21,500 linear feet of additional conveyance pipeline. This Alternative would not include injection or monitoring wells, or the aboveground storage tank.

## Aesthetics

Although this Alternative has greater pipeline length than the Proposed Project, pipeline construction activities would not result in significant aesthetic impacts because the construction area would be restored to pre-construction conditions and primarily be located within roadway ROWs. Similar to the Proposed Project, there is potential for lighting impacts related to new facilities at the WWTP site, which would require mitigation. This Alternative would avoid nighttime construction associated with 24-hour well drilling, and lighting impacts from nighttime construction would not occur, unlike the Proposed Project. Long-term operational impacts would be less than the Proposed Project because there wouldn't be any large above ground components outside of the WWTP site. Therefore, this alternative would have a lesser aesthetic impact than the Proposed Project, and potential aesthetic impacts from lighting at the WWTP site would be less than significant with mitigation.

## Agriculture and Forestry Resources

Construction of the Agricultural Irrigation Offset Alternative would not impact agricultural or forestry resources. This Alternative would construct recycled water facilities at the WWTP site and a pump station, but would not involve groundwater recharge either through surface spreading or injection wells, and would therefore not require monitoring wells. Additional conveyance pipelines would be constructed in roadway ROWs to serve agricultural users. Some of the agricultural users are located within Prime Farmland, Unique Farmland, and Farmland of Statewide Importance, along with Williamson Act land. However, this Alternative would support continued agricultural uses of these lands. Impacts to agricultural and forestry resources from this Alternative would be less than the Proposed Project.

## Air Quality

Because the Agricultural Irrigation Offset Alternative would involve construction of more facilities than the Proposed Project, short-term construction related emissions of criteria pollutants and odors, and the risk of exposure of sensitive receptors to construction-related air pollution, would be greater than the Proposed Project. However, air quality impacts are still expected to be less than significant under this Alternative because quantitative thresholds for short-term emissions from land use projects are not in place in the South Central Coast Air Basin; the SBCAPCD is in attainment

of national ambient air quality standards and therefore exempt from General Conformity analysis; the additional facilities would likely be constructed at a similar pace to the Proposed Project facilities and not at the same time as the Proposed Project; and estimated short-term emissions from the Proposed Project are far below the SBCAPCD Rule 202 thresholds for stationary source projects' short-term emissions. Long-term, annual maintenance activities such as maintenance vehicle trips, landscaping, and architectural re-coating would be similar to the Proposed Project. Therefore, long-term impacts related to criteria pollutants, odors, and sensitive receptors, would be similar to the Proposed Project and less than significant.

## **Biological Resources**

Construction activities at the WWTP site for the Agricultural Irrigation Offset Alternative would have similar impacts to biological resources as the Proposed Project, including potential impacts to sensitive species along Carpinteria Creek that could be affected by construction noise. There is also potential for construction of the conveyance pipelines to result in impacts to biological resources. The recycled water pipeline alignment under the Agricultural Offset Alternative would not be constructed along Linden Avenue, and would instead be constructed along Casitas Pass Road. Unlike the Proposed Project, this alternative would not include a Franklin Creek crossing, and would therefore not impact water quality in Franklin Creek or sensitive species in or around the creek, including mud-nesting birds such as black phoebe. However, it would involve two crossings of Carpinteria Creek, as well as be construction through agricultural areas and open space. There is potential for sensitive species to be present in these areas, which are more likely to have suitable habitat than the urbanized areas for the Proposed Project. Construction activities, including noise, vibration, and dust, could impact these species, including nesting birds. The potential to impact sensitive riparian habitat and freshwater species such as tidewater goby and southern California steelhead trout is greater under this Alternative due to the Carpinteria Creek crossings. Potential impacts to sensitive species and habitats from this Alternative would likely be mitigable to less than significant impacts.

Once construction is complete, there would be no impacts from operation of the conveyance pipeline to sensitive species because the pipelines would be underground and the disturbed area would be restored to pre-construction conditions. Operation of the pipelines would not require additional disturbance to the area. Potential impacts to biological resources from the Agricultural Irrigation Offset Alternative would be less than significant once mitigation is incorporated, but the pre-mitigation impacts would be greater than that of the Proposed Project due to the increased pipeline length and location in less developed areas.

## **Marine Biological Resources**

The Agricultural Irrigation Offset Alternative would involve modifications to the ocean outfall to address the reduced discharge from the WWTP. Modification activities would be the same as those for the Proposed Project and would have the same potential impacts on marine biological resources. These potential impacts include indirect impacts to sensitive abalone habitat, indirect impacts to harbor seals from noise, movement, and light; and disturbance to sea turtles if they are present during construction at the outfall. Additionally, construction activities could result in pollutants, such as trash or chemicals used during construction or operation of the Agricultural Irrigation Offset Project Alternative, entering waterways that lead to the ocean and wetlands. Noise generated from ocean outfall modifications have potential to affect marine mammals, though they are not expected to cause noise above relevant disturbance thresholds. Mitigation could be implemented to reduce these potential impacts to less than significant, similar to those for the Proposed Project.

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## Cultural Resources

Cultural resources are most likely to be impacted by excavation activities. The Agricultural Irrigation Offset Alternative would require excavation at the WWTP and along pipeline alignments, similar to the Proposed Project. This Alternative would avoid excavation associated with injection well and monitoring well construction. Prehistoric archaeological site CA-SBA-7 was found to be located within the Project Area, specifically at the WWTP site along Carpinteria Creek, and extends to the east from the WWTP. No other cultural resources were found within the Proposed Project's ground disturbance footprint. Although additional trenching would be necessary for the additional pipelines, the majority of the components of this alternative would be constructed on previously developed land, including the WWTP site and within roadway ROWs. As such, cultural resources impacts resulting from this alternative would be similar to that of the Proposed Project and impacts would be less than significant with mitigation.

## Energy

The Agricultural Irrigation Offset Alternative would involve construction of more facilities than the Proposed Project, therefore short-term construction related fossil fuel energy consumption would be greater than the Proposed Project. Similar to the Proposed Project, this Alternative would implement typical construction practices, and would comply with CARB In-Use Off-Road Diesel-Fueled Fleets Regulations. Operations would be similar to the Proposed Project and involve maintenance activities, vehicle trips, and operation of the pump station, and RO and microfiltration, facilities. The level of energy consumption from construction and operation would be typical for facilities of similar size and type and would not result in wasteful, inefficient, or unnecessary energy consumption, nor would it require the development of new sources of energy. Offsetting imported SWP water with a local supply of recycled water for agricultural irrigation would support water and energy conservation goals of the applicable renewable energy plans. Therefore, impacts related to energy would be slightly greater than the Proposed Project and less than significant.

## Geology and Soils

Although the Project Area does not lie within an Alquist-Priolo fault rupture zone, the Agricultural Irrigation Offset Alternative has potential to be impacted by seismic ground shaking due to the seismically active nature of the region and close proximity of four potentially active faults. The proposed pipeline in this Alternative would be constructed closer to these faults than the Proposed Project. Although this alternative would be designed in compliance with applicable standards and codes to protect against impacts of seismic ground shaking, mitigation would be required to further reduce seismic impacts to less than significant. As with the Proposed Project, a geotechnical report for the WWTP site would be necessary to inform design of the RO treatment facility to be consistent with seismic conditions at the site. Therefore, the Agricultural Irrigation Offset Alternative would result in similar impacts related to seismic events as the Proposed Project and would be less than significant with mitigation.

The City's General Plan/Local *Coastal Land Use Plan* shows a portion of the Study Area is in potentially high expansive soils. However, none of the facilities for this Alternative would be coated within areas of potentially high expansive soils. Impacts to soil erosion or loss of top soils would be greater than the Proposed Project due to greater excavation areas. However, as with the Proposed Project, this alternative would be required to comply with the Construction General Permit and development of an SWPPP, which would reduce erosion and loss of top soils from storm water runoff. The Agricultural Irrigation Offset Project Alternative would result in less than significant impacts to soil erosion and loss of top soil.



The RO treatment facility and pump station would be located at the WWTP site within an area mapped as being within a debris flow risk area. As such, there is potential for landslides to affect the WWTP site. As with the Proposed Project, this Alternative would not exacerbate the risk of debris flows occurring because any such debris flows would originate upstream of the WWTP site, and neither construction activities nor operational activities would trigger a debris flow event. Additionally, the WWTP site is designated as a site that would be evacuated in the event of a potential debris flow, the WWTP site is walled, which could provide some protection against debris flows, and the RO treatment facility and associated facilities would be constructed in compliance with applicable building and design standards. Therefore, this Alternative would result in similar impacts related to landslides and debris flows as the Proposed Project and would be less than significant.

A paleontological assessment was prepared for the Proposed Project and determined there is a low paleontological sensitivity in the Study Area between 0 and 15 feet bgs because soils are generally too young to contain fossilized materials. Because this alternative does not include the injection or monitoring wells that would require augering at depths greater than 15 feet bgs, potential impacts to paleontological resources would be less than the Proposed Project. However, implementation of mitigation in the event of unanticipated fossil discovery would reduce impacts to less than significant levels. As such, impacts to paleontological resources resulting from the Agricultural Irrigation Offset Alternative would be less than significant with mitigation.

### **Greenhouse Gas Emissions**

The Agricultural Irrigation Offset Alternative would involve construction of more facilities than the Proposed Project, therefore short-term construction related GHG emissions would be greater than the Proposed Project. Operational activities that would be similar to the Proposed Project include maintenance activities and vehicle trips. Energy (and associated GHG emissions) saved by not operating an AWPf under this Alternative would be offset, at least in part, by operation of the RO and MF facilities, resulting in long-term GHG emissions that are expected to be comparable to the Proposed Project. The level of GHG emissions from construction and operation of the Proposed Project were estimated to be far below the 10,000 MT CO<sub>2</sub>e threshold. Therefore, this Alternative is expected to have less than significant GHG emissions impacts. This Alternative would offset imported water by replacing agricultural irrigation supplies with locally-produced recycled water. This would support GHG reduction goals in the applicable GHG reduction plans to improve coordination and management of various water supplies. Therefore, impacts related to GHG emissions would be slightly greater than the Proposed Project, but would be less than significant.

### **Hazards and Hazardous Materials**

The Agricultural Irrigation Offset Alternative could result in greater hazardous materials impacts compared to the Proposed Project through routine transport or accidental release of hazardous materials during construction because it includes a total of approximately 25,000 feet of pipeline which would expand the disturbance area and increase the amount of time for completion of construction compared to the Proposed Project. The additional pipeline alignments may also be located adjacent to additional listed hazardous materials sites. Therefore, construction related impacts could be greater for this alternative. Hazardous materials impacts during operation would be similar to the Proposed Project. Impacts resulting from the Agricultural Irrigation Offset Alternative would be less than significant with mitigation.

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## Hydrology and Water Quality

Hydrology and water quality impacts could occur from construction activities, as well as discharges from the WWTP. Similar to the Proposed Project, construction activities at the WWTP would be contained within the site, with all runoff capture and conveyed to the WWTP headworks for treatment. Activities at the WWTP would not impact hydrology and water quality. CSD would continue to operate the WWTP in compliance with applicable permits for discharge, and would update the WDRs to reflect the use of recycled water and new application sites, along with the changes to the outfall flows. Application of non-potable recycled water for irrigation could result in increased salts in the Carpinteria Groundwater Basin, and may negatively impact groundwater quality. Compliance with CSD's permits would result in less than significant impacts associated with violations of waste discharge requirements and potential groundwater quality impacts from the use of recycled water for irrigation.

Construction of the pipeline could result in dust and erosion impacts to hydrology and water quality, along with creating the potential for materials used during construction, including trash and chemicals, to enter waterways, impacting water quality. This potential impact would be greater than under the Proposed Project due to the increased length of pipeline and associated increase in construction activities. Mitigation measures would be implemented to reduce these potential construction-related surface water quality impacts to less than significant.

This Alternative would avoid crossing Franklin Creek, and therefore would avoid impacts to hydrology and water quality in Franklin Creek. It would, however, include two crossings of Carpinteria Creek, increasing the potential for water quality and hydrology impacts to that creek. Mitigation measures similar to those required for the Franklin Creek crossing in the Proposed Project would be implemented to reduce these impacts to less than significant.

Offsetting potable demands with recycled water for irrigation could reduce groundwater pumping, especially if recycled water is used to offset water from private irrigation wells. This Alternative would support sustainable groundwater management of the basin as related to groundwater levels by reducing pumping. Compliance with applicable permits for the use of recycled water would help protect groundwater quality from potential impacts of recycled water irrigation, thereby also supporting sustainable groundwater basin management. This Alternative would have less potential impact to drainage patterns or flooding compared to the Proposed Project. Under this Alternative, the only aboveground facilities that could potentially alter drainage patterns or be affected by flooding would be located within the WWTP site. All other facilities (pipelines) would be underground, with the surface areas restored to pre-construction conditions. Impacts to hydrology and water quality are expected to be mitigable to less than significant levels, though pre-mitigation would be greater than that of the Proposed Project.

## Land Use and Planning

Land use and planning impacts resulting from the Agricultural Irrigation Offset Alternative would be similar to the Proposed Project. Components of this alternative would not physically divide a community because the pipelines would be located underground. The Agricultural Irrigation Offset Project Alternative would comply with applicable land use plans, policies, and regulations. Similar to the Proposed Project, the partial RO treatment facilities would be located on the WWTP site, which is located adjacent to Carpinteria Creek. Both the City and County require a 50-foot construction setback from creeks for built infrastructure to protect sensitive biological resources and all proposed construction activities would be located within the 50-foot setback on the currently developed WWTP site. Because all construction at the WWTP site would be within this developed, enclosed area, the potential for construction at the WWTP site to directly affect the adjacent creek is low. Therefore, land use and planning impacts resulting from this alternative would be less than significant, similar to the Proposed Project.

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## Mineral Resources

The area where this Alternative's pipelines would be constructed is designated as MRZ-3, indicating that the significance of mineral resources could not be evaluated from available data. The majority of proposed pipeline alignments would be constructed within areas where current infrastructure exists, primarily within ROWs, and would not interfere with existing mineral resource extraction or potential future access to mineral resources. The partial RO treatment facilities and pump station would be constructed entirely within the existing WWTP site, which is critical infrastructure for the City of Carpinteria and would not be used for mineral resource extraction in the future. Therefore, because this alternative would be located within an urbanized area and on properties unlikely to be used for mineral resources in the foreseeable future, impacts would be less than significant, similar to the Proposed Project.

## Noise

The Agricultural Irrigation Offset Alternative would involve construction of more facilities than the Proposed Project, therefore this Alternative would have a more significant impact related to temporary noise and groundborne vibration than the Proposed Project. Permanent noise impacts from this Alternative could result from operation of the larger pump station, depending on the its orientation and distance from residential areas. Additionally, increases in ambient noise conditions could impact special status species, including nesting birds, if located near habitat areas. Similar to the Proposed Project, with implementation of Mitigation Measures to reduce construction noise and minimize noise during operation, impacts would be less than significant. However, this alternative would have slightly greater noise impacts than the Proposed Project.

## Population and Housing

As with the Proposed Project, the Agricultural Irrigation Offset Alternative would not displace existing people or housing because it would not involve demolition of housing nor create long-term disturbances to residential activities that would lead to the displacement of substantial numbers of people or necessitate construction of replacement housing. This alternative would provide agricultural customers that currently use groundwater with recycled water for irrigation to increase CVWD's potable water supply reliability. This Alternative supports ongoing agricultural activities in the region, reducing the potential for future conversion to housing, especially if groundwater pumping restrictions are implemented in the future that could affect agricultural practices. Therefore, impacts under this Alternative would be less than significant, and the same as the Proposed Project.

## Public Services

As with the Proposed Project, the Agricultural Irrigation Offset Alternative would not result in substantial impacts to or result in the need for new or expanded government or recreation facilities, because it would not increase the population or businesses in the region, but would instead serve existing demands and land uses. This alternative would not include the injection wells, which may be located above ground on public park or school property with an approximate footprint of 6,000 square feet. Therefore, this alternative would not reduce the amount of useable park or school space and would likely have a lesser impact on parks. Overall, this alternative would have a less than significant impact to public services and recreation, similar to the Proposed Project.

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## Recreation

As with the Proposed Project, the Agricultural Irrigation Offset Alternative would not result in substantial impacts to or result in the need for new or expanded recreation facilities because it would not result in population growth or relocation. This alternative would not include the injection wells, which may be located above ground on public park or school property with an approximate footprint of 6,000 square feet. Therefore, this alternative would also not reduce the amount of useable park space and would likely have a lesser impact on parks or schools than the Proposed Project. Overall, this alternative would have a less than significant impact to recreation, similar to the Proposed Project.

## Transportation

Primarily because of lane closures for pipeline construction, the Agricultural Irrigation Offset Alternative would result in substantial impacts the circulation system, increase hazards due to design features or incompatible uses, or impact emergency access during construction. The potential transportation impacts of this Alternative may be greater than the Proposed Project due to the increase in pipeline length. Although it would not be located along Linden Avenue, avoiding transportation impacts along Linden, it would involve construction along Highway 192 and Casitas Pass Road, both of which are major roads in Carpinteria. Transportation impacts resulting from this alternative would be greater than the Proposed Project. However, as with the Proposed Project, impacts would be mitigated to less than significant.

## Tribal Cultural Resources

Potential impacts to tribal cultural resources would primarily occur as a result of excavation and ground disturbing area. The region has known tribal cultural resources as the ancestral home of the Chumash. Prehistoric archaeological site CA-SBA-7 was found to be located within the Project Area, specifically at the WWTP site along Carpinteria Creek. No other tribal cultural resources were found within the Proposed Project's ground disturbance footprint. A cultural resources assessment was not conducted for the Alternative's alignment, but it is likely that tribal cultural resources exist in the vicinity of the Alternative, given the region's history. Although additional trenching would be necessary for the additional pipelines, the majority of the components of this alternative would be constructed on previously developed land, including the WWTP site and within roadway ROWs. As such, tribal cultural resources impacts resulting from this alternative would be similar to that of the Proposed Project and impacts would be less than significant with mitigation.

## Utilities and Service Systems

The Agricultural Irrigation Offset Alternative would not substantially impact or result in the need for new or expanded water or wastewater facilities or other utilities-related facilities or infrastructure because it would not result in population or business growth, nor would it result in changes to land uses. Similarly, it would not change the volumes of wastewater flow to the WWTP, or otherwise impact CSD's ability to provide wastewater treatment services. CSD would update its permits to accommodate the addition of a recycled water treatment train at the WWTP as part of this Alternative, and would remain in compliance with applicable permits. The Agricultural Irrigation Offset Alternative would result in similar impacts to utilities as the Proposed Project. Impacts under this alternative would be less than significant and no mitigation would be required.

## Wildfire

The Agricultural Irrigation Offset Alternative would be located within the urbanized area of the City of Carpinteria, as well as within agricultural and open areas near the undeveloped foothills. Construction activities could create wildfire-related risks, similar to the Proposed Project, due to the use of construction equipment in an area with a history of wildfires. Construction along U.S. Highway 101 and Casitas Pass Road could impair emergency response or evacuation plans because these are major roadways and likely evacuation routes. This impact could be greater than the Proposed Project because it would affect additional roadways due to the additional pipeline that would be constructed under this Alternative. However, these impacts could be mitigated to less than significant levels. Therefore, impacts related to wildfire would be less than significant with mitigation under the Agricultural Irrigation Offset Alternative.

## Environmental Justice

The Agricultural Irrigation Offset Alternative would be in an area that has a CalEnviroScreen 3.0 score between 1%-50%, and would have a less than significant impact associated with environmental justice concerns (higher scores indicate a greater environmental justice area concern). This Alternative would also be located within the same U.S. Census Tracts as the Proposed Project and would similarly not disproportionately impact minority or Native American populations. No part of this Alternative would be located within or adjacent to low-income disadvantaged community, and it would have less of an impact on disadvantaged communities than the Proposed Project. Environmental justice impacts from this alternative would be less than significant, and similar to but less than the Proposed Project.

### 4.6 Environmentally Preferred Alternative

As demonstrated in Table 4-1, the environmentally preferred alternative is the No Project Alternative. In accordance with CEQA Section 15126.6(e)(2), if the No Project Alternative is the environmentally superior alternative, “the EIR shall also identify an environmentally superior alternative among the other alternatives.”

The Agricultural Irrigation Offset Alternative would be the environmentally superior alternative among the other alternatives to the Proposed Project. As shown in Table 4-1, the alternatives’ potential impacts generally have a similar level of significance as the Proposed Project, though as described in Section 4.1, *Selection of Alternatives*, the degree of impact does vary. The Agricultural Irrigation Offset Alternative reduces impacts to agriculturally-zoned and Williamson Act land, avoids potential conflicts with land use plans, reduces aesthetic impacts from above-ground facilities, and avoids impacts to marine biological resources from ocean outfall modifications. By avoiding groundwater recharge basins and injection wells, the Agricultural Irrigation Offset Alternative would reduce the potential to affect buried cultural, tribal, paleontological, and mineral resources at those sites; however, those impacts could be greater along the increased length of pipeline alignment to serve the agricultural demands. It also could increase the potential to interfere with special status species and wildlife movement due to the location of the Alternative near more open space and agricultural lands than the Proposed Project. It would also increase the number of creek crossings from one crossing of Franklin Creek to two crossings of Carpinteria Creek, which could increase hydrology and water quality impacts.

Although the Agricultural Irrigation Offset Alternative would reduce some of the potential environmental impacts of the Proposed Project, it does not meet all of CVWD’s project objectives. Only the Proposed Project and the Surface Spreading Alternative meet all of CVWD’s objectives. As demonstrated in Table 4-1, the Surface Spreading Alternative has a greater degree of potential environmental impacts than the Proposed Project; therefore the Proposed Project remains the preferred project.

## 4.7 Alternatives Considered but Rejected

In CVWD's 2016 *Recycled Water Facilities Plan* (CVWD, 2016), options were developed to determine if any feasible projects could be developed with limited investment in treatment. Two tertiary-only options were considered. The first option, which includes a public fill station, was considered to represent the minimum initial investment to start a recycled water program. The second option focused on public landscape irrigation restricted to parks and schools. These options were ultimately rejected because they do not fully meet the goals of the Proposed Project and were not considered or evaluated further.

Additionally, CVWD considered an Agricultural Offset with Surface Spreading Alternative that combined the two alternatives described in Sections 4.5.2 and 4.5.3 above. However, implementation of all these facilities was deemed financially infeasible, and this alternative was rejected.

### 4.7.1 Municipal Irrigation-Fill Station

The Municipal Irrigation-Fill Station alternative entails construction of a recycled water fill station on CSD's property to provide recycled water for internal use by CSD for sewer cleaning, to provide recycled water to rate-payers to supplement landscape irrigation demands, and for dust-control needs specifically for contractors. The alternative includes:

- 0.01 MGD of tertiary filtration and disinfection
- Small pump (5 hp)
- Small storage tank (10,000 gallons)
- On-site piping (200 LF)

Under this alternative, the fill station would initially offset approximately 10 AFY of potable water use, based on use of other fill stations across California in 2014. However, sustained use was uncertain if drought restrictions, pricing, and awareness change in the future.

### 4.7.2 Municipal Irrigation-Landscape Irrigation

The Municipal Irrigation-Landscape Irrigation alternative entails construction of a "purple pipe" distribution system to provide recycled water to CVWD's largest municipal landscape irrigation customers, including: Carpinteria State Beach, El Carro Park, Carpinteria High School, Carpinteria Middle School, and Main Elementary School. The total estimated demand for this alternative is 53 AFY. The alternative includes:

- 0.1 MGD of tertiary filtration and disinfection
- Small pump (10 hp)
- 6-inch piping (2.3 miles)
- Crossings: U.S. Highway 101 crossing within bridge casing to be installed as part of Caltrans' Linden Avenue Interchange Project; Railroad crossing at Linden Avenue

Other landscape irrigation demands located adjacent to the alignment, particularly along Linden Ave, could be included in the alternative, especially considering public outreach and water conservation awareness.

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### 4.7.3 Agricultural Offset with Surface Spreading

The Agricultural Offset with Surface Spreading alternative would both deliver recycled water to some of the largest agricultural irrigation customers and use surface spreading to recharge the groundwater basin. Recharge under this alternative would occur when seasonal agricultural water demands are lower than available supplies. This alternative would require construction of the AWPF, but would not have an elevated storage tank due to the lack of suitable elevated areas. Therefore, this alternative also includes a larger pump station than the Proposed Project to meet peak demands. Also, meeting customer demands as they occur without the benefit of a hydraulic buffer that a tank creates could result in more complicated operations than the Proposed Project and require additional surge relief. This alternative would involve more complicated operations than the Proposed Project in terms of management of customer timing and volume of recycled water use.

Implementation of this alternative would rely on the anchor agricultural customers committing to recycled water use considering the price and quality of the water. Therefore, continued outreach to the agricultural customers would be essential for this alternative, along with continued monitoring of effluent quality.

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## 5. OTHER CEQA CONSIDERATIONS

CEQA Guidelines Section 15126 and Section 15130 and NEPA (40 CFR 1502.16) require that the discussion of environmental impacts address the following topics:

- **Significant Environmental Effects of the Proposed Project.** This discussion can be found throughout the subsections of Section 3, *Environmental Analysis*.
- **Mitigation Measures Proposed to Minimize the Significant Effects.** Mitigation measures are summarized in the Executive Summary and throughout Section 3, *Environmental Analysis*.
- **Alternatives to the Proposed Project.** Consideration and discussion of alternatives is presented in Section 4, *Alternatives Analysis*.
- **Cumulative Impacts of the Proposed Project.** This topic is discussed in this section.
- **Growth-Inducing Impact of the Proposed Project.** This topic is discussed in this section.
- **Significant Environmental Effects Which Cannot be Avoided if the Proposed Project is Implemented.** This topic is discussed in this section.
- **Significant Irreversible Environmental Changes Which Would be Involved in the Proposed Project Should it be Implemented.** This topic is discussed in this section.

### 5.1 Cumulative Effects

As discussed in Section 3, *Environmental Analysis*, a majority of the potentially significant environmental effects associated with the Proposed Project would be temporary and related to construction as opposed to long-term operation of the Proposed Project. A majority of these impacts would be mitigated by the design of the facilities, compliance with applicable policies and regulations and by the mitigation measures described in Section 3 *Environmental Analysis*.

#### 5.1.1 Cumulative Analysis Requirements

Cumulative impacts, as defined in CEQA Guidelines Section 15355, refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The cumulative impact from multiple projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, or reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time. Pertinent guidance for cumulative impact analysis is provided in CEQA Guidelines Section 15130:

- An EIR shall discuss cumulative impacts of a project when its incremental effect is “cumulatively considerable” in connection with effects of past, current, and probable future projects, including those outside the control of the agency.
- If an incremental effect is not cumulatively considerable, an EIR shall briefly describe its basis for concluding that the incremental effect is not cumulative.
- An EIR should not discuss impacts that do not result in part from the project evaluated in the EIR.
- A project’s contribution is less than cumulatively considerable (not significant), if the project is required to implement or fund its share of mitigation measure(s) designed to alleviate the cumulative impact.
- The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not be as detailed as it is for the effects attributable to the project alone.

- The discussion of impact severity and likelihood of occurrence need not be as detailed as for effects attributable to the project alone.
- The focus of analysis should be on the cumulative impact to which the identified other projects contribute, rather than on attributes of the other projects that do not contribute to the cumulative impact.

NEPA also requires consideration of cumulative impacts (40 CFR 1508.7 and 1508.25; 43 CFR 46.115), as defined in 40 CFR 1508.7 as: “The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.”

Cumulative impact analysis results for each individual resource topic are described below.

### 5.1.2 Approach to Cumulative Analysis

Two approaches to a cumulative impact analysis are discussed in the CEQA Guidelines Section 15130(b)(1):

- a) the analysis can be based on a list of past, present, and probable future projects producing related or cumulative impacts, or
- b) a summary of projections contained in an adopted local, regional, or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include a general plan, regional transportation plan, or in an adopted or certified environmental document that described or evaluated regional or area-wide conditions contributing to the cumulative impact.

For the purposes of this EIR, the analysis is based on a list of projects (i.e., approach a)). The following factors were used to determine an appropriate list of projects to be considered in this cumulative analysis:

- **Similar Environmental Impacts.** A relevant project contributes effects on resources also affected by the Proposed Project. A relevant future project is defined as one that is “reasonably foreseeable,” such as one that has approved funding or for which an application has been filed with the approving agency.
- **Geographic Scope and Location.** A relevant project is in a defined geographic scope for the cumulative effect.

### 5.1.3 Similar Environmental Impacts

Projects that are relevant to the cumulative analysis include those that could contribute incremental effects on the same environmental resources and would have similar environmental impacts to those discussed in this EIR. The discussions below analyze the potential cumulative impacts that could occur when the impacts of the Proposed Project are considered in combination with the impacts of other past, present, and reasonably foreseeable future projects that are generally subject to independent environmental review and consideration by the approving agencies. Consequently, it is possible that some of the reasonably foreseeable future projects will not be approved, or will be modified prior to approval (e.g., as a result of the CEQA alternatives analysis process). For the purposes of assessing worst-case cumulative impacts, however, the analysis is premised on the approval and construction of all of the reasonably foreseeable projects identified in this section.

#### **5.1.4 Geographic Scope and Location**

The geographic scope of cumulative projects is dependent on the resource area affected and is specifically described under each topical section below. In general, the geographic scope includes the areas within and adjacent to the project site. However, for some resource topics, the geographic scope extends farther, such as the regional air basin.

#### **5.1.5 List of Relevant Projects**

Table 5-1 lists the past, present, and reasonably foreseeable projects and activities within and near the Study Area, identifies the type of project (e.g., residential, transportation, long-range plan), the location, and provides a brief summary of the project status. The cumulative impact analysis is presented in the subsections that follow. The projects listed in Table 5-1 include projects proposed by CVWD, the City of Carpinteria, CSD, and the County of Santa Barbara.



**Table 5-1. Cumulative Projects**

#	Project Name	Project Type	Project Description	Location	Status
1	Caltrans High Occupancy Vehicle Lanes (South Coast 101 High-Occupancy Vehicle [HOV] Lanes Project)	Transportation	Upgrade of 0.45 miles of high occupancy freeway between the Santa Barbara County/Ventura County lines and the City of Carpinteria. Add one HOV lane in each direction, resulting in a six-lane freeway within the project limits. Added lanes are proposed part-time HOV lanes, meaning that they will operate as general-purpose lanes during off-peak periods of weekdays and on weekends.	U.S. Highway 101 between the Santa Barbara County/Ventura County lines and the City of Carpinteria	Construction anticipated to begin mid-2020
2	Black Opal Ranch Barn Restoration	Commercial/Redevelopment	Demolition of the 1918 metal barn and the restoration of the 1880's Red Barn.	1835 Santa Monica Road, Carpinteria	Historical Lands Advisory Commission hearing in July 2017
3	Cate School Master Plan	Private School Master Plan Conditional Use Permit Revision	Revise existing CUP to allow for expansion and renovation of existing educational and administrative facilities, an increased enrollment cap to 300 students, revisions to the existing onsite childcare center operation to align the number of children allowed with the number permitted by its state license, and authorization to use the existing portable public address system for sporting events and school functions.	1970 Lillingston Canyon Road, Carpinteria	EIR completed in 2016
4	Claus Properties STA Claus LN Mixed Use	Commercial-Residential Mixed Use	Mixed use consisting of four commercial lots and three residential lots.	800 Santa Barbara Street, Santa Barbara	Revisions requested in July 2018 by Historic Landmarks Commission

<b>Table 5-1. Cumulative Projects</b>					
<b>#</b>	<b>Project Name</b>	<b>Project Type</b>	<b>Project Description</b>	<b>Location</b>	<b>Status</b>
5	VIA REAL, LLC Tract Map	Commercial and Residential Development	36 new residential units ranging from 2,250 to 5,403 square feet. New club house at 1,314 square feet. Property is a 11.48-acre parcel zoned DR-3.3	3250 and 3282 Via Real, Carpinteria	Santa Barbara County Board of Architectural Review hearing on September 15, 2017
6	Lagunitas Mixed Use	Commercial Development	Construct 85,000 square foot office building	6380 Via Real, Carpinteria	Approved by City Council
7	Caltrans Linden-Casitas Interchanges	Transportation	Replace/reconfigure Linden Avenue and Casitas Pass Road interchanges	Linden Avenue and Casitas Pass at U.S. Highway 101	Approved by City Council
8	M3 Mixed Use Building	Commercial-Residential Mixed-use Development	Second-story office space, commercial space on the first floor and two one-bedroom apartments	4819 Carpinteria Avenue, Carpinteria	Approved by City Council. Groundbreaking was expected spring 2018; project delayed
9	Schildknecht Single Family Development	Single-family Residential Development	Construct one new single-family dwelling on vacant lot	4634 9th Street Carpinteria	Approved by City Council
10	Gobbell Second Unit	Single-family Residential Addition	Second unit on existing parcel	5398 Star Pine Road, Carpinteria	Approved by City Council
11	Habitat for Humanity Triplex	Residential Development	Three new affordable condominiums	4949 Sawyer Avenue, Carpinteria	Construction began March 2019
12	Carpinteria Avenue Bridge Replacement	Transportation	Replace bridge to include wider sidewalks, improved water flow under the bridge to reduce flooding risk, enhanced bike access over the bridge, creek bed and bank enhancements	5400 Carpinteria Avenue, Carpinteria	CEQA completed November 2016; Approved by City Council; Funding anticipated fall of 2019

<b>Table 5-1. Cumulative Projects</b>					
<b>#</b>	<b>Project Name</b>	<b>Project Type</b>	<b>Project Description</b>	<b>Location</b>	<b>Status</b>
13	Wells Residence	Residential Development	Convert a former church building to a single-family residence	924 Walnut Avenue, Carpinteria	Residential unit building permit issued in 2018
14	Green Heron Spring	Residential Development	Moderate-income homes including flats, townhomes, and detached single family homes. Demolish two units, construct 31 new condominiums	1300 and 1326 Cravens Lane, Carpinteria	Development was sold in January 2019 and anticipated completion in Fall 2019
15	Faith Lutheran Single Family Developments	Residential Development	Subdivide into seven lots and construct five new single-family dwellings	1335 Vallecitos Place, Carpinteria	Approved by City Council
16	Gobuty Condominiums	Residential Development	Remodel existing single-family dwelling, construct two new units, subdivide for condos	4716 7th Street, Carpinteria	Property listed for sale October 2018. Approved by City Council
17	CSD Headquarters	Municipal Redevelopment	Demolish 3,597 square-foot existing headquarters, construct new 4,118 square-foot headquarters	5300 6th Street, Carpinteria	Project approved by planning commission and City Council
18	Wood Single Family Development	Residential Development	Construct one new single-family dwelling on vacant lot	650 Concha Loma Drive, Carpinteria	Preliminary plans approved by Architectural Review Board in Sept 2017
19	Cruz Mixed Use	Residential/Commercial Mixed-Use Development	Construct two one-bedroom apartments and 500 square feet commercial space	4675 Carpinteria Avenue, Carpinteria	Scheduled for arbitration July 2018
20	Freeman Storage Building	Commercial Development	Construct a new storage building	789 Linden Avenue, Carpinteria	Under coastal development permit review.

<b>Table 5-1. Cumulative Projects</b>					
<b>#</b>	<b>Project Name</b>	<b>Project Type</b>	<b>Project Description</b>	<b>Location</b>	<b>Status</b>
21	Hawkins Single Family Development	Residential Development	Construct one new single-family dwelling on vacant lot	5567 Calle Arena, Carpinteria	Approved by Planning Commission on March 4, 2019
22	Martinez Apartments	Residential Redevelopment	Demolish existing single-family dwelling, construct three apartment units	1061 Cramer Road, Carpinteria	Submitted to City's planning board May 2018
23	Via Real Hotel	Hotel Development	Demolish existing church, construct 102-room hotel	4110 Via Real, Carpinteria	Received approval from planning commission April 2017
24	Phari, LLC Apartments	Residential Redevelopment	Convert existing single-family dwelling and secondary dwelling unit to 5-unit apartment	1112 Linden Avenue, Carpinteria	City Council rejected project in Oct 2018 meeting
25	Katzenstein Condominiums	Residential/Commercial Mixed-Use Redevelopment	Convert existing commercial condos to two residential condos	1135 Eugenia Place, Carpinteria	
26	GranVida Phase II Expansion	Commercial/Residential Development	Construct 50-unit assisted living facility	5464 Carpinteria Avenue, Carpinteria	
27	Able Secondary Dwelling Unit	Residential Development	Remodel and addition to existing single-family dwelling; construct new secondary dwelling unit	477 Concha Loma Drive, Carpinteria	Conceptual plans reviewed by Architectural Review Board Nov 2018
28	Verizon Wireless	Telecommunications	New rooftop wireless communications facility	890 Linden Avenue, Carpinteria	Preliminary plans reviewed by Architectural Review Board Dec 2018

**Table 5-1. Cumulative Projects**

#	Project Name	Project Type	Project Description	Location	Status
29	AT&T Wireless	Telecommunications	New rooftop wireless communications facility	1160 Mark Avenue, Carpinteria	Preliminary plans reviewed by Architectural Review Board March 2019
30	Procore	Commercial Development	Building and site improvements; including storefront expansion	6303 Carpinteria Avenue, Carpinteria	Project under final review by Architectural Review Board Aug 2018
31	Sanctuary Beach Condominiums	Residential Development	Construct four new condominiums	4925 Carpinteria Avenue, Carpinteria	Received reapproval of the project by planning commission on Mar 4, 2019
32	Carpinteria Unified School District	Municipal	The Measure U project contains several construction projects at the High School, Middle School, Family School and Elementary School	Carpinteria Schools	Seeking bids for contractors for Elementary School portion Feb 2019
33	County of Santa Barbara Santa Claus Lane Parking Improvements	Municipal	A beach access plan and a streetscape improvement plan to increase public access to the beach and revitalize the nearby commercial area.	Santa Claus Lane	Meeting on Zoning held in June 2016
34	City of Carpinteria Public Works CIP Projects	Municipal	Includes various projects to maintain the City's infrastructure	CVWD's service area	Approval and Construction of individual projects ongoing
35	CSD WWTP Floodwall Repairs	Municipal	Emergency action to repair apparent failure of flood control system at WWTP	5300 6th Street	Summer 2019



<b>Table 5-1. Cumulative Projects</b>					
<b>#</b>	<b>Project Name</b>	<b>Project Type</b>	<b>Project Description</b>	<b>Location</b>	<b>Status</b>
36	CVWD CIP Projects	Municipal	Pipeline rehabilitation and valve repairs	CVWD's service area	Approval and Construction of individual projects ongoing
37	CSD CIP Projects	Municipal	Pipeline rehabilitation and pipeline project.	CSD's service area	Approval and Construction of individual projects ongoing

## 5.2 Cumulative Impacts Analysis

### 5.2.1 Aesthetics

The geographic scope of potential aesthetic impacts encompasses the Study Area and immediate vicinity. A significant cumulative impact related to aesthetics would occur if the cumulative projects would cause a view obstruction of scenic vistas, or scenic resources within a state scenic highway, degrade the existing visual quality or character of public views of the site or its surroundings or create a new source of light or glare that would impact views in the area. The majority of Proposed Project facilities would be located below-grade, including pipelines and monitoring wells, and therefore, would not be visible after construction. Above-ground facilities, including the AWPF, pump station, and injection wells/backwash storage tank, and potentially the injection wells, are components of the Proposed Project that have potential long-term cumulative aesthetic impacts within the Study Area. Cumulative projects would include above-ground structures (e.g., single family and multi-family residential developments and school facilities) and other improvements (e.g., ROW facilities improvements) that would obstruct scenic vistas or alter the visual quality of the given sites and their surroundings. These projects are scattered throughout the Study Area and could result in a cumulative visual impact if they were to occur in proximity to one another during both construction and operation.

The AWPF and associated facilities would be located at the CSD WWTP site which includes similar facilities, would comply with City height restrictions, and would not significantly impact surrounding views as the property is set back from the road and is surrounded by trees and vegetation that significantly blocks views of the property from surrounding areas. The backwash storage tank and injection wells may be located within a public park or school, but would be screened per **Mitigation Measure MM 3.1-1**. Operational lighting for the Proposed Project would be limited to emergency nighttime work at the injection wells and lighting consistent with existing lighting at the WWTP for the AWPF and pump station facilities. Contribution of the Project's above-ground facilities to cumulative light and glare within the City's scenic vistas would be minimized by **Mitigation Measure 3.1-3**, which requires low intensity and shielding in all construction and operational lighting. Cumulative light and glare impacts could result from construction of the Proposed Project and cumulative projects; however, construction-related impacts would be temporary and would be reduced to less than significant levels with incorporation of proposed mitigation. Operational lighting for the Proposed Project would be limited to emergency nighttime work at the injection wells and lighting consistent with existing lighting at the WWTP for the AWPF and pump station facilities. The Proposed Project would not result in a significant contribution to cumulatively considerable visual impacts. The Proposed Project's contribution to cumulative impacts on aesthetic resources would be less than significant.

### 5.2.2 Agriculture and Forestry Resources

The geographic scope of potential agriculture and forestry resources impacts encompasses the Study Area and immediate vicinity. A significant cumulative impact related to agriculture and forestry resources would occur if the cumulative projects would convert important farmland to non-agricultural use, conflict with existing agricultural zoning, result in the loss of forest or timberland, or conflict with existing zoning for forest or timberland. Within the City, land designated for agricultural uses (i.e., Prime and Unique Farmland) is located approximately 0.5-mile to the east of the Study Area. Within the unincorporated County portion of the Study Area, there is no Prime Farmland or Farmland of Statewide Importance, though Prime Farmland, Farmland of Statewide Importance, and Unique Farmland in the unincorporated County all exist within 0.5 miles of the Study Area. Well Site #6 is located within a parcel designated as Unique Farmland. This location is already used for agricultural activities, and installation of an injection well would not affect the use of the property. The footprint of the completed well (6,000 square feet) would be small compared to the size of the parcel, and would not result in substantial conversion of farmland. Further, the Proposed Project would

not affect agricultural land uses outside of the construction footprint because it would not support unplanned growth. The cumulative projects are anticipated to be located primarily on land designated for the use of each of the projects and would not likely convert agricultural land to non-agricultural uses. Additionally, the small amount of designated important farmland within the vicinity of the Study Area further reduces the potential of cumulative impacts to important farmland and agricultural-use lands. There is no designated forest or timberland within the Study Area. Therefore, the Proposed Project would not result in a significant contribution to cumulative impacts to agriculture and forestry resources. The Proposed Project's contribution to cumulative impacts on agriculture and forestry resources would be less than significant.

### 5.2.3 Air Quality

Potential impacts related to air quality are evaluated on a regional (air basin) basis. The City of Carpinteria is located in the South Central Coast Air Basin and relies on the standards developed by the SBCAPCD. The SBCAPCD has jurisdiction over air quality attainment in the Santa Barbara County portion of the South Central Coast Air Basin. Santa Barbara County is currently designated nonattainment for PM<sub>10</sub> and nonattainment-transitional for 1-hour and 8-hour ozone. The SBCAPCD has not set quantitative thresholds of significance for short-term emissions. SBCAPCD has developed significance thresholds for long-term project emissions of 240 lbs/day for ROC or NO<sub>x</sub>, 80 lbs/day for PM<sub>10</sub>, or 25 lbs/day for ROC or NO<sub>x</sub> from motor vehicle trips only. Exceedances of these thresholds would constitute a substantial contribution to a cumulative air quality impact. The cumulative projects identified in Table 5-1 have the potential for cumulative air quality impacts, if such projects were to individually exceed SBCAPCD's significance thresholds. The cumulative projects would generate particulate matter both during short-term construction (e.g., use of construction equipment during erection of structures and removal of sediment) and long-term operation (e.g., development projects would generate increase in traffic).

As discussed in Section 3.3, *Air Quality*, and shown in Table 3.3-6 and Table 3.3-7, construction and operations of the Proposed Project would not exceed SBCAPCD thresholds of significance. Additionally, the Proposed Project would implement SBCAPCD construction BMPs (see Section 2.10, *Environmental Commitments*) to ensure that the Project's contribution to a cumulative air quality impact is minimized. Thus, the Proposed Project's contribution to cumulative air quality impacts would be less than significant.

### 5.2.4 Biological Resources

The geographic scope of potential cumulative impacts on biological resources encompasses the biological APE and immediate vicinity. The Proposed Project would contribute to cumulative impacts on biological resources if the Proposed Project and other cumulative projects in Table 5-1 were to adversely affect biological resources within the Study Area. Many of the cumulative projects would occur in developed, urban areas and are not expected to result in any impacts on protected birds and bats, protected trees, or special-status plant and wildlife species. Additionally, as with the Proposed Project, the majority of the cumulative projects would also be required to mitigate for any potential impacts to biological resources. However, continued development of the Study Area would limit availability of habitat and movement corridors for biological resources. Cumulative impacts to biological resources are possible with implementation of all of the cumulative projects.

As discussed in Section 3.4, *Biological Resources*, there is potential for the Proposed Project to affect resources in the Study Area. However, the Proposed Project's contribution to this potential cumulative impact would not be cumulatively considerable with implementation of proposed mitigation measures, which require appropriate field assessments, design of Proposed Project elements to avoid biological resources to the extent feasible, and implementation of construction BMPs to reduce pollutant loading to local riparian and sensitive habitats. Additionally, CVWD would

implement biological resources training for construction workers, worksite cleanliness requirements, and appropriate regulatory permits (see Section 2.10, *Environmental Commitments*) Therefore, with implementation of mitigation, the Proposed Project's contribution to cumulative biological resources impacts would be less than significant.

### 5.2.5 Cultural Resources

The geographic scope of potential cumulative impacts on cultural resources encompasses the cultural APE and immediate vicinity. A significant cumulative impact related to cultural resources would occur if the cumulative projects would substantially change the significance of a historical or archaeological resource or disturb any human remains. The cumulative projects could result in cumulatively considerable impacts to cultural resources because the majority of the cumulative projects would require excavation activities that could encounter previously unrecorded cultural and/or archaeological resources.

As discussed in Section 3.6, *Cultural Resources*, there is potential for the Proposed Project to affect cultural resources in the Study Area. Namely, construction of other Projects in the vicinity of the WWTP, adjacent to Carpinteria Creek, could affect one prehistoric archaeological site, CA-SBA-7. However, the Proposed Project's contribution to this potential cumulative impact would not be cumulatively considerable with implementation of proposed mitigation measures, which require monitoring of ground-disturbing construction activities and management of any previously undiscovered resources that are encountered during construction. Additionally, CVWD would implement cultural resources training for construction workers, including archaeological resource identification (see Section 2.10, *Environmental Commitments*). Therefore, the Proposed Project's contribution to cumulative cultural resources impacts would be less than significant.

### 5.2.6 Energy

The geographic scope of potential impacts related to energy is the SCE service area. A significant cumulative impact related to energy would occur if the cumulative projects would result in substantially wasteful, inefficient, or unnecessary consumption of energy or substantially increase the demand on existing sources of energy. The cumulative projects could result in cumulatively considerable impacts related to increased energy consumption due to the energy required during construction and operation of the projects. However, due to Federal, State, City, and County policies and regulations required for both construction and operation to reduce energy consumption and increase energy efficiency, the cumulative projects would not result in wasteful or inefficient energy consumption.

As discussed in Section 3.7, *Energy*, construction of the Proposed Project would be required to comply with the with the SBCAPCD and CARB construction BMPs, including CARB's In-Use Off-Road Diesel-Fueled Fleets Regulations, which would limit vehicle idling time to 5 minutes, restrict adding vehicles to construction fleets with older-tier engines, and establish a schedule for retiring older, less fuel-efficient engines from the construction fleet. Because the Proposed Project would offset imported water supplies from the SWP, operations would be expected to result in a potential energy savings of 2,254 kWh/million gallons. As such, the Proposed Project's contribution to cumulatively considerable energy impacts would be less than significant.

### 5.2.7 Geology and Soils

The geographic scope of potential cumulative impacts related to geology, seismicity, and soils encompasses the Study Area and immediate vicinity. A significant cumulative impact related to geology and soils would occur if impacts of the Proposed Project combined with impacts resulting from the cumulative projects would cause substantial adverse effects related to earthquake fault rupture, strong seismic ground shaking, ground failure, landslides, or soil erosion.

Although many of the cumulative projects listed in Table 5-1 could have similar geologic impacts to the Proposed Project, geologic and soils impacts are generally site-specific and depend on local geologic and soil conditions. Additionally, all construction projects over one acre must obtain a Construction General Permit from SWRCB, which would cumulatively reduce potential erosion and sedimentation impacts.

Potential impacts related to the Proposed Project are not additive with other project impacts and are therefore not cumulatively considerable. Although the Study Area is prone to seismic hazards including risk of strong seismic ground shaking, liquefaction, and expansive soils, these impacts would be less than significant with implementation of mitigation measures requiring geotechnical evaluations for potential seismic and soils hazards. Thus, the Proposed Project's contribution to cumulatively considerable geologic, soils, or seismic impacts would be less than significant.

### 5.2.8 Greenhouse Gas Emissions

GHG emissions and their contribution to climate change is a global issue. Because GHG emissions affect global climate change, evaluation of cumulative impacts is not based on adding emissions of all reasonably foreseeable projects (which would not be feasible on a global basis). Instead, the geographic scope of potential cumulative impacts for GHG emissions is the South Central Coast Air Basin, for which significance thresholds have been set by SBCAPCD for stationary sources to identify projects which may have a significant GHG impact, either individually or cumulatively. Construction-related GHG emissions are associated with operation of off-road construction equipment, worker and vendor vehicle trips, and hauling trips. Total GHG emissions from construction of the Proposed Project are estimated to be 1,043 MTCO<sub>2</sub>e over the entire 15 months of construction. Long-term GHG emissions from operation of the Proposed Project, including vehicle maintenance trips, energy consumption, and landscaping activities, would result in an estimated 842 MTCO<sub>2</sub>e of GHG per year. As discussed in Section 3.9, *Greenhouse Gas Emissions* and shown in Table 3.9-1, GHG emissions from the Proposed Project would be below the SBCAPCD thresholds of significance for operation of stationary sources: 10,000 MTCO<sub>2</sub>e per year. Therefore, the Proposed Project's contribution to cumulative GHG emissions would be less than significant.

### 5.2.9 Hazards and Hazardous Materials

The geographic scope of potential cumulative impacts associated with hazards and hazardous materials encompasses the Study Area and immediate vicinity. Cumulative projects within proximity to the Study Area may include facilities that use, store, dispose of, or transport hazardous materials. Cumulative projects would be required to comply with regulations applicable to the use, disposal, and transportation of hazardous materials and compliance with applicable regulations would reduce potential cumulative impacts to less than significant levels. With respect to the use and accidental release of hazardous materials in the environment at construction sites and the inadvertent mobilization of existing hazardous contaminants from construction activities, effects are generally limited to site-specific conditions. With implementation of proposed mitigation requiring a hazardous materials management plan for both the AWP site and all construction-related activities, the Projects contribution to a cumulative impact related to routine transport and potential release of hazardous materials would be less than significant.

For cumulative effects on emergency response plans and emergency access, the effects can extend to regional roadways that could be affected by construction-related traffic. Together, the cumulative projects listed in Table 5-1 are dispersed throughout the City and some may disrupt streets during construction and could result in cumulative impacts associated with disruption of emergency access and response times. As discussed in Section 3.18, *Transportation*, mitigation requiring development of a Transportation Management Plan would require coordination with emergency service providers and reduce the Proposed Project's contribution to hazardous materials impacts to less than significant. In addition, the Proposed Project would be required to implement **Mitigation Measure CUM-1**,

described in Section 5.2.17, *Transportation* below, which would require that CVWD coordinates with applicable agencies to ensure that different haul routes are used to minimize impacts to the traffic network. With implementation of mitigation measures, including implementation of a Transportation Management Plan and coordination with emergency response agencies and the agencies implementing cumulative projects regarding construction schedules, the Proposed Project's contribution to the cumulative emergency access impacts would be less than significant.

### 5.2.10 Hydrology and Water Quality

The geographic scope of potential cumulative impacts related to hydrology and water quality is the Study Area and immediate vicinity, including Carpinteria Creek, Franklin Creek, and the Pacific Ocean. During construction, the cumulative projects could together violate surface water quality standards by exposing and disturbing soils and causing erosion and siltation in and downstream of the Study Area. Thus, the potential for cumulative water quality degradation during construction would be significant. The Proposed Project would require excavation and could contribute to water quality impacts during construction activities within both terrestrial and marine environments. However, because the Proposed Project would comply with necessary permits, including the State's Construction General Permit and SWPPP, as well as construction BMPs in Section 2.10, *Environmental Commitments*, the Proposed Project's contribution to cumulative impacts would be less than significant.

None of the projects identified in Table 5-1 would directly impact groundwater quality, though residential and commercial projects could result in some increase to groundwater pumping if private wells are installed, which could affect groundwater levels or quality. The Proposed Project would inject purified water into the groundwater basin for later recovery, and would not contribute to cumulative impacts on the groundwater basin.

The cumulative projects would increase wastewater flows to the WWTP through additional residential and commercial development, but would remain within the permitted capacity of the WWTP which is 2.5 MGD (approximately 1.4 MGD higher than current wastewater flows to the WWTP). The Proposed Project would not contribute to changes in wastewater flows entering the WWTP, but would beneficially reuse wastewater from the cumulative projects. The WDR permit for the WWTP would be updated to address changes from the Proposed Project, and would not alter the permitted capacity of the WWTP. Therefore, cumulative operational impacts would not result in violations of the WWTP's WDR.

There is potential for development in the Study Area and nearby vicinity to alter stormwater flows due to impervious surfaces and grading activities. However, compliance with City codes requires stormwater management measures be implemented if 2,500 square feet or more of impervious surface is created by a project. With incorporation of these stormwater management measures at each cumulative project site, cumulative stormwater impacts would be less than significant. As demonstrated in Section 3.11, *Hydrology and Water Quality*, the Proposed Project would not contribute to flooding or stormwater flows beyond the enclosed boundaries of the WWTP, and all stormwater at the WWTP would be captured and conveyed back to the WWTP headworks for treatment. Therefore, the Proposed Project would not contribute to cumulative flood or stormwater impacts.

### 5.2.11 Land Use and Planning

The geographic scope of potential cumulative land use and planning impacts consists of the City of Carpinteria and the adjacent unincorporated Santa Barbara County areas. The cumulative projects listed in Table 5-1 would not result in cumulative land use conflicts, as proposed development within designated parcels would be in conformity with the land use and zoning designations (either as proposed or after zoning designation amendments). With mitigation to reduce noise and traffic during construction, the Proposed Project would not physically divide a community nor conflict

with land use plans or policies. Thus, the Proposed Project's contribution to cumulative land use impacts would be less than significant.

### 5.2.12 Mineral Resources

The geographic scope of potential cumulative mineral resources impacts consists of the Study Area and immediate vicinity. Although the Study Area is designated by the California DOC as MRZ-3, indicating that the significance of mineral resources could not be evaluated from available data, no mineral resources recovery sites have been identified by local plans within the Study Area. Offshore oil operations exist in the region. Modifications to the ocean outfall, which is located at a depth of 21 to 24 feet below mean sea level, would require divers and a support vessel. However, these modifications would have no impact on offshore oil drilling activities. Due to the absence of mineral resource recovery sites within the Study Area, the Proposed Project's contribution to cumulative mineral resources impacts would be less than significant.

### 5.2.13 Noise

For noise and vibration, the geographic scope of potential cumulative impacts is limited to the immediate project vicinity, as well as areas adjacent to any routes designated for access and hauling. Almost all of the projects listed in Table 5-1 could contribute to cumulative impacts associated with short-term construction noise. The extent of the impact would depend on both the proximity of the cumulative projects to the components of the Proposed Project (see locations in Table 5-1), and the possibility that the construction schedules would overlap. Given the uncertainty regarding construction schedules for other cumulative projects, it is assumed that there is a potential for overlap in construction periods that could result in a significant short-term exposure of sensitive receptors to elevated noise and vibration levels during construction. Operational noise impacts of the cumulative projects listed in Table 5-1 would be associated with noise generated from the new land uses such as from traffic generated by the new development projects, or operational noise associated with activities such as bussing students, delivery truck trips, HVAC units, or heavy machinery use.

As discussed in Section 3.14, *Noise*, the Proposed Project would generate temporary, periodic increases in ambient noise levels in the vicinity of the Study Area during construction. Construction of the injection wells and the monitoring wells would require up to three weeks of 24-hour drilling, which would be a significant contribution to cumulative noise impacts. Construction of the AWPf and pump station would also generate substantial noise levels from pile driving, which is a significant contribution to cumulative noise levels. However, the mitigation measure included in Section 3.14, *Noise* is extensive, requiring equipment shielding and sound barriers, mufflers on construction equipment, measures to reduce vibration, and temporary relocation for residents within 100 feet of nighttime drilling. Given the distance of the Proposed Project to cumulative projects, the short-term nature of construction, and proposed mitigation measures to limit construction noise, the Proposed Project's contribution to cumulative construction-related noise impacts would be less than significant.

The Proposed Project would add new above-ground facilities that generate noise, including the pump station, and equipment at the injection wells and AWPf, which could generate noise above the City's noise regulations for the specified land use. However, because of the distance of the proposed facilities from other cumulative projects and implementation of noise minimization measures during operation, the Proposed Project's contribution to cumulative operational noise would be less than significant.

#### 5.2.14 Population and Housing

The geographic scope of cumulative population and housing impacts is the City of Carpinteria and the adjacent unincorporated Santa Barbara County. Because the Proposed Project would have no impact on population and housing, there is no potential for the Proposed Project to contribute to a cumulatively significant population and housing impact.

#### 5.2.15 Public Services

The geographic scope of potential cumulative impacts on public services is within the City of Carpinteria and the adjacent unincorporated Santa Barbara County areas. As discussed in Section 3.16, *Public Services*, the Proposed Project would not contribute to the need for new or expanded fire protection, police, school or other public facilities. However, as discussed in Section 3.10, *Hazards and Hazardous Materials*, the Proposed Project has the potential to impact emergency response times. The Proposed Project's contribution to impacts to emergency response times would be reduced to less than significant with implementation of proposed mitigation measures. Therefore, the Proposed Project's contribution to cumulative public service impacts would be less than significant.

#### 5.2.16 Recreation

The geographic scope of cumulative recreation impacts is the City of Carpinteria and the adjacent unincorporated Santa Barbara County areas. The Proposed Project would have no impact related to increased use of recreation facilities and would not require the construction or expansion of recreation facilities. Therefore, there is no potential for the Proposed Project to contribute to a cumulatively significant recreation impact.

#### 5.2.17 Transportation

The geographic scope of potential cumulative impacts related to transportation is the roadway network in the Study area, including the U.S. Highway 101 and associated on-and off-ramps, and the key roadways in the Study Area such as Linden Avenue and Carpinteria Avenue. The cumulative projects listed in Table 5-1 could together contribute traffic to these roads during construction (due to the increase in truck trips associated with the delivery of equipment and material, and temporary closure of lanes/roads to accommodate work area). Development projects would also increase traffic once constructed, potentially resulting in unacceptable traffic delays at nearby intersections or increases in traffic on the regional freeway system. However, the Proposed Project would generate limited operational traffic impacts due to the minor increase in O&M activities associated with the Proposed Project. Thus, the Proposed Project's contribution to cumulative operational transportation impacts would be less than significant.

Given the number of cumulative projects within the vicinity of the Study Area, the Proposed Project could contribute to cumulative construction-related traffic impacts because the projects would likely utilize the same roadway systems for materials transport. South of U.S. Highway 101, Linden Avenue is the main roadway that runs through Carpinteria's downtown area. Carpinteria Avenue is the only continuous street running through the City on the south side of U.S. Highway 101 and is the primary roadway through the City's central business district. Although the proposed pipeline alignments would likely follow local streets to the south of U.S. Highway 101 to reduce construction-related traffic impacts on Linden and Carpinteria Avenues, to the extent practicable, the Proposed Project would likely impact a small portion of these main roadways, as would construction of other cumulative projects. Although implementation of proposed mitigation measures would reduce project-specific impacts through a Transportation Management Plan that implements traffic safety controls and coordinates with all relevant transportation and emergency service entities, the Proposed Project's contribution to cumulative traffic impacts could be considerable. Implementation of Mitigation



Measure CUM-1 would ensure that the Proposed Project's contribution to traffic impacts would be less than cumulatively considerable. The proposed mitigation measure would require that CVWD coordinates with applicable agencies to ensure that different haul routes are utilized to minimize impacts to the traffic network.

**Mitigation Measure CUM-1:** CVWD and/or its Contractor shall coordinate with the City of Carpinteria, Santa Barbara County and CSD and their contractor, as applicable, to coordinate construction schedules and construction materials delivery routes to ensure that roadway impacts are minimized during Proposed Project construction, either through the use of different haul routes or through timing of construction. In the event that construction of the Proposed Project occurs concurrently with Caltrans construction on U.S. Highway 101 in Carpinteria, coordination with Caltrans on construction schedule shall also be required.

### 5.2.18 Tribal Cultural Resources

The geographic scope of potential cumulative impacts on tribal cultural resources encompasses the cultural APE and immediate vicinity. The Proposed Project would contribute to cumulative impacts on tribal cultural resources if the Proposed Project and other cumulative projects in Table 5-1 were to adversely affect tribal cultural resources within the vicinity of the Proposed Project. The cumulative projects could result in cumulative impacts because the majority of them would require excavation activities that could encounter previously unrecorded tribal cultural resources.

As discussed in Section 3.5, *Cultural Resources*, there is potential for the Proposed Project to affect cultural resources in the APE. However, the Proposed Project's contribution to this potential cumulative impact would be less than significant with implementation of proposed mitigation measures, which require monitoring of ground-disturbing construction activities and management of any previously undiscovered resources that are encountered during construction. The Proposed Project's contribution to cumulative tribal cultural resources impacts would be less than significant.

### 5.2.19 Utilities and Service Systems

The geographic scope of potential cumulative impacts would be confined to the Study Area and immediate vicinity of the Proposed Project, within the service areas of the affected utility providers (water, wastewater, stormwater and solid waste), and where utilities could be disrupted. The cumulative projects listed in Table 5-1 consist primarily of development projects that could increase the need for additional water supply, wastewater treatment facilities, and solid waste capacity due to the increase in residential and commercial uses. Cumulative projects could also create new impermeable surfaces and require additional stormwater drainage capacity as development projects could be constructed on currently vacant, unpaved lots. Additionally, cumulative projects could disrupt existing utilities during construction activities due to excavation. Thus, cumulative impacts on utilities would be considered potentially significant.

The Proposed Project is an indirect potable reuse project that would result in a potable water supply to bolster reliability in the context of supply uncertainty associated with imported water supplies. During drought conditions or other supply shortages, imported water supply could be severely curtailed, resulting in inadequate local supplies for CVWD customers. The Proposed Project is intended to improve supply reliability for existing and planned uses and would not include housing or induce growth as discussed in Section 3.15, *Population and Housing*. Thus, it would not require new or expanded wastewater treatment facilities or generate long-term solid waste disposal needs and would not contribute to cumulative impacts with respect to these services. As described in Section 3.11, *Hydrology and Water Quality*, the Proposed Project would create minimal minor new impermeable surfaces, associated with construction of the AWPf, pump stations, and injection and monitoring well sites. Stormwater would be collected onsite and diverted

appropriately to the CSD WWTP headworks or the City's storm drainage system. Due to the locations of these facilities away from other cumulative projects and the existing developed/paved nature of the AWPf site, the Proposed Project's contribution to cumulative utilities and service system impacts would be less than significant.

### 5.2.20 Wildfire

The geographic scope of potential cumulative impacts encompasses the Study Area and immediate vicinity of the Proposed Project. The Proposed Project is not located in an area designated as high-risk for wildfires and is not anticipated to exacerbate the risk of wildfire. As discussed in Section 3.21, *Wildfire*, the Proposed Project's contribution to impacts to an emergency response plan or evacuation plan would be reduced to less than significant with implementation of proposed mitigation measures. The cumulative projects are dispersed throughout the Study Area and some may disrupt streets during construction. With implementation of mitigation measures, including coordination with emergency response agencies and the agencies implementing cumulative projects regarding construction schedules, the Proposed Project's contribution to the cumulative emergency access impacts would be less than significant.

### 5.2.21 Environmental Justice

The geographic scope of potential cumulative impacts to environmental justice is within the City of Carpinteria and the adjacent unincorporated Santa Barbara County area. A significant cumulative impact related to environmental justice would occur if the cumulative projects would substantially result in a disproportionately high and adverse impact on low-income, minority populations, or Indian tribes. As discussed in Section 3.22, *Environmental Justice*, the City of Carpinteria is predominately Caucasian and the City has an MHI of \$69,834. As shown in the CalEnviroScreen 3.0 analysis in Figure 3.22-2, environmental justice impacts are not a concern in the Study Area. However, a portion of the Study Area west of Linden Avenue and south of U.S. Highway 101 is considered economically disadvantaged. The Proposed Project would not result in a disproportionately high and adverse effect on the economically disadvantaged community because the potential pipeline segment within this area would primarily be located within the downtown business district of Linden Avenue and would not be located within a residential area. Once construction is completed, O&M of the conveyance pipeline would not create environmental impacts along Linden Avenue. Minority, disadvantaged, and tribal populations within the City and adjacent unincorporated County Area are limited and the Proposed Project's contribution to a cumulative disproportionate negative impact on minority, disadvantaged, or tribal populations would be less than significant.

## 5.3 Growth Inducing Impacts

CEQA Guidelines Section 15126.2(e) requires that an EIR "discuss ways in which the Proposed Project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." The analysis should consider whether projects "would remove obstacles to population growth" which could require construction of new facilities that could cause environmental effects. The EIR should also "discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively."

The Proposed Project would enhance local water supply and reliability. Although the Proposed Project would create a new supply of water, the new supply of water would offset reliance on surface water and storage at Lake Cachuma. As described in Section 2.4, *Purpose and Need for Proposed Project*, future allocations of water stored at Lake Cachuma are expected to be reduced, and the Proposed Project would help to offset this anticipated reduction of existing imported water supplies. The Proposed Project would improve supply reliability during drought when deliveries may be

reduced, as competition for surface water sources increases, and as the impacts of climate change on existing water supplies and demands are realized. The Proposed Project would not induce unplanned growth; rather, it would offset water supplies that currently come from increasingly limited surface and imported sources. As explained in Section 3.15, *Population and Housing*, the Proposed Project was considered in the 2016 UWMP (CVWD, 2016a) and the *2016 Recycled Water Facilities Plan* (CVWD, 2016b) to serve the water demand increase that was projected by 2040. The Proposed Project would serve existing and planned water demands and would not develop a new water supply that would directly induce unplanned population growth that would change the planned demand for community service facilities that could cause significant environmental effects. Thus, the Proposed Project would result in less than significant growth inducing impacts.

#### 5.4 Unavoidable Significant Environmental Effects

CEQA Guidelines Section 15126.2(c) and NEPA (40 CFR 1502.16) require that an EIR describe “any significant impacts, including those which can be mitigated but not reduced to a level of insignificance” and provide reasons why a project is being proposed, notwithstanding any unavoidable significant effects. Section 3, *Environmental Analysis* of this EIR provides a comprehensive analysis of the Proposed Project’s potentially significant environmental effects and feasible mitigation measures. Section 3, *Environmental Analysis* also identifies the level of significance of the environmental impacts, both before and after mitigation. Based on the results of the analysis in Section 3, *Environmental Analysis*, the Proposed Project would not result in any significant and unavoidable environmental impacts. With mitigation, all potential environmental impacts would be reduced to a less than significant level. The final determination of the significance of impacts and the feasibility of mitigation measures will be made by the CVWD Board of Directors as part of its certification of the Final EIR.

#### 5.5 Significant Irreversible Environmental Changes

CEQA Guidelines Section 15126.2(d) and NEPA (40 CFR 1502.16) require that an EIR address any significant irreversible and irretrievable effects. CEQA Guidelines Section 15126.2(d) requires discussion of the extent to which a proposed project will commit future generations to similar uses, given that a large commitment of resources makes removal or nonuse thereafter unlikely. The CEQA Guidelines also note that irreversible damage can result from environmental accidents associated with a project. Finally, CEQA states, “Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.” NEPA requires discussion of the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity. NEPA also requires an explanation of any irreversible or irretrievable commitments of resources which would be involved in the proposed project should it be implemented.

As described in Section 3.10, *Hazards and Hazardous Materials*, long term operation of the Proposed Project could involve potential environmental accidents due to the limited use and quantities of hazardous materials, such as cleaning and degreasing solvents, sodium hypochlorite, ammonium hydroxide, antiscalant, and other materials used in the regular maintenance of the treatment units, pumps, and injection wells. Trips to and from the injection well sites for maintenance activities may also involve hazardous materials, such as gasoline and solvents. Maintenance trips to the injection wells would occur only once per week and **Mitigation Measure MM 3.10-1a** would require the preparation and implementation of an updated Hazardous Materials Business Plan for chemical storage and use at the AWPf site. Potential environmental accidents associated with the Proposed Project, as analyzed in Section 3.10, *Hazards and Hazardous Materials*, were determined to be less than significant with mitigation and adherence to existing regulations.

The Proposed Project would commit substantial resources to creation of the AWPf, and it would commit future generations to the indirect potable reuse of recycled water. Given the degree of capital investment necessary to

implement the Proposed Project, it is unlikely that it would be reversed by future generations. Once the Proposed Project is implemented, it would intermittently cease operations to conduct routine maintenance or repairs. However, it would commit CVWD and its service area to the ongoing operation of the AWPF for the lifetime of the project. Resources that would be permanently and continually consumed by implementation of the Proposed Project include electricity and fossil fuels. The environmental impact of consumption of these resources was addressed in Section 3, *Environmental Analysis* and found to be less than significant. For example, the Proposed Project would reduce the energy intensity of CVWD's water supply by offsetting surface and imported water with the local recycled water supply. The irreversible environmental changes would be justified by the need for a reliable water supply.

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## 6. REPORT PREPARATION AND REFERENCES

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This EIR was prepared by CVWD and Woodard & Curran. Special studies developed to support this EIR were prepared by Rincon Consulting, Inc., Flow Science, Inc., and Pueblo Water Resources. Staff from these agencies and companies that were involved include:

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**Appendix A**

Notice of Preparation; Scoping Meeting Proof of Publication  
and Comments Received

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## NOTICE OF PREPARATION AND SCOPING MEETING

### Carpinteria Valley Water District Carpinteria Advanced Purification Project

**TO:** Agencies, Organizations, and Interested Parties

**DATE:** January 7, 2019

**SUBJECT:** Notice of Preparation and Scoping Meeting for Environmental Impact Report

Carpinteria Valley Water District (CVWD) is the lead agency under the California Environmental Quality Act (CEQA) in preparation of an Environmental Impact Report (EIR) for the Carpinteria Advanced Purification Project (CAPP, or Proposed Project). CVWD is working in partnership with Carpinteria Sanitary District (CSD) on construction and operation of the CAPP. The EIR will be a joint document intended to comply with both CEQA and the National Environmental Policy Act (NEPA) (see California Code of Regulations (CCR), Title 14, Division 6, Chapter 3, Section 15222 and Code of Federal Regulations (CFR), Title 40, Sections 1502.25, 1506.2, and 1506.4 for authority for combining federal and state environmental documents).

The CAPP would consist of construction and operation of an advanced purification and groundwater injection project in the Carpinteria Groundwater Basin. The CAPP would include a one million gallon per day (mgd) (up to 1.5 mgd in future) Advanced Water Purification Facility (AWPF), a pump station, equalization tank, conveyance pipelines, injection and monitoring wells, ocean outfall modifications, and other facilities to produce advanced treated water for groundwater recharge, storage, and potable reuse (see detailed Project Description on following page). CVWD is requesting identification of environmental issues and information that you or your organization believes should be considered in the EIR.

**SCOPING PERIOD:** January 7, 2019 through February 8, 2019

**SCOPING COMMENTS:** Please indicate a contact person for your agency and send your responses and comments by February 8, 2019 to:

Mr. Robert McDonald  
Carpinteria Valley Water District  
1301 Santa Ynez Ave.  
Carpinteria, CA 93013

Phone: (805) 684-2816 x112  
E-mail: bob@cvwd.net

**SCOPING MEETING:** CVWD will hold one community meeting to receive input on the scope and content of the CAPP EIR. You are welcome to attend and present environmental information that you believe should be considered in the EIR. The scoping meeting is scheduled as follows:

**January 24, 2018**

5:00-7:00 p.m.

Carpinteria Veterans Memorial Building

941 Walnut Ave

Carpinteria, CA 93013

**AGENCIES:** CVWD requests your views on the scope and content of the EIR relevant to your agency's statutory responsibilities, in accordance with CEQA and NEPA. CVWD anticipates that your agency will need to concur with the CAPP EIR when considering permits or approvals that your agency must issue for the CAPP.

**PROJECT LOCATION:** The CAPP is located primarily within the central portion of the City of Carpinteria, in Santa Barbara County, California, with a small portion located in unincorporated Santa Barbara County adjacent to the City of Carpinteria. The Project Location is shown in **Figure 1**. Conveyance pipelines would extend from the existing CSD Wastewater Treatment Plant (WWTP; located at 5300 6<sup>th</sup> Street) west to Linden Avenue, north along Linden Avenue for approximately one mile to just south of Highway 192/Foothill Road. The Primary Pipeline alignment is shown in dark blue on Figure 1. Potential alternative alignments are still being considered, shown in red in Figure 1, should a potential issue arise with the proposed primary alignment. Injection wells would be located at up to three of the six sites indicated on Figure 1, generally adjacent to the pipeline alignment.

**PROJECT DESCRIPTION:** The CAPP, proposed by CVWD in partnership with CSD, would advance treat local wastewater flows and beneficially reuse them for groundwater recharge. The CAPP would consist of construction and operation of a new AWWP, conveyance pipelines, injection and monitoring wells, ocean outfall modifications, and other facilities to produce advanced treated water for groundwater recharge, storage, and potable reuse. The purpose of the CAPP is to increase local water supply and reliability through groundwater injection and storage. The CAPP aims to produce 1,100 acre-feet per year (AFY), or 1.0 mgd advanced treated water initially, with the potential for ultimate expansion to 1.5 mgd. A new AWWP would be constructed at the existing CSD WWTP, located entirely within the existing footprint of the site. Approximately 8,100 linear feet of pipeline would be installed to convey the advanced treated water to groundwater injection wells, and up to 1,400 linear feet of pipeline would be installed to convey backwash water to existing sewers or stormwater conveyance systems.

Six potential groundwater injection well sites have been identified, with up to three groundwater injection wells to be installed as part of the CAPP. Groundwater injection would put the advanced treated water into the Carpinteria Groundwater Basin for storage and later recovery by CVWD. Each injection well would be accompanied by backwash pumps and a 42,000-gallon tank. Up to six monitoring wells would be constructed down-gradient of the injection wells to allow for monitoring of groundwater quality and levels. The conveyance pipelines would largely be constructed within roadway rights of way, as would some of the monitoring wells. Advanced treated water stored in the Carpinteria Groundwater Basin would be later recovered through CVWD's existing groundwater wells. By recycling additional wastewater flows, the CAPP would reduce WWTP discharge volumes to the Pacific Ocean.

As a result, the CAPP would also include modifications to the existing CSD ocean outfall, namely installation of duckbill valves to prevent backflow into the outfall.

At various locations along the construction route, staging areas would be required to store pipe, construction equipment, and other construction-related material. Staging areas would be established where space is available, generally on vacant and CVWD or CSD-owned parcels in the vicinity of the construction activities, such as the District Yard. Staging for the AWPf will be located within the WWTP site, and injection well staging is anticipated to be established within or adjacent to the selected well sites. Typical construction activities during construction of the CAPP would include site preparation, grading, pipe installation, structural improvements (foundations and footings), well drilling, paving, electrical/ instrumentation installation, startup, and testing work.

**POTENTIAL ENVIRONMENTAL EFFECTS:** An EIR will be prepared to evaluate the CAPP’s potential environmental impacts and analyze project alternatives. The resources anticipated to be discussed in the EIR are listed in the following table (indicated by an “x”) and described further below. An Initial Study completed for the CAPP in December 2018 found the CAPP is likely to have no impact or a less than significant impact on the remaining resources areas. This EIR will be a joint document intended to comply with both CEQA and NEPA; accordingly, topic areas specific to NEPA, such as Environmental Justice, will also be evaluated with respect to the CAPP.

X	Aesthetics		Agricultural Resources	X	Air Quality
X	Biological Resources	X	Cultural Resources	X	Energy
X	Geology and Soils	X	Greenhouse Gas Emissions	X	Hazards and Hazardous Materials
	Hydrology and Water Quality	X	Land Use and Planning		Mineral Resources
X	Noise		Population and Housing		Public Services
	Recreation	X	Transportation	X	Tribal Cultural Resources
	Utilities and Service Systems	X	Wildfire		Environmental Justice
X	Mandatory Findings of Significance				

An “X” indicates a resource area with potentially significant impacts that may require mitigation.

**Aesthetics** – The CAPP will be analyzed to determine if it would have an adverse impact on scenic vistas, degrade the existing visual character or quality of the site and its surroundings, or create any new sources of light or glare. The AWPf, equalization tank, pump station, injection wells, and backwash tanks are anticipated to generally integrate with the existing surroundings, the monitoring wells would be underground, and the outfall modifications would be underwater. However, in some instances, their installation would potentially alter the visual character of the site and the need for mitigation such as visual screening or other measures may be considered.

**Air Quality** – The CAPP will be analyzed as compared to applicable air quality plans and its potential to violate air standards or contribute to existing violations, increase criteria

pollutants, expose sensitive receptors, and generate odors. Potential air quality impacts from the CAPP are anticipated to primarily result from construction-related emissions and odors.

**Biological Resources** – The CAPP will be analyzed for its potential effects on sensitive or special status species, riparian habitat or natural communities identified by the California Department of Fish and Wildlife or U.S. Fish and Wildlife, wetlands, or migration of species. Local policies and conservation plans protecting biological resources will be reviewed to determine if conflicts are present. CAPP facilities located adjacent to Carpinteria Creek are the most likely to result in adverse biological resource impacts. CAPP facilities are not anticipated to have substantial biological resource impacts on Franklin Creek because the creek is channelized throughout the project area. Mitigation measures to reduce impacts to protected species may be considered, such as focused surveys, restrictions on construction during nesting seasons, and tree inventory and protection measures.

**Cultural Resources** – The CAPP will be analyzed to determine if it would have any substantial, adverse changes in the significance of historic or archaeological resources; directly or indirectly destroy a unique cultural resources feature; or disturb any human remains. Because of their location primarily within roadways and developed areas (e.g., WWTP), CAPP facilities are not anticipated to impact local cultural resources. Mitigation measures may be considered, such as archeological monitoring and construction restrictions.

**Energy** – The CAPP will be analyzed to determine if it would conflict with a plan for renewable energy or energy efficiency, and if it would have significant environmental impact due to wasteful or inefficient energy use. Although the AWWPF would require energy use to advance treat wastewater, recycling wastewater for future potable use typically reduces overall energy demands for a water supply system when compared to energy demands of imported water that would otherwise be needed to meet water demands that would be served by the CAPP.

**Geology and Soils** – The CAPP will be analyzed to determine if it would expose people or structures to substantial adverse effects through seismic movement, shaking, landslides, or liquefaction; result in substantial erosion, or be located on an unstable or expansive soil. Geological and soil impacts associated with the CAPP are anticipated to be minor.

**Hazards and Hazardous Materials** – The CAPP will be analyzed to determine impacts to the public or environment (including nearby schools) from the transport, use, or encounter of hazardous substances; and review of potential interference with emergency response plans. The AWWPF would require transport and use of various treatment chemicals, which would be controlled through expansion of the CSD's hazardous materials handling plans.

**Noise** – The CAPP will be analyzed to determine if it would result in exposure of persons to excessive noise or ground vibrations, either temporary or overall increases in ambient noise levels. Potential noise and vibration impacts are anticipated due to construction activities, including drilling of the injection and monitoring wells. Mitigation measures, including noise control measures and preconstruction noticing, may be considered.

**Transportation** – The CAPP will be analyzed to determine if it would cause an increase in traffic (temporary or long-term), increase hazards due to a design feature, result in inadequate emergency access, or conflict with transportation plans or policies, including those supporting alternative transportation. Temporary impacts to transportation patterns are anticipated due to construction activities and a contractor-led traffic management plan may be considered to mitigate potential impacts.

**Tribal Cultural Resources** – The CAPP will be analyzed to determine if it would result in a substantial adverse change in the significance of a tribal cultural resource that is eligible for listing as a historical resource or one that is determined by CVWD to be significant pursuant to the Public Resources Code Section 5024. Due to the historical presence of Chumash in the project area, there is potential for the CAPP to encounter buried tribal cultural resources during construction. Mitigation measures may be considered, such as tribal monitoring and construction restrictions.

**Wildfire** – The CAPP will be analyzed to determine the potential to impair wildfire emergency response or evacuation plans, expose occupants to wildfire or wildfire-related pollution, require installation of infrastructure that may exacerbate fire risk, or otherwise expose people to significant risks associated with wildfire impacts, including flooding or landslides. CAPP facilities are not anticipated to increase exposure to wildfire risk, except during construction-related roadway detours.

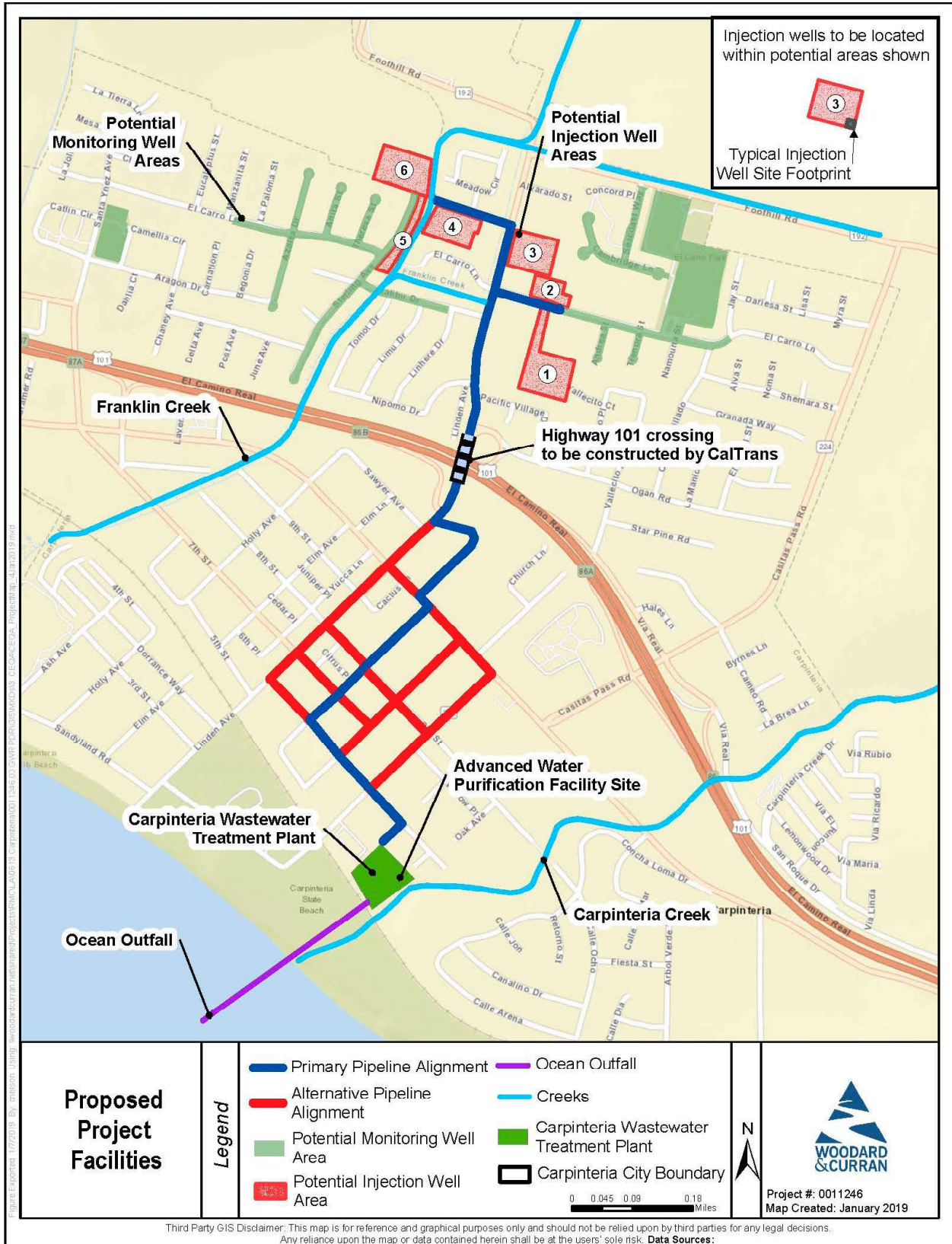
**Environmental Justice** – The CAPP will be analyzed to determine if it would disproportionately impact minority or low-income populations. No environmental justice impacts are anticipated for this project.

**Mandatory Findings of Significance** – The CAPP will be analyzed in the appropriate sections, above, to determine if it would degrade the quality of the environment including species reduction or adverse effects on human beings, or have impacts that are cumulatively considerable in combination with other projects (current or future). The need to implement mitigation measures to address such impacts will be considered as part of the analysis.

**DOCUMENT AVAILABILITY:** This notice, an Initial Study, and additional details on the CAPP can be viewed on CVWD's website at: [http://www.cvwd.net/water\\_info/projects.htm](http://www.cvwd.net/water_info/projects.htm)

If you require additional information, please contact Bob McDonald at (805) 684-2816.

**Figure 1: Proposed Project Facilities**







## Notice of Preparation and Scoping Meeting for Environmental Impact Report (EIR)

Carpinteria Valley Water District (CVWD) is the lead agency under the California Environmental Quality Act (CEQA) in preparation of an Environmental Impact Report (EIR) for the Carpinteria Advanced Purification Project (CAPP). CVWD is working in partnership with Carpinteria Sanitary District (CSD). The CAPP would be located in the City of Carpinteria, California, and a small portion of unincorporated County of Santa Barbara. The CAPP would consist of construction and operation of an advanced water treatment plant, conveyance pipelines, injection and monitoring wells, ocean outfall modifications, and other facilities to produce advanced treated water for groundwater recharge, storage, and potable reuse. The CAPP would inject recycled water into the Carpinteria Groundwater Basin for future recovery and reuse.

This Notice of Preparation for the CAPP is available for public comment from January 7, 2019 through February 8, 2019. Please provide contact information (name, address, email) and send comments to Mr. Bob McDonald, Carpinteria Valley Water District, 1301 Santa Ynez Ave., Carpinteria, CA 93013; Phone: (805) 684-2816 x112, E-mail: [bob@cvwd.net](mailto:bob@cvwd.net).

CVWD will hold a scoping meeting on January 24, 2019 at 5:00 – 7:00 p.m. at the Carpinteria Veterans Memorial Building, 941 Walnut Ave in Carpinteria. This scoping meeting provides an opportunity to offer input into the scope and content of the EIR. The meeting format will be an open house from 5:00 - 7:00 p.m., with a brief presentation about the project beginning at 6:00 p.m.

This notice, an Initial Study, and additional details on the CAPP can be accessed online at: [http://www.cvwd.net/water\\_info/projects.htm](http://www.cvwd.net/water_info/projects.htm)

**Para la traducción al español de este aviso, visite [CVWD.net](http://www.cvwd.net)**



## **Notice of Preparation and Scoping Meeting for Environmental Impact Report (EIR)**

Carpinteria Valley Water District (CVWD) is the lead agency under the California Environmental Quality Act (CEQA) in preparation of an Environmental Impact Report (EIR) for the Carpinteria Advanced Purification Project (CAPP). CVWD is working in partnership with Carpinteria Sanitary District (CSD). The CAPP would be located in the City of Carpinteria, California, and a small portion of unincorporated County of Santa Barbara. The CAPP would consist of construction and operation of an advanced water treatment plant, conveyance pipelines, injection and monitoring wells, ocean outfall modifications, and other facilities to produce advanced treated water for groundwater recharge, storage, and potable reuse. The CAPP would inject recycled water into the Carpinteria Groundwater Basin for future recovery and reuse.

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This notice, an Initial Study, and additional details on the CAPP can be accessed online at: [http://www.cvwd.net/water\\_info/projects.htm](http://www.cvwd.net/water_info/projects.htm)

**DEPARTMENT OF TRANSPORTATION**

CALTRANS DISTRICT 5  
50 HIGUERA STREET  
SAN LUIS OBISPO, CA 93401-5415  
PHONE (805) 549-3101  
FAX (805) 549-3329  
TTY 711  
[www.dot.ca.gov/dist05/](http://www.dot.ca.gov/dist05/)



*Making Conservation  
a California Way of Life.*

February 6, 2019

SB-101-3.05  
SCH# 2019011016

Robert McDonald  
Carpinteria Valley Water District  
1301 Santa Ynez Avenue  
Carpinteria, CA 93013

**COMMENTS FOR THE NOTICE OF PREPARATION (NOP) OF THE DRAFT  
ENVIRONMENTAL IMPACT REPORT (EIR) FOR THE CARPINTERIA ADVANCED  
PURIFICATION PROJECT**

Dear Mr. McDonald:

The California Department of Transportation (Caltrans) appreciates the opportunity to review the Notice of Preparation (NOP) of the draft Environmental Impact Report (EIR) for the Carpinteria Advanced Purification Project. Caltrans has reviewed the project and offers the following comments:

**Encroachment Permits:**

Please be aware any work within the State's right-of-way will require an encroachment permit from Caltrans, and must be done to our engineering and environmental standards, and at no cost to the State. The conditions of approval and the requirements for the encroachment permit are issued at the sole discretion of the Permits Office, and nothing in this letter shall be implied as limiting those future conditioned and requirements. For more information regarding the encroachment permit process, please visit our Encroachment Permit Website at: <http://www.dot.ca.gov/trafficops/ep/index.html>.

Please refer to Chapter 17 of the Project Development Procedures Manual (PDPM) regarding existing and proposed manholes and piping located within or adjacent to the Caltrans right of way. Crossing under the freeway will need to be fully encased from 5 feet outside the State Freeway Right of Way on either side of the freeway <http://www.dot.ca.gov/design/manuals/pdpm/chapter/chapt17.pdf>.

Plans shall be prepared by a Registered Civil Engineer and shall have a pre-submittal meeting with the District Permit Engineer prior to application due to the complexity of the proposed project. Engineering plan details may be found under "Applications/Forms" at <http://www.dot.ca.gov/trafficops/ep/>.

Mr. Robert McDonald  
February 6, 2019  
Page 2

Environmental:

Please be aware of the wetland on the northwest corner of US 101 at Linden Avenue, between the Linden Avenue remnant and the Linden Avenue overcrossing abutment. As a part of the Caltrans project, an enhancement planting will be provided by Caltrans as a mitigation for impacts to the existing wetlands in this quadrant. It is likely that the mitigation planting will occur prior to construction of the proposed pipeline. The site will require restoration and monitoring for success if it is disturbed during construction of the proposed pipeline. Additionally, irrigation controls will be installed in the area for the planting project and should not be disturbed.

Hydraulics:

Caltrans has found a high groundwater level on Highway 101 at Linden Avenue. The proposed project should not increase groundwater to that location.

We look forward to continued coordination with the Water District on this project. If you have any questions, or need further clarification on items discussed above, please contact me at (805) 549-3131 or [ingrid.mcroberts@dot.ca.gov](mailto:ingrid.mcroberts@dot.ca.gov).

Sincerely,



Ingrid McRoberts  
Development Review Coordinator  
District 5, LD-IGR South Branch

## CALIFORNIA COASTAL COMMISSION

SOUTH CENTRAL COAST AREA  
89 SOUTH CALIFORNIA ST., SUITE 200  
VENTURA, CA 93001  
(805) 585-1800



February 6, 2019

Robert McDonald  
Carpinteria Valley Water District  
1301 Santa Ynez Avenue  
Carpinteria, CA 93013

RE: Notice of Preparation and Initial Study for Carpinteria Advanced Purification Project

Dear Mr. McDonald,

Commission staff has reviewed the Initial Study (IS) for the Carpinteria Advanced Purification Project and we appreciate the opportunity to provide comments for your consideration. The project is to develop a sustainable and locally controlled future water supply for the Carpinteria Valley Water District, which would include production of approximately 1,100 acre-feet per year of purified water from the Carpinteria Sanitary District Wastewater Treatment Plant (WWTP), and injection into the local groundwater basin.

The project includes facility upgrades to the existing WWTP and ocean outfall, as well as three new injection wells, six new monitoring wells, and associated conveyance and discharge piping. Aside from Potential Injection Well Area #6 and the ocean outfall, all of the proposed development is located completely within the boundaries of the City of Carpinteria (City) and is subject to the policies and provisions of the City's certified Local Coastal Program (LCP). Implementation Policy 25 in the Creekways & Riparian Habitats Section of the Land Use Plan component of the City's certified LCP requires that new development is setback 50 feet from the top of the upper bank of creeks or existing edge of riparian vegetation, whichever is further. It is difficult to determine the exact location of the proposed development in relation to Carpinteria and Franklin Creeks based on the information and exhibits in the IS; however, portions of the proposed development appear to be within the 50 foot creek setback. As such, the Environmental Impact Report (EIR) for the project should include a detailed alternatives analysis for the proposed development in order to avoid encroachment into the required creek setback, and to ensure that adverse impacts to coastal resources are avoided to the maximum extent feasible.

Additionally, the subject ocean outfall is located at least partially within the California Coastal Commission's (CCC) retained jurisdiction, as such; the proposed modifications to this facility will require a Coastal Development Permit (CDP) from the CCC. The standard of review for that portion of the project will be the Chapter 3 Policies of the Coastal Act with the relevant policies and provisions of the City's certified LCP serving as guidance.

Lastly, Potential Injection Well Area #6 is located outside of the City boundaries within the Coastal Zone of the County of Santa Barbara (County). As such, the EIR should also include an analysis of Potential Injection Well Area #6 within the context County's certified LCP, and if a well in this location is ultimately proposed, a CDP from the County would be required.

Thank you for your consideration of these comments. Please feel free to contact me if you have questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'W. Horn'.

Wesley Horn  
Coastal Program Analyst



State of California – Natural Resources Agency  
DEPARTMENT OF FISH AND WILDLIFE  
South Coast Region  
3883 Ruffin Road  
San Diego, CA 92123  
(858) 467-4201  
[www.wildlife.ca.gov](http://www.wildlife.ca.gov)

GAVIN NEWSOM, Governor  
CHARLTON H. BONHAM, Director



February 8, 2019

Robert McDonald  
Carpinteria Valley Water District  
1301 Santa Ynez Ave.  
Carpinteria, CA 93013  
[bob@cvwd.net](mailto:bob@cvwd.net)

**Subject: Comments on the Notice of Preparation of a Draft Environmental Impact Report for the Carpinteria Advanced Purification Project; SCH 2019011016; Santa Barbara County**

Dear Robert McDonald:

The California Department of Fish and Wildlife (CDFW) has reviewed the above-referenced Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) for the Carpinteria Advanced Purification Project (Project). The Carpinteria Valley Water District is the lead agency preparing a DEIR pursuant to the California Environmental Quality Act (CEQA; Pub. Resources Code, § 21000 et. seq.) with the purpose of informing decision-makers and the public regarding potential environmental effects related to the Project.

The Project is located primarily within the central portion of the City of Carpinteria (City), in Santa Barbara County, with a small portion located in unincorporated Santa Barbara County adjacent to the City. Conveyance pipelines would extend from the existing Carpinteria Sanitary District wastewater treatment plant (located at 5300 6<sup>th</sup> Street) west to Linden Avenue, and then north along Linden Avenue for approximately one mile to just south of Highway 192/Foothill Road.

The Project would involve advanced treatment of local wastewater flows and beneficial reuse for groundwater recharge. Six potential groundwater injection well sites have been identified, with up to three groundwater injection wells to be installed as part of this Project.

The following comments and recommendations have been prepared pursuant to the CDFW's authority as a Responsible Agency (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381) over those aspects of the proposed project that come under the purview of the California Endangered Species Act (CESA; Fish and G. Code, § 2050 et seq.), the Native Plant Protection Act (NPPA; Fish and G. Code, §1900 et seq.), and/or CDFW's lake and streambed alteration (LSA) regulatory authority (Fish and G. Code, § 1600 et seq.). Comments are also being provided pursuant to our authority as Trustee Agency with jurisdiction over natural resources held in trust by statute for all the people of the state that may be affected by the Project [Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines, § 15386, subd. (a)] to assist the Lead Agency in avoiding or minimizing potential Project impacts on biological resources.

### Specific Comments

- 1) Northern California Legless Lizard: Northern California legless lizard (*Anniella pulchra*) is a California species of special concern (SSC) and is known to occur within the general Project area, and habitats on the proposed Project site could be suitable for this species. Impacts to SSC, including northern California legless lizard, should be considered a significant direct and cumulative adverse effect under CEQA without implementing appropriate avoid and/or mitigation measures [CEQA Guidelines, §§ 15064, 15065, 15125(c) and 15380]. CDFW recommends that the DEIR include a full evaluation of potential direct and indirect impacts to legless lizard from construction and operation of the Project.
- 2) Monarch Butterfly Winter Roosts and Overwintering Population: Monarch butterfly (*Danaus plexippus*), also a SSC, is documented to occur to the north of the proposed Project site, and suitable habitat may occur along the riparian habitat adjacent to the Project site. CDFW recommends that the DEIR include a full evaluation of potential impacts to monarch butterfly roosting habitat (both direct and indirect) from construction and operation of the Project (Fish and G. Code, § 1021).

### General Comments

- 1) Project Description and Alternatives: To enable CDFW to adequately review and comment on the proposed Project from the standpoint of the protection of plants, fish, and wildlife, we recommend the following information be included in the DEIR:
  - a) A complete discussion of the purpose and need for, and description of, the proposed Project, including all staging areas and access routes to the construction and staging areas; and,
  - b) A range of feasible alternatives to Project component location and design features to ensure that alternatives to the proposed Project are fully considered and evaluated. The alternatives should avoid or otherwise minimize direct and indirect impacts to sensitive biological resources and wildlife movement areas.
- 2) Lake and Streambed Alteration Agreements (LSA): As a Responsible Agency under CEQA, CDFW has authority over activities in streams and/or lakes that will divert or obstruct the natural flow; or change the bed, channel, or bank (including vegetation associated with the stream or lake) of a river or stream; or use material from a streambed. For any such activities, the project applicant (or "entity") must provide written notification to CDFW pursuant to section 1600 et seq. of the Fish and Game Code. Based on this notification and other information, CDFW determines whether a LSA Agreement (Agreement) with the applicant is required prior to conducting the proposed activities. CDFW's issuance of an Agreement for a project that is subject to CEQA will require related environmental compliance actions by CDFW as a Responsible Agency. As a Responsible Agency, CDFW may consider the CEQA document prepared by the local jurisdiction (Lead Agency) for the Project. To minimize additional requirements by CDFW pursuant to section 1600 et seq. and/or under CEQA, the DEIR should fully identify the potential impacts to the stream or

riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for issuance of the LSA.<sup>1</sup>

- a) The Project area supports aquatic, riparian, and wetland habitats; therefore, a preliminary jurisdictional delineation of the streams and their associated riparian habitats should be included in the DEIR. The delineation should be conducted pursuant to the U. S. Fish and Wildlife Service (USFWS) wetland definition adopted by the CDFW.<sup>2</sup> Some wetland and riparian habitats subject to CDFW's authority may extend beyond the jurisdictional limits of the U.S. Army Corps of Engineers' section 404 permit and Regional Water Quality Control Board section 401 Certification.
  - b) In areas of the Project site which may support ephemeral streams, herbaceous vegetation, woody vegetation, and woodlands also serve to protect the integrity of ephemeral channels and help maintain natural sedimentation processes; therefore, CDFW recommends effective setbacks be established to maintain appropriately-sized vegetated buffer areas adjoining ephemeral drainages.
  - c) Project-related changes in drainage patterns, runoff, and sedimentation should be included and evaluated in the DEIR.
- 3) Wetlands Resources: CDFW, as described in Fish & Game Code section 703(a), is guided by the Fish and Game Commission's policies. The Wetlands Resources policy (<http://www.fgc.ca.gov/policy/>) of the Fish and Game Commission "...seek[s] to provide for the protection, preservation, restoration, enhancement and expansion of wetland habitat in California. Further, it is the policy of the Fish and Game Commission to strongly discourage development in or conversion of wetlands. It opposes, consistent with its legal authority, any development or conversion that would result in a reduction of wetland acreage or wetland habitat values. To that end, the Commission opposes wetland development proposals unless, at a minimum, project mitigation assures there will be 'no net loss' of either wetland habitat values or acreage. The Commission strongly prefers mitigation which would achieve expansion of wetland acreage and enhancement of wetland habitat values."
- a) The Wetlands Resources policy provides a framework for maintaining wetland resources and establishes mitigation guidance. CDFW encourages avoidance of wetland resources as a primary mitigation measure and discourages the development or type conversion of wetlands to uplands. CDFW encourages activities that would avoid the reduction of wetland acreage, function, or habitat values. Once avoidance and minimization measures have been exhausted, the Project must include mitigation measures to assure a "no net loss" of either wetland habitat values, or acreage, for unavoidable impacts to wetland resources. Conversions include, but are not limited to, conversion to subsurface drains, placement of fill or building of structures within the wetland, and channelization or removal of materials from the streambed. All wetlands and watercourses, whether ephemeral, intermittent, or perennial, should be retained and provided with substantial setbacks, which preserve the riparian and aquatic values and functions for the benefit to on-site and off-site wildlife populations. CDFW recommends mitigation measures to

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<sup>1</sup> A notification package for a LSA may be obtained by accessing the CDFW's web site at [www.wildlife.ca.gov/habcon/1600](http://www.wildlife.ca.gov/habcon/1600).

<sup>2</sup> Cowardin, Lewis M., et al. 1970. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service.



compensate for unavoidable impacts be included in the PEIR and these measures should compensate for the loss of function and value.

- b) The Fish and Game Commission's Water policy guides CDFW on the quantity and quality of the waters of this state that should be apportioned and maintained respectively so as to produce and sustain maximum numbers of fish and wildlife; to provide maximum protection and enhancement of fish and wildlife and their habitat; encourage and support programs to maintain or restore a high quality of the waters of this state; prevent the degradation thereof caused by pollution and contamination; and, endeavor to keep as much water as possible open and accessible to the public for the use and enjoyment of fish and wildlife. CDFW recommends avoidance of water practices and structures that use excessive amounts of water, and minimization of impacts that negatively affect water quality, to the extent feasible (Fish and G. Code, § 5650).
- 4) CESA: CDFW considers adverse impacts to a species protected by CESA to be significant without mitigation under CEQA. As to CESA, take of any endangered, threatened, candidate species, or State-listed rare plant species that results from the Project is prohibited, except as authorized by state law (Fish and Game Code, §§ 2080, 2085; Cal. Code Regs., tit. 14, §786.9). Consequently, if the Project, Project construction, or any Project-related activity during the life of the Project will result in take of a species designated as endangered or threatened, or a candidate for listing under CESA, CDFW recommends that the Project proponent seek appropriate take authorization under CESA prior to implementing the Project. Appropriate authorization from CDFW may include an Incidental Take Permit (ITP) or a consistency determination in certain circumstances, among other options [Fish and G. Code, §§ 2080.1, 2081, subds. (b) and (c)]. Early consultation is encouraged, as significant modification to a Project and mitigation measures may be required in order to obtain a CESA Permit. Revisions to the Fish and Game Code, effective January 1998, may require that CDFW issue a separate CEQA document for the issuance of an ITP unless the Project CEQA document addresses all Project impacts to CESA-listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of an ITP. For these reasons, biological mitigation monitoring and reporting proposals should be of sufficient detail and resolution to satisfy the requirements for a CESA ITP.
- 5) Biological Baseline Assessment: To provide a complete assessment of the flora and fauna within and adjacent to the project area, with particular emphasis upon identifying endangered, threatened, sensitive, regionally and locally unique species, and sensitive habitats, the DEIR should include the following information:
  - a) Information on the regional setting that is critical to an assessment of environmental impacts, with special emphasis on resources that are rare or unique to the region [CEQA Guidelines, § 15125(c)];
  - b) A thorough, recent, floristic-based assessment of special status plants and natural communities, following CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (see <http://www.dfg.ca.gov/habcon/plant/>);
  - c) Floristic, alliance- and/or association-based mapping and vegetation impact assessments conducted at the Project site and within the neighboring vicinity. *The Manual of California Vegetation*, second edition, should also be used to inform this

mapping and assessment<sup>3</sup>. Adjoining habitat areas should be included in this assessment where site activities could lead to direct or indirect impacts offsite. Habitat mapping at the alliance level will help establish baseline vegetation conditions;

- d) A complete, recent, assessment of the biological resources associated with each habitat type on site and within adjacent areas that could also be affected by the project. CDFW's California Natural Diversity Data Base (CNDDDB) in Sacramento should be contacted to obtain current information on any previously reported sensitive species and habitat. CDFW recommends that CNDDDB Field Survey Forms be completed and submitted to CNDDDB to document survey results. Online forms can be obtained and submitted at [http://www.dfg.ca.gov/biogeodata/cnddb/submitting\\_data\\_to\\_cnddb.asp](http://www.dfg.ca.gov/biogeodata/cnddb/submitting_data_to_cnddb.asp);
  - e) A complete, recent, assessment of rare, threatened, and endangered, and other sensitive species on site and within the area of potential effect, including California SSC and California Fully Protected Species (Fish and Game Code §§ 3511, 4700, 5050 and 5515). Species to be addressed should include all those which meet the CEQA definition of endangered, rare or threatened species (see CEQA Guidelines § 15380). Seasonal variations in use of the project area should also be addressed. Focused species-specific surveys, conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, are required. Acceptable species-specific survey procedures should be developed in consultation with CDFW and the USFWS; and,
  - f) A recent, wildlife and rare plant survey. CDFW generally considers biological field assessments for wildlife to be valid for a one-year period, and assessments for rare plants may be considered valid for a period of up to three years. Some aspects of the proposed project may warrant periodic updated surveys for certain sensitive taxa, particularly if build out could occur over a protracted time frame, or in phases.
- 6) Biological Direct, Indirect, and Cumulative Impacts: To provide a thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts, the following should be addressed in the DEIR:
- a) A discussion of potential adverse impacts from lighting, noise, human activity, exotic species, and drainage. The latter subject should address Project-related changes on drainage patterns and downstream of the project site; the volume, velocity, and frequency of existing and post-Project surface flows; polluted runoff; soil erosion and/or sedimentation in streams and water bodies; and, post-Project fate of runoff from the project site. The discussion should also address the proximity of the extraction activities to the water table, whether dewatering would be necessary and the potential resulting impacts on the habitat (if any) supported by the groundwater. Mitigation measures proposed to alleviate such Project impacts should be included;
  - b) A discussion regarding indirect Project impacts on biological resources, including resources in nearby public lands, open space, adjacent natural habitats, riparian

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<sup>3</sup>Sawyer, J. O., Keeler-Wolf, T., and Evens J.M. 2008. A manual of California Vegetation, 2<sup>nd</sup> ed. ISBN 978-0-943460-49-9.

ecosystems, and any designated and/or proposed or existing reserve lands (e.g., preserve lands associated with a Natural Community Conservation Plan (NCCP, Fish and G .Code, § 2800 et. seq.). Impacts on, and maintenance of, wildlife corridor/movement areas, including access to undisturbed habitats in adjacent areas, should be fully evaluated in the DEIR;

- c) An analysis of impacts from land use designations and zoning located nearby or adjacent to natural areas that may inadvertently contribute to wildlife-human interactions. A discussion of possible conflicts and mitigation measures to reduce these conflicts should be included in the DEIR; and,
  - d) A cumulative effects analysis, as described under CEQA Guidelines section 15130. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to their impacts on similar plant communities and wildlife habitats.
- 7) Avoidance, Minimization, and Mitigation for Sensitive Plants: The DEIR should include measures to fully avoid and otherwise protect sensitive plant communities from Project-related direct and indirect impacts. CDFW considers these communities to be imperiled habitats having both local and regional significance. Plant communities, alliances, and associations with a statewide ranking of S-1, S-2, S-3 and S-4 should be considered sensitive and declining at the local and regional level. These ranks can be obtained by querying the CNDDDB and are included in *The Manual of California Vegetation* (Sawyer et al. 2008).
- 8) Compensatory Mitigation: The DEIR should include mitigation measures for adverse Project-related impacts to sensitive plants, animals, and habitats. Mitigation measures should emphasize avoidance and reduction of Project impacts. For unavoidable impacts, on-site habitat restoration or enhancement should be discussed in detail. If on-site mitigation is not feasible or would not be biologically viable and therefore not adequately mitigate the loss of biological functions and values, off-site mitigation through habitat creation and/or acquisition and preservation in perpetuity should be addressed. Areas proposed as mitigation lands should be protected in perpetuity with a conservation easement, financial assurance and dedicated to a qualified entity for long-term management and monitoring. Under Government Code section 65967, the lead agency must exercise due diligence in reviewing the qualifications of a governmental entity, special district, or nonprofit organization to effectively manage and steward land, water, or natural resources on mitigation lands it approves.
- 9) Long-term Management of Mitigation Lands: For proposed preservation and/or restoration, the DEIR should include measures to protect the targeted habitat values from direct and indirect negative impacts in perpetuity. The objective should be to offset the Project-induced qualitative and quantitative losses of wildlife habitat values. Issues that should be addressed include (but are not limited to) restrictions on access, proposed land dedications, monitoring and management programs, control of illegal dumping, water pollution, and increased human intrusion. An appropriate non-wasting endowment should be set aside to provide for long-term management of mitigation lands.
- 10) Nesting Birds: CDFW recommends that measures be taken to avoid Project impacts to nesting birds. Migratory nongame native bird species are protected by international treaty

under the Federal Migratory Bird Treaty Act (MBTA) of 1918 (Title 50, § 10.13, Code of Federal Regulations). Sections 3503, 3503.5, and 3513 of the California Fish and Game Code prohibit take of all birds and their active nests including raptors and other migratory nongame birds (as listed under the Federal MBTA). Proposed Project activities including (but not limited to) staging and disturbances to native and nonnative vegetation, structures, and substrates should occur outside of the avian breeding season which generally runs from February 1 through September 1 (as early as January 1 for some raptors) to avoid take of birds or their eggs. If avoidance of the avian breeding season is not feasible, CDFW recommends surveys by a qualified biologist with experience in conducting breeding bird surveys to detect protected native birds occurring in suitable nesting habitat that is to be disturbed and (as access to adjacent areas allows) any other such habitat within 300-feet of the disturbance area (within 500-feet for raptors). Project personnel, including all contractors working on site, should be instructed on the sensitivity of the area. Reductions in the nest buffer distance may be appropriate depending on the avian species involved, ambient levels of human activity, screening vegetation, or possibly other factors.

- 11) Translocation/Salvage of Plants and Animal Species: Translocation and transplantation is the process of moving an individual from the Project site and permanently moving it to a new location. CDFW generally does not support the use of, translocation or transplantation as the primary mitigation strategy for unavoidable impacts to rare, threatened, or endangered plant or animal species. Studies have shown that these efforts are experimental and the outcome unreliable. CDFW has found that permanent preservation and management of habitat capable of supporting these species is often a more effective long-term strategy for conserving sensitive plants and animals and their habitats.
- 12) Moving out of Harm's Way: The proposed Project is anticipated to result in clearing of natural habitats that support many species of indigenous wildlife. To avoid direct mortality, we recommend that a qualified biological monitor approved by CDFW be on-site prior to and during ground and habitat disturbing activities to move out of harm's way special status species or other wildlife of low mobility that would be injured or killed by grubbing or Project-related construction activities. It should be noted that the temporary relocation of on-site wildlife does not constitute effective mitigation for the purposes of offsetting project impacts associated with habitat loss. If the project requires species to be removed, disturbed, or otherwise handled, we recommend that the DEIR clearly identify that the designated entity shall obtain all appropriate state and federal permits.
- 13) Wildlife Movement and Connectivity: The project area supports significant biological resources and is located adjacent to a regional wildlife movement corridor. The project area contains habitat connections and supports movement across the broader landscape, sustaining both transitory and permanent wildlife populations. On-site features that contribute to habitat connectivity should be evaluated and maintained. Aspects of the Project that could create physical barriers to wildlife movement, including direct or indirect project-related activities, should be identified and addressed in the DEIR. Indirect impacts from lighting, noise, dust, and increased human activity may displace wildlife in the general Project area.
- 14) Revegetation/Restoration Plan: Plans for restoration and re-vegetation should be prepared by persons with expertise in southern California ecosystems and native plant restoration techniques. Plans should identify the assumptions used to develop the proposed restoration strategy. Each plan should include, at a minimum: (a) the location of restoration sites and

assessment of appropriate reference sites; (b) the plant species to be used, sources of local propagules, container sizes, and seeding rates; (c) a schematic depicting the mitigation area; (d) a local seed and cuttings and planting schedule; (e) a description of the irrigation methodology; (f) measures to control exotic vegetation on site; (g) specific success criteria; (h) a detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and providing for conservation of the mitigation site in perpetuity. Monitoring of restoration areas should extend across a sufficient time frame to ensure that the new habitat is established, self-sustaining, and capable of surviving drought.

- a) CDFW recommends that local on-site propagules from the Project area and nearby vicinity be collected and used for restoration purposes. On-site seed collection should be initiated in the near future to accumulate sufficient propagule material for subsequent use in future years. On-site vegetation mapping at the alliance and/or association level should be used to develop appropriate restoration goals and local plant palettes. Reference areas should be identified to help guide restoration efforts. Specific restoration plans should be developed for various Project components as appropriate.
- b) Restoration objectives should include providing special habitat elements where feasible to benefit key wildlife species. These physical and biological features can include (for example) retention of woody material, logs, snags, rocks and brush piles (see Mayer and Laudenslayer, 1988<sup>4</sup>).

CDFW appreciates the opportunity to comment on the NOP for the Carpinteria Advanced Purification Project. Questions regarding this letter and further coordination on these issues should be directed to Dan Blankenship, Senior Environmental Scientist, at (661) 259-3750 or [Daniel.Blankenship@wildlife.ca.gov](mailto:Daniel.Blankenship@wildlife.ca.gov).

Sincerely,



FOR

Erinn Wilson  
Environmental Program Manager I

cc: Randy Rodriguez, Los Alamitos  
Dan Blankenship, Newhall  
Sarah Rains, Thousand Oaks

Scott Morgan (State Clearinghouse)

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<sup>4</sup>Mayer, K. E. and W. F. Laudenslayer, Jr. 1988. Editors: A guide to wildlife habitats of California. State California, The Resources Agency, Department of Forestry and Fire Protection, Sacramento, CA.

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# CITY of CARPINTERIA, CALIFORNIA



February 8, 2019

Mr. Robert McDonald  
Carpinteria Valley Water District  
1301 Santa Ynez Avenue  
Carpinteria, CA 93013

Re: Notice of Preparation for Carpinteria Advanced Purification Project  
Environmental Scoping Comments

Dear Mr. McDonald:

Thank you for the opportunity to review and comment upon the Notice of Preparation (NOP) and draft Initial Study (IS) for the Carpinteria Valley Water District's (CVWD) Carpinteria Advanced Purification Project (CAPP). As described in the scoping document, the project under consideration is the construction of an advanced water purification and groundwater injection project in the Carpinteria Groundwater Basin. The CAPP would include a one million gallon per day (mgd) (up to 1.5 mgd in future) Advanced Water Purification Facility (AWPF), a pump station, equalization tank, conveyance pipelines, injection and monitoring wells, ocean outfall modifications, and other facilities to produce advanced treated water for groundwater recharge, storage and potable reuse.

As you aware, the City will act as the principle permitting agency for this project with the responsibility for processing the requisite Conditional Use Permit and Coastal Development Permit. In the context of the California Environmental Quality Act (CEQA), the City is a responsible agency for this project, and as part of any granted permits, must accept the prepared environmental document as having adequately met the statutory requirements of CEQA and the City's own adopted Environmental Review Regulations.

The City has reviewed and is generally in agreement with the issues and potential impacts identified in the draft IS. Comments provided herein identify issues, potential impacts, possible alternatives and/or mitigation measures that we believe were not adequately identified in the draft IS and that should be addressed and considered as part of any further environmental review in the interest of properly understanding and disclosing all potential project effects.

## **Global Comments**

With the exception of the Air Quality, Greenhouse Gas Emissions and Noise issue area discussions, it appears most of the other issue area discussions provided in the draft IS do not disclose which, if any, environmental thresholds are being utilized to aid in evaluating the significance of given impacts. In the absence of CVWD having their own adopted environmental thresholds, we would recommend the District consider using the City's adopted

environmental thresholds to aid in the determinations of impact significance. If the District has their own adopted thresholds, or in some issue areas, chooses to use other thresholds, we believe a discussion of how the project impacts relate to the City's thresholds is still germane given our need to rely on the prepared environmental document in the course of project permitting. Our Environmental Thresholds document is available on the City website at: [http://www.carpinteria.ca.us/PDFs/cd\\_Environmental%20Review%20Guidelines.pdf](http://www.carpinteria.ca.us/PDFs/cd_Environmental%20Review%20Guidelines.pdf)

All issue area must provide an analysis and consideration of the potential cumulative effects of the proposed project and other nearby projects proposed or under construction in the vicinity of the project study area. We note, with the exception of a handful of issues areas, the draft IS does not discuss potential cumulative project effects.

### **Aesthetics**

The Aesthetics discussion in the draft IS reasonably describes potential aesthetic impacts resulting from the construction of the AWPF and conveyance pipelines as being less than significant. The draft IS does not, however, reasonably consider the full potential aesthetic impacts of the proposed injection well facilities and their supporting infrastructure (e.g., backwash tanks), which may be located in or adjacent to a public park, public schools, and/or semi-public church facilities. According to Section 2.4.4 of the IS, each of the injection well sites may have an approximately 6,000 square foot footprint, be constructed below grade *or* above grade, and include additional equipment including, but not limited to, a 42,000 gallon backwash tank. The aesthetic impact of these facilities, particularly within public park or other similar spaces needs to be properly considered and addressed.

Publically visible facilities such as these should be properly located and screened to be as least visually intrusive as feasible. Fencing, walls, and/or landscaping should be selected for its compatibility with its surroundings, subject to review by the City's Architectural Review Board.

Be advised, with respect to new lighting associated with the AWPF improvements and/or the injection well sites, specific lighting standards are provided in the City's General Plan/Coastal Plan and Creeks Preservation Program concerning lighting in or near ESH areas or creeks, including Carpinteria and Franklin Creeks. Compliance with these specific lighting requirements should be made part of any mitigation related to lighting impacts.

### **Biological Resources**

We understand CVWS intends to have a biological resources assessment prepared as part of any future environmental document. We support and are in agreement that this is necessary in order to fully consider the impacts of the proposed project on surrounding biological resources.

As part of any future assessment, we encourage CVWD to consider impacts to sensitive species in Carpinteria Creek that may be impacted by temporary construction activities at the Waste Water Treatment Plant (WWTP) and/or injection well sites, and the ongoing operations of these facilities. Consideration of any tree or vegetation removals to accommodate the injection well facilities should also be evaluated.



Appropriate mitigation measures may include, but not be limited to, pre-construction surveys and trainings, exclusionary buffers or seasonal construction restrictions, protective measures such as temporary fencing and containment areas for equipment/materials away from sensitive resources, and/or construction monitoring.

### **Cultural Resources**

The City of Carpinteria is in agreement with the IS analysis of cultural resources. At minimum, a Phase I archaeological resources study should be performed to review the presence of known sites within the project study area and to identify the potential impacts that may occur as a result of the project. Depending upon the findings of the Phase I assessment, additional study, including subsurface investigations and/or construction monitoring may be warranted.

Also, please update your cultural resources discussion to reflect all seven of the City's listed landmarks. Missing from the list provided in the IS are City landmarks #6 (Tar Pits Park) and #7 (Carpinteria Valley Baptist Church, 800 Maple Avenue).

### **Geology & Soils/Hydrology & Water Quality**

According to the IS, elements of the project may be susceptible to various geologic hazards, including but not limited to, tectonic activity, liquefaction, soil settlement, etc. In such circumstances, it would be acceptable to identify such impacts as potentially significant, and require mitigation such preparation of, and compliance with, a project specific geotechnical report.

The IS describes the AWPf facilities as being served by existing (or improved) onsite stormwater facilities designed to capture and treat all onsite runoff. The IS does not, however, discuss potential water quality impacts of other aspects of the project (outside of temporary construction impacts). Note, new or replaced impervious surfaces associated with land development projects must comply with the City's stormwater management project, including the post-construction requirements. At minimum, these measurements would be triggered by the new injection well sites.

Similar to the above discussion concerning geologic impacts, if certain permits must be obtained (e.g. Construction General Permit) or plans prepared (e.g., SWPP), it would be acceptable to identify these potential water quality impacts as potentially significant and requiring mitigation (i.e., obtaining and complying with said permits).

The IS discusses the potential flood hazard considerations of the WWTP as it relates to the new AWPf, however the IS does not disclose whether any of the other parts of the project (such as the injection well sites) would be located within a flood hazard zone, and if so, whether any specific mitigations would be required (e.g., elevating the well head above the BFE, etc.).

The IS touches on potential impacts from climate change, particularly sea level rise. Any future environmental document should evaluate the project's susceptibility to such impacts relative to the City's Sea Level Rise Vulnerability Assessment and consider whether any project design

considerations and/or mitigations are appropriate to plan for anticipated future sea level rise impacts.

In terms of water quality impacts, any future environmental document should evaluate the potential for frack outs, particularly concerning any well drilling or deep foundation drilling activities near creeks. Appropriate mitigation would include, but not be limited to, have a frack out plan in place and appropriate monitoring during drilling activities.

The project description (section 2.4.4) discusses disposing of backwash fluids from the injection well sites by either discharging the waters into the sanitary sewer system, or into the City's storm drain system. The environmental document should consider and address what the potential water quality and/or biological impacts would be of additional fresh water inputs into the City storm drain system, most of which in the study area would ultimately drain to the Carpinteria Salt Marsh.

### **Hazards/Hazardous Materials**

Any discussion concerning potential hazards or hazardous material impacts should include not only transport to/from and storage/use at the WWTP, but also any needed transport to/from and storage/use at the various injection well sites, and the potential exposure to surrounding land uses including public facilities (schools, churches), residential land uses, and recreational and open space areas to such hazardous materials resulting from spills, accidents or similar occurrences.

### **Land Use & Planning**

The IS briefly discusses the City's required 50-foot setback for new development from creeks. However, the IS did not identify compliance with this setback requirement as a potentially significant land use issue. Short of the California Coastal Commission staff consenting to a determination that the AWPf would not qualify as new development so long as it is located within the footprint of the existing WWTP, failure to comply with the required 50-foot setback would trigger a significant land use impact, and may also require applying for a Local Coastal Program Amendment (LCPA) to attempt to carve out an exception from the 50-foot setback requirement for improvements to the existing WWTP. This same consideration also applies to the siting of any new injection well sites near Franklin Creek. In these cases, such sites would almost certainly qualify as new development and would be required to comply with the 50-foot creek setback or obtain approval of an LCPA to modify the required setback.

Section 2.5.1 of the IS describes the secondary effluent equalization tank as having a height of "approximately 30 feet." Be advised that the maximum allowed height of structures located in the UT zone district is 30 feet. The IS does not disclose the anticipated height of the facilities associated with the injection well sites, however REC zone districts have a maximum height of 16 feet, and CF zone districts allow for a maximum height of 30 feet. Also, as part of the aesthetics issue area discussion, please consider the visibility and/or aesthetic impacts of the various structures' heights and any necessary mitigation (screening with vegetation, paint, etc.).

In the event that injection well sites are located in a public park or school property, consideration should be given to the impacts resulting from a reduction in public recreational space(s). In the case of Franklin Creek Park in particular, a 6,000 square foot injection well site would reduce the usable park area by approximately 10-15%. This impact may also be appropriately discussed in the Public Facilities and Services section of the environmental document.

### **Noise**

An evaluation of noise and vibration impacts related to the project should consider temporary construction impacts for all components of the project (e.g., AWP construction, pipeline installation, well drilling, injection well site improvements, etc.) and operational phases for the various project elements, and the proximity of sensitive receptors to each of these project components.

The project description section describing anticipated types of equipment (section 2.5.5) should list major pieces of equipment such as the drill rig needed for well installation and/or pile driving equipment anticipated for deep foundation installations.

Temporary construction mitigation measures that could be considered include further restricted construction hours (it is the City's practice to limit most discretionary permits to construction hours of Monday through Friday, 7:00 a.m. to 5:00 p.m.), use of sound blankets or similar noise attenuation measures, and if needed, particularly for elements of the project requiring 24-hour continuous activity (e.g., well drilling), offering temporary relocation assistance to any sensitive receptors who would be exposed to noise/vibration impacts exceeding City thresholds. Attempting to schedule construction activities outside of the school year may also be beneficial if work is to occur in/near school facilities.

### **Public Services/Recreation/Utilities & Service Systems**

As discussed elsewhere in this letter, consideration should be given to potential impacts to public recreational or school facilities resulting from the loss of usable areas to the well injection sites. Please also consider and evaluate any potential for utility conflicts arising from the new proposed facilities.

### **Transportation & Traffic**

As discussed in the IS, the potential for construction-related temporary transportation impacts are anticipated. The City expects that CVWD will work closely with City staff to develop and implement an appropriate traffic control plan and haul routes, and, if needed, temporary detour routes. CVWD will also be expected to restore any damaged right-of-way to City specifications. We would also encourage you to coordinate with the Public Works Department concerning planned pavement repair projects over the next couple of years and the proposed conveyance pipeline route(s) through the City.

To the extent feasible, we would also encourage CVWD to consider scheduling aspects of the construction for when they would have the least impact on surrounding land uses (e.g., improvements near Canalino School to occur outside of the school year, etc.).

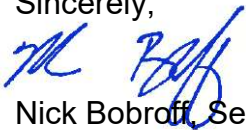
Trip generation rates appear to be based on an assumption that a single crew will work through the entirety of the project in single phases. Has CVWD considered working on multiple phases of the project concurrently to shorten the overall construction timeline? If so, CVWD may wish to include an analysis of whether concurrent construction activities would trigger any new or more significant impacts that what is already anticipated.

### **Conclusion**

Once again, we appreciate the opportunity to review and comment upon the NOP and draft IS, and we look forward to continuing to work with CVWD in the preparation of a draft environmental document and obtaining land use permits for this project. We remain excited about the potential benefits this project can bring to the community in helping to improve local potable water access and reliability in the coming years.

Should you have any questions concerning this letter or the City's permit review process, please do not hesitate to contact myself or Erin Maker (805-880-3415 / [erinm@ci.carpinteria.ca.us](mailto:erinm@ci.carpinteria.ca.us)).

Sincerely,



Nick Bobroff, Senior Planner  
Community Development Department  
805-755-4407 / [nickb@ci.carpinteria.ca.us](mailto:nickb@ci.carpinteria.ca.us)

Cc. Project file  
Erin Maker  
Steve Goggia

**From:** Edo McGowan <[edo\\_mcgowan@hotmail.com](mailto:edo_mcgowan@hotmail.com)>  
**Date:** February 27, 2019 at 5:42:26 PM PST  
**To:** "bob@cvwd.net" <[bob@cvwd.net](mailto:bob@cvwd.net)>, Lea Boyd <[lea@coastalview.com](mailto:lea@coastalview.com)>, "Sheryl Hamlin" <[sherylhamlin@gmail.com](mailto:sherylhamlin@gmail.com)>  
**Subject:** CEQA and the Carpinteria program for the use of recycled water

<https://www.nytimes.com/interactive/projects/toxic-waters/index.html>

<https://www.nytimes.com/2009/12/17/us/17water.html>

To: Robert McDonald,  
General Manager  
Carpinteria Valley Water District

Fm: Dr Edo McGowan

Re: CEQA issues

Bob, we don't often communicate but this needs to be said. Your recent note in the Coastal View News (***Working to Develop a Local and Sustainable Water Supply***) prompted me to forward this letter below as background, a letter addressed to colleagues in the sciences of water, re: (PMID: 29387043). The reason for sending this to you is in way of a comment on adequacy of meeting CEQA protocol. One of the requirements for the use of recycled going toward drinking purposes is to ascertain public health stability over the long run of the project. That would mean following the full recommendations of the expert panel, (see portion below). In essence, this may ultimately require development of a dedicated functioning and well coordinated pool of water and health agencies, something that does not now exist.

Part of that background bulwark is the reliability and capacity of the overseeing regulatory agencies. To gain some perspective into the quality of such regulators, the pen of Charles Duhigg is noted, see above. The plan to expand recycled wastewater, ultimately, sending it into the underlying aquifer warrants attention to the recommendations of the state expert panel. This maneuver of injecting recycled water allows for both overdraft without experiencing seawater intrusion and re-uptake that water for augmenting the drinking water supply. Both will allow expansion of the population above the area's natural carrying capacity.

As an example, I looked at the preliminary plans for the recycled water expansion, as proposed by the City of Santa Barbara. These plans are faulty, but the problems facing Santa Barbara seem to be resolved by your proposal. Santa Barbara's treatment trains, especially the screens (filters) which were too large to effectively stop a large percentage of pathogens.

Carpinteria is also looking at injecting recycled water into its aquifer. In both cases, the warranted public health aspects are in need of review to obviate getting short shrift. In its review of necessary inputs for those proposing the use of recycled for drinking, the state's expert panel came up with recommendations related to public health. Here is just a portion of that. Checking locally, little of this, if any, of this necessary agency coordination on public health exists. Looking at currently produced recycled water, we have : the Fahrenfeld report, which is an extension of my work with Dr Judy Meyer at SBCC. That report shows that considerable loads of resistant pathogens and their genes are found in recycled water. Thus a considerably more sophisticated treatment train is warranted. Even assuming such, the standard lab tests for water quality are faulty. Data show that while indicators were shown to be absent, other pathogens were presents, mainly because they were more robust that the indicators. Thus while the water based on standard indicators showed that the water was "legal" ----it was not safe. Much more need to be said here.

**[Reclaimed water as a reservoir of antibiotic resistance genes -](#)**

**[NCBI](#)**

**<https://www.ncbi.nlm.nih.gov/pubmed/23755046>**

The role of public health surveillance is to: (1) establish partnerships, engagement, and communication between water utilities and public health partners; (2) identify sources of data to characterize baseline public health conditions and track trends over time; and (3) help determine if transient treatment failures and contamination events lead to adverse health outcomes. Within the context of potable reuse, local public health partners should be informed when a DPR project is being considered. Points of contact should be identified and available surveillance data sources should be reviewed. In addition, processes for regular engagement, information sharing, and notification should be established with an emphasis on tracking, reporting, and communicating notifiable acute (primarily) waterborne diseases. The State Water Board also should work with DPR project sponsors and local health agencies to consider the feasibility of enhanced public health surveillance for communities with DPR systems. Such efforts may include syndromic surveillance, sentinel surveillance, or serological surveys for waterborne infections. See **Chapter 3 (Recommendations #3-1 and 3-2)**.

**In checking locally, none of the following are prepared to effectively deal with recycled water as to antibiotic resistant microbes or their genes: County Health, County Environmental Health, the Regional Board, the Public health offices of Dinsmore in Carp. This as to the recommendations of the expert panel leaves a void. How will the filling of such a void be accomplished?**

**Some of the issues related to antibiotic resistance and wastewater are also noted in the research paper discussed below, entitled:**

**"Strategies to combat antibiotic resistance in the wastewater treatment plants" (PMID: 29387043)**

**Below is a note to the authors of (PMID: 29387043) delving into some of the problems facing us. This also should be included with my comments.**

**These comments should be placed in the scoping portion of the CEQA process. Please let me know if such will be done. Additionally, does the CEQA RFP contain requirements or provisions for the selected consultant to have experts dealing with the issues relating to public health coordination, as discussed by the state's expert panel? Earlier "expert panels" did not and I had them thus disqualified. on this topic.**

\*\*\*\*\*

Drs Munir and Barancheshme:

"Strategies to combat antibiotic resistance in the wastewater treatment plants"  
(PMID: 29387043)

I read through your paper with keen interest. Now some hard questions over which you have little to no control, but their substance will impact the subject and final result. The USEPA is clientele captured by the subject industry. If you go back and read Meckes' paper and study, this becomes clear (<https://www.ncbi.nlm.nih.gov/pubmed/7059170>). BTW EPA pulled that entire study from its data base---wonder why?

So---we can write off transparent discussions via USEPA. Their aversion to discussing the topic of sewage generated ARB and ARG is driven by their coupling with the sludge industry. If USEPA openly admitted that sewer plants generate ARB and ARGs (sucked into this non-action are also CDC and USDA), they would need to admit that the land application of sewage sludge (biosolids) was spreading resistance into agricultural lands, top-dressed pasture lands and forested lands, as well as reclamation projects where the fracture fabric of the underlying Xtalline rock allows for long travel distances of concentrated contaminated ground water. On the long reach of fracture fabric ground water travel, see:

<https://www.sciencedirect.com/science/article/pii/S1464343X17303679>

Since many forest areas are on mountains, the bedrock of which is often Xtalline bed rock, i.e., the underlying fracture fabric is like a series of pipes, not the typical sand and gravel. Thus water moves at high speed in relative high concentration.

Perhaps one of issues to discuss later would be the removal of solids from the WWTP ahead of digestion. If this is done there is less chance for gene exchange and many of the materials that are recalcitrant to control would come off with



the mass of solids. If, following the removal of the vast bulk of solids, they are passed through a fluid bed and converted to a syngas, that would represent an energy source with about the same BTU as natural gas. The remaining fluids after removal of the bulk of solids would be easier to attack.

There is such a design extant and in operation, but I don't see interest. This lack of interest may result from the fact that it would reduce the footprint of a typical WWTP by about 80%. That reduction would also mean a reduction in operating staff. The issue at this point is then political. Big POTWs are staff intensive and management salaries are, in part, based on staff numbers and plant size. The chap that runs the local plant has an annual salary \$240K, percs, plus a new medium priced car every 2 years. What would his salary justification be for a plant 20% the size of his current empire? So, ask him as your local expert on what he thinks of innovative plants? Are you getting a transparent answer?

Where is the research in new plant design? Trump notes a need to refurbish the U.S. infrastructure. Will we build the same old ineffective POTWs or will we innovate to control the generation and discharge of ABR and ARGs? The last time that the taxpayers were ask to innovate sewer plants was in the late 1970s and early 1980s. The time that Meckes did his studies, but EPA pulled all the report's work and notes from its data base. These grant moneys from Congress, were dispersed by USEPA and went to plant expansion, not innovation. This was contrary to Congressional direction which was to spend the moneys toward innovation. Congress bitched bitterly about this misuse of funds by USEPA. This angst on Congress's part is all well documented in the Congressional Record.

Hope to hear from you,

Dr Edo McGowan

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**Appendix B**

Assembly Bill 52 Letter and Tribal Contact List

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**Native American Heritage Commission  
Native American Contact List  
Santa Barbara County  
1/22/2019**

**Barbareno/ Ventureno Band of Mission Indians**

Patrick Tumamait,  
992 El Camino Corto Chumash  
Ojai, CA, 93023  
Phone: (805) 216 - 1253

**Northern Chumash Tribal Council**

Fred Collins, Spokesperson  
P.O. Box 6533 Chumash  
Los Osos, CA, 93412  
Phone: (805) 801 - 0347  
fcollins@northernchumash.org

**Barbareno/ Ventureno Band of Mission Indians**

Raudel Banuelos,  
331 Mira Flores Chumash  
Camarillo, CA, 93012  
Phone: (805) 427 - 0015

**San Luis Obispo County Chumash Council**

Mark Vigil, Chief  
1030 Ritchie Road Chumash  
Grover Beach, CA, 93433  
Phone: (805) 481 - 2461  
Fax: (805) 474-4729

**Barbareno/ Ventureno Band of Mission Indians**

Eleanor Arrellanes,  
P. O. Box 5687 Chumash  
Ventura, CA, 93005  
Phone: (805) 701 - 3246

**Santa Ynez Band of Chumash Indians**

Kenneth Kahn, Chairperson  
P.O. Box 517 Chumash  
Santa Ynez, CA, 93460  
Phone: (805) 688 - 7997  
Fax: (805) 686-9578  
kkahn@santaynezchumash.org

**Barbareno/Ventureno Band of Mission Indians**

Julie Tumamait-Stennslie,  
Chairperson  
365 North Poli Ave Chumash  
Ojai, CA, 93023  
Phone: (805) 646 - 6214  
jtumamait@hotmail.com

**yak tityu tityu yak tilhini – Northern Chumash Tribe**

Mona Tucker, Chairperson  
660 Camino Del Rey Chumash  
Arroyo Grande, CA, 93420  
Phone: (805) 748 - 2121  
olivas.mona@gmail.com

**Chumash Council of Bakersfield**

Julio Quair, Chairperson  
729 Texas Street Chumash  
Bakersfield, CA, 93307  
Phone: (661) 322 - 0121  
chumashtribe@sbcglobal.net

**Coastal Band of the Chumash Nation**

Mia Lopez, Chairperson  
24 S. Voluntario Street Chumash  
Santa Barbara, CA, 93101  
Phone: (805) 324 - 0135  
mialopez2424@gmail.com

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Carpinteria Valley Water District Indirect Potable Reuse Project, Santa Barbara County.

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# Carpinteria Valley Water District

1301 Santa Ynez Avenue • Carpinteria, CA 93013  
Phone (805) 684-2816

BOARD OF DIRECTORS

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*Polly Holcombe*  
*Case Van Wingerden*

February 11, 2019

GENERAL MANAGER

*Robert McDonald, P.E. MPA*

Barbareno/Ventureno Band of Mission Indians  
Eleanor Arrellanes  
P.O. Box 5687  
Ventura, CA 93005

RE: Assembly Bill 52 Consultation, Carpinteria Advanced Purification Project, Santa Barbara County, California

Dear Ms. Arrellanes:

Assembly Bill (AB) 52 of 2014 (California Public Resources Code § 21080.3.1) requires Local Agencies to extend an invitation to Native American groups to engage in consultation on proposed projects to assure that potential impacts to Native American cultural resources are adequately addressed.

Carpinteria Valley Water District (CVWD), in cooperation with Carpinteria Sanitary District (CSD), is proposing construction and operation of the **Carpinteria Advanced Purification Project (CAPP)**. CVWD hereby extends an invitation to consult on the review of the CAPP in order to assist with identifying, preserving and/or mitigating project impacts to Native American cultural places including, but not limited to:

- Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine; and
- Native American historic, cultural, or sacred sites that are listed or may be eligible for listing in the California Register of Historical Resources (CRHR) including historic or prehistoric ruins and any burial ground, archaeological, or historic site.

CVWD is preparing an Environmental Impact Report for the proposed CAPP in Carpinteria, Santa Barbara County, California. The proposed project consists of the development of a new Advanced Water Purification Facility at the CSD wastewater treatment plant, a purified water pump station, two new injection wells, up to six new monitoring wells, an approximately 9,000-foot pipeline for conveyance of the purified water to the proposed injection wells, and modification to the existing CSD ocean outfall to accommodate the reduced brine flows from current conditions.

The proposed project is subject to the California Environmental Quality Act (CEQA). The proposed project must comply with AB 52, which requires local governments to conduct meaningful consultation with Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the Barbareno/Ventureno Band of Mission Indians is important to CVWD's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish you consult on the proposed project. If you require any additional information or have any questions, please contact me at (805) 263-4826 or via e-mail at Bob@cvwd.net. Thank you for your assistance.

Sincerely,

A handwritten signature in blue ink that reads "Robert McDonald". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Robert McDonald, P.E., MPA  
General Manager  
Carpinteria Valley Water District

Enclosure: Project Location Map



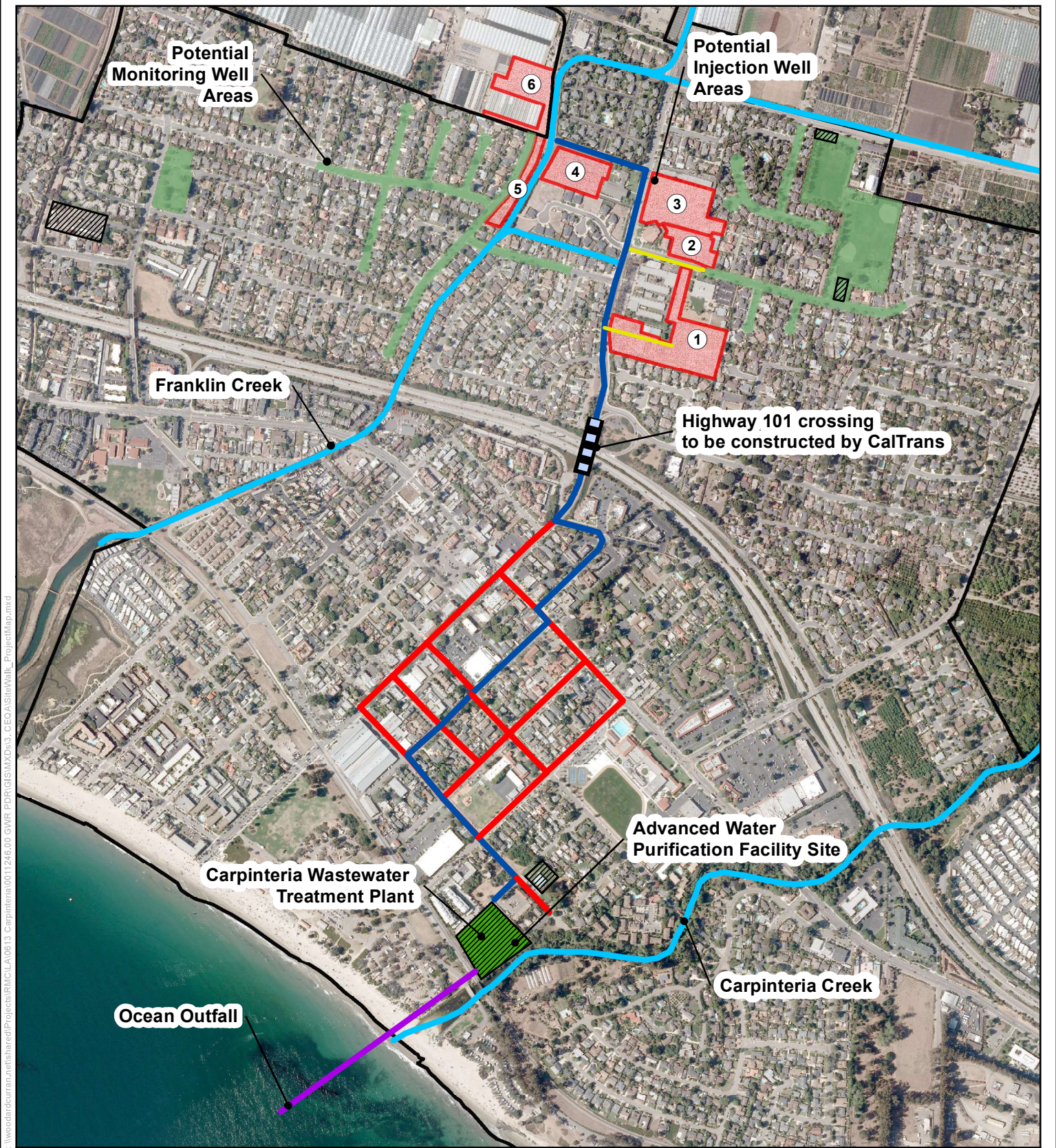
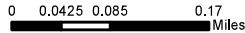


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# Proposed Project Facilities

## Legend

- Primary Pipeline Alignment
- Alternative Pipeline Alignment
- Connection to Well
- Potential Monitoring Well Area
- Potential Injection Well Area
- Ocean Outfall
- Creeks
- Carpinteria Wastewater Treatment Plant
- Carpinteria City Boundary
- Potential Staging



Project #: 0011246  
Map Created: January 2019

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February 11, 2019

GENERAL MANAGER

*Robert McDonald, P.E. MPA*

Barbareno/Ventureno Band of Mission Indians  
Raudel Banuelos  
331 Mira Flores  
Camarillo, CA 93012

RE: Assembly Bill 52 Consultation, Carpinteria Advanced Purification Project, Santa Barbara County, California

Dear Mr. Banuelos:

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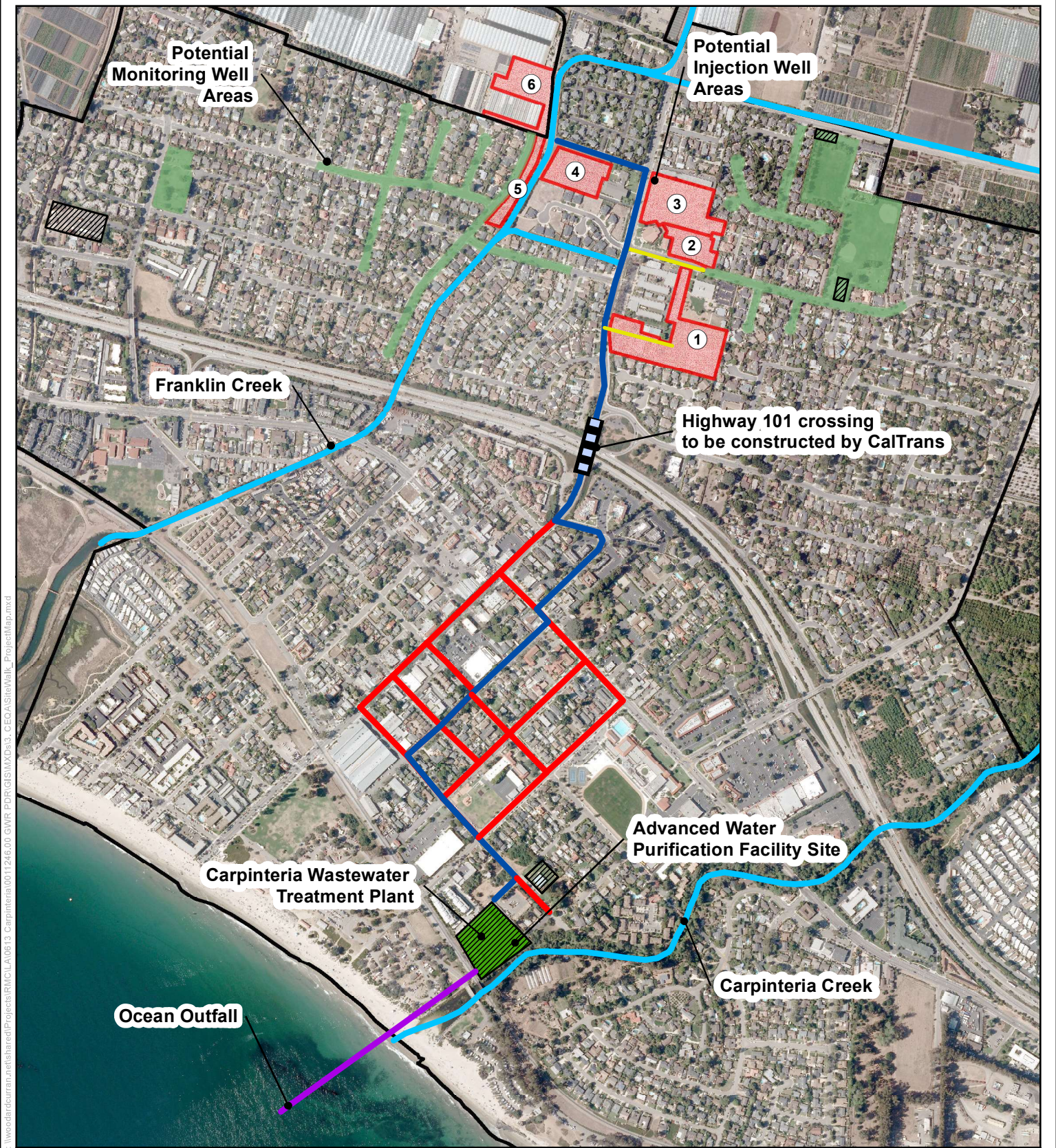
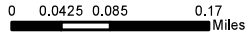


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*Robert McDonald, P.E. MPA*

Barbareno/Ventureno Band of Mission Indians  
Patrick Tumamait  
992 El Camino Corto  
Ojai, CA 93023

RE: Assembly Bill 52 Consultation, Carpinteria Advanced Purification Project, Santa Barbara County, California

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Carpinteria Valley Water District

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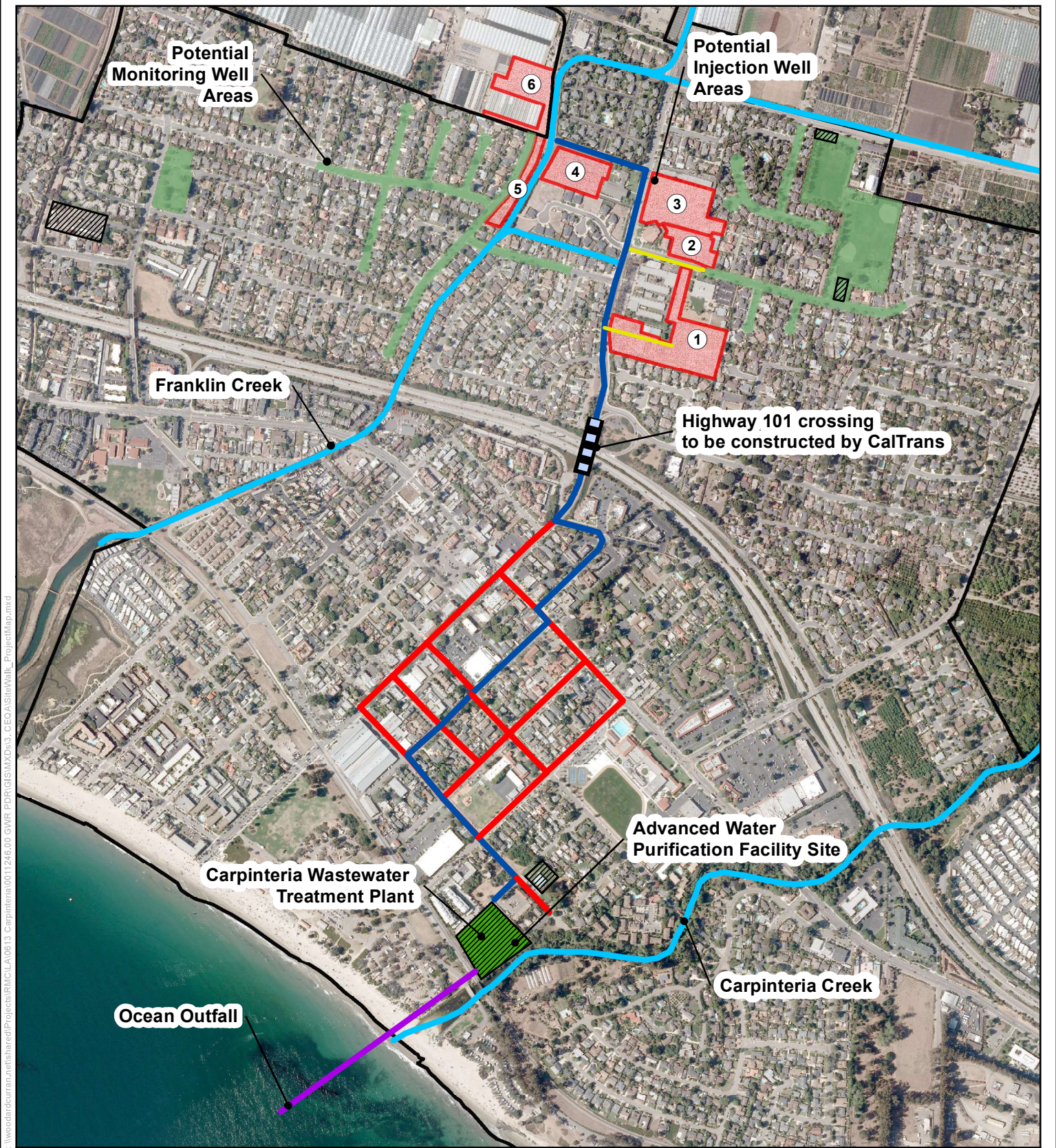


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0 0.0425 0.085 0.17 Miles



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February 11, 2019

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*Robert McDonald, P.E. MPA*

Barbareno/Ventureno Band of Mission Indians  
Julie Tumamait-Stenslie, Chairperson  
365 North Poli Ave  
Ojai, CA 93023

RE: Assembly Bill 52 Consultation, Carpinteria Advanced Purification Project, Santa Barbara County, California

Dear Ms. Tumamait-Stenslie:

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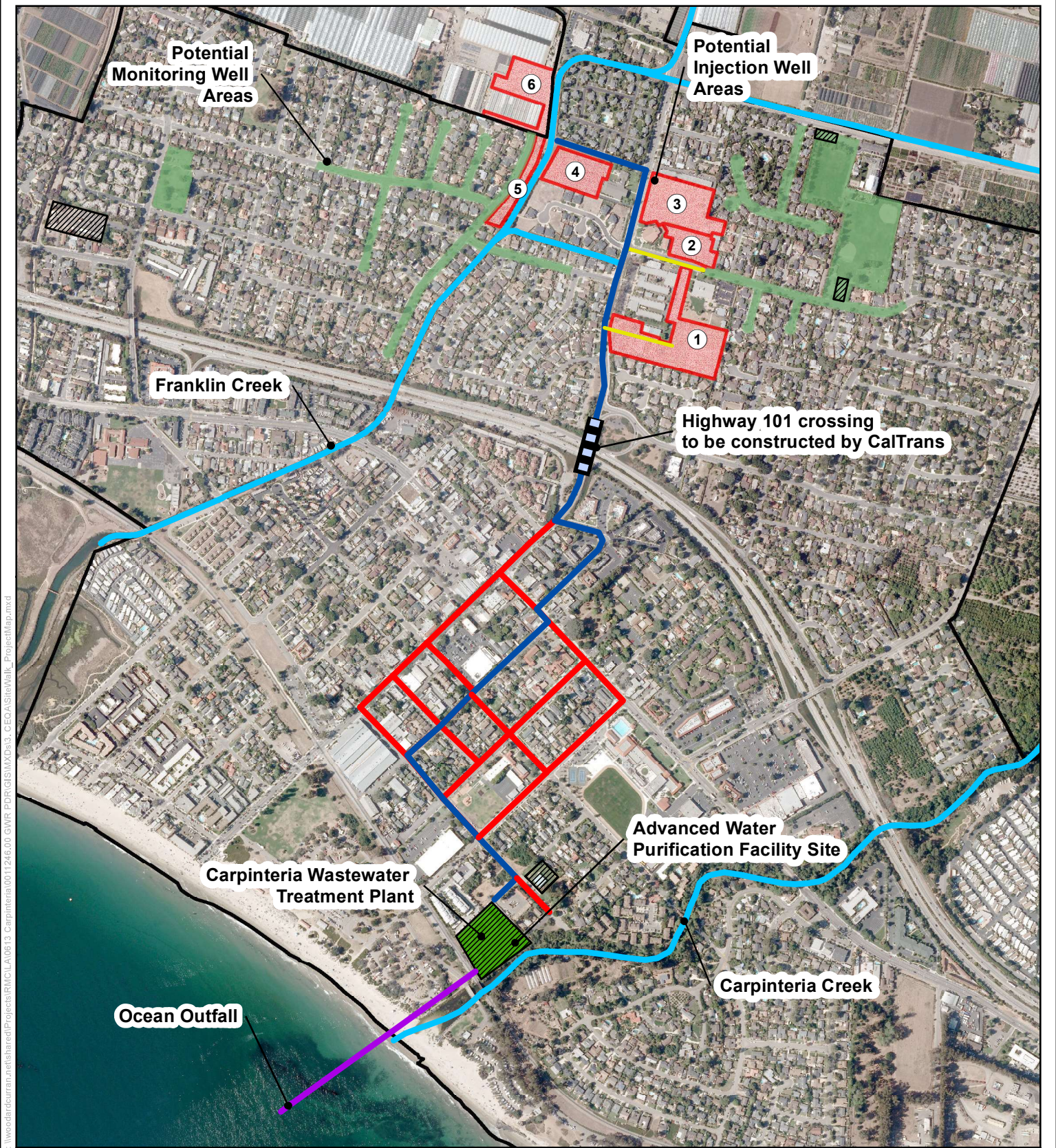
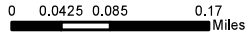


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## Proposed Project Facilities

### Legend

- Primary Pipeline Alignment
- Alternative Pipeline Alignment
- Connection to Well
- Potential Monitoring Well Area
- Potential Injection Well Area
- Ocean Outfall
- Creeks
- Carpinteria Wastewater Treatment Plant
- Carpinteria City Boundary
- Potential Staging



Project #: 0011246  
Map Created: January 2019

Third Party GIS Disclaimer: This map is for reference and graphical purposes only and should not be relied upon by third parties for any legal decisions. Any reliance upon the map or data contained herein shall be at the users' sole risk. **Data Sources:**

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# Carpinteria Valley Water District

1301 Santa Ynez Avenue • Carpinteria, CA 93013  
Phone (805) 684-2816

BOARD OF DIRECTORS

*Matthew Roberts*  
President  
*Shirley L. Johnson*  
Vice President  
*Korey L. Capozza*  
*Polly Holcombe*  
*Case Van Wingerden*

February 11, 2019

GENERAL MANAGER

*Robert McDonald, P.E. MPA*

Coastal Band of the Chumash Nation  
Mia Lopez, Chairperson  
24 S. Voluntario Street  
Santa Barbara, CA 93101

RE: Assembly Bill 52 Consultation, Carpinteria Advanced Purification Project, Santa Barbara County, California

Dear Ms. Lopez:

Assembly Bill (AB) 52 of 2014 (California Public Resources Code § 21080.3.1) requires Local Agencies to extend an invitation to Native American groups to engage in consultation on proposed projects to assure that potential impacts to Native American cultural resources are adequately addressed.

Carpinteria Valley Water District (CVWD), in cooperation with Carpinteria Sanitary District (CSD), is proposing construction and operation of the **Carpinteria Advanced Purification Project (CAPP)**. CVWD hereby extends an invitation to consult on the review of the CAPP in order to assist with identifying, preserving and/or mitigating project impacts to Native American cultural places including, but not limited to:

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CVWD is preparing an Environmental Impact Report for the proposed CAPP in Carpinteria, Santa Barbara County, California. The proposed project consists of the development of a new Advanced Water Purification Facility at the CSD wastewater treatment plant, a purified water pump station, two new injection wells, up to six new monitoring wells, an approximately 9,000-foot pipeline for conveyance of the purified water to the proposed injection wells, and modification to the existing CSD ocean outfall to accommodate the reduced brine flows from current conditions.

The proposed project is subject to the California Environmental Quality Act (CEQA). The proposed project must comply with AB 52, which requires local governments to conduct meaningful consultation with Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the Coastal Band of the Chumash Nation is important to CVWD's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish you consult on the proposed project. If you require any additional information or have any questions, please contact me at (805) 263-4826 or via e-mail at Bob@cvwd.net. Thank you for your assistance.

Sincerely,

A handwritten signature in blue ink that reads "Robert McDonald". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Robert McDonald, P.E., MPA  
General Manager  
Carpinteria Valley Water District

Enclosure: Project Location Map



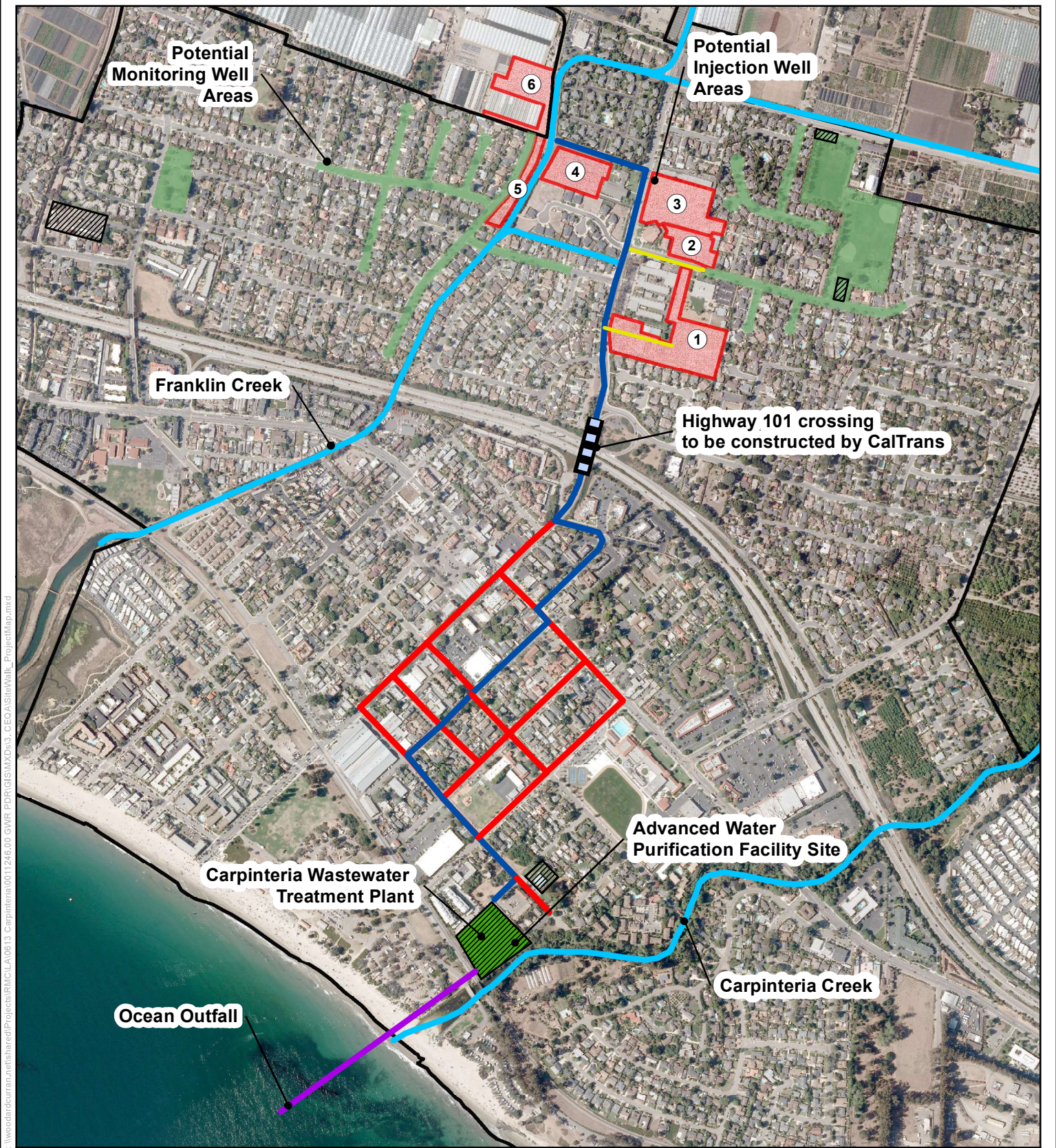
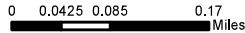


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February 11, 2019

GENERAL MANAGER

*Robert McDonald, P.E. MPA*

Chumash Council of Bakersfield  
Julio Quair, Chairperson  
729 Texas Street  
Bakersfield, CA 93307

RE: Assembly Bill 52 Consultation, Carpinteria Advanced Purification Project, Santa Barbara County, California

Dear Mr. Quair:

Assembly Bill (AB) 52 of 2014 (California Public Resources Code § 21080.3.1) requires Local Agencies to extend an invitation to Native American groups to engage in consultation on proposed projects to assure that potential impacts to Native American cultural resources are adequately addressed.

Carpinteria Valley Water District (CVWD), in cooperation with Carpinteria Sanitary District (CSD), is proposing construction and operation of the **Carpinteria Advanced Purification Project (CAPP)**. CVWD hereby extends an invitation to consult on the review of the CAPP in order to assist with identifying, preserving and/or mitigating project impacts to Native American cultural places including, but not limited to:

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The proposed project is subject to the California Environmental Quality Act (CEQA). The proposed project must comply with AB 52, which requires local governments to conduct meaningful consultation with Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the Chumash Council of Bakersfield is important to CVWD's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish you consult on the proposed project. If you require any additional information or have any questions, please contact me at (805) 263-4826 or via e-mail at Bob@cvwd.net. Thank you for your assistance.

Sincerely,

A handwritten signature in blue ink that reads "Robert McDonald". The signature is written in a cursive style with a long, sweeping tail on the "d".

Robert McDonald, P.E., MPA  
General Manager  
Carpinteria Valley Water District

Enclosure: Project Location Map

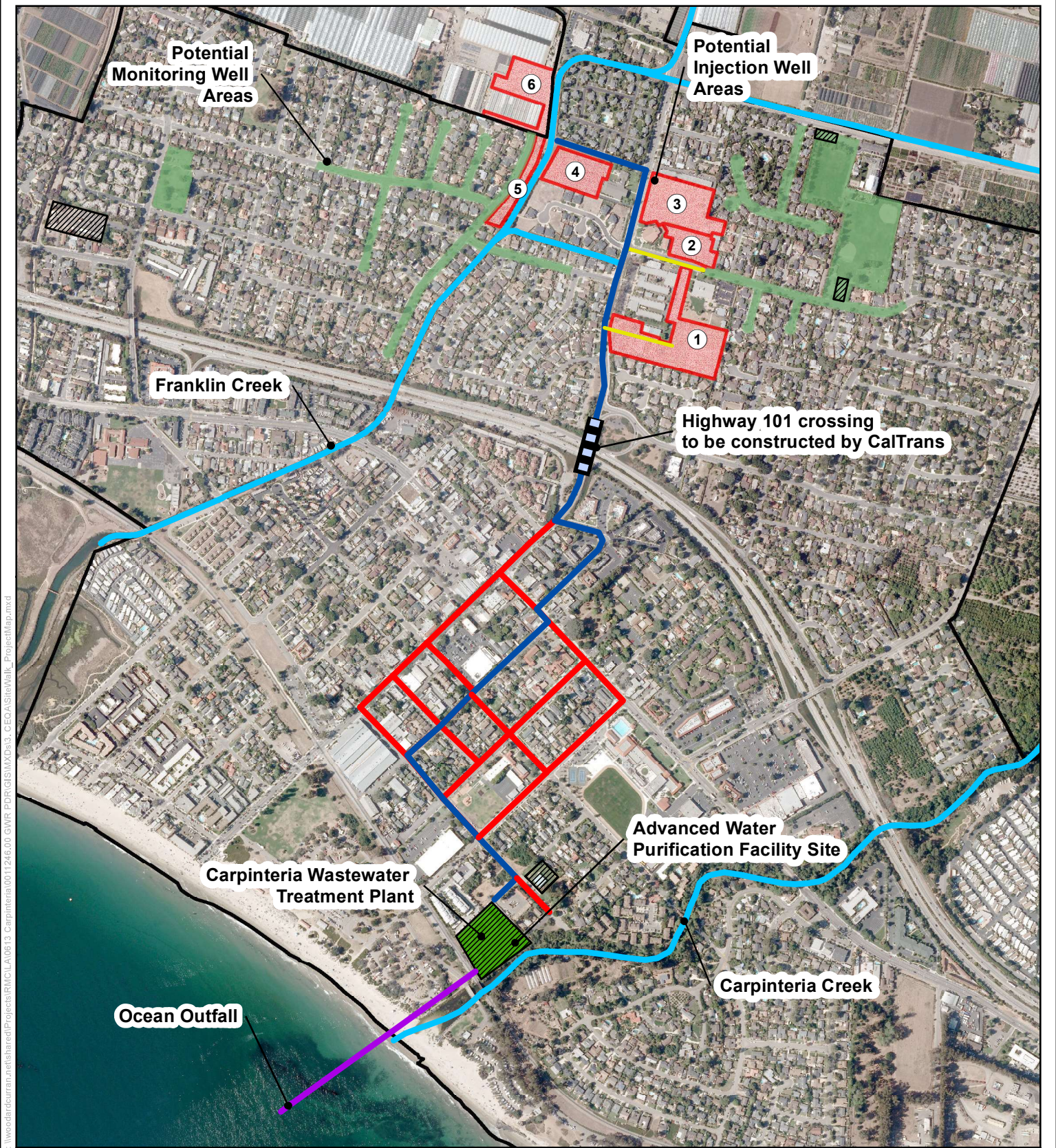
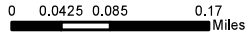


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*Case Van Wingerden*

February 11, 2019

GENERAL MANAGER

*Robert McDonald, P.E. MPA*

Northern Chumash Tribal Council  
Fred Collins, Spokesperson  
P.O. Box 6533  
Los Osos, CA 93412

RE: Assembly Bill 52 Consultation, Carpinteria Advanced Purification Project, Santa Barbara County, California

Dear Mr. Collins:

Assembly Bill (AB) 52 of 2014 (California Public Resources Code § 21080.3.1) requires Local Agencies to extend an invitation to Native American groups to engage in consultation on proposed projects to assure that potential impacts to Native American cultural resources are adequately addressed.

Carpinteria Valley Water District (CVWD), in cooperation with Carpinteria Sanitary District (CSD), is proposing construction and operation of the **Carpinteria Advanced Purification Project (CAPP)**. CVWD hereby extends an invitation to consult on the review of the CAPP in order to assist with identifying, preserving and/or mitigating project impacts to Native American cultural places including, but not limited to:

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The proposed project is subject to the California Environmental Quality Act (CEQA). The proposed project must comply with AB 52, which requires local governments to conduct meaningful consultation with Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the Northern Chumash Tribal Council is important to CVWD's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish you consult on the proposed project. If you require any additional information or have any questions, please contact me at (805) 263-4826 or via e-mail at Bob@cvwd.net. Thank you for your assistance.

Sincerely,

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Robert McDonald, P.E., MPA  
General Manager  
Carpinteria Valley Water District

Enclosure: Project Location Map



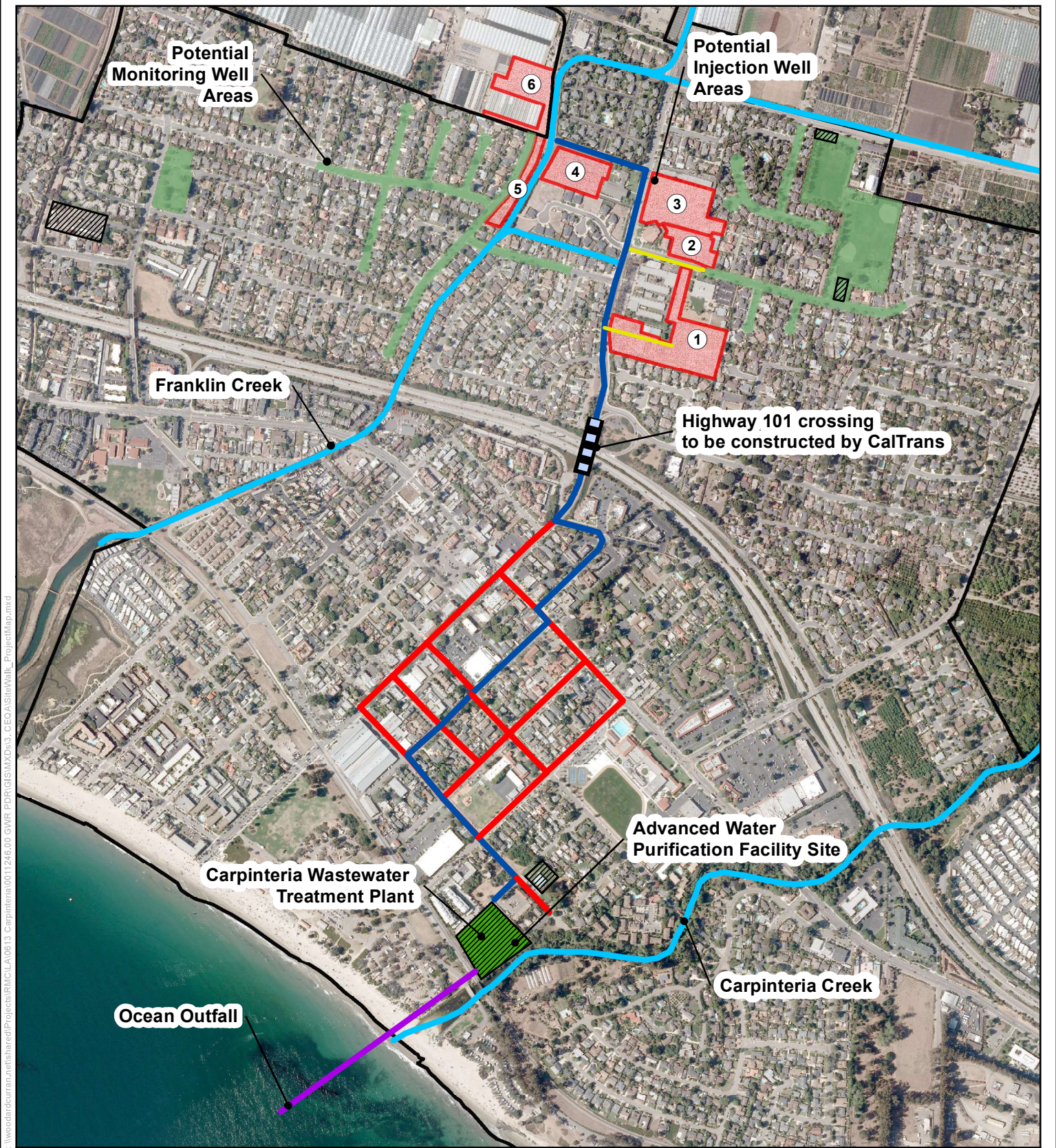


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# Proposed Project Facilities

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0 0.0425 0.085 0.17 Miles



Project #: 0011246  
Map Created: January 2019

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February 11, 2019

GENERAL MANAGER

*Robert McDonald, P.E. MPA*

San Luis Obispo County Chumash Council  
Mark Vigil, Chief  
1030 Ritchie Road  
Grover Beach, CA 93433

RE: Assembly Bill 52 Consultation, Carpinteria Advanced Purification Project, Santa Barbara County, California

Dear Mr. Vigil:

Assembly Bill (AB) 52 of 2014 (California Public Resources Code § 21080.3.1) requires Local Agencies to extend an invitation to Native American groups to engage in consultation on proposed projects to assure that potential impacts to Native American cultural resources are adequately addressed.

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CVWD is preparing an Environmental Impact Report for the proposed CAPP in Carpinteria, Santa Barbara County, California. The proposed project consists of the development of a new Advanced Water Purification Facility at the CSD wastewater treatment plant, a purified water pump station, two new injection wells, up to six new monitoring wells, an approximately 9,000-foot pipeline for conveyance of the purified water to the proposed injection wells, and modification to the existing CSD ocean outfall to accommodate the reduced brine flows from current conditions.

The proposed project is subject to the California Environmental Quality Act (CEQA). The proposed project must comply with AB 52, which requires local governments to conduct meaningful consultation with Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the San Luis Obispo County Chumash Council is important to CVWD's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish you consult on the proposed project. If you require any additional information or have any questions, please contact me at (805) 263-4826 or via e-mail at Bob@cvwd.net. Thank you for your assistance.

Sincerely,

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Robert McDonald, P.E., MPA  
General Manager  
Carpinteria Valley Water District

Enclosure: Project Location Map

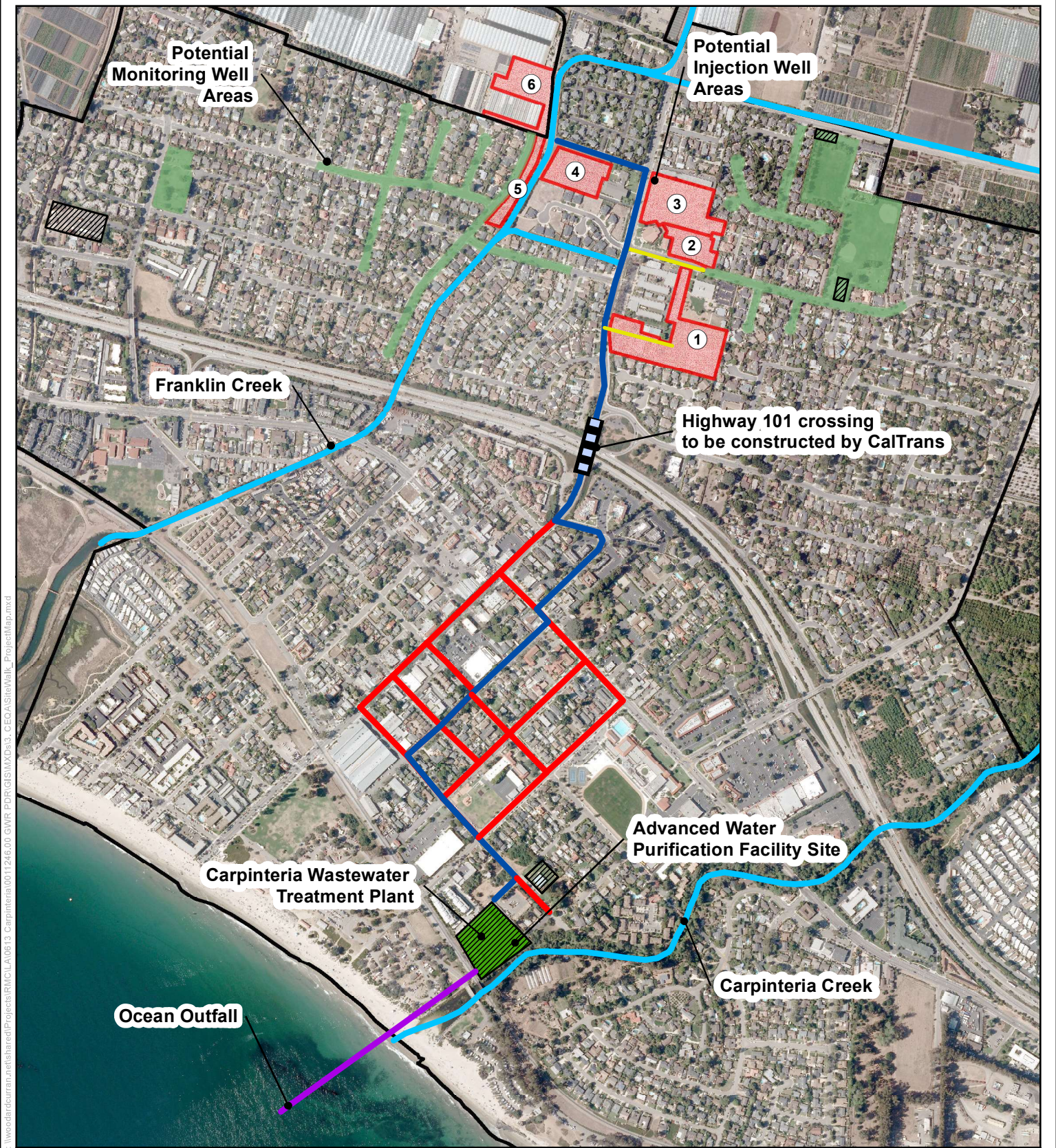
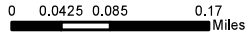


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February 11, 2019

GENERAL MANAGER

*Robert McDonald, P.E. MPA*

Santa Ynez Band of Chumash Indians  
Freddie Romero  
Tribal Elders Council Office  
100 Via Juana Road  
Santa Ynez, CA 93460

RE: Assembly Bill 52 Consultation, Carpinteria Advanced Purification Project, Santa Barbara County, California

Dear Mr. Romero:

Assembly Bill (AB) 52 of 2014 (California Public Resources Code § 21080.3.1) requires Local Agencies to extend an invitation to Native American groups to engage in consultation on proposed projects to assure that potential impacts to Native American cultural resources are adequately addressed.

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Robert McDonald, P.E., MPA  
General Manager  
Carpinteria Valley Water District

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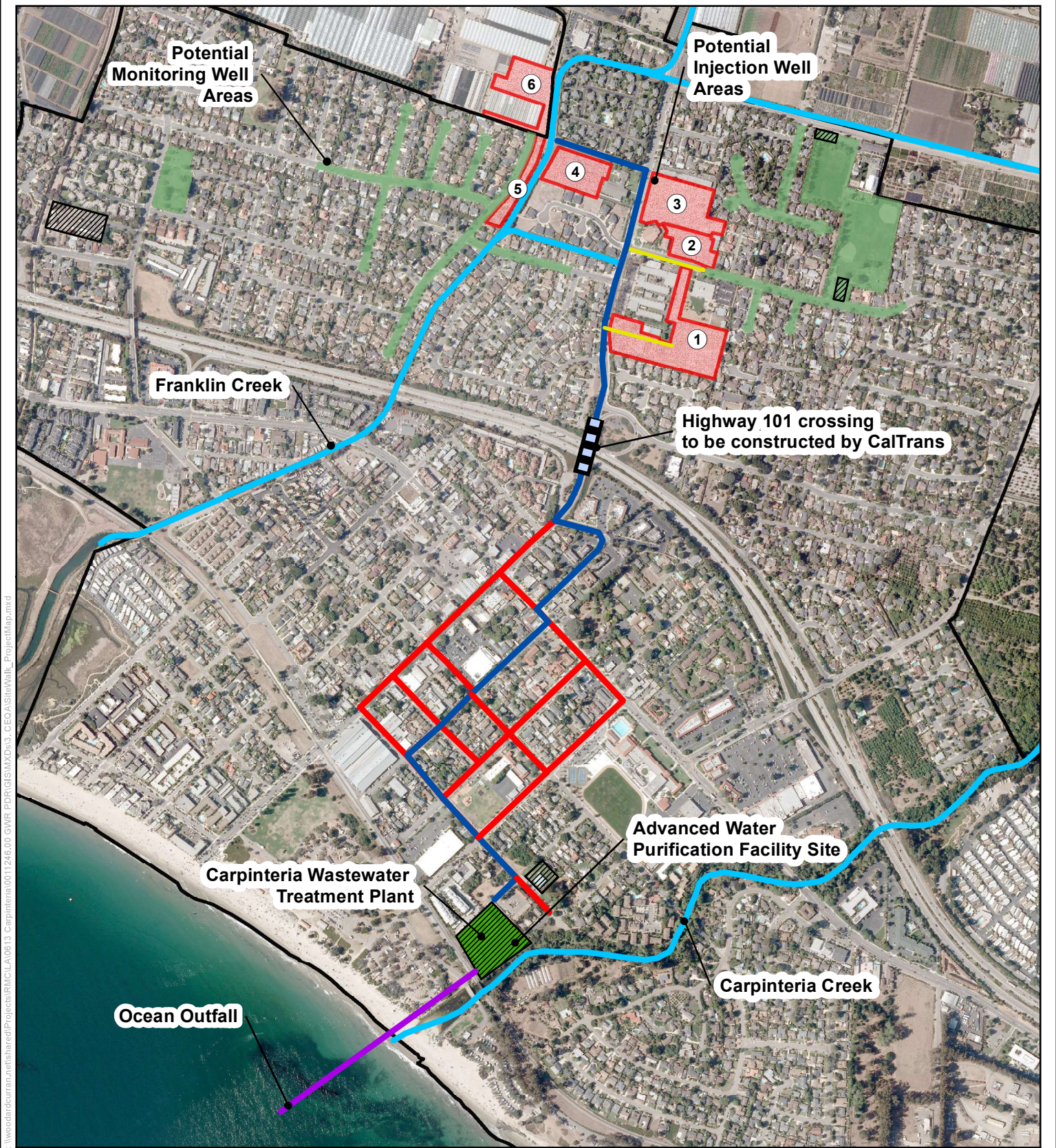
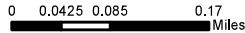


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*Robert McDonald, P.E. MPA*

Santa Ynez Band of Chumash Indians  
Freddie Romero  
Tribal Elders Council Office  
100 Via Juana Road  
Santa Ynez, CA 93460

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Robert McDonald, P.E., MPA  
General Manager  
Carpinteria Valley Water District

Enclosure: Project Location Map

**Commented [RM1]:** I assume this will be different for each letter sent to the various tribes?

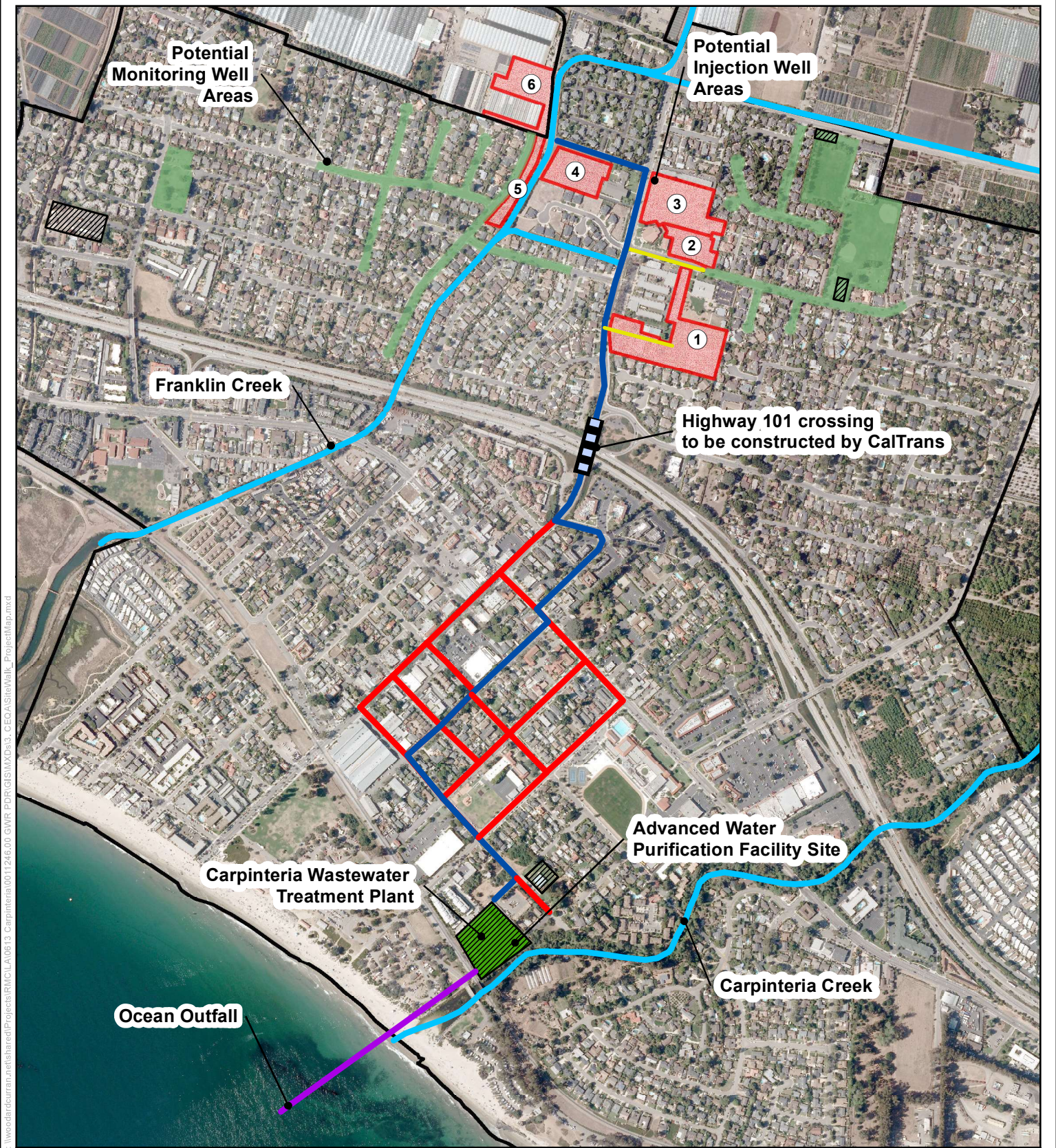
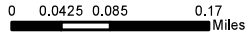


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February 11, 2019

GENERAL MANAGER

*Robert McDonald, P.E. MPA*

yak tit'yu tit'yu yak ti'hini – Northern Chumash Tribe  
Mona Tucker, Chairperson  
660 Camino Del Rey  
Arroyo Grande, CA 93420

RE: Assembly Bill 52 Consultation, Carpinteria Advanced Purification Project, Santa Barbara County, California

Dear Ms. Tucker:

Assembly Bill (AB) 52 of 2014 (California Public Resources Code § 21080.3.1) requires Local Agencies to extend an invitation to Native American groups to engage in consultation on proposed projects to assure that potential impacts to Native American cultural resources are adequately addressed.

Carpinteria Valley Water District (CVWD), in cooperation with Carpinteria Sanitary District (CSD), is proposing construction and operation of the **Carpinteria Advanced Purification Project (CAPP)**. CVWD hereby extends an invitation to consult on the review of the CAPP in order to assist with identifying, preserving and/or mitigating project impacts to Native American cultural places including, but not limited to:

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The input of the yak tit<sup>u</sup> tit<sup>u</sup> yak tithini – Northern Chumash Tribe is important to CVWD’s planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish you consult on the proposed project. If you require any additional information or have any questions, please contact me at (805) 263-4826 or via e-mail at Bob@cvwd.net. Thank you for your assistance.

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Robert McDonald, P.E., MPA  
General Manager  
Carpinteria Valley Water District

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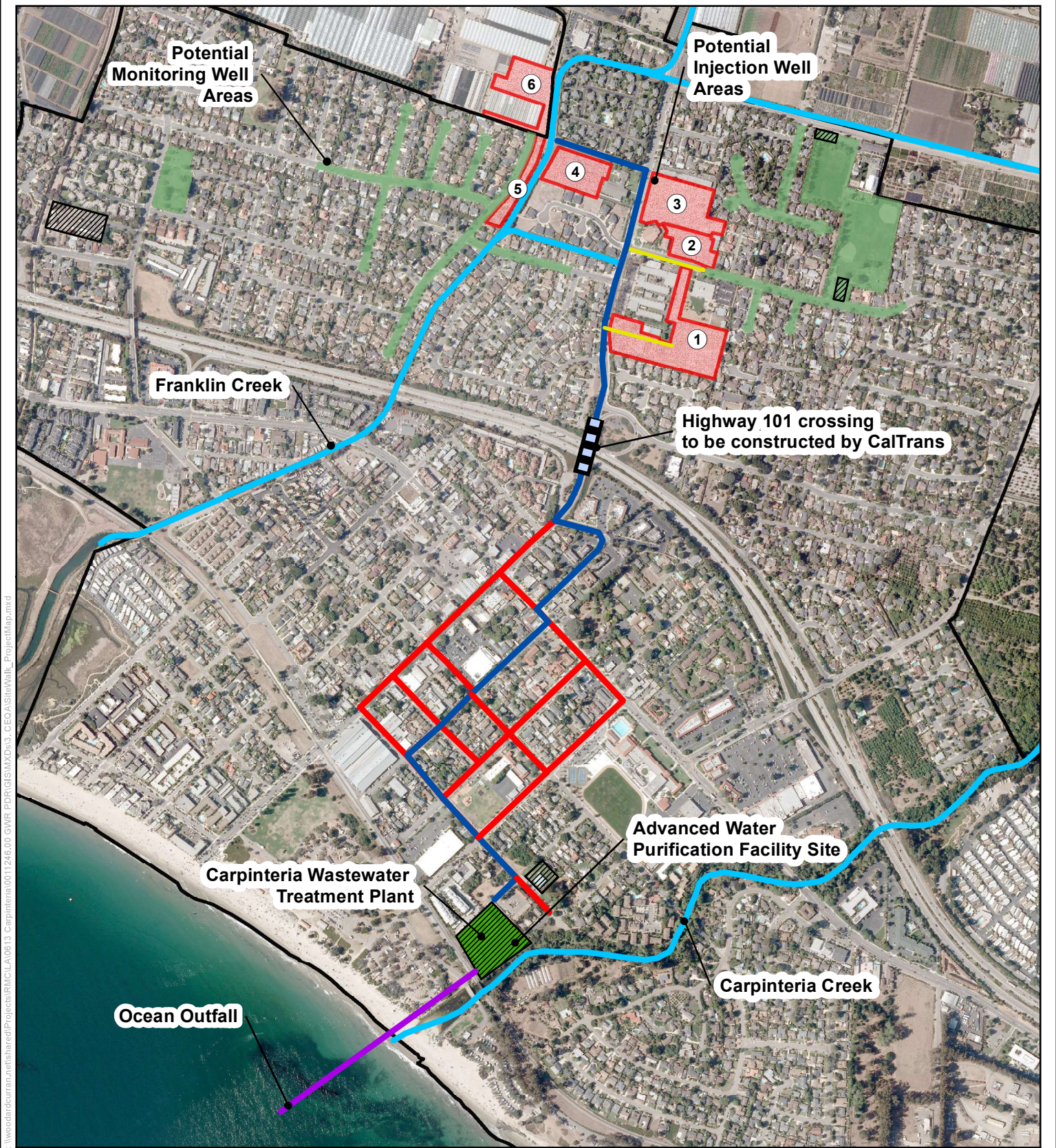
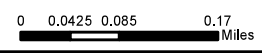


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## Proposed Project Facilities

### Legend

- Primary Pipeline Alignment
- Alternative Pipeline Alignment
- Connection to Well
- Potential Monitoring Well Area
- Potential Injection Well Area
- Ocean Outfall
- Creeks
- Carpinteria Wastewater Treatment Plant
- Carpinteria City Boundary
- Potential Staging



Project #: 0011246  
Map Created: January 2019

Third Party GIS Disclaimer: This map is for reference and graphical purposes only and should not be relied upon by third parties for any legal decisions. Any reliance upon the map or data contained herein shall be at the users' sole risk. **Data Sources:**

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## **Appendix C**

Air Quality Technical Study

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# AIR QUALITY TECHNICAL REPORT

*Draft*  
May 2019

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COMMITMENT & INTEGRITY DRIVE RESULTS

**Carpinteria Valley  
Water District**  
Carpinteria Advanced  
Purification Project

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## ATTACHMENTS

Attachment A: CalEEMod output sheets

## 1. INTRODUCTION

This report describes environmental and regulatory setting related to air quality in the proposed Carpinteria Advanced Purification Project (CAPP, or Proposed Project) area. The report then describes the methodology and thresholds relied upon to assess the impacts of the Proposed Project. Finally, it identifies the impacts of the Proposed Project. This report discusses the Proposed Project impacts associated with both criteria and toxic air pollutants, as well as emissions of greenhouse gases.

## 2. PROJECT DESCRIPTION

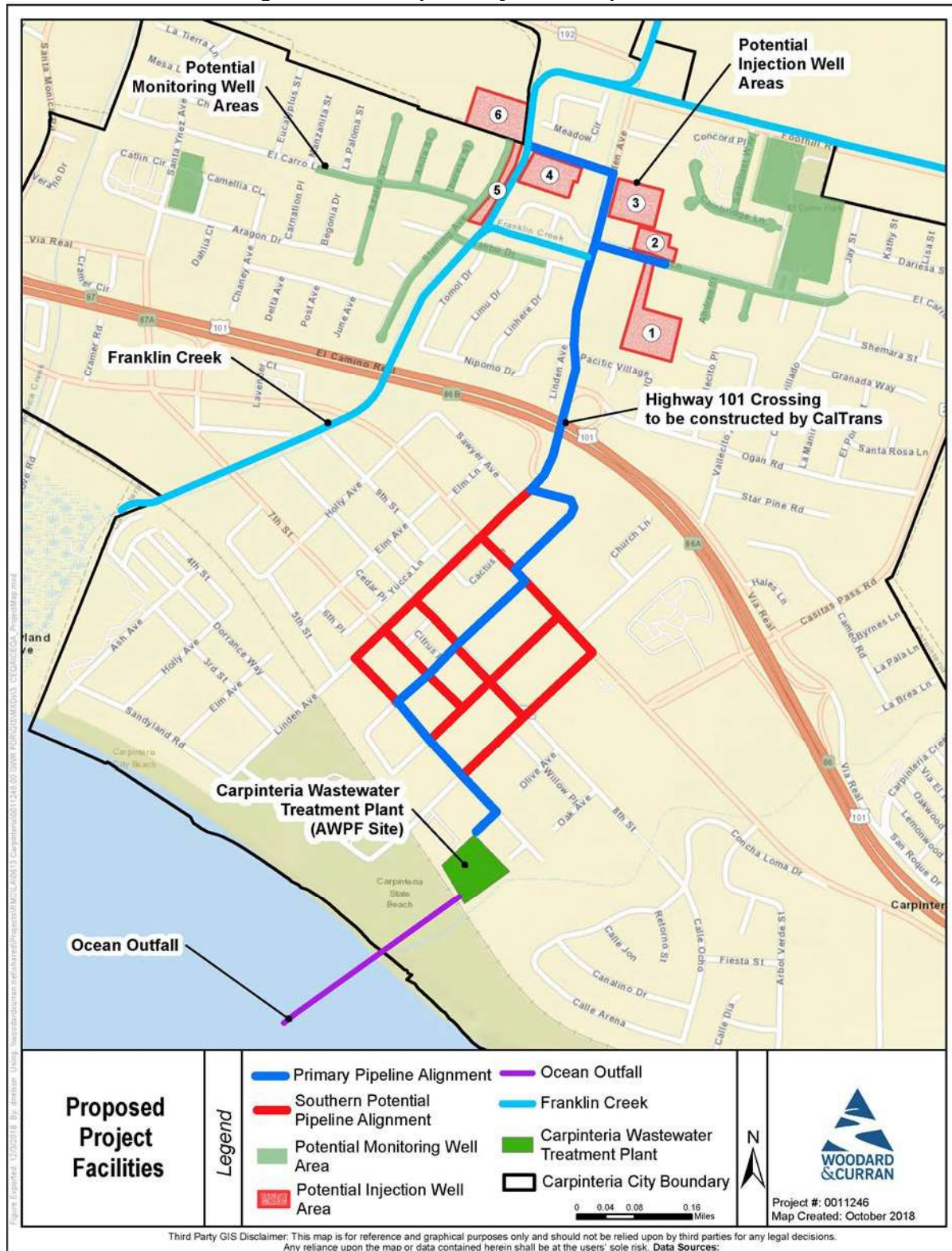
The Proposed Project includes installation of advanced treatment facilities at an existing wastewater treatment plant, conveyance, groundwater injection wells and backwash systems, groundwater monitoring wells, and ocean discharge infrastructure. The Proposed Project consists of producing approximately 1,100 acre-feet per year (AFY) (1.0 million gallons per day (MGD)) of purified water from the Carpinteria Sanitary District (CSD) Wastewater Treatment Plant (WWTP) for injection into the local groundwater basin, where it ultimately would be used for CVWD potable water supply. The ultimate Proposed Project assumes an expansion from 1.0 MGD to 1.2 MGD based on projected future increases in WWTP flows. The ultimate CAPP includes the following facilities:

- Advanced Water Purification Facility (AWPF) consisting of equalization tank, microfiltration (MF), reverse osmosis (RO), and an advanced oxidation process (AOP)
- Purified Water Pump Station (PWPS), to be located on the WWTP site
- 6,100 linear feet (LF) of 12-inch conveyance pipeline from the PWPS to a well lateral split point, including CalTrans installation for the Linden Avenue overpass over US Highway 101
- 2,000 LF of 8-inch conveyance pipeline from the well lateral split point to individual injection wells
- Three 14-inch injection wells with backwash pumps and 42,000-gallon tanks
- Either 1,400 LF of 12-inch well backwash discharge piping to existing sanitary sewers, or 600 LF of 12-inch piping to existing storm drain culverts.
- Six monitoring wells
- Existing CVWD production wells
- Modifications to the CSD WWTP ocean outfall

Figure 1 shows a proposed conceptual layout of the key facilities.



**Figure 1: Conceptual Layout of Proposed Facilities**



## 2.1 Construction

### 2.1.1 AWPf & Pump Station

All construction for the AWPf, purified water storage tank / clear well, and purified water pump station would occur on site at CSD WWTP. Construction of the AWPf would include, but not be limited to, civil site work and grading, construction of deep foundation system and concrete pad, structural concrete work, paving, metal walkway and railing construction, building construction, and installation of seismic anchors, yard piping, HVAC, electrical systems, instrumentation, controls, SCADA systems, and equipment. The Proposed Project would also include demolition of an existing storage building with a footprint of approximately 1,800 square feet.

### 2.1.2 Pipelines

The pipelines are proposed to be constructed primarily using open cut trenching. A pipe bridge to cross Franklin Creek may be needed if injection Well Sites five or six are selected. This analysis assumes an average of 150 LF of pipe constructed per day.

The majority of the pipelines would be constructed within existing roadways using open cut trench construction. After any pavement is removed, typically by saw cutting, a backhoe or excavator would be used to dig trenches for pipe and conduit installation. In general, trenches would have vertical side walls to minimize the amount of soil excavated. Soils excavated from the trenches, if of suitable quality, would be stockpiled alongside the trench or in staging areas for later reuse in backfilling the trench. If not reusable, the soil would be hauled off site for disposal. Disposal options include use as cover material at sanitary landfills and use as “clean fill” at other sites. In general, pipe trenches would be three to four feet wide, and three to six feet deep with largest pipe size being 12 inches in diameter. Native soil would be reused for backfill to the greatest extent possible; however, the soil may not be suitable, in which case imported material would be used. Dump trucks would be used to deliver imported, engineered backfill material to stockpiles near the trenching. During the installation of the pipe, there would be a surplus of native soil requiring off-site export.

After the pipe is installed, the ground surface would be restored. When the pipe is installed in a paved roadway, the pavement would be restored with new asphalt or concrete to match the surrounding road type. For asphalt repaving, a temporary asphalt material may be installed to allow traffic to use the roadway immediately after pipeline construction. A repaving crew would follow the pipe installation crew and prepare the road surface for repaving. Final repaving would be done after pipeline installation and testing is completed for a whole street width, lane width, or trench width.

In certain conditions, it may be more desirable to install sections of pipeline using horizontal directional drilling (HDD) or jack-and-bore technology. HDD involves establishing entry and exit pits, using a drill rig to establish an underground tunnel, and then stringing the pipeline through the hole. Jack and bore also employs entry and exit pits, but uses an auger to remove material and push a casing forward, then the pipeline is inserted in the casing.

The Franklin Creek crossing would be constructed in one of two ways: 1) open trench through the concrete channel or 2) via pipe bridge. Open trench construction across the concrete channel would cross Franklin Creek adjacent to Franklin Park, between Meadow View Lane and Sterling Avenue. The trench would be approximately 13 feet wide and would cross perpendicular to the channel. The concrete channel would be restored to pre-Project conditions after installation of the pipeline. Construction of the pipe span over Franklin Creek would be from the creek bank. Construction personnel would use small cranes, or excavators to raise and lower the pipe into place.

### 2.1.3 Injection Wells

Construction of the injection wells would include, but not be limited to, soil improvements, civil site work and grading, concrete construction, well drilling and installation, site piping, and installation of mechanical and electrical systems, instrumentation, controls, SCADA systems, and equipment. The final well areas would be 60-feet by 100-feet.

### 2.1.4 Ocean Outfall

To modify the outfall diffusers, divers and a support vessel would be required.

### 2.1.5 Construction Schedule

Construction is expected to begin in July 2021 and extend through September 2022. Construction would be limited to daytime, consistent with the City's allowed hours for construction. Construction of the AWPf, pipelines, and wells would all commence in July 2021. Construction of the wells would extend until June 2022, construction of the pipelines would extend through August 2022, and construction of the AWPf would extend until September 2022.

### 2.1.6 Equipment and Trips

To characterize and analyze potential construction impacts, maximum crew size, truck trips, and worker trips were estimated based on expected excavation volumes and quantities of imported materials. The main pieces of equipment that may be used at any given time during construction include:

- truck-mounted drill rigs
- excavators
- backhoes
- graders
- crane
- scrapers
- compactors
- dump trucks
- front-end loaders
- water trucks
- paver and roller
- flat-bed delivery trucks
- forklifts
- concrete trucks
- compressors/jack hammers
- diesel generators
- trenchless auger/drill rig
- truck-mounted suction-lift diesel pumps

It was assumed that construction could generate up to 40 round trips per day for work crews traveling to and from the site, including inspectors. In addition, during peak construction, the Proposed Project would require up to 10 round-trip concrete delivery and/or soil export truck trips per day (assuming up to 45 cubic yards per day). During construction, other materials would be delivered: process, mechanical, and electrical equipment; rebar for concrete; structural steel, concrete masonry unit blocks, wood trusses for buildings; and electrical conduit. Estimated materials delivery round trips are up to 16 per day.

### 2.1.7 Construction Best Management Practices

According to the Santa Barbara County Air Pollution Control District (SBCAPCD), the following measures are required by State law:

- All portable diesel-powered construction equipment shall be registered with the state's portable equipment registration program or shall obtain an SBCAPCD permit.
- Fleet owners of mobile construction equipment are subject to the California Air Resource Board (CARB) Regulation for In-Use Off-Road Diesel Vehicles (Title 13, California Code of Regulations (CCR), §2449), the

purpose of which is to reduce oxides of nitrogen (NO<sub>x</sub>), diesel particulate matter (DPM), and other criteria pollutant emissions from in-use off-road diesel-fueled vehicles. Off-road heavy-duty trucks shall comply with the State Off-Road Regulation. For more information, see [www.arb.ca.gov/msprog/ordiesel/ordiesel.htm](http://www.arb.ca.gov/msprog/ordiesel/ordiesel.htm).

- Fleet owners of mobile construction equipment are subject to the CARB Regulation for In-Use (On-Road) Heavy-Duty Diesel-Fueled Vehicles (Title 13, CCR, §2025), the purpose of which is to reduce DPM, NO<sub>x</sub> and other criteria pollutants from in-use (on-road) diesel-fueled vehicles. On-road heavy-duty trucks shall comply with the State On-Road Regulation. For more information, see [www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm](http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm).
- All commercial off-road and on-road diesel vehicles are subject, respectively, to Title 13, CCR, §2449(d)(3) and §2485, limiting engine idling time. Idling of heavy-duty diesel construction equipment and trucks during loading and unloading shall be limited to five minutes; electric auxiliary power units should be used whenever possible.

The following dust mitigation measures are required by SBCAPCD for all discretionary construction activities, regardless of the project size or duration.

- During construction, use water trucks or sprinkler systems to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this should include wetting down such areas in the late morning and after work is completed for the day. Increased watering frequency should be required whenever the wind speed exceeds 15 mph. Reclaimed water should be used whenever possible. However, reclaimed water should not be used in or around crops for human consumption.
- Minimize amount of disturbed area and reduce on site vehicle speeds to 15 miles per hour or less.
- If importation, exportation and stockpiling of fill material is involved, soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binders to prevent dust generation. Trucks transporting fill material to and from the site shall be tarped from the point of origin.
- Gravel pads shall be installed at all access points to prevent tracking of mud onto public roads.
- After clearing, grading, earth moving or excavation is completed, treat the disturbed area by watering, or revegetating, or by spreading soil binders until the area is paved or otherwise developed so that dust generation will not occur.
- The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the Air Pollution Control District prior to grading/building permit issuance and/or map clearance.

## 2.2 Operation

The following describes briefly the operations and maintenance (O&M) for each of the Proposed Project's key facilities:

- *AWPF*:
  - Daily inspections and maintenance of UF/RO/UV/AOP treatment processes.
  - MF: Backflush for 60 to 120 seconds at 20- to 40-minute intervals; daily extended flux maintenance cleans; weekly to monthly chemical clean in place (CIP).
  - RO: Chemical CIP monthly; membranes estimated to be replaced every five years.
- *Pump stations*: daily inspections and routine pump maintenance

- *Pipelines*: periodic inspections of pipeline and exercising valves
- *Injection wells*: periodic backwash one time per week per well for approximately 60 minutes; backwash flowrate up to two times the injection flowrate, anticipated to be 700 gallons per minute. It was assumed the injection wells would have minimal amounts of landscaping for screening purposes, which would require irrigation.
- *Chemical delivery*: deliveries of AWPf chemicals, up to eight truck trips per month depending on chemical supplier and logistics.

Table 1 presents the estimated operational energy requirements of each of the proposed facilities, including the power and energy consumption. All energy demands would be met by electricity supplied by Southern California Edison; the Proposed Project would not consume natural gas.

**Table 1: Energy Consumption**

Facility Description	Qty	hp	hrs./day	kWh / yr.	Comments
AWPF feed pump station	2	8	24	104,000	
MF/UF Feed Pumps	2	20	24	261,400	
MF/UF Backwash Pump	1	20	5	27,300	
RO transfer pumps	2	10	24	130,700	
RO feed pumps	2	50	24	653,500	
UV reactors	1	20	24	130,500	
Ancillary AWPf facilities	8	10	24	522,800	See Note 1
PW pump station	3	40	24	783,900	
Well backwash	3	75	1	3,000	Assumes 1 hr. per week per well
<b>Total Annual Power Consumption</b>				<b>2,617,700</b>	
Notes: 1. Assumes less than 10 hp per pump: MF/UF and RO Neutralization Pump, MF/UF Blowers and Air Compressors, Interprocess Tank Transfer Pumps, MF/UF and RO CIP Pumps, Chemical Metering Pumps, RO Flush Pump, UV/AOP Transfer Pumps, Process Monitoring, Online Analyzers.					

### 3. ENVIRONMENTAL SETTING

The environmental setting provides a baseline against which to measure a project’s impact. The CAPP is located in the City of Carpinteria and unincorporated Santa Barbara County, California. Carpinteria is located approximately 12 miles south of the City of Santa Barbara, and approximately 80 miles north of the City of Los Angeles. The WWTP site is bounded by a railroad to the south, a live/work residential development to the west, the Carpinteria State Beach Park maintenance yard and employee housing to the north, and Carpinteria Creek to the east. South of the rail line is Carpinteria State Beach, which includes campgrounds, day use areas, and a playground immediately across the rail line from the site.

The injection well sites would be located approximately 0.8 to 1.0 miles north of the AWPf. Six potential injection well sites have been identified, though only three would be selected as design continues and property rights are acquired. The land uses surrounding the proposed well sites are a mix of agricultural (greenhouse), residential, State park, and institutional. Conveyance pipelines between the AWPf and the injection wells would generally run within the public roadway rights-of-way.

### 3.1 Physical Setting

This section describes the climatological, meteorological and topographical features that may influence the project's effects on local and regional air quality. The physical setting and baseline conditions reflect the emissions associated with existing facilities. This section also summarizes current air pollution problems within the county, and the effects of pollutants such as ozone precursors (nitrogen oxides [NO<sub>x</sub>] and reactive organic compounds [ROC]), particulate matter (PM<sub>10</sub>, PM<sub>2.5</sub>) and PM<sub>10</sub> precursors such as NO<sub>x</sub> and sulfur oxides (SO<sub>x</sub>).

The Proposed Project is located within the South Central Coast Air Basin. The region has a Mediterranean climate characterized by mild winters and warm, dry, summers. The Pacific Ocean forms the west and southern borders of the county. The Santa Ynez mountain range, which runs east/west parallel to the southern coast of the county is one of the predominant land features. The influence of the Pacific Ocean causes mild temperatures year-round along the coast, while inland areas experience a wider range of temperatures. Table 2 summarizes climatic data collected at the nearest weather stations.

**Table 2: Climatic Data for the Study Area**

Parameter	Santa Barbara Station	Ventura Station	Juncal Dam Station	Ojai Station
Annual Average Max. Temperature (F)	70.8	70.3	Insufficient data	77.9
Annual Average Min. Temperature (F)	50.2	49.1	Insufficient data	44.9
Annual Average Total Precipitation (in.)	17.73	14.67	29.72	21.21
Annual Average Total Snow Fall (in.)	0.2	0.0	0.4	0.1
Average Hourly Wind Speed, mph	5.9 to 8.5	N/A	N/A	N/A
Notes: Periods of record range from: 1/1/1893 to 6/9/2016. Sources: Western Regional Climate Center 2019; WeatherSpark.com				

Precipitation is confined primarily to the winter months. Annual precipitation varies widely over relatively short distances, primarily due to topographical effects. The long-term annual total precipitation is approximately 10 to 18 inches, with more substantial amounts in the higher elevations. On occasion, tropical air masses produce rainfall during the summer months.

The average hourly wind speed in Santa Barbara experiences mild seasonal variation over the course of the year. The windier part of the year lasts from November to June, with average wind speeds of more than 7.2 miles per hour. Historically, the windiest day of the year is April 26, with an average hourly wind speed of 8.5 miles per hour. The calmer time of year lasts from July to October. Historically, the calmest day of the year is August 9, with an average hourly wind speed of 5.9 miles per hour.

The regional climate is dominated by a strong and persistent high-pressure system, which frequently lies off the Pacific Coast (generally referred to as the East Pacific Subtropical High-Pressure Zone or Pacific High). The Pacific High shifts northward or southward in response to seasonal changes or the presence of cyclonic storms. In its usual position, the Pacific High produces an elevated temperature inversion in the Study Area. An inversion is characterized by a layer of warmer air aloft, and cooler air near the ground surface. The inversion traps the cooler air mass near the ground, preventing pollutants in the lower air mass from dispersing upward beyond the inversion layer. This phenomenon results in higher concentrations of pollutants trapped below the inversion. Inversions commonly form in the Study Area during the months of May to October. In winter, weak surface inversions occur, caused by radiation cooling of air in contact with the cold surface of the earth. During spring and summer, marine inversions occur when cool air from over the ocean intrudes under the warmer air that lies over the land. During summer, the Pacific High can also cause the air mass to sink, creating a subsidence inversion. Atmospheric stability is a primary factor affecting air quality in the study region. Atmospheric stability regulates the amount of air exchange (referred to as turbulent mixing) both

horizontally and vertically. A high degree of atmospheric stability and low wind speeds are generally associated with higher pollutant concentrations. These conditions are typically related to temperature inversions that trap the pollutants emitted below or within them. Poor air quality is often associated with "air stagnation" (high stability/restricted air movement). Therefore, it is reasonable to expect a higher frequency of pollution events in the southern portion of the county where light winds are frequently observed, as opposed to the northern portion of the county where the prevailing winds are strong and persistent.

Airflow also plays an important role in the movement of pollutants. Regional winds are normally controlled by the location of the Pacific High and are generally light. This can contribute to higher levels of pollution because low wind speeds minimize dispersion of pollutants. During summer months, northwesterly winds are stronger and persist later into the night. When the Pacific High weakens, a Santa Ana condition can develop. Santa Ana winds are dry northeasterly winds that occur primarily during the fall and winter months. These are warm, dry winds that descend down the slopes of a mountain range. Wind speeds associated with Santa Ana conditions are generally 15-20 mph, though they can reach speeds in excess of 60 mph. During Santa Ana conditions, pollutants emitted in Santa Barbara, Ventura County, and the South Coast Air Basin (the Los Angeles region) are moved out to sea. These pollutants can then be moved back onshore into Santa Barbara County (via the Santa Barbara Channel) in what is called a "post Santa Ana condition." The post Santa Ana effects can be experienced throughout the county. However, not all post Santa Ana conditions lead to high pollutant concentrations.

Topography plays a significant role in affecting the direction and speed of winds. Year round, light onshore winds hamper the dispersion of primary pollutants, and the orientation of the inland mountain ranges interrupts air circulation patterns. Pollutants become trapped, creating ideal conditions for the production of secondary pollutants.

### **3.1.1 Current Air Pollution Conditions**

Air quality is determined by measuring ambient concentrations of air pollutants, which are known to have adverse health effects. For regulatory purposes, criteria have been set for some of these air pollutants, and they are referred to as "criteria pollutants." The six criteria pollutants for which the US Environmental Protection Agency has set standards are: particulate matter, ozone, nitrogen oxides, sulfur oxides, carbon monoxide, and lead. CARB has set standards for the same six pollutants, as well as for four additional pollutants - hydrogen sulfide, sulfate, vinyl chloride, and visibility reducing particles - and for about 200 toxic air contaminants. For most criteria pollutants, regulations and standards have been in effect, in varying degrees, for more than 25 years, and control strategies are designed to ensure that the ambient concentrations do not exceed certain thresholds.

Another class of air pollutants that is subject to regulatory requirements is hazardous air pollutants (HAPs) or air toxics. Substances that are especially harmful to health, such as those considered under the U.S. Environmental Protection Agency (EPA) hazardous air pollutant program or California's AB 1807 and/or AB 2588 air toxics programs, are considered to be air toxics. There are 186 federal hazardous air pollutants. Toxic air contaminants (TACs) are air pollutants that may cause acute (immediate) or chronic (cumulative) adverse health effects, such as cancer or reproductive harm. Many companies have reduced their toxic emissions, either voluntarily or as a result of the implementation of the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588), air toxics control measures (ATCMs) developed and implemented by the CARB, and amendments and emission control rules passed by the SBCAPCD. There are generally no County-specific monitoring data for the majority of the air toxics or federal HAPs. Regulatory air quality standards are based on scientific and medical research and these standards establish minimum concentrations of an air pollutant in the ambient air that could initiate adverse health effects. For air toxics emissions, however, the regulatory process usually assesses the potential impacts to public health in terms of "risk," such as the Air Toxics "Hot Spots" Program, or the emissions may be controlled by prescribed technologies, as in the Federal Clean Air Act approach for controlling hazardous air pollutants.

The degree of air quality degradation for criteria pollutants is determined by comparing the ambient pollutant concentrations to health-based standards developed by government agencies. Criteria pollutants and their relevant effects are summarized in Table 3. Ambient air quality monitoring for criteria pollutants is conducted at numerous sites throughout the state. Table 4 presents the relevant data from monitoring stations located in the Study Area. Ambient air quality in the County is generally good (i.e., within applicable ambient air quality standards), with the exception of particulate matter with an aerodynamic diameter of ten microns or less (PM<sub>10</sub>) and ozone (O<sub>3</sub>).

### **3.2 Sensitive Receptors**

Sensitive receptors are typically defined as residences, schools (preschool – 12th grade), hospitals, resident care facilities, senior housing facilities, day care centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality. The AWPf site is bounded by a railroad to the south, a live/work residential development to the west, the Carpinteria State Beach Park maintenance yard and employee housing to the north, and Carpinteria Creek to the east. South of the rail line is Carpinteria State Beach, which includes campgrounds, day use areas, and a playground immediately across the rail line from the site. The land uses surrounding the proposed well sites are a mix of agricultural (greenhouse), residential, State park, and institutional. Well sites two and three would be located next to Saint Joseph Catholic Church. Well site 4 would be located on the property of the Church of Jesus Christ of Latter-day Saints. Conveyance pipelines between the AWPf and the injection wells would generally run within the public roadway rights-of-way.



**Table 3: Common Air Pollutant Effects and Sources**

Pollutant	Effects on Health and the Environment	Sources
Ozone (O <sub>3</sub> )	<ul style="list-style-type: none"> <li>• Respiratory symptoms</li> <li>• Worsening of lung disease leading to premature death</li> <li>• Damage to lung tissue</li> <li>• Crop, forest and ecosystem damage</li> <li>• Damage to a variety of materials, including rubber, plastics, fabrics, paint and metals</li> </ul>	<p>Ozone is formed in the atmosphere through chemical reactions between pollutants emitted from vehicles, factories and other industrial sources, fossil fuels, combustion, consumer products, evaporation of paints, and many other sources. Hydrocarbons and nitrogen oxide gases react in the presence of sunlight to form ozone. Hot, sunny, and calm weather promotes ozone formation.</p>
PM <sub>2.5</sub> (particulate matter less than 2.5 microns in aerodynamic diameter)	<ul style="list-style-type: none"> <li>• Premature death</li> <li>• Hospitalization for worsening of cardiovascular disease</li> <li>• Hospitalization for respiratory disease</li> <li>• Asthma-related emergency room visits</li> <li>• Increased symptoms, increased inhaler usage</li> </ul>	<p>PM<sub>10</sub> and PM<sub>2.5</sub> often derive from different emissions sources, and also have different chemical compositions. Emissions from combustion of gasoline, oil, diesel fuel or wood produce much of the PM<sub>2.5</sub> pollution found in outdoor air, as well as a significant proportion of PM<sub>10</sub>. PM<sub>10</sub> also includes dust from construction sites, landfills and agriculture, wildfires and brush/waste burning, industrial sources, wind-blown dust from open lands, pollen and fragments of bacteria.</p>
PM <sub>10</sub> (particulate matter less than 10 microns in aerodynamic diameter)	<ul style="list-style-type: none"> <li>• Premature death &amp; hospitalization, primarily for worsening of respiratory disease</li> <li>• Reduced visibility and material soiling</li> </ul>	<p>PM may be either directly emitted from sources (primary particles) or formed in the atmosphere through chemical reactions of gases (secondary particles) such as sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), and certain organic compounds. These organic compounds can be emitted by both natural sources, such as trees and vegetation, as well as from man-made (anthropogenic) sources, such as industrial processes and motor vehicle exhaust.</p>
Nitrogen Oxides (NO <sub>x</sub> )	<ul style="list-style-type: none"> <li>• Lung irritation</li> <li>• Enhanced allergic responses</li> </ul>	<p>Although NO<sub>2</sub> can be directly emitted from combustion sources, much of the NO<sub>2</sub> in the ambient air is formed in the atmosphere through reactions between nitric oxide (NO) and other air pollutants that require the presence of sunlight (photochemical reactions). NO<sub>2</sub> contributes to formation of several other air pollutants, including ozone (O<sub>3</sub>), nitric acid (HNO<sub>3</sub>), and nitrate (NO<sub>3</sub><sup>-</sup>)-containing particles that also form through photochemical reactions. NO<sub>2</sub> levels in air vary with direct emission levels, as well as with changing atmospheric conditions, particularly the amount of sunlight.</p>
Carbon Monoxide (CO)	<ul style="list-style-type: none"> <li>• Chest pain in patients with heart disease</li> <li>• Headache</li> </ul>	<p>Carbon monoxide (CO) results from the incomplete combustion of carbon-containing fuels such as natural gas, gasoline, or wood, and is emitted by a wide variety of combustion sources, including motor vehicles, power plants, wildfires,</p>

Pollutant	Effects on Health and the Environment	Sources
	<ul style="list-style-type: none"> <li>Light-headedness</li> <li>Reduced mental alertness</li> </ul>	<p>and incinerators. Nationally and, particularly in urban areas, the majority of outdoor CO emissions to ambient air come from mobile sources. Carbon monoxide can also be formed through photochemical reactions in the atmosphere from methane and non-methane hydrocarbons, other volatile organic hydrocarbons in the atmosphere, and organic molecules in surface waters and soils. There are also a number of indoor sources of CO that contribute to total exposure.</p>
Sulfur Oxides (SO <sub>x</sub> )	<ul style="list-style-type: none"> <li>Worsening of asthma: increased symptoms, increased medication usage, and emergency room visits</li> </ul>	<p>SO<sub>x</sub>, including SO<sub>2</sub>, are emitted when sulfur-containing fuel is burned. Some examples of sources include motor vehicles, locomotives, ships, and off-road diesel equipment that are operated with fuels that contain high levels of sulfur. In addition, SO<sub>2</sub> and the other SO<sub>x</sub> are emitted from some industrial processes, such as natural gas and petroleum extraction, oil refining, and metal processing. They are also released during volcanic activity and from geothermal fields.</p>
Lead	<ul style="list-style-type: none"> <li>Impaired mental functioning in children</li> <li>Learning disabilities in children</li> <li>Brain and kidney damage</li> </ul>	<p>In the past, motor vehicle exhaust was the major source of lead emissions to the air. Since lead has been removed from gasoline air emissions of lead from the transportation sector, and particularly the automotive sector, have greatly declined. However, because it was emitted in large amounts from vehicles when leaded gasoline was used, lead is present in many soils (especially urban soils) and can get resuspended into the air. The major sources of lead emissions today are ore and metals processing, particularly lead smelters, and piston-engine aircraft operating on leaded aviation gasoline. Other stationary sources include waste incinerators, utilities, and lead-acid battery manufacturers.</p>
Hydrogen Sulfide (H <sub>2</sub> S)	<ul style="list-style-type: none"> <li>Nuisance odor (rotten egg smell)</li> <li>At high concentrations: headache &amp; breathing difficulties</li> </ul>	<p>The most common sources of H<sub>2</sub>S emissions are oil and natural gas extraction and processing, and natural emissions from geothermal fields. It is also formed during bacterial decomposition of human and animal wastes and is present in emissions from sewage treatment facilities and landfills. Industrial sources include petrochemical plants, coke oven plants, and paper mills.</p>
Sulfate	<ul style="list-style-type: none"> <li>Same as PM<sub>2.5</sub>, particularly worsening of asthma and other lung diseases</li> <li>Reduces visibility</li> </ul>	<p>In California, emissions of sulfur-containing compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. Sulfates are a sub-fraction of ambient particulate matter.</p>
Vinyl Chloride	<ul style="list-style-type: none"> <li>Central nervous system effects, such as dizziness, drowsiness &amp; headaches</li> <li>Long-term exposure: liver damage &amp; liver cancer</li> </ul>	<p>Most vinyl chloride is used in the process of making polyvinyl chloride (PVC) plastic and vinyl products, thus may be emitted from industrial processes. Vinyl chloride has been detected near landfills, sewage treatment plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents, although levels</p>

Pollutant	Effects on Health and the Environment	Sources
Visibility Reducing Particles	<ul style="list-style-type: none"> <li>Reduced airport safety, scenic enjoyment, road safety, and discourages tourism</li> </ul>	<p>above the standard have not been measured in California since the 1970's. Today, vinyl chloride exposure is primarily an occupational concern.</p> <p>Visibility reducing particles come from a variety of natural and manmade sources. Some haze-causing particles are directly emitted to the air such as windblown dust and soot. Others are formed in the air from the chemical transformation of gaseous pollutants (e.g., sulfates, nitrates, organic carbon particles).</p>
Toxic Air Contaminants (About 200 chemicals have been listed as toxic air contaminants)	<ul style="list-style-type: none"> <li>Cancer</li> <li>Reproductive and developmental effects</li> <li>Neurological effects</li> </ul>	<p>California controls air toxics from diesel activities, composite wood products, automobile coatings, residential waste burning, automotive maintenance and repair, dry cleaning, asbestos (naturally occurring), ocean-going ship onboard incineration, chrome plating &amp; anodizing, benzene – retail service stations, and other sources.</p>

Source: CARB 2019.

In 2017, there were 17 monitoring stations operating in Santa Barbara County. Fifteen stations measure ambient air and meteorological conditions, while two stations only measure meteorological conditions. Eight were operated by the SBCAPCD. The remaining stations were operated by the CARB, and private industry. The monitoring stations are divided into two categories: State and Local Air Monitoring Stations (SLAMS) and Industrial Monitoring Stations (IMS). The SLAMS stations are designed to monitor the air in the urban areas of the county while the IMS stations are required by permit conditions in several facility permits to monitor for impacts to the air quality from the operation of these facilities. Seven stations collected PM<sub>10</sub> data in 2017; four stations collected PM<sub>2.5</sub> data.

**Table 4: Monitoring Results for Carpinteria Monitoring Station**

Pollutant	Standard	2017	2016	2015
Ozone	State 1-hour (90 ppb)	72 ppb	72 ppb	84 ppb
	State 8-hour (70 ppb)	61 ppb	65 ppb	64 ppb
	Federal 8-hour (70 ppb)	60 ppb	64 ppb	63 ppb
Respirable Particulate Matter PM <sub>10</sub>	State 24-hour (50 µg/m <sup>3</sup> )	<b>144.8 µg/m<sup>3</sup></b>	<b>68.8 µg/m<sup>3</sup></b>	41.2 µg/m <sup>3</sup>
	State Annual Average (20 µg/m <sup>3</sup> )	<b>24.3 µg/m<sup>3</sup></b>	16.8	17.3
	Federal 24-hour (150 µg/m <sup>3</sup> )	<b>189.0 µg/m<sup>3</sup></b>	67.9 µg/m <sup>3</sup>	40.0 µg/m <sup>3</sup>
Fine Particulate Matter PM <sub>2.5</sub>	State Annual Average (12 µg/m <sup>3</sup> )	7.2 µg/m <sup>3</sup>	insufficient data	7.7 µg/m <sup>3</sup>
	Federal 24-hour Average (35 µg/m <sup>3</sup> )	<b>130.5 µg/m<sup>3</sup></b>	30.9 µg/m <sup>3</sup>	23.2 µg/m <sup>3</sup>
	Federal Annual Average (12 µg/m <sup>3</sup> ) /	9.3 µg/m <sup>3</sup>	7.0 µg/m <sup>3</sup>	8.2 µg/m <sup>3</sup>
NO <sub>x</sub>	State 1-hour (180 ppb) / Federal 1-hour (100 ppb)	17 ppb	13 ppb	25 ppb
SO <sub>x</sub>	State 1-hour (250 ppb) / Federal 1-hour (75 ppb)	2 ppb	3 ppb	2 ppb
CO	State 1-hour (20 ppm) / Federal 1-hour (35 ppm)	2.1 ppm	1.8 ppm	2.1 ppm
Notes: The majority of the exceedances for particulate matter in 2017 occurred during the Thomas Fire. The Carpinteria station does not collect particulate matter data; the next closest station was used (Lompoc-S H Street for Federal PM <sub>2.5</sub> in 2016; El Capitan Beach for State Annual Average PM <sub>10</sub> in 2017; Santa Maria for State Annual Average PM <sub>2.5</sub> ; Goleta-Fairview for all other particulate matter values). El Capitan for 1-hour SO <sub>x</sub> in 2015, 2016, 2017. Santa Barbara for 1-hour CO in 2015, 2016, 2017.				
Sources: CARB iAdam: Air Quality Statistics; SBCAPCD Annual Reports.				

### 3.2.1 Federal Designations

Santa Barbara County was designated unclassifiable/attainment for the 2008 federal 8-hour ozone standard on April 30, 2012. The U.S. EPA strengthened the 8-hour ozone standard from the 2008 level of 0.075 ppm to 0.070 ppm on December 28, 2015. The U.S. EPA has not made final designations of attainment status. CARB recommended that the County be designated attainment for the new federal ozone standard. The County is unclassifiable/ attainment for the federal PM<sub>2.5</sub> standard. Federal and State attainment statuses are summarized in Table 5.

### 3.2.2 State Designations

Santa Barbara County is currently designated nonattainment-transitional for the State 8-hour ozone standard. The California Office of Administrative Law finalized this change in designation on April 17, 2017. An air district is designated nonattainment-transitional if, during a single calendar year, the state standard is not exceeded more than three times

at any one monitoring location within the district. To be designated attainment, an air district must show that the ozone standard is not violated for three consecutive years. The County violated the state standard for PM<sub>10</sub> and is unclassified for the state PM<sub>2.5</sub> standard (based on monitored data from 2007 – 2009). Federal and State attainment status is summarized in Table 5.

**Table 5: Attainment Status of Criteria Pollutants in the South Central Coast Air Basin**

Pollutant	State	Federal
O <sub>3</sub> – 1-hour	Nonattainment- transitional	Revoked/ N/A
O <sub>3</sub> – 8-hour	Nonattainment- transitional	Unclassified/ Attainment
PM <sub>10</sub>	Nonattainment	Unclassified
PM <sub>2.5</sub>	Attainment	Unclassified/ Attainment
CO	Attainment	Unclassified/ Attainment
NO <sub>2</sub>	Attainment	Unclassified/ Attainment
SO <sub>2</sub>	Attainment	Unclassified/ Attainment
Lead	Attainment	Unclassified/ Attainment
All others (sulfates, hydrogen sulfide, visibility reducing particles)	Unclassified/ Attainment	Unclassified/ Attainment
Source: CARB 2018.		

### 3.2.3 Greenhouse Gases

Pollutants that are known to increase the greenhouse effect in the earth’s atmosphere, thereby adding to global climate change impacts, are referred to as greenhouse gases (GHG). A number of pollutants have been identified as GHGs. The State of California definition of GHGs in the Health & Safety Code, Section 38505(g) includes carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Some greenhouse gases, such as carbon dioxide, occur naturally and are emitted to the atmosphere through natural processes. Other GHGs (e.g., fluorinated gases) are created and emitted solely through human activities. The most common GHGs that result from human activity are carbon dioxide, followed by methane and nitrous oxide.

- Carbon Dioxide (CO<sub>2</sub>): Carbon dioxide enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is also removed from the atmosphere (or “sequestered”) when it is absorbed by plants as part of the biological carbon cycle.
- Methane (CH<sub>4</sub>): Methane is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills.
- Nitrous Oxides (NO<sub>2</sub>): Nitrous oxide is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste.
- Fluorinated Gases: Hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride are synthetic, powerful greenhouse gases that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances (i.e., CFCs, HCFCs, and halons). Fluorinated gases are typically emitted in smaller quantities, but because they are potent greenhouse gases, they are sometimes referred to as high global warming potential gases (high GWP gases).
  - Hydrofluorocarbons are manmade chemicals that have historically replaced chlorofluorocarbons used in refrigeration and semi-conductor manufacturing.

- Perfluorocarbons are manmade chemicals that are by-products of aluminum smelting and uranium enrichment.
- Sulfur hexafluoride is a manmade chemical that is largely used in heavy industry to insulate high voltage equipment and to assist in the manufacturing of cable cooling systems.

The Global Warming Potential (GWP) was developed to allow comparisons of the global warming impacts of different gases. Specifically, it is a measure of how much energy the emissions of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of carbon dioxide (CO<sub>2</sub>). The larger the GWP, the more that a given gas warms the Earth compared to CO<sub>2</sub> over that time period. The time period usually used for GWPs is 100 years. GWPs provide a common unit of measure, which allows analysts to add up emissions estimates of different gases (e.g., to compile a national GHG inventory), and allows policymakers to compare emissions reduction opportunities across sectors and gases.

- CO<sub>2</sub>, by definition, has a GWP of 1 regardless of the time period used, because it is the gas being used as the reference. CO<sub>2</sub> remains in the climate system for a very long time: CO<sub>2</sub> emissions cause increases in atmospheric concentrations of CO<sub>2</sub> that will last thousands of years.
- Methane (CH<sub>4</sub>) is estimated to have a GWP of 28–36 over 100 years. CH<sub>4</sub> emitted today lasts about a decade on average, which is much less time than CO<sub>2</sub>. But CH<sub>4</sub> also absorbs much more energy than CO<sub>2</sub>. The net effect of the shorter lifetime and higher energy absorption is reflected in the GWP. The CH<sub>4</sub> GWP also accounts for some indirect effects, such as the fact that CH<sub>4</sub> is a precursor to ozone, and ozone is itself a GHG.
- Nitrous Oxide (N<sub>2</sub>O) has a GWP 265–298 times that of CO<sub>2</sub> for a 100-year timescale. N<sub>2</sub>O emitted today remains in the atmosphere for more than 100 years, on average.
- Chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), hydrochlorofluorocarbons (HCFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>) are sometimes called high-GWP gases because, for a given amount of mass, they trap substantially more heat than CO<sub>2</sub>. (The GWPs for these gases can be in the thousands or tens of thousands.)

### 3.3 Regulatory Setting

This section discusses applicable federal, state, regional, and local rules and regulations, including emission standards and ambient air quality standards.

#### 3.3.1 Federal Regulations – Air Quality

The Federal Clean Air Act of 1970 requires U.S. EPA to set National Ambient Air Quality Standards (NAAQS) for six common air pollutants (also known as "criteria air pollutants"). NAAQS are currently set for carbon monoxide, lead, ground-level ozone, nitrogen dioxide, particulate matter, and sulfur dioxide. The Clean Air Act identifies two types of national ambient air quality standards. Primary standards provide public health protection, including protecting the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. The current standards are listed below. Units of measure for the standards are parts per million (ppm) by volume, parts per billion (ppb) by volume, and micrograms per cubic meter of air (µg/m<sup>3</sup>). Table 6 lists the Federal standards for criteria pollutants.

**Table 6: National Ambient Air Quality Standards**

Pollutant	Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide (CO)	Primary	8 hours	9 ppm	Not to be exceeded more than once per year
		1 hour	35 ppm	
Lead (Pb)	Primary and Secondary	Rolling 3-month average	0.15 $\mu\text{g}/\text{m}^3$	Not to be exceeded
Nitrogen Dioxide (NO <sub>2</sub> )	Primary	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	Primary and Secondary	1 year	53 ppb	Annual Mean
Ozone (O <sub>3</sub> )	Primary and Secondary	8 hours	70 ppb	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
Particulate Matter (PM <sub>2.5</sub> )	Primary	1 year	12.0 $\mu\text{g}/\text{m}^3$	Annual mean, averaged over 3 years
	Primary and Secondary	24 hours	35 $\mu\text{g}/\text{m}^3$	98th percentile, averaged over 3 years
Particulate Matter (PM <sub>10</sub> )	Primary and Secondary	24 hours	150 $\mu\text{g}/\text{m}^3$	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide (SO <sub>2</sub> )	Primary	1 year	75 ppb	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
Source: U.S. EPA 2019.				

### 3.3.2 State Regulations – Air Quality

#### California Air Resources Board (CARB)

In addition to the U.S. EPA standards, CARB has set air quality standards for the same criteria pollutants and four others: sulfates, hydrogen sulfide (H<sub>2</sub>S), vinyl chloride (chloroethene, C<sub>2</sub>H<sub>3</sub>Cl), and visibility reducing particles. Table 7 lists California standards.

Comparison of the criteria pollutant concentrations in ambient air to the CAAQS determines State attainment status for criteria pollutants in a given region. CARB has jurisdiction over all air pollutant sources in the State; it has delegated to local air districts the responsibility for stationary sources and has retained authority over emissions from mobile sources. CARB, in partnership with the local air quality management districts within California, has developed a pollutant monitoring network to aid attainment of CAAQS. The network consists of numerous monitoring stations located throughout California that monitor and report various pollutants' concentrations in ambient air.

**Table 7: California Ambient Air Quality Standards**

Pollutant	Averaging Time	Concentration	Standard
Carbon Monoxide (CO)	1 hour	20 ppm (23 mg/m <sup>3</sup> )	Not to be exceeded
	8 hours	9.0 ppm (10 mg/m <sup>3</sup> )	
Lead (Pb) <sup>(1)</sup>	30 day average	1.5 µg/m <sup>3</sup>	Not to be equaled or exceeded
Nitrogen Dioxide (NO <sub>2</sub> )	1 hour	0.18 ppm (339 µg/m <sup>3</sup> )	Not to be exceeded
	Annual Average	0.030 ppm (57 µg/m <sup>3</sup> )	
Ozone (O <sub>3</sub> )	1 hour	90 ppb (180 µg/m <sup>3</sup> )	Not to be exceeded
	8 hours	70 ppb (137 µg/m <sup>3</sup> )	
Fine Particulate Matter (PM <sub>2.5</sub> )	Annual Average	12 µg/m <sup>3</sup>	Not to be exceeded
Respirable Particulate Matter (PM <sub>10</sub> )	24 hours	50 µg/m <sup>3</sup>	Not to be exceeded
	Annual Average	20 µg/m <sup>3</sup>	
Sulfur Dioxide (SO <sub>2</sub> )	1 hour	0.25 ppm (655 µg/m <sup>3</sup> )	Not to be exceeded
	24 hours	0.04 ppm (105 µg/m <sup>3</sup> )	
Visibility Reducing Particles	8 hours, statewide	Extinction of 0.23 per kilometer	Not to be exceeded
Sulfates	24 hours	25 µg/m <sup>3</sup>	Not to be equaled or exceeded
Hydrogen Sulfide	1 hour	0.03 ppm (42 µg/m <sup>3</sup> )	Not to be equaled or exceeded
Vinyl Chloride <sup>(1)</sup>	24 hours	0.01 ppm (26 µg/m <sup>3</sup> )	Not to be equaled or exceeded
Note: (1) CARB has identified lead and vinyl chloride as “toxic air contaminants” with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants. Source: CARB 2016.			

**California Clean Air Act**

The California Clean Air Act (CCAA; California Health and Safety Code, Division 26) went into effect on January 1, 1989 and was amended in 1992. The CCAA mandates achieving the health-based CAAQS at the earliest practical date.

**Air Toxics “Hot Spots” Information and Assessment Act (Assembly Bill 2588)**

The Air Toxics “Hot Spots” Information and Assessment Act of 1987 (Assembly Bill 2588; California Health & Safety Code, Division 26, Part 6) requires an inventory of air toxics emissions from individual facilities, an assessment of health risk, and notification of potential significant health risk.

**The Calderon Bill (Senate Bill 1889)**

The Calderon Bill (Senate Bill 1889; California Health & Safety Code Sections 25531–25543) These sections set forth changes in the following four areas: (1) provide guidelines to identify a more realistic health risk; (2) require high-risk facilities to submit an air toxic emission reduction plan; (3) hold air pollution control districts accountable for ensuring that the plans will achieve their objectives; and (4) require high-risk facilities to achieve their planned emission reductions.



## California Diesel Fuel Regulations

With the California Diesel Fuel Regulations, CARB set sulfur limitations for diesel fuel sold in California for use in on-road and off-road motor vehicles. Under this rule, diesel fuel used in motor vehicles has been limited to 500-ppm sulfur since 1993. This sulfur limit was later reduced to 15-ppm, effective September 1, 2006.

### 3.3.3 Local Regulations – Air Quality

Local air pollution control districts in California have jurisdiction over stationary sources in their respective areas and must adopt plans and regulations necessary to demonstrate attainment of Federal and State air quality standards. As directed by the Federal and State Clean Air Acts, local air districts are required to prepare plans with strategies for attaining and maintaining State and Federal ozone standards. In the Study Area, air quality rules and regulations are promulgated by the SBCAPCD. In order to ultimately achieve the air quality standards, the rules and regulations limit emissions and permissible impacts from the Proposed Project. Some rules also specify emission controls and control technologies for each type of emitting source. The regulations also include requirements for obtaining an Authority to Construct (ATC) permit and a Permit to Operate (PTO).

#### Santa Barbara County Air Pollution Control District

The Santa Barbara County Air Pollution Control District (SBCAPCD) has jurisdiction over air quality attainment in the Santa Barbara County portion of the South Central Coast Air Basin. The SBCAPCD also has jurisdiction over Outer Continental Shelf sources located within 25 miles of the seaward boundaries of the State of California (Rule 903). Increases in emissions of any non-attainment pollutant or its pre-cursor from a new or modified project that exceed the thresholds which have been identified in the SBCAPCD Regulation VIII, New Source Review, are required to be mitigated.

As a wastewater treatment plant, the CSD WWTP has an existing SBCAPCD permit. applicable. Other applicable rules are:

- Rule 201: Permits Required – Specifies the permits required for construction or operation of equipment that emits air contaminants. Under Rule 201, the Proposed Project would be required to obtain an Authority to Construct.
- Rule 303: Nuisance – This rule prohibits air emissions that cause a nuisance.
- Rule 310: Odorous Organic Sulfides – This rule prohibits air emissions of hydrogen sulfide or organic sulfides over a certain concentration. Operation of the Proposed Project would be subject to the limitations in Rule 310 (0.06 ppm over a three minute averaging time; or 0.03 ppm over a one hour averaging time).
- Rule 323.1 Architectural Coating - sets limits on the VOC content in architectural coatings. Any architectural coatings applied by the Proposed Project would be subject to the VOC content limits in Rule 323.1.
- Regulation XIII: Part 70 Operating Permit Program
  - Rules 1301 through 1305 define criteria for Part 70 source applicability, and permit content and requirements for part 70 sources. The Proposed Project is considered a “Part 70 Source” because it is a stationary source with the potential to emit a regulated air pollutant or a hazardous air pollutant in quantities equal to or exceeding the thresholds defined in Rule 1301.
  - Rule 370: Potential to Emit – Limitations for Part 70 Sources – Specifies actual emission level criteria below which Part 70 sources are exempt from Part 70 permit requirements.
- Rule 802, New Source Review – For new or modified stationary sources, such as the Proposed Project, this rule specifies emission limits that would trigger emission offsets (150 lbs./day or 25 tons/year for CO-if

designated nonattainment, 25 tons/year for any non-attainment pollutants and precursors [except CO and PM<sub>2.5</sub>], and 240 lbs./day for attainment pollutants and precursors [except CO and PM<sub>2.5</sub>] or trigger Best Available Control Technology (BACT) requirements (25 lbs./day for any non-attainment pollutant or its precursors [except CO], and 150 lbs./day for CO).

## **SBCAPCD Air Quality Attainment Plans**

The 2016 Ozone Plan is the eighth triennial update to the initial state *Air Quality Attainment Plan* adopted by the SBCAPCD Board of Directors in 1991 (other updates were done in 1994, 1998, 2001, 2004, 2007, 2010, and 2013). It is the plan to attain the California 8-hour ozone standard. U.S. EPA and CARB develop and implement air quality standards using ambient air monitoring data collected at the 17 stations around the county, determine the attainment classification for Santa Barbara County, or whether the County's air is in attainment of certain air quality standards. The County's attainment classification drives the clean air planning process, identifying the required emissions reductions that must be obtained and determining the deadlines. As of the drafting of the most recent Ozone Plan, the County was designated unclassifiable/ attainment for the federal 8-hour ozone standard of 0.075 ppm, and therefore was not currently required to prepare any plans for the federal ozone standard. The 2016 Ozone Plan addressed the state ozone standard only. The 2016 Ozone Plan covers trends in air quality, population, and vehicle activity; quantifies a baseline emission inventory and forecasts ozone precursors in the years 2025 and 2035; and identifies measures to control emissions from stationary sources and transportation sources.

### **Air Quality Supplement of the Comprehensive Plan (County)**

The Air Quality Supplement to the Santa Barbara County *Comprehensive Plan* amends the Land Use Element to ensure consistency between the County's land use plan and the County's air quality plan.

#### **3.3.4 State Regulations – GHG**

Executive Order (EO) S-3-05. The Governor issued Executive Order (EO) S-3-05 in 2005 which set GHG emission reduction targets: reduce GHG emissions to 2000 levels by 2010; reduce GHG emissions to 1990 levels by 2020; and reduce GHG emissions to 80% below 1990 levels by 2050.

Assembly Bill (AB) 32. In 2006, California passed the California Global Warming Solutions Act of 2006. It required CARB to design and implement emission limits, regulations, and other measures to reduce statewide GHG emissions to 1990 levels by 2020 (representing a 25% reduction in emissions). AB 32 establishes an enforceable statewide cap on global warming emissions and reduction measures phased in by 2012, and through discrete early action measures that could be made effective by 2010. AB 32 established a timeframe for CARB to adopt emissions limits, rules, and regulations, but did not provide thresholds or methodologies for analyzing a project's impacts on global climate change.

CARB Scoping Plan. CARB adopted the Scoping Plan in December 2008 and a Scoping Plan Update in December 2017. The State intends to achieve GHG reductions in California required by AB 32 and Senate Bill 32 (SB 32) (described below). The Scoping Plan contains the strategies California will implement to achieve reduction of 40% below 1990 levels by 2030 and 80% below 1990 levels by 2050. In the Scoping Plan, "CARB recommends that lead agencies prioritize on-site design features that reduce emissions, especially from vehicle miles travelled (VMT), and direct investments in GHG reductions within the project's region that contribute potential air quality, health, and economic co-benefits locally."

EO B-30-15 / Senate Bill 32. In April 2015, the Governor issued EO B-30-15 which sets the State's GHG emissions target for 2030 at 40% below 1990 levels. Similarly, SB 32 (2016) requires that CARB, in its next update to the AB 32 Scoping Plan, "ensure that statewide GHG emissions are reduced to at least 40% below the statewide GHG emissions limit no later than December 31, 2030."

### 3.3.5 Local Regulations – GHG

The County of Santa Barbara has supported and prioritized efforts to reduce greenhouse gas (GHG) emissions and prepare for climate change since it adopted the "Santa Barbara County Climate Change Guiding Principles" in 2009. The *Energy and Climate Action Plan* (ECAP) is a significant part of the County's demonstrated commitment to reducing GHG emissions while protecting the aesthetic qualities and unique resources of Santa Barbara County. The ECAP satisfies the requirements of Section 15183.5 of the CEQA Guidelines for a Qualified GHG Reduction Strategy, which provides a process to streamline the review of GHG emissions of specific projects.

## 4. METHODOLOGY

Air quality criteria pollutants and greenhouse gas (GHG) emissions from construction and operation of the Proposed Project were estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2, consistent with guidance from SBCAPCD (SBCAPCD 2017). Model inputs were developed based on information in the Project Description in the Initial Study (Woodard & Curran 2018), draft Project construction schedules developed by Woodard & Curran in March 2019, and default values from the CalEEMod computer program. It was assumed that construction of all Project components (i.e., the AWP, pump station, wells, and pipelines) would all commence in July 2021 and proceed simultaneously for approximately 15 months. In reality, construction of the Project components may be phased and this assumption, therefore, represents a conservative "worst case" scenario. It was assumed that the Proposed Project would implement the measures noted in Chapter 1 that are required by state law, as well as the dust minimization measures described in Chapter 1 that are required by SBCAPCD for all discretionary construction activities, regardless of the project size or duration.

## 5. SIGNIFICANCE THRESHOLDS

The Study Area is within the boundaries of the City of Carpinteria and the boundaries of unincorporated Santa Barbara County. The City recognizes air quality as a regional issue and therefore relies on the standards developed by the SBCAPCD. The County has adopted significance thresholds for air quality and greenhouse gas impacts for land use projects within its jurisdiction, which are discussed in more detail below. The SBCAPCD's thresholds of significance apply to all sources of air pollutants, including equipment and businesses not regulated by the SBCAPCD and motor vehicles. They are recommended to be used for CEQA review of projects in the county for which the SBCAPCD is a responsible agency or a concerned agency. SBCAPCD's thresholds of significance are intended to address cumulative, basin-wide air pollutant impacts. Therefore, if a project's emissions do not exceed the SBCAPCD significance thresholds, it can be assumed that it will not result in a cumulatively considerable net increase of a criteria pollutant for which the South Central Coast Air Basin is non-attainment.

The mission of the SBCAPCD is to protect the people and the environment of Santa Barbara County from the effects of air pollution. The SBCAPCD thresholds of significance are designed to evaluate impacts at a project level as they relate to the California and National Ambient Air Quality Standards. The SBCAPCD thresholds of significance ensure projects do not conflict with the latest adopted clean air plans, which are developed to ensure the County is on track to achieve compliance with Air Quality Standards. The Air Quality Standards provide public health protection, including protecting the health of "sensitive" populations such as asthmatics, children, and the elderly. Therefore, if a project is consistent with the latest adopted clean air plan and does not exceed the SBCAPCD significance thresholds, it can be assumed that it will not have a substantial adverse impact on public health.

### 5.1 Short-Term Impacts

The County and the SBCAPCD have not set quantitative thresholds of significance for short-term emissions. However, in the interest of public disclosure, the SBCAPCD recommends that construction-related NO<sub>x</sub>, ROC, PM<sub>10</sub> and PM<sub>2.5</sub>

emissions from diesel and gasoline powered equipment, paving, and other activities, be quantified. Although there is not an established quantitative threshold for short-term, construction related PM<sub>10</sub> (which is 50% of total dust), SBCAPCD and the County advise that fugitive dust impacts be discussed in all environmental documents for projects involving ground disturbance. The SBCAPCD requires standard dust control measures (see *Section 1.1.7 Construction Best Management Practices*, above).

Although the SBCAPCD does not have quantitative thresholds of significance in place for short-term or construction emissions for ozone precursors, it uses 25 tons per year for ROC and NO<sub>x</sub> as a guideline for determining the significance of construction impacts. The County has not established short-term thresholds for NO<sub>x</sub> and ROC emissions from construction equipment because, in general, NO<sub>x</sub> emissions from construction are considered insignificant.<sup>1</sup>

Under SBCAPCD Rule 202 D.16, if the combined emissions from all construction equipment used to construct a stationary source which requires an Authority to Construct permit (which the Proposed Project would require) have the potential to exceed 25 tons of any pollutant, except carbon monoxide, in a 12-month period, the owner of the stationary source shall provide offsets under the provisions of Rule 804 and shall demonstrate that no ambient air quality standard will be violated. Although the Proposed Project would not introduce new emissions sources and therefore not require an ATC, the 25 tons per year standard provides a guideline for what would constitute a significant level of air pollutant emissions within the South Central Coast Air Basin.

## 5.2 Long-Term Impacts

Long-term emissions primarily stem from motor vehicles and from stationary sources (e.g., diesel generators, boilers and large water heaters, water treatment facilities).

According to the SBCAPCD, a project would have a significant impact on air quality, either individually or cumulatively, if operation would:

- Emit (from all project sources, mobile and stationary), less than the daily trigger for offsets or Air Quality Impact Analysis set in the SBCAPCD New Source Review Rule for any pollutant (240 lbs./day for ROC or NO<sub>x</sub>; and 80 lbs./day for PM<sub>10</sub>. There is no daily operational threshold of CO; it is an attainment pollutant); or
- Emit more than 25 lbs./day of ROC or NO<sub>x</sub> from motor vehicle trips only; or
- Cause or contribute to a violation of any CAAQS or NAAQS; or
- Exceed the SBCAPCD health risk public notification threshold of 10 excess cancer cases in a million for cancer or a Hazard Index of more than one (1.0) for non-cancer risk; or
- Be inconsistent with the latest adopted federal and state air quality plans for Santa Barbara County.

Due to the relatively low background ambient CO levels in Santa Barbara County, localized CO impacts associated with congested intersections are not expected to exceed the CO health-related air quality standards. Therefore, CO "Hotspot" analyses are not required anymore (SBCAPCD 2017).

According to the SBCAPCD, a proposed stationary source project would have a significant GHG impact, if operation of the project would:

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<sup>1</sup> Emissions of NO<sub>x</sub> from construction equipment in the County are estimated at 1,000 tons per year of NO<sub>x</sub>. When compared to the total NO<sub>x</sub> emission inventory for the County of approximately 17,000 tons per year, construction emissions comprise approximately six % of the 1990 county-wide emission inventory for NO<sub>x</sub>.

- Emit more than 10,000 metric tons per year CO<sub>2</sub>e; or
- Be inconsistent with an approved GHG emissions reduction plan or GHG mitigation program

### 5.3 General Conformity Regulations

Section 176(c) of the Federal Clean Air Act prohibits Federal entities from taking actions in nonattainment or maintenance areas which do not conform to the State implementation Plan (SIP) for the attainment and maintenance of the national ambient air quality standards (NAAQS). Therefore, the purpose of conformity is to (1) ensure Federal activities do not interfere with the budgets in the SIPs; (2) ensure actions do not cause or contribute to new violations, and (3) ensure attainment and maintenance of the NAAQS. Currently, SBCAPCD is in attainment of national ambient air quality standards, therefore general conformity analysis is not required for Federal or Federally-funded projects (SBCAPCD 2017).

## 6. PROJECT IMPACTS

### 6.1 Short-term Criteria Pollutant Emissions

Air emissions of criteria pollutants during construction would result from the use of construction equipment with internal combustion engines, and off-site vehicles to transport workers, deliver materials to the site, and haul export material from the site. Proposed Project construction would also result in fugitive dust emissions, which would be lessened through the implementation of the construction best management practices required by SBCAPCD, described in Chapter 1. Proposed Project construction emissions are summarized in Table 8 and Table 9. Consistent with SBCAPCD guidelines, daily maximum construction-related fugitive dust, NO<sub>x</sub>, ROC, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions from grading, paving, and other activities have been quantified; however, these emissions have not been compared to quantitative thresholds of significance because such thresholds are not currently in place for short-term emissions.

**Table 8: Proposed Project Maximum Daily Construction Emissions (lbs./day)**

Emission Sources	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
Construction equipment	57.6	29.5	43.9	0.1	2.6	2.8
Offsite emissions	4.3	0.4	3.1	<0.1	0.2	0.7
Fugitive dust (with required construction best management practices)	--	--	--	--	3.0	5.7
<b>Total Maximum Daily Emissions</b>	<b>61.9</b>	<b>29.6</b>	<b>47.1</b>	<b>0.1</b>	<b>5.4</b>	<b>8.6</b>

Note: Emissions represent the maximum of winter or summer. Numbers may not sum due to rounding. See CalEEMod output sheets in Attachment A. Values are taken from the "mitigated" CalEEMod output tables to represent emissions with standard dust control measures.

As stated in Chapter 4, the SBCAPCD uses 25 tons per year for ROC and NO<sub>x</sub> as a guideline for determining the significance of construction impacts and, under SBCAPCD Rule 202 D.16, if the combined emissions from all construction equipment used to construct a stationary source which requires an Authority to Construct permit have the potential to exceed 25 tons of any pollutant, except carbon monoxide, in a 12-month period, the owner of the stationary source shall provide offsets under the provisions of Rule 804 and shall demonstrate that no ambient air quality standard will be violated.

**Table 9: Proposed Project Annual Construction Emissions (tons/year)**

Year	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
2021	3.2	0.4	2.4	<0.1	0.3	0.4
2022	3.2	1.0	2.9	<0.1	0.3	0.4
<i>Threshold</i>	25	25	--	25	25	25
Significant?	No	No	No	No	No	No

The quantities presented in Table 8 and Table 9, above, represent the estimated emissions associated with construction of the AWPf and pump station, wells, and pipelines. Emissions would also be associated with the ocean outfall improvements; however, such emissions were assumed to be minimal and were not included in the quantitative analysis. The ocean outfall improvements would involve a boat and divers fitting the outfall with new valves on a single day.

As analyzed above, the Proposed Project would not exceed the applicable emissions standards during construction. Construction would be short-term and temporary. Therefore, construction of the Proposed Project would not result in a cumulatively considerable net increase of a criteria pollutant for which the South Central Coast Air Basin is non-attainment.

## 6.2 Long-term Criteria Pollutant Emissions

Long-term emissions of criteria pollutants would result from motor vehicle trips associated with maintenance and operation of the proposed facilities, ongoing energy consumption at the AWPf, and “area” sources such as landscaping and architectural coating. Calculated operational emissions are compared to SBCAPCD thresholds. The maximum daily long-term emissions of criteria pollutants are summarized in Table 10.

**Table 10: Proposed Project Operational Emissions (lbs./day)**

Emission Sources	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>
Mobile source emissions	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
Energy and area source emissions	<0.1	1.4	<0.1	0	<0.1	<0.1
<b>Total Emissions</b>	<b>&lt;0.1</b>	<b>1.4</b>	<b>0.1</b>	<b>&lt;0.1</b>	<b>&lt;0.1</b>	<b>&lt;0.1</b>
<i>Threshold (all sources)</i>	240	240	--	--	--	80
Exceed threshold (all sources)?	No	No	No	No	No	No
<i>Threshold (mobile sources only)</i>	25	25	--	--	--	--
Exceed threshold (mobile sources)?	No	No	No	No	No	No

As shown in Table 10, operation of the AWPf, pump, wells, and pipelines would not exceed SBCAPCD emissions standards. Because emissions are below the significance levels, the Proposed Project would not result in a cumulatively considerable net increase of a criteria pollutant for which the South Central Coast Air Basin is non-attainment.

## 6.3 Other Emissions

SBCAPCD Rule 303, Nuisance, prohibits discharge from any source whatsoever air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety or any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property. This rule covers generation of odors, and typical sources of odor complaints include facilities such as sewage treatment plants, landfills, recycling facilities, petroleum refineries, and livestock operations. Under the right meteorological conditions, some odors may still be offensive several miles from the source (CARB 2005).

Implementation of the Proposed Project would have the potential to generate objectionable odors through construction activities and during operation of certain components. Construction activities are not typical sources of nuisance odors, although construction could result in minor amounts of odors associated with diesel exhaust or evaporation of VOCs within architectural coatings. These smells are largely due to the presence of sulfur and creation of hydrocarbons during combustion. As shown in Table 8 and Table 9, construction would not result in significant emissions of sulfur oxides. Additionally, construction would be temporary, and equipment would not be located in a single location throughout the construction period. Odorous hydrocarbons tend to dissipate quickly and would only affect receptors in the immediate vicinity, rather than a substantial number of people at any given time. Therefore, construction activities would not result in nuisance odors.

Operation of the Proposed Project, including the AWPf, pump, wells, and pipelines, is not expected to result in odor impacts. The CSD WWTP already treats and stores wastewater and recycled water, which requires operation of odor control measures to prevent objectionable odors. Addition of the AWPf facility with an improved level of treatment would not create odors because source water would be secondary effluent suitable for reuse and product water would be pure water suitable for groundwater replenishment, neither of which has associated odor. The AWPf would be designed and constructed in compliance with applicable regulations and standards relative to product water for groundwater replenishment. Potential impacts related to objectionable odors would be less than significant and no mitigation would be necessary.

#### **6.4 Exposure of Sensitive Receptors to Substantial Pollutant Concentrations**

Any project that has the potential to expose sensitive receptors to substantial pollutant concentrations, and/or exceed the SBCAPCD health risk public notification threshold of 10 excess cancer cases in a million for cancer or a Hazard Index of more than one (1.0) for non-cancer risk would have a potentially significant impact.

Sensitive receptors are located within the vicinity of the Proposed Project. As described in Section 6.1, the Proposed Project would not result in considerable pollutant levels during construction. Construction would be short-term and emissions of PM<sub>10</sub> and PM<sub>2.5</sub>, including particulate matter from diesel exhaust, would be below thresholds, which are designed to protect public health. The Proposed Project would also incorporate the construction BMPs required by SBCAPCD described in Section 2.1.7, which would further reduce dust emissions. As explained above in Section 5, the California and National Air Quality Standards provide public health protection, including protecting the health of "sensitive" populations such as asthmatics, children, and the elderly. If a project is consistent with the latest adopted clean air plan and does not exceed the SBCAPCD significance thresholds, it can be assumed that it will not have a substantial adverse impact on public health. Operation of the Proposed Project would not result in long-term pollutant concentrations that exceed emissions standards. Therefore, neither construction nor operation of the Proposed Project are anticipated to expose sensitive receptors to substantial pollutant concentrations.

SBCAPCD prioritizes and categorizes facilities as required by the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588). Through the prioritization procedures, SBCAPCD determines which facilities may be causing significant offsite carcinogenic or noncarcinogenic health risks. This is done by developing "toxic scores" for each facility. These scores are used by the District to categorize each facility as high, intermediate, or low priority. High and intermediate priority facilities (and any other facilities designated by SBCAPCD) are required to submit a risk assessment to SBCAPCD to quantify the off-site carcinogenic and noncarcinogenic health risk due to their facility emissions. The risk assessments are used by SBCAPCD to determine which facilities have air toxics emissions that are causing significant health risks. These significant risk sources are required in order to provide notices to all exposed persons regarding the results of the risk assessment. In addition, SBCAPCD has prepared an annual report, commencing in 1991, which ranks and identifies facilities according to the degree of health risk posed by each facility (SBCAPCD 2019c). Since 1991, the number of significant risk facilities in Santa Barbara County has been reduced by 100%. In 1991 there were 51 significant risk facilities and now there are none. In addition to evaluating existing facilities in AB 2588, SBCAPCD evaluates health risk associated with new or modified facilities during the permit process when

issuing new Authority to Construct permits. The goal for SBCAPCD’s new source review health risk program is to prevent a new or modified facility from creating a significant risk to the community (using the significance criteria established by the AB 2588 program). With this program, no additional significant risk facilities have been created since 1991.

The existing WWTP facilities do not generate substantial sources of toxic air contaminant emissions that could pose or contribute to a health risk. The Proposed Project would construct facilities that would be similar to existing facilities at the site. Furthermore, the Proposed Project would comply with SBCAPCD new source review program in that emissions from the Proposed Project would be lower than the limits that would trigger emission offsets or trigger BACT requirements (see Section 6.2). The Proposed Project would not introduce new sources of air pollutant emissions which would trigger the need to obtain an ATC permit; therefore, the Proposed Project would comply with SBCAPCD health risk review. Therefore, the Proposed Project is not anticipated to result in a new, significant source of toxic air contaminants.

As noted in Section 5, due to the relatively low background ambient CO levels in Santa Barbara County, localized CO impacts associated with congested intersections are not expected to exceed the CO health-related air quality standards. Therefore, CO “Hotspot” analyses are no longer required, and it is assumed the Proposed Project would have a less than significant impact related to CO “Hotspots.”

## 6.5 Greenhouse Gas Emissions

The Proposed Project would emit GHGs during construction, which is assumed to start in July 2021 and last approximately 18 months. Construction-related GHG emissions are associated with operation of off-road construction equipment, worker and vendor vehicle trips, and hauling trips.

The Proposed Project is expected to be operational in 2022. Long-term emissions of GHGs would result from motor vehicle trips associated with maintenance and operation of the proposed facilities, ongoing energy consumption, and “area” sources such as landscaping and architectural coating. In addition, long-term emissions of GHGs would result from the facilities’ water consumption. Operational GHG emissions are associated with the proposed changes at the WWTP site; in other words, the GHG emissions analyzed herein do not include emissions from existing energy consumption or mobile sources associated with current site operations. Annual GHG emissions are summarized in Table 11.

**Table 11: Proposed Project GHG Emissions (MTCO<sub>2</sub>e/year)**

Source	MTCO <sub>2</sub> e
Energy (electricity)	675
Mobile	4.1
Water, Area sources	0.1
Amortized Construction Emissions	34
<b>Total</b>	<b>679</b>
<i>Threshold</i>	<i>10,000</i>
Significant?	No

The results of the inventory for construction and operational emissions, as shown in the CalEEMod output tables in Attachment A, are presented in Table 11. Amortized emissions from construction over a hypothetical 30-year lifetime of the Proposed Project have been added to the overall annual operational emissions. As shown in Table 11, GHG emissions from the Proposed Project would be below SBCAPCD thresholds of significance. The Proposed Project would not generate GHG emissions, directly or indirectly, that may have a significant impact on the environment and no mitigation would be necessary.



## 6.6 Consistency with Air Quality Plans

### 6.6.1 SBCAPCD 2016 Ozone Plan

The 2016 Ozone Plan is the current SBCAPCD Board-adopted Ozone Plan for the County and addresses local plans to attain the California 8-hour ozone standard. The baseline emissions inventory incorporates information from every type of emissions source in the base year, 2012, including emissions from stationary sources (e.g., larger facilities that are subject to SBCAPCD permitting requirements) such as the CSD WWTP. For example, the 2012 base year stationary source emissions are calculated with annual data that facilities, including the CSD WWTP, would have reported to the SBCAPCD. The largest sources of ozone precursor emissions from stationary sources in the County stem from coating and solvent operations, oil and gas production, and food and agricultural processing; sewage treatment accounts for a very small amount of County-wide ROC and NO<sub>x</sub>.

The 2012 inventory is then projected into the future, which estimates the future inventories in Santa Barbara County based on County growth data and currently adopted local, state, and federal rules that are planned for implementation, in the years 2025 and 2035. In the 2016 Ozone Plan, the growth factors are based on information collected from reputable sources such as the California Energy Commission and the Department of Finance, then projected using various economic models called REMI (Regional Economic Models, Inc.). The Proposed Project is consistent with the information that forms the basis of the 2016 Ozone Plan emission inventories, both baseline and future. Therefore, any emissions of ozone precursors would be consistent with the 2016 Ozone Plan.

The 2016 Ozone Plan identifies control measures to reduce ROC and NO<sub>x</sub> emissions from stationary sources of air pollution. The measures are classified as adopted (measures SBCAPCD has formally adopted), proposed (measures SBCAPCD plans to adopt), and further study (measures SBCAPCD plans to investigate further before adoption). Measures that could apply to the Proposed Project include Rule 323.1 Architectural Coating, which sets limits on the VOC content in architectural coatings. The Proposed Project would comply with all applicable SBCAPCD rules and would therefore be consistent with the 2016 Ozone Plan.

### 6.6.2 CARB 2017 Climate Change Scoping Plan

The 2017 Climate Change Scoping Plan focuses primarily on reducing GHG emissions that result from mobile sources and land use development. The Proposed Project would not involve a considerable increase in new vehicle trips or land use changes that would result in an increase in vehicle trips, such as urban sprawl. The 2017 Climate Change Scoping Plan also recognizes that about 2% of the total energy used in the state is related to water conveyance; it calls for, “increased water conservation and efficiency, improved coordination and management of various water supplies, greater understanding of the water-energy nexus, deployment of new technologies in drinking water treatment, groundwater remediation and recharge, and potentially brackish and seawater desalination.” By augmenting local water storage, the Proposed Project would offset energy demands associated with imported water supplies. The Proposed Project would not, therefore, conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions. Impacts would be less than significant, and no mitigation would be required.

### 6.6.3 County of Santa Barbara ECAP

One of the proposed injection well sites is within the boundaries of the County of Santa Barbara. The *Energy and Climate Action Plan* (ECAP) is a significant part of the County's demonstrated commitment to reducing GHG emissions while protecting the aesthetic qualities and unique resources of Santa Barbara County. The ECAP includes 53 actions, referred to as emissions reduction measures, which are aggregated into 11 core strategies. The majority of the actions support reducing single-passenger vehicle trips and increasing energy efficiency of the built environment. The injection well would not conflict with these goals. As shown in Table 11, emissions from mobile sources and energy consumption would be lower than thresholds. Impacts would be less than significant, and no mitigation would be required.

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## ATTACHMENT A: CALEEMOD OUTPUT SHEETS



Carpinteria Advanced Purification Project - Santa Barbara County APCD Air District, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	7-20-2021	10-19-2021	1.9155	1.9155
2	10-20-2021	1-19-2022	1.8408	1.8408
3	1-20-2022	4-19-2022	1.6080	1.6080
4	4-20-2022	7-19-2022	1.3845	1.3845
5	7-20-2022	9-30-2022	0.7228	0.7228
		Highest	1.9155	1.9155

**2.2 Overall Operational**  
**Unmitigated Operational**

Category	tons/yr										MT/yr						
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Area	0.2524	1.0000e-005	8.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.6900e-003	1.6900e-003	0.0000	0.0000	0.0000	1.8000e-003
Energy	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	671.9353	671.9353	0.0277	5.7400e-003	674.3392	
Mobile	1.5200e-003	5.9200e-003	0.0165	4.0000e-005	4.1100e-003	4.0000e-005	4.1500e-003	1.1000e-003	4.0000e-005	1.1400e-003	0.0000	4.0637	4.0637	2.0000e-004	0.0000	0.0000	4.0687
Waste					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0558	0.0558	0.0000	0.0000	0.0000	0.0560
<b>Total</b>	<b>0.2540</b>	<b>5.9300e-003</b>	<b>0.0173</b>	<b>4.0000e-005</b>	<b>4.1100e-003</b>	<b>4.0000e-005</b>	<b>4.1500e-003</b>	<b>1.1000e-003</b>	<b>4.0000e-005</b>	<b>1.1400e-003</b>	<b>0.0000</b>	<b>676.0565</b>	<b>676.0565</b>	<b>0.0279</b>	<b>5.7400e-003</b>	<b>678.4656</b>	







Carpinteria Advanced Purification Project - Santa Barbara County APCD Air District, Summer

**2.2 Overall Operational**  
**Unmitigated Operational**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Area	1.3836	9.0000e-005	9.6900e-003	0.0000	3.0000e-005	3.0000e-005	3.0000e-005	3.0000e-005	3.0000e-005	3.0000e-005	0.0207	0.0207	0.0207	5.0000e-005		0.0221
Energy	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	8.5900e-003	0.0313	0.0879	2.5000e-004	0.0231	2.4000e-004	0.0233	6.1900e-003	2.2000e-004	6.4100e-003	25.0888	25.0888	25.0888	1.1800e-003		25.1184
<b>Total</b>	<b>1.3922</b>	<b>0.0314</b>	<b>0.0976</b>	<b>2.5000e-004</b>	<b>0.0231</b>	<b>2.7000e-004</b>	<b>0.0233</b>	<b>6.1900e-003</b>	<b>2.5000e-004</b>	<b>6.4400e-003</b>	<b>25.1095</b>	<b>25.1095</b>	<b>25.1095</b>	<b>1.2300e-003</b>	<b>0.0000</b>	<b>25.1405</b>

**Mitigated Operational**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Area	1.3836	9.0000e-005	9.6900e-003	0.0000	3.0000e-005	3.0000e-005	3.0000e-005	3.0000e-005	3.0000e-005	3.0000e-005	0.0207	0.0207	0.0207	5.0000e-005		0.0221
Energy	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	8.5900e-003	0.0313	0.0879	2.5000e-004	0.0231	2.4000e-004	0.0233	6.1900e-003	2.2000e-004	6.4100e-003	25.0888	25.0888	25.0888	1.1800e-003		25.1184
<b>Total</b>	<b>1.3922</b>	<b>0.0314</b>	<b>0.0976</b>	<b>2.5000e-004</b>	<b>0.0231</b>	<b>2.7000e-004</b>	<b>0.0233</b>	<b>6.1900e-003</b>	<b>2.5000e-004</b>	<b>6.4400e-003</b>	<b>25.1095</b>	<b>25.1095</b>	<b>25.1095</b>	<b>1.2300e-003</b>	<b>0.0000</b>	<b>25.1405</b>





Carpinteria Advanced Purification Project - Santa Barbara County APCD Air District, Winter

**2.2 Overall Operational**

**Unmitigated Operational**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Area	1.3836	9.0000e-005	9.6900e-003	0.0000	3.0000e-005	3.0000e-005	3.0000e-005	3.0000e-005	3.0000e-005	3.0000e-005	0.0207	0.0207	0.0207	5.0000e-005		0.0221
Energy	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	8.4600e-003	0.0324	0.0936	2.4000e-004	0.0231	2.4000e-004	0.0233	6.1900e-003	2.2000e-004	6.4100e-003	24.5482	24.5482	24.5482	1.2200e-003		24.5787
<b>Total</b>	<b>1.3921</b>	<b>0.0325</b>	<b>0.1033</b>	<b>2.4000e-004</b>	<b>0.0231</b>	<b>2.7000e-004</b>	<b>0.0233</b>	<b>6.1900e-003</b>	<b>2.5000e-004</b>	<b>6.4400e-003</b>	<b>24.5690</b>	<b>24.5690</b>	<b>24.5690</b>	<b>1.2700e-003</b>	<b>0.0000</b>	<b>24.6008</b>

**Mitigated Operational**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Area	1.3836	9.0000e-005	9.6900e-003	0.0000	3.0000e-005	3.0000e-005	3.0000e-005	3.0000e-005	3.0000e-005	3.0000e-005	0.0207	0.0207	0.0207	5.0000e-005		0.0221
Energy	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	8.4600e-003	0.0324	0.0936	2.4000e-004	0.0231	2.4000e-004	0.0233	6.1900e-003	2.2000e-004	6.4100e-003	24.5482	24.5482	24.5482	1.2200e-003		24.5787
<b>Total</b>	<b>1.3921</b>	<b>0.0325</b>	<b>0.1033</b>	<b>2.4000e-004</b>	<b>0.0231</b>	<b>2.7000e-004</b>	<b>0.0233</b>	<b>6.1900e-003</b>	<b>2.5000e-004</b>	<b>6.4400e-003</b>	<b>24.5690</b>	<b>24.5690</b>	<b>24.5690</b>	<b>1.2700e-003</b>	<b>0.0000</b>	<b>24.6008</b>



## **Appendix D**

### Biological Resources Assessment

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# Carpinteria Valley Water District Carpinteria Advanced Purification Project

## Biological Resources Assessment

*prepared for*

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**March 2019**



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# Executive Summary

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Rincon Consultants, Inc. has prepared this Biological Resources Assessment to document existing conditions and provide a basis for evaluation of potential impacts to special status biological resources during the Carpinteria Valley Water District Carpinteria Advanced Purification Project. The proposed project would achieve the following objectives: create a new, drought-proof; reliable supply of local water; produce approximately 1,100 acre feet per year (AFY) of advanced treated water suitable for groundwater recharge and potable reuse (at 1.0 million gallons per day [MGD] capacity), with the ability to expand to up to 1,650 AFY (at 1.5 MGD capacity); and reduce Carpinteria Valley Water District's reliance on imported water and storage at Lake Cachuma.

The project is specifically located in the city of Carpinteria, and a portion of the project also occurs in unincorporated Santa Barbara County. The proposed project is south of State Route 192, west of Carpinteria Creek, east of Santa Ynez Avenue, and extends into the Pacific Ocean.

The project is defined by an area of potential effects (APE) which centers on the proposed project footprint, and includes the terrestrial and marine study area and generally all areas that are expected to be affected by the proposed project. The study area within the APE encompasses a 50-foot survey buffer for the terrestrial component and a 1,000-foot survey buffer for the marine component. The terrestrial portion of the APE is dominated by developed, disturbed and landscaped areas consisting of buildings, residential development, and other infrastructure, and paved or graded dirt areas with little to no vegetation. The marine portion of the APE is defined by the existing ocean outfall, which is approximately 1,600-feet long with the last 93-feet having 16 diffuser ports spaced evenly every 6-feet. The outfall terminates offshore in a depth of approximately 25-feet of sea water.

No special status plant species have potential to occur within the APE. Five special status terrestrial wildlife species have a high or moderate potential to occur within the APE. These species include the monarch - California overwintering population (*Danaus plexippus* pop. 1), tidewater goby (*Eucyclogobius newberryi*), steelhead – Southern California Distinct Population Segment (DPS) (*Oncorhynchus mykiss* pop. 10), western snowy plover (*Charadrius nivosus nivosus*), and yellow warbler (*Setophaga petechial*). Vegetation within and adjacent to the APE offers potential nesting habitat for bird species protected under California Fish and Game Code 3503 and the federal Migratory Bird Treaty Act.

Nineteen special status marine species have potential to occur within the APE. Of the 19 species, 12 have a high or moderate potential to occur. These species include the black abalone (*Haliotis cracherodii*), pink abalone (*Haliotis corrugata*), green abalone (*Haliotis fulgens*), white shark (*Carcharodon carcharias*), garibaldi (*Hypsypops rubicundus*), California grunion (*Leuresthes tenuis*), northern elephant seal (*Mirounga angustirostris*), harbor seal (*Phoca vitulina*), California sea lion (*Zalophus californianus*), gray whale (*Eschrichtius robustus*), common bottlenose dolphin (*Tursiops truncatus*) and green sea turtle (*Chelonia mydas*).

Federally designated critical habitat for southern California steelhead DPS occurs within the APE. Direct and indirect impacts to this species and critical habitat are not expected with proposed avoidance and minimization measures incorporated into the project. Recommendations incorporated herein include measures for avoidance of special status species.

**Carpinteria Valley Water District Carpinteria Advanced Purification Project**

The City of Carpinteria (2003) General Plan/Local Coastal Land Use Plan & Environmental Impact Report identifies areas of rocky points and intertidal areas, subtidal reef, kelp beds, marine mammal rookeries and hauling grounds, and critical habitat for southern California steelhead DPS as Environmentally Sensitive Habitat Area (ESHA). These ESHA designations are in place to protect local waters and the sensitive species within the habitat (California Coastal Act 1976). The APE is also within essential fish habitat and has the potential to support at least one life stage of economically important species included in fishery management plans (Magnuson-Stevens Fishery Conservation and Management Act 1976). No impacts to ESHA or other sensitive habitats are anticipated with implementation of proposed avoidance and minimization measures.

Four potentially jurisdictional hydrologic features are present within the APE: Franklin Creek, Carpinteria Creek, a roadside stormwater drain, and the Pacific Ocean. Franklin Creek, Carpinteria Creek, and the roadside stormwater drain are potentially subject to the United States Army Corps of Engineers jurisdiction pursuant to Section 404 of the Clean Water Act, the Regional Water Quality Control Board pursuant to Section 401 of the Clean Water Act and the California Water Code (Porter-Cologne Water Quality Control Act), and California Department of Fish and Wildlife pursuant to California Fish and Game Code 1600. The Pacific Ocean is a navigable water of the United States protected under Section 10 of the Rivers and Harbors Act and subject to the plans and policies outlined in the Water Quality Control Plan for Ocean Waters of California. Direct or indirect impacts to potentially jurisdictional features are not expected with proposed avoidance and minimization measures incorporated into the project.

# 1 Introduction

---

Rincon Consultants, Inc. (Rincon) prepared this Biological Resources Assessment (BRA) report to document the current existing conditions and to evaluate the potential for impacts to biological resources during implementation of the Carpinteria Valley Water District Carpinteria Advanced Purification Project (project). This BRA has been prepared to address both terrestrial and marine components of the project. The Carpinteria Valley Water District (CVWD) is the project's lead agency under the California Environmental Quality Act (CEQA).

## 1.1 Project Location

The project is located in the city of Carpinteria (city), and a portion of the project occurs in unincorporated Santa Barbara County (County) (Figure 1). Carpinteria is located approximately 12 miles southeast of the city of Santa Barbara and approximately 15 miles northwest of the city of Ventura. The project is primarily within Carpinteria's municipal boundaries, with the exception of potential injection well #6 and the associated pipeline, which occur within unincorporated Santa Barbara County. The proposed project is south of State Route (SR) 192, west of Carpinteria Creek, east of Santa Ynez Avenue, and extends into the Pacific Ocean.

The Advanced Water Purification Facility (AWPF) component of the project would be located within the existing Carpinteria Wastewater Treatment Plant (WWTP) site, at 5351 6th Street. The WWTP is approximately 0.1 mile north of the Pacific Ocean and is bordered by Carpinteria Creek to the east.

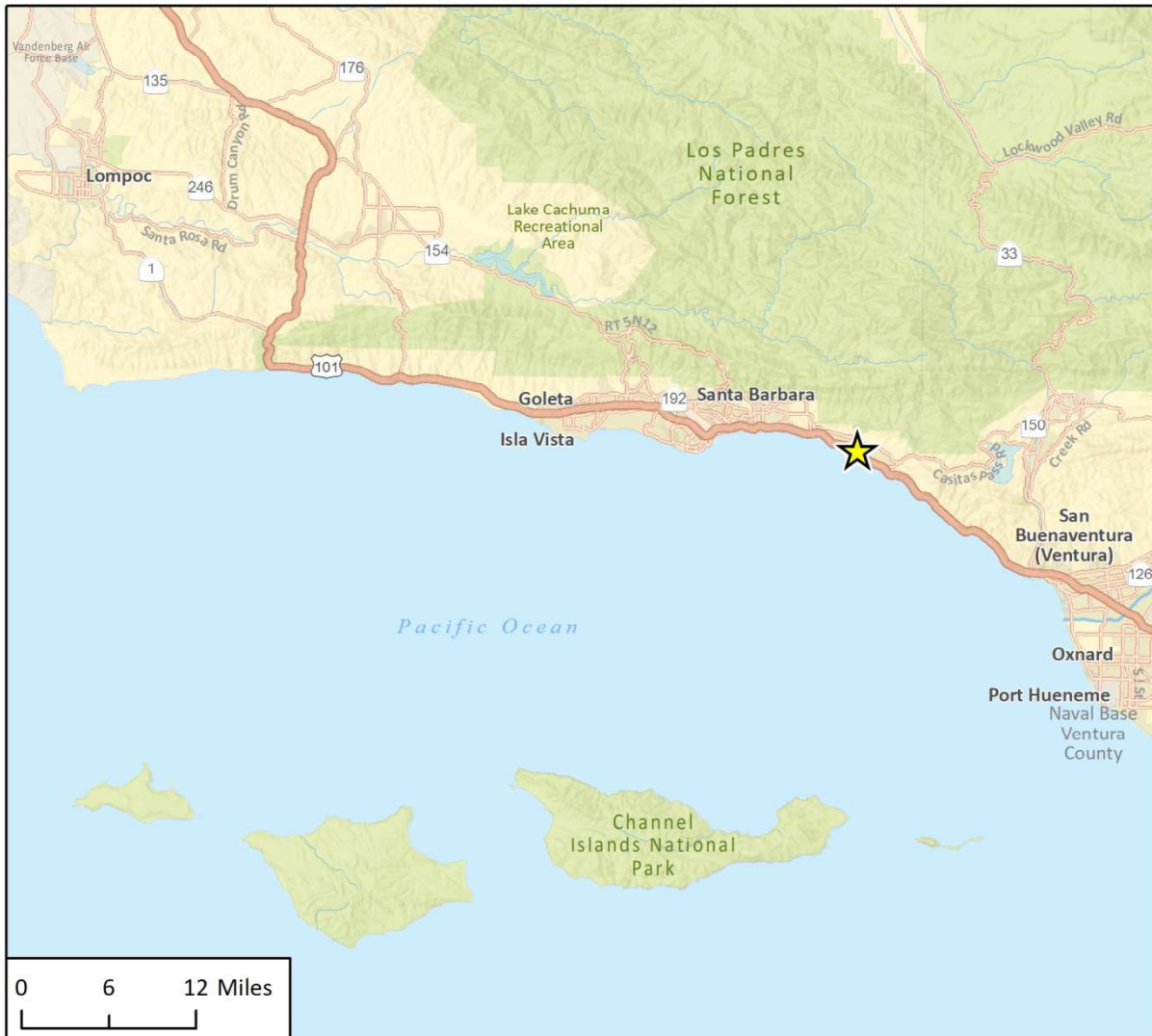
The injection and monitoring well areas<sup>1</sup> would be located approximately 0.7 to 1.0 mile north of the AWPF. Six potential injection well sites have been identified, though only three would be selected as design continues and property rights are acquired. The potential monitoring well areas are proposed in various streets between Santa Ynez Avenue and Jay Street. The land uses surrounding these proposed areas are a mix of residential, commercial, recreational areas, agricultural (e.g., greenhouse), and institutional. Conveyance pipelines between the AWPF and the injection wells would generally run within the public roadway right-of-ways (ROWS). The pipeline would cross U.S. Highway 101 at the Linden Street overpass. This crossing is currently being constructed by the California Department of Transportation (Caltrans) during upgrades to the bridge, and has CEQA coverage under the Environmental Impact Report for the Linden Avenue & Casitas Pass Road Interchanges Project (SCH# 2008041158) (Caltrans 2010).

The offshore component of the project consists of an existing ocean outfall located in the nearshore coastal areas of the Santa Barbara Channel (SBC). The SBC extends from Point Conception to Point Mugu, and is bordered by the four northern Channel Islands – San Miguel, Santa Rosa, Santa Cruz, and Anacapa. The ocean outfall runs underground initiating at the WWTP and terminating approximately 1,000-foot offshore of Carpinteria State Beach. All proposed project components are located within the United States Geological Survey (USGS; 2015) Carpinteria, California 7.5-minute

---

<sup>1</sup> Injection and monitoring well areas displayed in Figure 2 show entire parcels or segments within which a well may be located. Wells would occupy only a small fraction of the sites displayed.

Figure 1 Regional Location Map



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★ Project Location



Fig 1 Regional Location



topographic quadrangle, and the Public Land Survey System depicts the project within Township 4N, Range 25W, San Bernardino Meridian (Earth Point 2018).

## 1.2 Project Description

The proposed project includes construction of an AWPf, injection wells, conveyance pipelines, backwash pipelines, pump station, monitoring wells, and modifications to the existing ocean outfall. Existing production wells would be used to extract the purified water back out of the groundwater basin for use in the potable supply. Detailed descriptions of each project component are provided below.

### **Advanced Water Purification Facility**

The AWPf would be constructed at the existing WWTP with an initial production capacity of 1.0 million gallons per day (MGD) and ultimate production capacity of 1.5 MGD. The AWPf would be constructed east of the disinfection basins and west of the Storage Building and Maintenance Building, within an existing paved area. The total AWPf footprint would be approximately 10,900 square feet. An existing storage building in the east portion of the property may be demolished concurrently with the proposed project.

Secondary effluent from the WWTP would be used to feed the AWPf process. The AWPf would consist of microfiltration (MF) or ultrafiltration (UF), reverse osmosis, advanced oxidation processes, with ultraviolet and free chlorine. An equalization basin would be constructed to provide a consistent flow of secondary effluent to the AWPf.

A backwash line would also be constructed along the existing north utility corridor and main utility corridor to the WWTP influent pump station for MF/UF backwash, membrane cleaning waste flows, and off-spec water (water that does not meet the permit requirements [non-compliant water]). Stormwater would be fully contained within the AWPf and WWTP site and diverted to the WWTP for treatment. There would be no stormwater runoff from the proposed project.

### **Purified Water Pump Station**

The AWPf product water would be stored in a purified water clearwell adjacent to the Purified Water Pump Station (PWPS); located near to the AWPf. The purified water clearwell would be approximately 920 square feet (23-feet by 40-feet). The footprint of the PWPS including associated above grade piping, surge tank, and miscellaneous equipment would be 2,000 square feet (33-feet by 60-feet). The PWPS would entail a concrete pad and roof decking over a below grade concrete clearwell. The PWPS would not be housed inside a building and would be uncovered.

### **Conveyance Pipelines to Injection Wells**

The PWPS and piping conveyance system would be constructed to serve up to three injection wells. A majority of the pipeline alignments are proposed to be constructed via open cut trench within road ROWs; however, in some cases they may be constructed via trenchless technologies. Several small sections of the alignment may necessitate an easement. The pipeline would cross U.S. Highway 101 at the Linden Street Overpass, which is currently being constructed by Caltrans during upgrades to the bridge. Approximately 6,100 linear feet (LF) of 12-inch diameter common pipeline would convey the purified water to the well lateral split. Three 8-inch diameter pipeline extensions, totaling approximately 1,500 LF, would be used to distribute the water to individual injection wells.

**Carpinteria Valley Water District Carpinteria Advanced Purification Project**

The only segment proposed for construction that may use trenchless construction is the segment to serve the injection well at Franklin Park, which must cross Franklin Creek, if injection well #5 or #6 is selected. If open cut trenching is not selected for the Franklin Creek crossing, a pipe bridge would be used, similar to an existing pipe bridge over Franklin Creek. The existing pipe bridge spans the creek, adjacent to a pedestrian bridge between Meadow View Lane and Sterling Avenue. The 8-inch pipe bridge would span the creek and support itself; no external pipe supports or permanent loading of the pedestrian bridge would be required. The pipe span across Franklin Creek would be approximately 25-feet. Because Franklin Creek is concrete lined, it is not anticipated a pipe bridge would be required.

Table 1 below provides a summary of the proposed street alignments and construction methods for each pipe segment of the preferred pipeline alignment. There may be a need to use a trenchless technology for some portions of some segments; however, these segments are not yet determined.

**Table 1 Conveyance Pipelines and Preferred Alignment**

Street <sup>1</sup>	Length (linear feet)	Diameter (inches)	Proposed Construction Method
Olive Avenue	250	12	Open cut trench, paved City street
6th Street	1,100	12	Open cut trench, paved City street
Maple Avenue	1,300	12	Open cut trench, paved City street
Carpinteria Avenue	100	12	Open cut trench, paved City street
Eugenia Place	700	12	Open cut trench, paved City street
Easement between Eugenia Pl and Linden Ave	350	12	Open cut trench, paved City street
Linden Avenue <sup>2</sup>	1,100	12	Open cut trench, paved City street
US 101-Linden Avenue Overcrossing	1,200	-	Installed by Caltrans
Linden Avenue	250	8	Open cut trench, paved City street
Meadow View Lane	600	8	Open cut trench, paved City street
Laterals to Wells	650	8	Open cut trench, paved City street
<b>Total – Preferred Alignment</b>	<b>7,600</b>		
<b>Total – Maximum</b>	<b>8,700</b>		

<sup>1</sup>Alternative alignments between Palm Ave and Linden Ave, or 6th Street and Carpinteria Ave could be selected for the final alignment of the 12-in pipeline. However, choosing one of these alternative alignments would not change the total length of the 12-in pipeline. The segments would be constructed via open cut trench in paved City streets.

<sup>2</sup>Approximately 1,200 LF of the 2,300 LF 12-inch pipeline installed on Linden Ave would be installed by Caltrans as part of the U.S. 101-Linden Avenue Overcrossing project.

**Injection Wells**

Injection wells are proposed at six potential areas located north of U.S. Highway 101. In total, three injection wells are planned for construction. Two will be constructed in the first phase of the project for the 1.0 MGD AWPf, with one well on either side of Linden Avenue. A third injection well would be constructed when the AWPf is expanded to its ultimate capacity of 1.5 MGD. The injection wells would be constructed utilizing below-grade vaults or above-grade with the well head facilities placed in screened cages or behind fences. Injection wells would be single-completion wells having one borehole with casing and screening in aquifers. The wellheads would include injection supply lines, flow meters, air release valves, pressure-regulating valves, and controls for down-hole flow control valves. An electric/pneumatic control panel would be installed next to the wellhead and

pipings. Each well, including backwash water holding tank, is anticipated to have a footprint of 6,000 square feet (60-feet by 100-feet). During construction, the impacted area would be approximately 10,000 square feet to accommodate the drill rig, laydown, support equipment, and groundwater treatment tanks. The locations of the well, backwash water holding tank, and associated equipment have not been selected within the available sites.

Well backwash would be required to keep the well operating at peak performance and is part of normal maintenance. A dedicated backwashing pump at each well site would be used for regular cleaning of the well screens. A single 42,000-gallon tank would be required to temporarily store water produced during well backwash events for all three wells. The stored backwash water would be discharged either into the sewer system or storm drain system via a nearby connection. In the case of the sewer system, the backwash water would be slowly discharged into the sewer system at a low flow rate to prevent surcharging the sewer collection system. In the case of the storm drain system, the water would be slowly discharged into the storm drain system after allowing any solids accumulated during backwash to be settled out in the backwash holding tank.

### **Well Backwash Discharge Pipelines**

Backwash water would either be disposed of to the WWTP sewer system or to the local storm drainage system. Discharge locations are located adjacent to the potential injection well parcels except for well #4.

Sewer disposal includes construction of up to 1,400 LF of new 12-inch pipe for connection to the existing sanitary sewer; all sewer flows return to the WWTP. Drainage disposal includes construction of 600 LF of new 12-inch pipe for direct drainage to Franklin Creek or to existing drainage culverts owned by the City of Carpinteria; all drainage ultimately flows to Franklin Creek. Drainage backwash piping is proposed to be constructed via open cut trench within roadway ROWs.

### **Monitoring Wells**

Four monitoring well locations are proposed north of U.S. Highway 101. The locations selected for monitoring wells would be dependent on the injection well locations selected. The monitoring wells would include either three nested PVC casings or three individual monitoring wells on each site. For the nested monitoring well, three, 3-inch diameter casings in each monitoring well would be nested in a 24-inch borehole and equipped with a sampling pump. For individual monitoring wells, 3-inch casings would be installed for each aquifer at different depths. During construction, the impacted area would be approximately 5,000 square feet to accommodate the drill rig, laydown, support equipment, and groundwater treatment tanks. Once installed, aboveground facilities would include a small circular vault lid (up to 3-feet in diameter) enclosing a belowground vault containing the nested well or three monitoring wells at different depths. During periodic sampling, temporary piping or hosing to a gutter or storm drain inlet would be required for discharge.

### **Ocean Outfall Modifications**

The WWTP currently discharges effluent through a single 24-inch diameter concrete-coated, welded steel outfall at a depth of 21 to 24-feet below mean sea level. The outfall is approximately 1,600-feet long with the last 93-feet having 16 diffuser ports spaced evenly every 6-feet on the main barrel of the outfall and one diffuser port on the flanged end of the pipeline. The diffusers consist of a 4-inch diameter pipe riser with a 90-degree elbow on the end. The discharge direction of the diffusers alternates along the pipeline and has a downward discharge trajectory of 30-degrees from horizontal. With the proposed project, the amount of effluent conveyed by the outfall would be

reduced during periods of high demand. The reduced flow means the furthest diffusers would not have any discharge through them which would allow seawater, sediment, and marine life to enter the outfall. To prevent the fouling of the interior of the outfall, duckbill valves would be installed on each diffuser. The valves remain closed when there is little to no flow on the inside of the valve, but open once the flow increases. The diffuser port on the pipe end would have a duckbill valve installed.

To make the modifications to the outfall diffusers, divers and a support vessel would be required. The duckbill valves would be mounted to the outfall in the same alternating configuration as the existing diffusers. For existing diffusers in good condition, the duckbill valve could potentially be mechanically attached to the existing plate and nipple. Based on recent observations, it is likely existing diffuser plates would be removed and new fabricated diffuser plates with risers, elbows and flanged duckbill valves would be affixed to the outfall over the existing ports. The tools required will be typical of underwater tools used for minor marine construction (e.g., pneumatic drivers, drills).

### 1.3 Area of Potential Effects

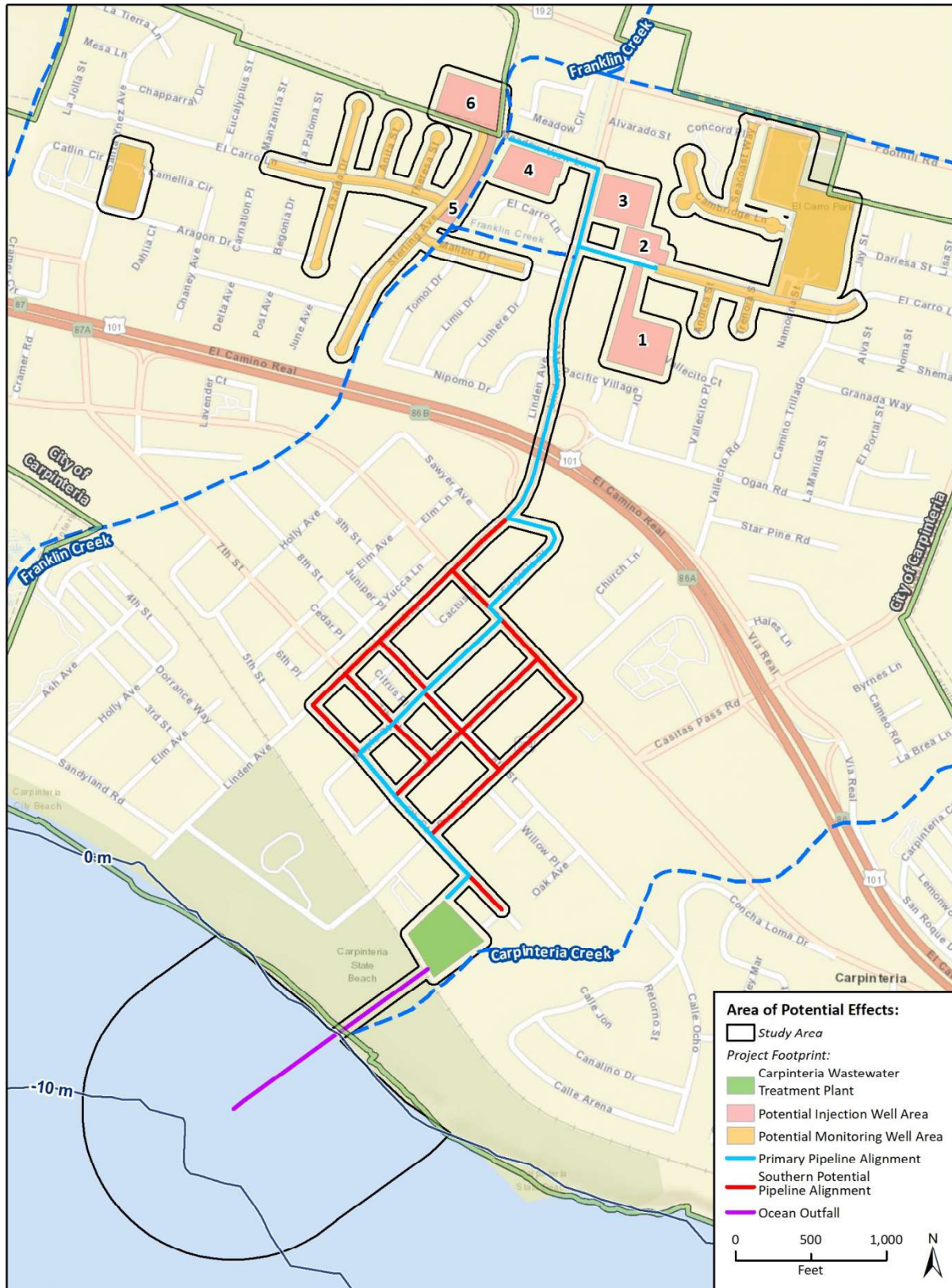
The area of potential effects (APE)<sup>2</sup> centers on the proposed project footprint described in Section 1.2, Project Description, the terrestrial and marine study area, and generally all areas expected to be affected by the proposed project. The study area within the APE encompasses a 50-foot survey buffer for the terrestrial component and a 1,000-foot survey buffer for the marine component. The study area for the marine component was extended to address potential impacts from the ocean outfall, construction-related sediment discharges and underwater noise from construction. The mean higher high water (MHHW)<sup>3</sup> line was utilized as the dividing line between the terrestrial and marine evaluation. The location of the APE is depicted in Figure 2.

---

<sup>2</sup> For the purpose of this BRA, the term APE refers to the project footprint plus the terrestrial and marine study area. Whereas the term project footprint refers to the proposed project components. The terrestrial study area refers to a 50-foot survey buffer and a 1,000-foot survey buffer for the marine component.

<sup>3</sup> The MHHW is defined by the average higher high water height of each tidal day observed over the National Tidal Datum Epoch. The National Tidal Datum Epoch is the specific 19-year period adopted by the National Ocean Service as the official time segment over which tide observations are taken and reduced to obtain mean values for tidal datums.

Figure 2 Area of Potential Effect



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## 2 Methodology

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### 2.1 Regulatory Overview

Regulated or sensitive resources studied and analyzed herein include special status plant and animal species, nesting birds and raptors, sensitive plant communities, jurisdictional waters and wetlands, wildlife movement, and locally protected resources, such as protected trees and locally designated environmentally sensitive habitat areas (ESHA). Regulatory authority over biological resources is shared by federal, state, and local authorities. Primary authority for regulation of general biological resources lies within the land use control and planning authority of local jurisdictions (in this instance, the City of Carpinteria and County of Santa Barbara).

CVWD is the lead agency for this project under the CEQA. This study has been completed in accordance with the requirements of CEQA as well as federal regulations in the case a federal nexus is established during the course of project execution. A federal nexus may be established if federal funding is acquired and/or federal permitting is necessary. Compliance with both federal and state regulations allows the lead agency to apply the results of this technical study should a federal nexus be established at a later time.

### 2.2 Environmental Statutes

For the purpose of this report, potential impacts to biological resources were analyzed based on the following statutes (Appendix A):

#### **Terrestrial and Marine**

- California Environmental Quality Act
- Federal Endangered Species Act (FESA)
- California Endangered Species Act (CESA)
- Clean Water Act (CWA)
- California Fish and Game Code (CFGC)
- Porter-Cologne Water Quality Control Act
- California Coastal Act
- City of Carpinteria General Plan/Local Coastal Land Use Plan & Environmental Impact Report (Carpinteria GP/LCP & EIR)
- Santa Barbara County Article II Coastal Zoning Ordinance

#### *Terrestrial*

- Migratory Bird Treaty Act (MBTA)
- The Bald and Golden Eagle Protection Act

### *Marine*

- Rivers and Harbors Act of 1899
- Magnuson-Stevens Fishery Conservation and Management Act
- Marine Mammal Protection Act
- Coastal Zone Management Act
- National Marine Sanctuaries Act
- National Invasive Species Act
- Marine Life Protection Act
- Marine Life Management Act
- California Ocean Plan
- Marine Invasive Species Act

## 2.3 Guidelines for Determining CEQA Significance

Determination of impacts is done on a project-by-project basis. Because of the complexity of biological resource issues, substantial variation can occur between projects. Impact assessment must account for both short-term and long-term impacts. Impacts are classified as significant or less than significant, depending on the size, type, and timing of the impact and the biological resources involved. Disturbance to habitats and/or species are considered significant if they substantially affect significant biological resources using the CEQA Guidelines Appendix G Checklist Initial Study Checklist for biological resources outlined below.

### **CEQA Guidelines Appendix G**

- a) Have substantial adverse effects, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service.
- c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.



## 2.4 Literature Review

Rincon staff reviewed a variety of literature to obtain baseline information about the biological resources with potential to occur within the APE and in the surrounding area. The literature review included information from standard biological reference materials and regionally applicable regulatory guiding documents including (but not limited to) the following: Bowers et al. 2004; Burt and Grossenheider 1980; Holland 1986; Baldwin et al. 2012; Sawyer et al. 2009; Stebbins 2003; American Ornithologists Union 2018; and United States Army Corps of Engineers (USACE) 2008. Site-specific and project vicinity programmatic biological studies were reviewed, including Santa Barbara Coastal Long Term Ecological Research (2019), Southern California Coastal Ocean Observing System (2019), Partnership for Interdisciplinary Studies of Coastal Oceans (2015), Multi-Agency Rocky Intertidal Network (MARINE 2019), and Southern California Coastal Water Research Project (Bight 2019).

Several documents from the City of Carpinteria and County of Santa Barbara were also reviewed including: Carpinteria GP/LCP & EIR; and Santa Barbara County Article II Coastal Zoning Ordinance

Other sources of information about the site included aerial photographs, topographic maps, bathymetric charts, geologic maps, climatic data, and project plans. Rincon also conducted queries of several relevant scientific databases which provide information about occurrences of sensitive biological resources: the California Department of Fish and Wildlife (CDFW; formerly the California Department of Fish and Game) Biogeographic Information and Observation System (CDFW 2019a) and California Natural Diversity Data Base (CNDDDB) (CDFW 2019b); the United States Fish and Wildlife Service (USFWS) Critical Habitat Portal (USFWS 2018a) and Information, Planning, and Conservation System Query (USFWS 2018b); United States National Wild and Scenic Rivers Program Map (United States National Wild and Scenic Rivers System 2018); National Wetlands Inventory (NWI) (USFWS 2018c); the United States Department of Agriculture, Natural Resource Conservation Service (USDA NRCS) Web Soil Survey (NRCS 2019), Essential Fish Habitat Mapper (National Oceanic and Atmospheric Administration [NOAA] 2019b) and the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants of California (CNPS 2019). The queries included the *Carpinteria* California USGS 7.5-minute topographic quadrangles and the other six USGS quadrangles that surround it (*Santa Barbara, Little Pine Mtn., Hildreth Peak, Old Man Mountain, White Ledge Peak, Pitas Point*)<sup>4</sup>. The Rare Plants of Santa Barbara County list was also reviewed (Central Coast Center for Plant Conservation 2005).

In addition to the literature review mentioned above, Rincon marine scientists reviewed state and federal marine protected areas including Channel Islands National Marine Sanctuary (NOAA 2019b), Rockfish Conservation Areas (NOAA 2019b), and Marine Protected Areas (CDFW 2019) established to protect ecosystems and/or sustain fisheries production. Specific species regulated through the goals, objectives, policies, and mandates of the Marine Life Management Act (MLMA) were also reviewed.

Rincon compiled a complete list of special status species previously documented within a five-mile radius of the project site from the CNDDDB query and additional sources (Appendix D). Then an analysis to determine which of these special status species have the potential to occur within the APE was conducted. The habitat requirements for each regionally occurring special status species

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<sup>4</sup> A 7-quad search was performed as a result of the APE in close proximity to the Pacific Ocean.

were assessed and compared to the type and quality of habitats observed on-site during the terrestrial and marine field reconnaissance survey. Conclusions regarding which special status species have the potential to occur were based not only on background research and literature review previously mentioned; but also on the data collected in the field during the site survey. Several regionally occurring special status species were eliminated due to lack of suitable habitat within the APE, range in elevation, and/or geographic distribution. Special status species determined to have the potential to occur within the APE are discussed in Section 4. Special status species determined not to have potential to occur within the APE are not discussed further in this BRA.

## 2.5 Field Reconnaissance Survey

For the purpose of this BRA, the extent of the APE was surveyed and evaluated. The APE consists of the proposed project footprint and the terrestrial and marine study area. The study area within the APE encompasses a 50-foot survey buffer for the terrestrial component and a 1,000-foot survey buffer for the marine component. The MHHW was utilized as the dividing line between the terrestrial and marine evaluation.

### **Terrestrial**

Rincon Senior Biologist Lindsay Griffin and Associate Biologist Monica Jacinto conducted a reconnaissance survey of the APE on January 24, 2019. The survey was conducted between the hours of 1045 and 1415. Weather was sunny with a temperature of approximately 70 degrees Fahrenheit and winds approximately 3 to 5 miles per hour.

The reconnaissance survey consisted of the biologists driving and walking the extent of the project footprint, documenting general site conditions and habitats, recording the plants and animals observed (Appendix C), and evaluating for potential jurisdictional waters and streambeds within the APE. For areas that were inaccessible within the APE (e.g., private property), the biologists visually inspected those areas with binoculars (10x42). Wildlife species were identified by direct observation, vocalization, or by sign (e.g., tracks, scat, burrows). Plant species nomenclature and taxonomy followed *The Jepson Manual: Vascular Plants of California*, second edition (Baldwin et al. 2012). The vegetation classification used for this analysis is based on (Sawyer et al. 2009), but it has been modified as needed to most accurately describe the existing vegetation communities on site. Refer to Appendix B for site representative photographs.

### **Marine**

The marine field reconnaissance survey evaluated the existing conditions of marine species and habitats of the offshore portion of the APE using SCUBA equipment and by foot along the intertidal area. A survey of the intertidal portions of the APE was conducted by Rincon Marine Biologists on January 22, 2019 to document the existing biological conditions. The biologists walked meandering transects throughout the intertidal portion of the APE approximately 1,000-foot upcoast and 1,000-foot downcoast from the outfall pipe transition across the beach. The survey was conducted during a negative tide, -1.71-feet at 4:49 pm, for NOAA tide station 9411270, Rincon Island. Table 2 documents survey details. The low tide conditions allowed for access to the broad rocky intertidal bench in the eastern portion of the APE as well as full access to beach habitat and the mouth of Carpinteria Creek. Biologists surveyed the extent of habitat types in the intertidal area noting

dominant communities, special status species, and physical attributes of the substrates. A list of species observed during the survey is discussed in Section 3.2.4 Invertebrates.

**Table 2 Intertidal Existing Conditions Survey**

Date	Personnel	Time	Weather Conditions	Survey Type
1/22/2019	Derek Lerma Jaime McClain	1600-1700	65-68°F, winds 1-3 mph, 0% cloud cover, -1.7 tide	Existing Conditions Survey

The subtidal diving survey was conducted on January 30, 2019 during the hours of 0900-1500 by Rincon scientific divers. Table 3 documents survey details. The divers surveyed the outfall pipe and surrounding area by surveying 10-foot (3 meters [m]) either side of the length of the pipe from the most inshore diffuser port to the terminus of the outfall pipe. Scientific divers conducted eight, 100-foot (30m) transects perpendicular to the outfall pipe near the location of each diffuser port or approximately every 15-foot (5m). Survey transects were conducted in both the upcoast (west) and downcoast (east) directions. The scientific divers worked in teams with each diver surveying 6-foot (2m) on either side of each transect. Scientific divers used weighted meter tapes and underwater slates to record substrate and species observations. Due to the consistency of the habitat throughout the subtidal portions of the APE and limited visibility during the diver survey, aerial imagery and bathymetry was used to survey the areas outside of the area covered by the diver survey. Baseline water quality data was collected at the outfall discharge point using an YSI Pro Plus handheld multi-parameter instrument cast vertically from the surface to the ocean bottom immediately adjacent to the outfall pipe and near the central effluent discharge location. The instrument collected data every second from two locations, repeated twice. Benthic collections were conducted at ten locations adjacent to the diffuser ports 7-foot (2m) from the outfall pipe by the divers licensed with a CDFW Sport Fishing License<sup>5</sup>. Divers used a cylindrical core (10-centimeter [cm] diameter) taken to a depth of 20 cm and sieved through an aperture of 1.5 millimeter (mm) mesh.

**Table 3 Subtidal Existing Conditions Survey**

Date	Personnel	Time	Weather Conditions	Survey Type
1/30/2019	Derek Lerma Jaime McClain Doug Simpson	0900-1500	60-70°F, winds 3-5 mph SE, 0% cloud cover	Existing Conditions Survey

<sup>5</sup> License Provisions: Any person who is 16 years of age or older must have a sport fishing license to take any kind of fish, mollusk, invertebrate, amphibian, or crustacean in California, except when taken from a public pier in ocean or bay waters. A sport fishing license is required to take reptiles, except for rattlesnakes. License number: D-0025203073-2

## 3 Existing Conditions

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This section summarizes the results of the reconnaissance survey effort and provides further analysis of the data collected in the field. Discussions regarding the general environmental setting, vegetation communities present, plant and wildlife species observed, special status species issues, and other biological resource constraints on-site are presented below. Representative photographs of the project site are provided in Appendix B and a complete list of all the plant and wildlife species observed on-site during the biological field survey is presented as Appendix C.

### 3.1 Terrestrial Environment

#### Physical Characteristics

Within the portion of the city and county where the project is proposed, much of the coastal plain between the Santa Ynez Mountains and Pacific Ocean is developed or has been historically disturbed by agricultural uses. Native vegetation within the APE is limited and fragmented, but includes and is not limited to coast live oak (*Quercus agrifolia*), California sycamore (*Platanus racemosa*), Menzies' goldenbush (*Isocoma menziesii*), arroyo willow (*Salix lasiolepis*), and California blackberry (*Rubus ursinus*).

The project site is located within the South Coast region of Santa Barbara County, along the western portion of the Transverse Range Mountains. The project site is within the South Coast subregion of the Jepson ecoregion system, which extends from Point Conception to the west southward to Mexico, along the immediate coast in Santa Barbara County, but also extending inland to the San Gabriel and San Bernardino mountains farther east and south (Baldwin et al. 2012).

The weather in the Carpinteria area is typical of a Mediterranean climate. Summers are warm and dry while the winters are cool and often wet. Approximately 90% of the annual runoff occurs in less than 30 days, with over 80% of that coming in January, February, and March (Cachuma Resource Conservation District & the Carpinteria Creek Watershed Coalition 2005). Most of the annual precipitation and corresponding runoff occurs in only a few large storms, resulting in high peak flows and rapid return to near baseflow conditions (Beighley et al. 2004). Although rainfall is highly seasonal and varies significantly from year to year, the USDA NRCS National Water and Climate Center for Carpinteria, reports mean annual precipitation as approximately 20 inches (USDA NRCS 2018a).

#### Watershed and Drainages

Two creeks were observed to be within the APE, Franklin Creek and Carpinteria Creek. The northern component of the proposed project includes potential impacts to Franklin Creek if injection well area #5 or #6 is chosen. Franklin Creek consists of a concrete lined flood control channel. The channel receives runoff water from the surrounding residential and agricultural (e.g., nursery) developments, and lacks vegetation. The channel was mostly dry during the reconnaissance survey, but had a low level of standing water present in some areas. An existing pipe bridge spans the creek, adjacent to a pedestrian bridge between Meadow View Lane and Sterling Avenue. Franklin Creek originates in the Santa Ynez Mountains, continues through the foothills and coastal terrace areas,

and then connects to Santa Monica Creek west of the APE before reaching the Pacific Ocean. The NWI defines Franklin Creek as an intermittent creek where surface water is present for extended periods especially early in the growing season, but is absent by the end of the growing season in most years.

Carpinteria Creek occurs within a small portion of the APE adjacent to and east of the WWTP. Carpinteria Creek originates in the Santa Ynez Mountains, continues through foothills and coastal terrace areas, then reaches the Pacific Ocean. During the reconnaissance survey, Carpinteria Creek contained low levels of flowing water and consisted of riparian habitat on the eastern bank, which was located outside of the APE. Carpinteria Creek is distinct from other creeks within 100 miles north and south, as it is one of the few perennially flowing streams, even in drought years (City of Carpinteria 2003). This creek is located in the Carpinteria Creek watershed, which is one of approximately 50 sub-watersheds that comprise the South Coast Watershed. The South Coast Watershed is the southernmost hydrologic unit within the Central Coast Basin. The Carpinteria Creek watershed is located in the southeastern portion of the South Coast Watershed and extends approximately seven miles from the Pacific Ocean to the ridge of the Santa Ynez Mountains. The Carpinteria Lagoon begins 50-feet above the ocean and extends approximately 650-feet along the Carpinteria Creek corridor to the railroad tracks. Carpinteria Creek occurs directly east of the existing WWTP, just past the lagoon.

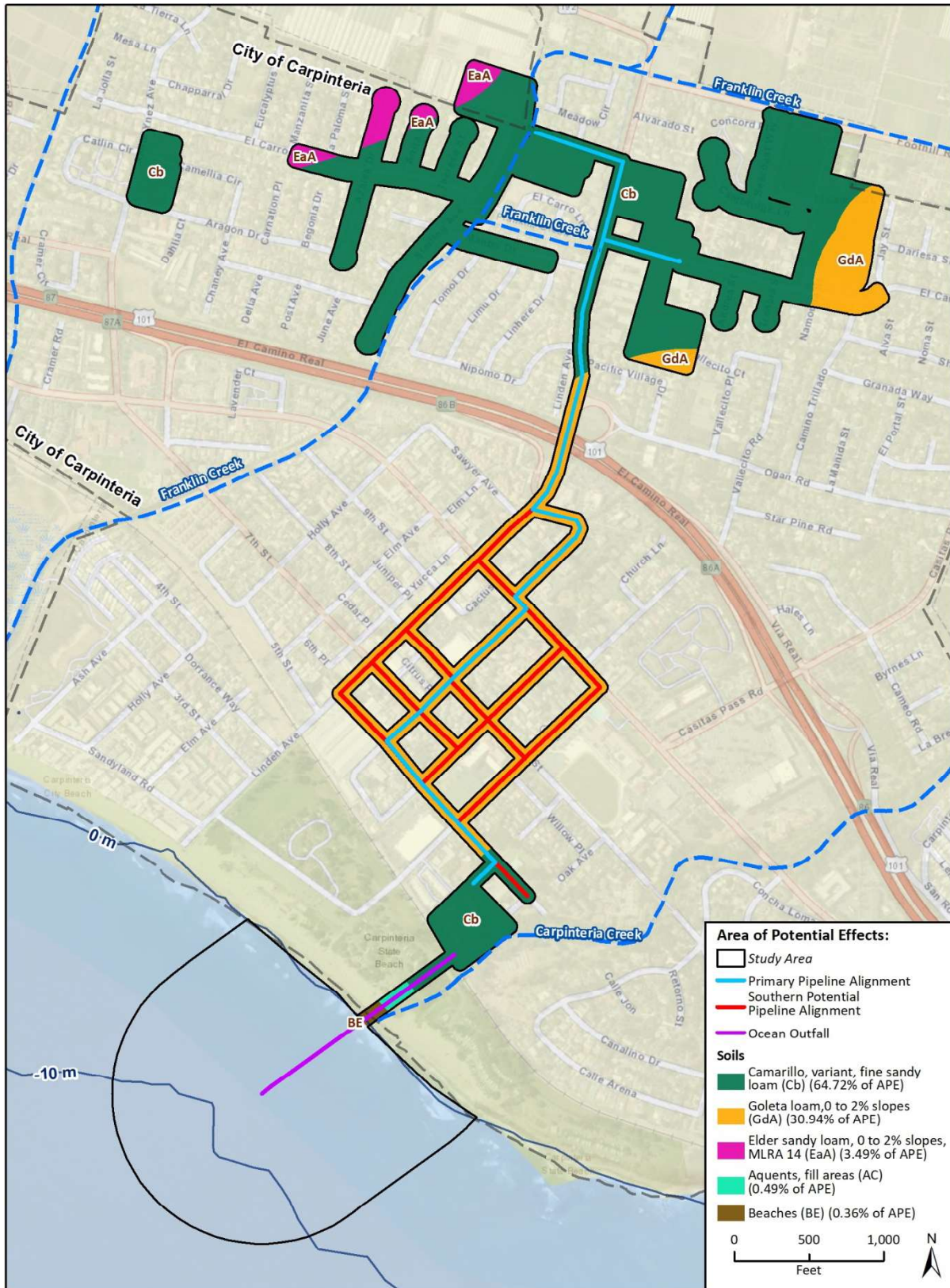
Both Franklin Creek and Carpinteria Creek are listed on the State Water Resources Control Board (SWRCB) 303(d) list of impaired water bodies requiring development of Total Daily Maximum Loads (TMDLs). Franklin Creek is listed for sodium, pH, fecal coliform, and toxicity. The *TMDL for Nitrogen and Phosphorus Compounds in Streams of the Franklin Creek Watershed* was adopted by the Central Coast Regional Water Quality Control Board (RWQCB) in March 2018. Carpinteria Creek is listed for E. coli, fecal coliform, toxicity, chloride, sodium, nitrate and dissolved oxygen. Carpinteria Creek contains breeding populations of listed wildlife species such as the federally listed endangered tidewater goby (*Eucyclogobius newberryi*) and Southern California steelhead trout (*Oncorhynchus mykiss irideus*) DPS, as well as other species of federal, state, and local concern (further discussed in Section 4).

A roadside stormwater drain was observed along the east side of Linden Avenue, between the Linden Avenue southbound off ramp and the Linden Avenue U.S. Highway 101 overpass. The drain is concrete lined and drains into a second roadside stormwater drain along the southern side of U.S. Highway 101 (second drain is located outside of APE) which then flows to the channelized portion of Franklin Creek west of the APE. Non-native ruderal vegetation and ornamental landscaping was observed along either side of the drain. Runoff water resulting from the surrounding development activities was observed to be entering the drain during the reconnaissance survey. As a result, a low level of water was present.

## Soils

Information about the soil types present within the APE was obtained from the NRCS Online Web Soil Survey (USDA NRCS 2019). Elevations on-site range from zero to 40-feet above mean sea level, and the topography of the APE is primarily flat. Based on data from the Online Web Soil Survey, Camarillo, variant, fine sandy loam (Cb) underlies the majority of the APE (64.72%), Goleta loam, 0 to 2% slopes (GdA) underlies the next greatest percentage of the APE (30.94%), Elder sandy loam, 0 to 2% slopes, MLRA 14 (EaA) comprises the third greatest portion of the APE (3.49%), Aquent, fill areas (AC) follows (0.49%), and the smallest proportion of the APE consist of Beaches (BE; 0.36%). A map illustrating soil locations is presented as Figure 4.

Figure 3 Soils Map



Imagery provided by Esri and its licensors © 2019.  
 Additional data provided by USDA NRCS SSURGO, 2018.

**Camarillo, variant, fine sandy loam** is classified as a poorly drained soil formed in alluvium derived from calcareous sedimentary rock, as a farmland of statewide importance, and as a hydric soil. These soils are also present in floodplains with a slope of 0 to 2% and an elevation range of ten to fifty feet. Unnamed minor components make up 15% of this soil type.

**Goleta loam, 0 to 2 percent slopes** is classified as a well-drained soil formed in alluvium derived from sedimentary rock and as prime farmland if irrigated. These soils are present in valleys with a slope of 0 to 2% and an elevation range of twenty to five hundred feet. Minor components make up 15% of this soil type and include Elder, Metz, and two unnamed components. This soil is not hydric.

**Elder sandy loam, 0 to 2 percent slopes, MLRA 14** consists of well drained soils formed in alluvium and are classified as prime farmland if irrigated. These soils are present on alluvial fans and floodplains that have slopes of 0 to 2% and an elevation range of 0 to 1,920-feet. Minor components make up 15% of this soil type and include: Arroyo Seco; Gorgonio; Elkhorn, sandy loam; San Emigdio, sandy loam; Metz, loamy sand; Xerofluvents, sand; Baywood, loamy sand; and Watsonville, loam. This soil is not hydric.

**Aquents, fill areas** are disturbed soil areas where the original soil material has been removed, repositioned, or fill has been added. These areas are the result of human activities and are often associated with urban development. Aquent soil areas are typically sparsely vegetated and are variable in composition. Texture is usually dependent on the parent material and the type of fill material used, if present. This soil is not hydric.

**Beaches** are sandy soils that formed in sandy or stony alluvium sources. Beach soils are typically found on beaches at between sea level and 10-feet in elevation, and are considered a hydric soil. These soils are not prime farmland and generally contain sparse vegetation due to wave action and tidal flows. The soil is poorly drained and does not have a typical depth to restrictive features. Flooding is frequent.

## Vegetation and Other Land Cover

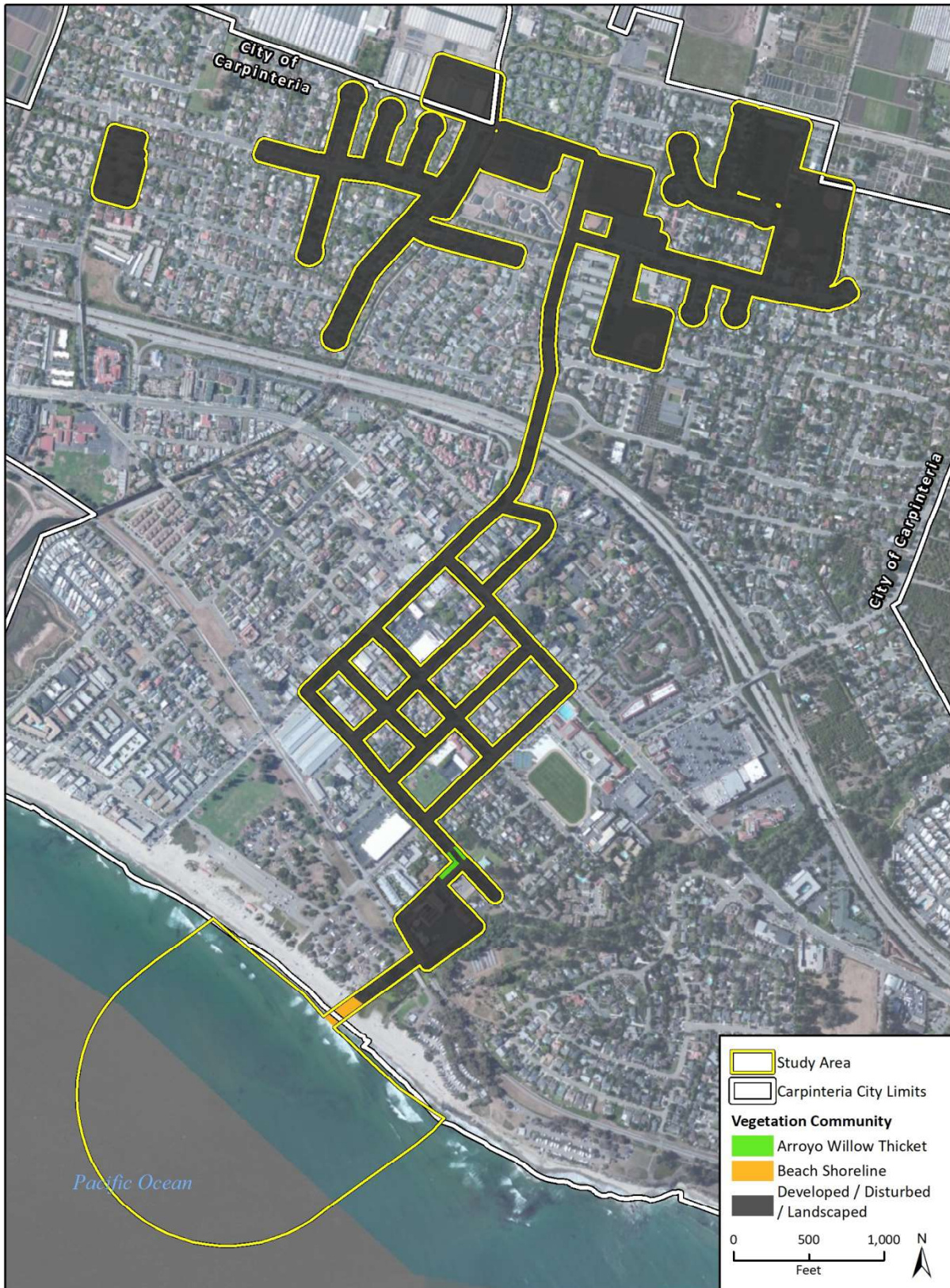
Vegetation communities and land cover types documented within the APE during the reconnaissance survey include: developed/disturbed/landscaped, arroyo willow thicket, and beach shoreline. These general vegetation/land cover types can be further categorized across vegetation alliances as described in A Manual of California Vegetation, Second Edition (Sawyer et al. 2009).

Table 4 summarizes the vegetation communities and land cover types along with associated acreages within the APE. A map illustrating terrestrial vegetation communities and land cover types is presented as Figure 4.

**Table 4 Summary of Vegetation and Land Cover Types within the APE**

Habitat Type	Approximate Acreage	Approximate Percent Area
Developed/Disturbed/Landscaped	107.66	0.992%
Arroyo Willow Thicket	0.28	0.003%
Beach Shoreline	0.55	0.005%
<b>Total</b>	<b>108.49</b>	<b>100%</b>

Figure 4 Vegetation Communities



Imagery provided by Microsoft and its licensors © 2019.

Fig X Vegetation Communities



### *Developed/Disturbed/Landscaped*

The dominant land cover type throughout the APE is characterized as developed/disturbed/landscaped. These areas consist of buildings, residential development, and other infrastructure, paved or graded dirt areas with little to no vegetation, or planted ornamental landscape species. The proposed injection and monitoring well areas occur within developed and/or disturbed areas (e.g., ROWs, parking lots, schools, and community parks) north of U.S. Highway 101. The proposed location of injection well #5 consists of young, recently planted coast live oak trees. The proposed southern potential pipeline alignment occurs within the disturbed areas of Olive Avenue, 6th Street, Maple Avenue, Carpinteria Avenue, Eugenia Place, Linden Ave, Meadow View Lane, and El Carro Lane. Linden Avenue also contains various mature eucalyptus (*Eucalyptus* sp.) trees, while the majority of the streets south of U.S. Highway 101 consisted of mature coast live oaks. The AWPf will be constructed within the existing WWTP facility. The APE is also made up of landscaped and ruderal vegetation, dominated by species such as turf grasses, various aloe species typically used in landscaping, oleander (*Nerium oleander*), Russian thistle (*Salsola tragus*), mustard (*Brassica* sp.), giant reed (*Arundo donax*), castor bean (*Ricinus communis*), pine trees (*pinus* sp.), and ornamental trees such as sweetgum (*Liquidambar styraciflua*), queen palms (*Syagrus romanzoffiana*), Canary island date palms (*Phoenix canariensis*), and black poiou (*Jacaranda mimosifolia*).

### *Arroyo Willow Thicket*

Riparian vegetation was limited in the APE. Riparian vegetation was observed to cover a small area at the intersection of Olive Avenue and 6th Street, northwest of the WWTP, and adjacent to where the primary pipeline alignment is proposed. The dominant species in this community was arroyo willow.

In the *Salix lasiolepis* Shrubland Alliance, arroyo willow is dominant or co-dominant in the tall shrub or low tree canopy with other willow species and additional native vegetation. Arroyo willow is typically found in stream banks and benches, slope seeps, and stringers along drainages. The USFWS NWI recognizes arroyo willow as a facultative wetland plant (USFWS 2016).

### *Beach Shoreline*

The southern portion of the APE overlies the shoreline at Carpinteria State Beach. This area consists of railroad tracks, campgrounds, and day use areas which then slopes down to a sandy beach shoreline consisting of ice plant and Menzies' goldenbush.

## **General Wildlife**

The APE contains habitat suitable for wildlife species that commonly occur in southern California suburban areas. Wildlife observed within the APE include bird species such as American crow (*Corvus brachyrhynchos*), common raven (*Corvus corax*), California towhee (*Melospiza crissalis*), California scrub-jay (*Aphelocoma californica*), and house finch (*Haemorhous mexicanus*). Wildlife not observed, but likely to occur include Virginia opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), mourning dove (*Zenaidura macroura*), and a variety of other song birds. A complete list of all the plant and wildlife species observed on-site during the biological field survey is presented as Appendix C.

## 3.2 Marine Environment

### Oceanographic Characteristics

The APE consists primarily of semi-protected intertidal and subtidal nearshore habitat in the central portion of the SBC, in the Pacific Ocean. The bathymetric depth contours range from 0 at the MHHW to -15 meters where the 1,000-foot APE terminates offshore. The shoreline faces a southwest direction and is somewhat protected from large open ocean wave events by Point Conception to the north and the Channel Islands to the south. Changes to the physical components of the nearshore habitat are seasonally altered by sand movement that follows typical longshore transport spatial and temporal patterns within the Santa Barbara littoral cell. The balance between the volumes of sand entering and leaving the littoral cell over the long-term governs the amount of hard bottom substrate (rocky reef) exposed annually as well as the long-term width of the beach within the cell. Typically, the beach widens during the summer and fall and narrows during the winter and spring.

The physical water characteristics of the APE are similar to general SBC water quality parameters with water temperatures ranging from 61 to 66°F (16 to 19°C) on and around September and are at their minimum in spring ranging from 54 to 59°F (12 to 15°C). Sea surface temperatures can vary by several degrees close to shore compared to those of the open ocean water averages. Long periods of strong offshore winds can cause seasonal upwelling, which transports surface water away from the coastline and allows for cool, high-salinity, nutrient-rich water to rise up the water column into the biologically rich euphotic zone (less than 120 meters from the surface). The waters within the APE are driven by the mixing of the cool northern California Current and warm Southern California Countercurrent (National Marine Fisheries Service [NMFS] 2017). Table 5 summarizes water quality data collected from vertical casts conducted during the field survey on January 30, 2019; the results displayed no stratification and low variability of the measured parameters.

**Table 5 Water Quality Results**

	pH	Salinity <sup>1</sup> (ppt)	Temperature <sup>2</sup> (°F)	Turbidity <sup>3</sup> (FNU)	DO <sup>4</sup> (mg/l)
Average	8.18	32.16	60.27	3.24	8.33
STD	0.01	0.18	0.32	1.98	0.04
Min	8.16	31.80	59.80	1.79	8.25
Max	8.19	32.50	60.60	9.13	8.41

<sup>1</sup>Salinity is the measure of the quantity of dissolved salts in water in parts per thousand (ppt).

<sup>2</sup>Temperture is measured in Fahrenheit (°F)

<sup>3</sup>Turbidity measures scattered light at a 90-degree angle from the incident light beam and is reported in Formazin Nephelometric Units (FNU).

<sup>4</sup>Dissolved oxygen is a measure of how much oxygen is dissolved in the water and reported in milligrams per liter (mg/l).

The relatively shallow depth of the outfall pipe promotes mixing from consistent wave action readily blending the freshwater effluent with the nearshore water mass. Divers visibly observed freshwater plumes adjacent to individual diffuser ports approximately 6-feet in diameter. Salinity averaged 32.16 ppt with a stand deviation (STD) of 0.18 throughout the water column. Turbidity was attributed to wave action during the falling tide with the highest measurement occurring at depth adjacent to the seabed. Dissolved oxygen (DO) averaged 8.33 milligrams per liter (mg/l), with an STD of 0.04 mg/l.

According to the WWTP Facilities Plan (SWRCB 2016), in 2014 the average flow rate of secondary-treated effluent water was 1.2 MGD into the Pacific Ocean and may range from 1.8 to 2.5 MGD depending on the season. The salinity of the current effluent is estimated at 1.5 ppt. The treatment process consists of screening, grit removal, primary sedimentation, aeration, secondary clarification, and chlorine disinfection. Sodium bisulfite is used to dechlorinate effluent prior to discharge into the Pacific Ocean. All effluent from the WWTP is currently discharged into the Pacific Ocean in approximately 25-feet of water through a 1,000-foot dedicated outfall pipe (SWRCB 2016). The RWQCB issued National Pollutant Discharge Elimination System (NPDES) permit Order No. R3-2011-0003 NPDES CA0047364 requires annual waste water testing and reporting as well as receiving water testing. No exceedances or impacts to water quality of the receiving waters has been documented or reported in previous annual reports (ABC 2013).

## **Habitat Types**

### *Soft Substrate*

The soft substrate in the APE is characterized as a gently sloping sandy seafloor. The soft substrate habitat consists primarily of sandy or stony alluvium material originating from floodplain deposits composed of silty sands to sandy gravels (USDA NRCS 2019). Bottom sediments characterized in the Carpinteria Sanitary District Receiving Water Monitoring Report (2013) were reported as 100% sand (ABC 2013). Rincon diver observations reported primarily coarse to medium grain sand on either side of the outfall pipe and to the extent of the diving field survey. No notable changes in soft substrate sediment were observed and soft substrate sediments appear to be consistent throughout the APE based on results of the receiving water monitoring data collected at 100, 300, and 2,000-feet from the outfall pipe (ABC 2013). Approximately 70% of the APE is composed of soft sand substrate based on ESHA identified in the Carpinteria GP/LCP & EIR. The location of ESHA within the APE is depicted in Figure 5.

### *Hard Substrate*

Rocky bedrock outcroppings comprise the majority of hard substrate in the APE and are composed of primarily low lying (< 3-feet) rocky reef hard substrate. The spatial extent of the rocky reef hard substrate varies annually and seasonally dependent on sand movement. The bedrock is composed of rock, fossil mollusk shells, and marine sands and gravels (USDA NRCS 2019). The rocky reef substrate observed in the intertidal zone appeared consistent with substrate observed throughout the subtidal zone and consistent with physical attributes reported from intertidal and subtidal regional monitoring near the APE. Some unconsolidated cobble and boulders hard substrate is present along the beach and within the shallow nearshore deposited from high water flows from Carpinteria Creek. Hard substrate conservatively represents approximately 30% of the APE. Hard substrate rocky reef habitat supports a moderately diverse group of organisms including marine algae, invertebrates, fish and wildlife species further described below. The intertidal zone of the APE is within the Carpinteria State Beach which is surrounded on three sides by the city of Carpinteria.

Figure 5 Environmentally Sensitive Habitat Areas

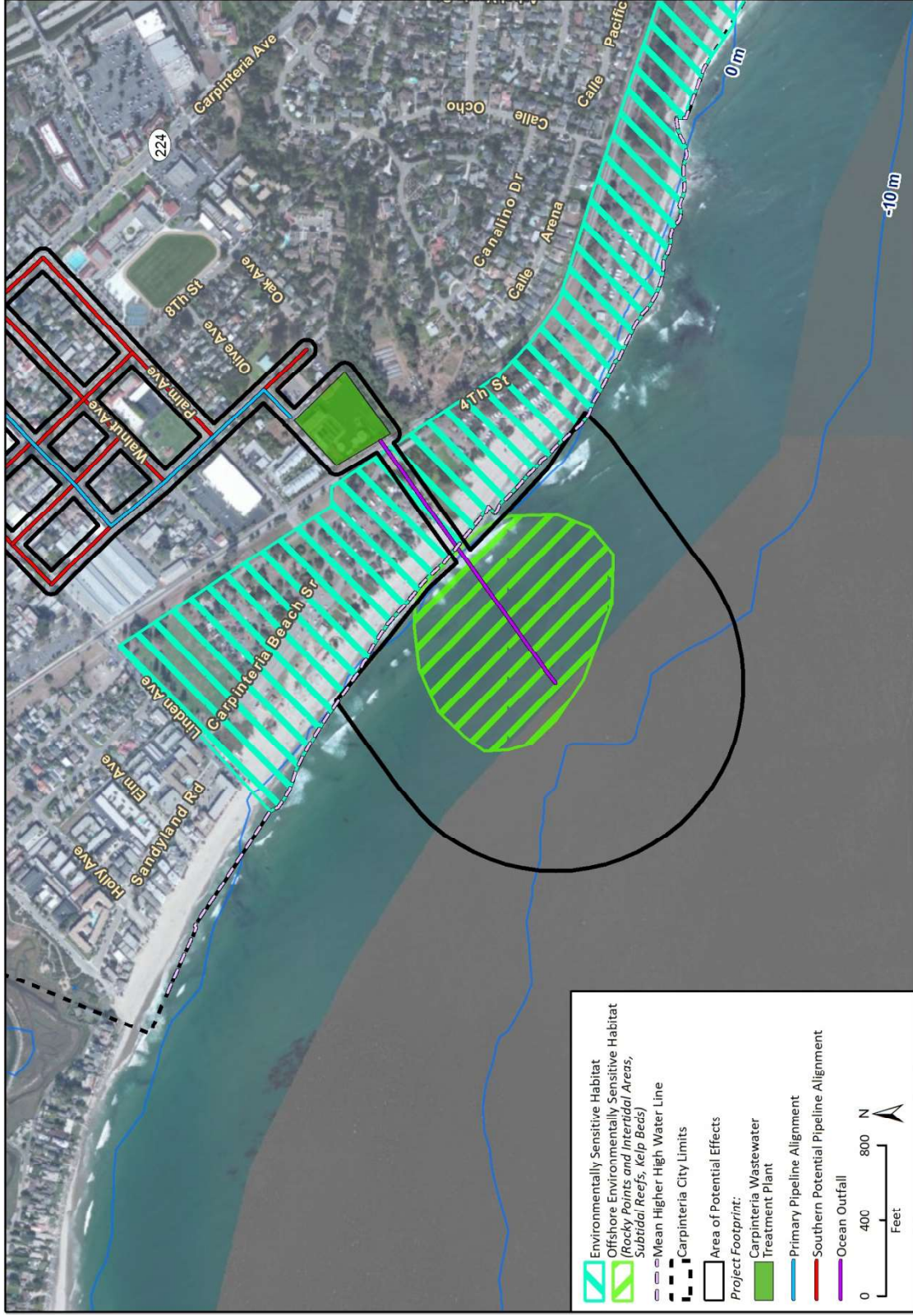


Fig 5 MESA

Imagery provided by Esri and its licensors © 2019.

## Phytoplankton, Marine Algae, and Seagrasses

Phytoplankton is the foundation of the marine food web and seasonal blooms regularly occur in the SBC when optimal conditions for each species (e.g., temperature, nutrient concentrations, salinity) develop. The phytoplankton productivity in the SBC supports a productive pelagic ecosystem with large populations of fishes, seabirds and marine mammals (Fiedler et al., 1998). An indicator of the amount of photosynthetic phytoplankton is the total concentration of chlorophyll present in the ocean. Chlorophyll concentration data was reviewed from global satellite measurements by the SeaWiFs and MODIS-Aqua projects of the National Aeronautics and Space Administration (NASA). On average, the California Current which runs south along the western coast of North America contains a chlorophyll concentration of 0.53 milligrams per cubic meter ( $\text{mg}/\text{m}^3$ ), making the waters within the SBC a zone of enhanced phytoplankton growth (NASA Earth Observations 2019). Comparisons of species and chlorophyll distributions indicate marine species including cetaceans are more abundant in the productive coastal waters than in offshore oceanic waters (Smith et. al 1986). Some phytoplankton referred to as Harmful Algal Blooms (HABs) can form populations so dense when they decay they deplete the oxygen from the water which can be harmful for fish and invertebrates (SCCOOS 2019). The two major groups with representative HAB species in California are diatoms and dinoflagellates.

Common zooplankton in the SBC include *Calanus pacificus*, a species of copepod which reproduces year-round in surface waters by part of the population, while another part of the populations remains dormant in deeper waters through the winter. Other common zooplankton consists of fish larvae and fish eggs (NOAA 2019).

The rocky reef areas within the APE provide both intertidal and subtidal habitat for the three (3) main seaweed phylum: green algae (Phylum Chlorophyta), brown algae (Phylum Phaeophyceae), and red algae (Phylum Rhodophyta) and the marine flowering plant, surfgrass (*Phyllospadix* spp.). The APE hosts locally common algal species attached to rocks in the rocky intertidal bench in the eastern portion of the shoreline including: sea lettuce (*Ulvoid* spp.), *Cladophora graminea*, turfweed (*Endocladia muricata*), *Mazzaella affinis*, nori (*Porphyra* spp.), *Prionitis* spp., and *Corallina* spp., which were observed during the intertidal survey and commonly recorded annually in fixed monitoring plots established in 2004 at Carpinteria Reef by the Multi Agency Rocky Intertidal Network (MARINe) (<https://www.marine.gov/>). Common brown algae species noted during the intertidal and subtidal survey included feather boa kelp (*Egregia menziesii*), *Dictyota* spp., and chainbladder kelp (*Cystoseria osmundacea*). Surfgrass is an abundant and dominant vascular plant species throughout the intertidal and shallow subtidal rocky habitat in the APE. Refer to Appendix B for site representative photographs. Surfgrass meadows provide a complex biotic community and nursery for fishes and crustaceans (NOAA 2015).

During the field surveys, the APE was representative of a “winter” beach regime where sand has been mobilized offshore covering most of the low lying (< 3-feet) bedrock and the attached algal species. Review of data from Santa Barbara Coastal Long Term Ecological Research and aerial imagery of the APE documents persistent beds of giant kelp (*Macrocystis pyrifera*) in the summer months when the APE transforms from the “winter” beach to a “summer” beach and sand slowly returns to the upper beach. At the time of the subtidal survey, no giant kelp was observed within 1,000-feet of the site but was common northwest of the APE near the Santa Barbara Coastal Long Term Ecological Research site. During the diving survey, various red algae species were observed including encrusting coralline algae (*Bossiella orbigniana*), *Gracilaria* spp., *Prionitis* spp., *Rhodomenia*

spp., *Nienburgia andersoniana*, and unidentified red turf species. A list of all algae species observed is included in Appendix C.

## Invertebrates

Common subtidal and intertidal invertebrate species within the APE include representatives of polychaete worms, crustaceans, and mollusks. Invertebrates include both sessile and motile species and are typically segregated into infauna, sessile, and motile invertebrates. During the 2013 NPDES sediment monitoring survey a total of 6,665 individuals, consisting of 208 benthic infauna species were collected at five stations near the WWTP outfall (ABC 2013). Sessile and motile invertebrates observed during the intertidal field survey included the aggregating anemone (*Anthopluera elegantissima*), acorn barnacle (*Chthamalus* spp.), California mussel (*Mytilus californianus*), gooseneck barnacle (*Pollicipes polymerus*), owl limpet (*Lottia gigantea*), limpets (*Lottia* spp. and *Acmea* spp.), sandcastle worm (*Phragmatopoma californica*), turban snail (*Tegula* spp.) and wavy turban snail (*Megastrea undosa*) consistent with monitoring results from fixed monitoring plots at Carpinteria Reef surveyed annually by MARiNe. The diver survey noted additional species including sponges, hydroids, tunicates, snails, clams and barnacles. Lists of species observed during both marine surveys are included in Appendix C. The APE provides habitat for the commercially fished red urchins (*Strongylocentrotus franciscanus*), spiny lobster (*Panulirus interruptus*), wavy turban snail (*Megastrea undosa*), Kellet's whelks (*Kelletia kelletii*), warty sea cucumber (*Parastichopus parvimensis*), and recreationally fished owl limpet (*Lottia gigantea*).

## Fishes and Marine Mammals

Shallow water nearshore marine fishes including rockfish (*Sebastes* spp.), surfperch (*Embiotoca* spp.), flatfish (*Paralichthys* spp.), and coastal pelagic species may occur within the APE. During the field survey, topsmelt (*Atherinops affinis*) were observed feeding in the immediate vicinity of the outfall discharge location. California grunion (*Leuresthes tenuis*), a regionally important species, has been documented to occur on Carpinteria State Beach during grunion runs in which the fish beach themselves to lay their eggs. When stands of giant kelp are present there is potential for other fish to occur. The APE contains habitat suitable for marine fish species defined as those regulated through the goals, objectives, policies, and mandates of the MLMA by the CDFW Nearshore Fishery Management Plan (CA-NFMP); the Pacific Fishery Management Council's Groundfish Management Plan (GMP); and the Pacific Fishery Management Council's Coastal Pelagic Species Fishery Management Plan (CPSMP). The species regulated by the MLMA include:

- Black and yellow rockfish (*Sebastes chrysomelas*); kelp rockfish (*Sebastes atrovirens*); olive rockfish (*Sebastes serranoides*); blue rockfish (*Sebastes mystinus*); brown rockfish (*Sebastes auriculatus*); treefish (*Sebastes serriceps*); cabezon (*Scorpaenichthys marmoratus*); and California scorpionfish (*Scorpaena guttata*): CA-NFMP and GMP regulated
- Pacific sanddab (*Citharichthys sordidus*); lingcod (*Ophiodon elongatus*); leopard shark (*Triakis semifasciata*): GMP regulated
- White seabass (*Atractoscion nobilis*): CDFW White Seabass Fishery Management Plan regulated
- California sheephead (*Semicossyphus pulcher*): CA-NFMP regulated
- Pacific sardine (*Sardinops sagax*); northern anchovy (*Engraulis mordax*); Pacific mackerel (*Scomber japonicas*); and jack mackerel (*Trachurus symmetricus*): CPSMP regulated
- Southern California DPS steelhead trout; federally endangered and state endangered; federally regulated by the Pacific Fishery Management Council's Salmon Management Plan

Marine mammals with potential to occur within the APE include species of seals and sea lions in the group known as pinnipeds, and whales and dolphins in the group of cetaceans comprised of both toothed and baleen species. Portions of the Carpinteria State Beach are a known seal sanctuary where the harbor seal (*Phoca vitulina*) uses the beach to pup from December through May and year-round as a haul-out site to rest. Other marine mammal species may frequent the APE during yearly migrations or year-round to forage.

## 4 Sensitive Biological Resources

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Local, state, and federal agencies regulate special status species and other sensitive biological resources. For the purpose of this analysis, sensitive resources include special status plant and animal species, vegetation communities, potentially jurisdictional streams and wetlands, wildlife corridors, locally protected resources such as native trees, and areas of special designation such as ESHA.

This section discusses the general presence or potential for special status biological resources to occur within the APE. 'Potential to occur' is based on the presence or absence of suitable habitat for each special status species reported in the scientific database queries conducted for the proposed project.

Assessments for the potential occurrence of special status species are based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDDB, species occurrence records from other sites near the APE, previous reports for the project (i.e., Woodard & Curran 2018; ABC 2013), and the results of the terrestrial and marine surveys for the project. As discussed in Section 2.2, an analysis was conducted to determine which of the regionally occurring special status species have potential to occur within the APE (Appendix D). The potential for each special status species to occur in the APE was evaluated according to the following criteria:

- **Not Expected.** Habitat on and adjacent to the site is clearly unsuitable for the species requirements (e.g., foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime), and species would have been identifiable on-site if present (e.g., oak trees).
- **Low Potential.** Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.
- **Moderate Potential.** Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- **High Potential.** All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
- **Present.** Species is observed on the site or has been recorded (e.g., CNDDDB, other reports) on the site recently (within the last five years).

Plant or animal taxa may have "special status" due to declining populations, vulnerability to habitat change, or because they have restricted ranges. Some are listed as threatened or endangered by the USFWS or by the CDFW and are protected by the FESA and CESA. Others have been identified as sensitive or as special status species by the USFWS, the CDFW, or by private conservation organizations, including the CNPS. Unlisted special status species do not have formal state or federal status.

For the purpose of this BRA, special status species are those plants and animals listed, proposed for listing, or candidates for listing as Threatened or Endangered by the USFWS and NMFS under the



FESA; those listed or candidates for listing as Rare, Threatened, or Endangered by the CDFW under the CESA or Native Plant Protection Act; those recognized as Species of Special Concern (SSC) by the CDFW; and plants occurring on lists 1 and 2 of the CNPS California Rare Plant Rank system, per the following definitions:

- **Rank 1A** = Plants presumed extinct in California
- **Rank 1B.1** = Rare or endangered in California and elsewhere; seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)
- **Rank 1B.2** = Rare or endangered in California and elsewhere; fairly endangered in California (20-80% occurrences threatened)
- **Rank 1B.3** = Rare or endangered in California and elsewhere, not very endangered in California (<20% of occurrences threatened or no current threats known)
- **Rank 2** = Rare, threatened or endangered in California, but more common elsewhere

In addition, special status species are ranked globally (G) and subnationally (S) 1 through 3 based on NatureServe's (2010) methodologies:

- **G1 or S1** - Critically Imperiled Globally or State-wide
- **G2 or S2** - Imperiled Globally or State-wide
- **G3 or S3** - Vulnerable to extirpation or extinction Globally or State-wide

Plant communities are also considered special status biological resources if they have limited distributions, have high value for sensitive wildlife, contain special status species, or are particularly susceptible to disturbance. The CDFW ranks special status communities as "threatened" or "very threatened" and keeps records of their occurrences in the CNDDDB.

## 4.1 Terrestrial Species and Communities

### Special Status Plant Species

Rincon biologists determined the APE does not contain suitable habitat for any special status plant species (Appendix D). While 31 special status plant species have been previously documented within a five-mile radius by the CNDDDB and/or within the CNPS 7-quad search, the APE does not contain suitable habitat for these species based on a variety of factors, including the disturbance history of the site, lack of suitable soils, elevation of the site, inappropriate hydrologic conditions, or absence of appropriate vegetation communities.

### Special Status Animal Species

Special status wildlife species are animals listed, proposed for listing, or candidates for listing as threatened or endangered by the USFWS or NMFS under the FESA; those listed or proposed for listing as rare, threatened, or endangered by the CDFW under the CESA; animals designated as "Fully Protected" and SSC by the CDFW; and species on the *Special Animals List* (CDFW 2018). CEQA Guidelines, Section 15125(a), also directs that special emphasis should be placed on resources that are rare or unique to the region.

Based on the database and literature review, 20 special status wildlife species are known or have the potential to occur within the vicinity; known occurrences within five miles of the APE were considered in this analysis (Appendix D). Of these 20 species, two have a high potential to occur,

three have a moderate potential, and one has a low potential (Table 6). The remaining 14 special status species are not expected to occur based on the criteria presented above. This includes some bird and bat species previously documented near the APE, but are likely to be only transient through the area during limited foraging or migratory movements, and for which no suitable nesting or roosting habitat is present. The species that can be reasonably anticipated to occur were determined based on the published ranges of the species, and the type, extent, and condition of habitat available at the site. No special status wildlife species were observed within the APE during the survey effort.

Special status species or other protected species with moderate or high potential to occur within or adjacent to the APE are discussed below, and, if applicable evaluated under Section 5. Species with a low potential to occur are only included if further discussion is warranted.

**Table 6 Terrestrial Special Status Wildlife Species with Potential to Occur in the APE**

Species	Low	Moderate	High
Monarch - California overwintering population ( <i>Danaus plexippus</i> pop. 1)		X	
Tidewater goby ( <i>Eucyclogobius newberryi</i> )			X
Steelhead- southern California DPS ( <i>Oncorhynchus mykiss irideus</i> pop. 10)			X
California legless lizard ( <i>Anniella pulchra</i> )	X		
Western snowy plover ( <i>Charadrius alexandrinus nivosus</i> )		X	
Yellow warbler ( <i>Setophaga petechia</i> )		X	

#### *Monarch – California Overwintering Population*

The monarch - California overwintering population is a City and County local sensitive species with moderate potential to occur within and adjacent to the APE. This population consists of winter roost sites extending along the coast from northern Mendocino to Baja California, Mexico. The monarch butterfly aggregates in California coastal woodlands between October and March. Monarchs typically aggregate in eucalyptus groves, Monterey cypress, Monterey pines, and coast live oaks. They first collect in smaller numbers in autumn, then in much larger aggregations when cold weather and storms begin. The large aggregations are typically in groves that offer wind protection, slightly warmer temperatures, and basking sites. Large aggregations are fairly predictable as monarchs typically use the same sites each year (Meade 1999). Elements of suitable habitat (e.g., eucalyptus trees) were observed throughout the APE, particularly along Linden Avenue where the primary and southern potential pipeline alignment is proposed. No winter roost sites have been identified throughout the APE; however, the closest known roosting colony was recorded approximately 700-feet northeast of the WWTP, along Carpinteria Creek (City of Carpinteria 2003).

#### *Tidewater Goby*

Tidewater goby is a federally endangered (FE) fish and a state SSC with a high potential to occur in the southern portion of the APE. This is an estuarine/lagoon-adapted species that is endemic to the California coast, mainly in small lagoons and near stream mouths in the uppermost brackish portion of larger bays (Moyle 2002; USFWS 2005). Tidewater gobies inhabit discrete lagoons, estuaries, or stream mouths separated by mostly marine conditions, and are generally absent from areas where the coastline is steep and streams do not form lagoons or estuaries (USFWS 2005). They feed mainly on small animals, usually mysid shrimp (*Mysidopsis bahia*), gammarid amphipods (*Gammarus*

*roeseli*), and aquatic insects, particularly the chironomid midge (*Family Chironomidae*) larvae (Swift et al. 1989; Swenson 1995; Moyle 2002).

Reproduction begins in spring, usually late April or May, and continues into the fall, although usually the greatest numbers of offspring are produced in the first half of this time period. The reproductive period is generally associated with the closure and filling of the estuary (late spring – fall). Breeding occurs in slack, shallow waters of seasonally disconnected or tidally muted lagoons, estuaries, and sloughs. Tidewater goby was found in lower Carpinteria Creek during surveys conducted in 1995 and 1999 (USFWS 2005).

#### *Southern California Coast Steelhead DPS*

The steelhead – Southern California DPS is a FE fish and a state SSC with a high potential to occur in the southern portion of the APE. Steelhead trout occurring in this geographic area are considered part of the southern California steelhead DPS. The DPS includes those runs from the Santa Maria River south to the Tijuana River (NMFS 2005). This DPS is listed as endangered under the FESA, and designated critical habitat includes Carpinteria Creek (NMFS 2005). A portion of the APE occurs in the South Coast Hydrologic Unit (3315), and Hydrologic Sub-area 331534 of designated critical habitat. This reach of the creek is within the Conception Coast Biogeographic Population Group of the southern California steelhead recovery plan (NMFS 2012a).

Steelhead is the term used to denote the anadromous life-history form of rainbow trout (*O. mykiss*); because both anadromous and resident *O. mykiss* may potentially occur in the watershed, the term *O. mykiss* is used in situations where distinguishing juvenile steelhead from resident rainbow trout would be problematic. Preservation of both life-history forms is considered a high priority in the *Southern Steelhead Recovery Plan* (NMFS 2012b).

Carpinteria Creek is designated critical habitat for southern California steelhead, and is known to support this species. An adult female steelhead and juvenile steelhead were reported from Carpinteria Creek in 2000 (Stoecker et al. 2002). Other fish species known to occur in Carpinteria Creek (mostly the estuary) include prickly sculpin (*Cottus asper*), Pacific lamprey (*Lampetra tridentata*), staghorn sculpin (*Leptocottus armatus*), California killifish (*Fundulus parvipinnis*), arrow goby (*Clevelandia ios*), and topsmelt (*Atherinops affinis*).

#### *California Legless Lizard*

The California legless lizard is a state SSC with low potential to occur within the APE. This species requires a habitat composed of sandy or loose loamy soils under sparse vegetation. Soils with high moisture content are essential (California Herps 2018). Often locally abundant, specimens are found in coastal sand dunes and a variety of interior habitats, including sandy washes and alluvial fans (Stebbins and McGinnis 2012). In a study conducted in coastal Central California, California legless lizard density was high near shrubs and where soil moisture was greater, but lower in disturbed soils and in iceplant (Kuhn et al. 2005). Papenfuss and Parham (2013) described four new species of California legless lizard (*Anniella pulchra*) and described the lineage that occurs throughout Southern California and into Baja California as the Southern California legless lizard (*Anniella stebbinsi*). Suitable habitat is present within the southern portion of the APE; however, CNDDDB records are historical (before 1983) and significant development along Carpinteria State Beach has occurred since then.

### *Western Snowy Plover*

The western snowy plover is a FT bird and a state SSC with moderate potential to occur within the southern portion of the APE. This small shorebird is about six inches long, with a thin dark bill, pale brown to gray upper parts, white or buff colored belly, and darker patches on its shoulders and head, and white forehead and eyebrow. The Pacific coast population of the western snowy plover breeds primarily on coastal beaches from southern Washington to southern Baja California, Mexico. The population breeds above the high tide line on coastal beaches, sand spits, dune-backed beaches, sparsely-vegetated dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries (USFWS 2018d).

Carpinteria State Beach provides suitable foraging and roosting habitat for western snowy plover; however, no suitable nesting habitat is present due to development along the beach and human disturbance. The 62-acre Carpinteria State Beach is a highly developed recreational beach containing a campground, picnic areas, and a visitor's center. Carpinteria State Beach is monitored irregularly by volunteers and Channel Coast District staff. Occasionally, western snowy plover are observed roosting and/ or foraging along Carpinteria State Beach and have been known to use the beach as a stopover during migration (California State Parks 2013). According to the California State Parks (2014) Western Snowy Plover Annual Report, western snowy plovers do not nest in Carpinteria State Beach. As such, western snowy plovers have a moderate potential to roost and forage within the southern portion of the APE.

### *Yellow Warbler*

The yellow warbler is a state SSC bird with a moderate potential to occur within the riparian habitat identified within the APE and surrounding areas. The yellow warbler is a small (approximately 4.7-5.1 inches long) uniformly yellow songbird with a medium-length tail, rounded head, and a straight thin bill. Males are a bright, egg-yolk yellow with reddish streaks on the underparts. Both sexes flash yellow patches in the tail. The face is unmarked, accentuating the large black eye. Yellow warblers are frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders (Rodewald 2015). Elements of suitable habitat (e.g., riparian vegetation) were observed at the intersection of Olive Avenue and 6th Street within the APE. Carpinteria Creek, which is east and primarily outside of the APE, also provides potential foraging and nesting habitat for this species.

### *Nesting Birds*

The APE contains habitat that can support regulated nesting birds, including raptors, protected under the CFGC Section 3503 and the MBTA (16 United States Code §§ 703–712). Potential nesting locations for raptors were observed throughout the APE with the most suitable locations being native and non-native mature trees (e.g., sycamore, eucalyptus, pine) in the potential injection and monitoring well areas and pipeline alignment areas. No active nests were observed during the reconnaissance survey; however, one previously occupied semi-large stick nest was observed on a sycamore tree at El Carro Park, which is a potential monitoring well site.

## **Sensitive Plant Communities**

Plant communities are considered sensitive biological resources if they have limited distributions, have high wildlife value, include sensitive species, or are particularly susceptible to disturbance. CDFW ranks sensitive communities as “threatened” or “very threatened” and keeps records of their occurrences in CNDDDB. Similar to special status plant and wildlife species, vegetation alliances are

ranked 1 through 5 based on NatureServe's (2010) methodology, with those alliances ranked globally (G) or statewide (S) as 1 through 3 considered sensitive. In addition, the City of Carpinteria considers certain habitats to be of significant ecological and biological value (i.e., ESHA).

According to the CNDDDB, one sensitive plant community, southern coastal salt marsh, has been documented within 5 miles of the project (Carpinteria Salt Marsh); however, no CNDDDB sensitive plant communities were observed within the APE during the reconnaissance survey.

A small patch of riparian habitat was observed at the intersection of Olive Avenue and 6th Street adjacent to where the primary pipeline alignment is proposed. The riparian patch is located in a developed area with no direct linkage to additional riparian vegetation or a water source. The vegetation patch consisted of hydrophytic vegetation (e.g., arroyo willow) and hydric soils (USDA NRCS 2019), but lacked the presence of hydrology. These indicators meet the criteria requirements of ESHA for the City and of a coastal zone wetland. Arroyo willow thickets are also considered a sensitive natural community by CDFW (2018b).

Protected trees (e.g., coast live oak, eucalyptus, City landmarks) were observed throughout the APE that meet the City, County, and coastal zone tree protection policies and ordinances discussed below in Section 4.5.

### **Wild and Scenic Rivers**

The project does not occur within or adjacent to any federally designated Wild and Scenic Rivers.

## **4.2 Marine Species and Communities**

Special status marine species include those listed, proposed for listing, or candidates for listing as threatened, endangered or species of concern by the USFWS or NMFS under the FESA; those listed or proposed for listing as rare, threatened, or endangered by the CDFW under the CESA; animals designated as "Fully Protected" and SSC by the CDFW; and species on the *Special Animals List* (CDFW 2018). CEQA Guidelines, Section 15125(a), also directs special emphasis should be placed on resources that are rare or unique to the region. Additionally, species with potential to occur included in the World Conservation Union's Red List of Vulnerable Species (IUCN), protected under the Convention of International Trade in Endangered Species of Fauna and Flora (CITES), protected by the Convention on Migratory Species (CMS), and protected under the Marine Mammal Protection Act (MMPA) are also evaluated herein.

Based on the database and literature review, 25 special status marine species are known or have the potential to occur within the APE. Of these 25 species, six have a high potential to occur, six have a moderate potential, and seven have a low potential (Table 7). The remaining six are not expected to occur based on the criteria presented above. The species reasonably anticipated to occur were determined based on the published ranges of the species, and the type, extent, and condition of habitat available at the site. No special status wildlife species were observed within the APE during the survey effort.

Special status species or other protected species with moderate or high potential to occur within or adjacent to the APE that could be potentially affected are discussed below, and, if applicable, evaluated under Section 5. Species with a low potential to occur are only included if further discussion is warranted.

**Table 7 Marine Special Status Wildlife Species with Potential to Occur within the APE**

Species	Low	Moderate	High
Black abalone ( <i>Haliotis cracherodii</i> )		X	
Pink abalone ( <i>Haliotis corrugata</i> )		X	
Green abalone ( <i>Haliotis fulgens</i> )		X	
White abalone ( <i>Haliotis sorenseni</i> )	X		
White shark ( <i>Carcharodon carcharias</i> )			X
Garibaldi ( <i>Hypsypops rubicundus</i> )			X
Giant sea bass ( <i>Stereolepis gigas</i> )	X		
California grunion ( <i>Leuresthes tenuis</i> )			X
Northern elephant seal ( <i>Mirounga angustirostris</i> )		X	
Harbor seal ( <i>Phoca vitulina</i> )			X
California sea lion ( <i>Zalophus californianus</i> )			X
Guadalupe fur seal ( <i>Arctocephalus townsendi</i> )	X		
Humpback whale ( <i>Megaptera novaeangliae</i> )	X		
Gray whale ( <i>Eschrichtius robustus</i> )		X	
Common bottlenose dolphin ( <i>Tursiops truncatus</i> )			X
Green sea turtle ( <i>Chelonia mydas</i> )		X	
Loggerhead sea turtle ( <i>Caretta caretta</i> )	X		
Leatherback sea turtle ( <i>Dermochelys coriacea</i> )	X		
Olive Ridley sea turtle ( <i>Lepidochelys olivacea</i> )	X		

## Special Status Invertebrates and Fishes

### *Black, White, Pink, and Green Abalone*

The nearshore waters of California are home to seven species of abalone, four of which have a potential to occur in the APE.

Black abalone (*Haliotis cracherodii*) is an FE species with a moderate potential to occur within the APE. Populations of black abalone currently remain very low throughout southern California after a drastic decline due to fishing and withering syndrome, an infectious disease (CDFW 2011). Black abalone have not been documented by MARINE during annual monitoring at Carpinteria Reef. However, black abalone have been observed for the first time in many years at several sites throughout southern California and have increased in numbers at a few locations (NOAA 2019).

White abalone (*Haliotis sorenseni*) was the first marine invertebrate to be federally listed as endangered. The species still remains at very depressed population levels throughout the Southern California Bight (SCB). White abalone has a low potential to occur in the APE due to the habitat depth requirement; the species is typically found at depths of 50 to 180-feet.

Pink abalone (*Haliotis corrugate*) and green abalone (*Haliotis fulgens*) are both federal species of concern. Both species have a moderate potential to occur within the APE and may occur on rocky substrate in the intertidal and subtidal habitats. No species of abalone were observed during the field surveys.

#### *White Shark*

White shark (*Carcharodon carcharias*) is included in the IUCN list of vulnerable species and protected by CITES and the CMS. The species has a high potential to occur within the APE and has been sighted off Carpinteria State Beach in recent years. White sharks utilize multiple habitats including, warm coastal waters in the SCB for nursery areas for young-of-the-year and juveniles. The use of coastal habitat varies seasonally, which may be due to temperature restrictions or availability of desired prey.

#### *Garibaldi*

Garibaldi (*Hypsypops rubicundus*) is state-protected under California State Marine Fish, Assembly Bill 77 (1995), with a high potential to occur within the APE. In 1995, the California Legislature designated the garibaldi as the Official State Marine Fish and banned any further commercial take. Garibaldi are one of the most common fish species documented in rocky reefs and kelp beds (CDFW 2011).

#### *Giant Sea Bass*

Giant sea bass (*Stereolepis gigas*) is a state-fully protected species and included in the IUCN list of vulnerable species with a low potential to occur within the APE. Once common inhabitants of southern California waters, the species supported both a commercial and sport fishery in the late 19th century. In 1981, a law was passed that prohibited the take of giant sea bass for any purpose, with the exception that commercial fishermen could retain and sell two fish per trip if caught incidentally in a gillnet or trammel net. Within California the species is rarely found north of Point Conception. Adult giant sea bass seem to prefer the edges of nearshore rocky reefs. These reefs are relatively shallow (35 to 130-feet) and often support thriving kelp beds (CDFW 2011).

#### *California Grunion*

The California grunion (*Leuresthes tenuis*) is not protected under the CESA or FESA, but garners a level of special status from regional regulations with respect to protection of beach spawning areas from March to September. The species utilizes the sandy beaches from Morro Bay (Mercieca and Miller 1969) to Central Baja California for spawning and have a high potential to occur in the APE. Known grunion runs are expected to occur on Carpinteria State Beach twice a month, at new and full moon between February/March and August or early September. During that time grunion come ashore during the two or three nights following the highest tide, eggs are deposited and then incubate in the sand during the lower tides, when they will not be disturbed by wave action. The eggs are kept moist by residual water in the sand. They hatch about 10 days later, during the next high tide series, when they are inundated with sea water and agitated by rising surf (CDFW 2016).

### **Special Status Marine Mammals**

All marine mammals are protected under the MMPA, which prohibits the “take” of marine mammals, including harassment, hunting, capturing, collecting, or killing in U.S. waters and by U.S. citizens on the high seas.

### *Northern Elephant Seal, Harbor Seal, California Sea Lion, and Guadalupe Fur Seal*

The northern elephant seal (*Mirounga angustirostris*) is state fully protected (FP) species and has a moderate potential to occur within the APE. They breed in the Channel Islands and give birth from December to March. Individuals may occur on land preferably on sandy or rocky areas along the coastline. A majority of their life is spent in the water diving and foraging for food (NOAA 2019c).

The harbor seal (*Phoca vitulina*) and California sea lion (*Zalophus californianus*) both have a high potential to occur within the APE. Both the harbor seal and California sea lion live in temperate coastal habitats along the coast of California. At the east end of the APE, a Seal Sanctuary for the harbor seal is present. The area is a rookery for the harbor seal and provides a specific area where animals gather each year to mate and raise young. The intertidal area within the APE provides a haul-out site where non-breeding animals can gather to rest.

The Guadalupe fur seal (*Arctocephalus townsendi*) is a FT and MMPA protected species. Their breeding grounds are almost entirely on Guadalupe Island, off the Pacific coast of Mexico but individuals have been documented traveling great distances from their breeding grounds. The species has a low potential to occur within the APE since it is rarely documented along the west coast of the U.S. On occasion adults will breed on San Miguel Island and in recent years pup stranding has been documented on southern California beaches (NOAA 2019e).

### *Humpback Whale*

Humpback whale (*Megaptera novaeangliae*) is divided into 14 distinct population segments (DPS), four of which are listed as FE and one is listed as federally threatened (FT). The Central American DPS (FE) and Mexico DPS (FT) both feed and travel off the coast of California during the spring, summer, and fall (NOAA 2019d). The species is typically found in deeper water approximately one to five miles offshore of the APE. Migrations between winter regions and feeding areas off the coast of California do not follow a simple pattern therefore the species may have a low potential to occur within the APE (Calambokidis et al. 2001).

### *Gray Whale and Common Bottlenose Dolphin*

The gray whale (*Eschrichtius robustus*) has a moderate potential to occur within the APE in the Fall when the species is migrating from its summer feeding grounds in the Bering and Chukchi Seas to the breeding lagoons of Baja California and again from mid-February to May migrating northward along the west coast of the U.S. The western North Pacific DPS gray whale is listed as FE and the eastern North Pacific DPS population was once listed but has successfully recovered and was delisted in 1994 (NOAA 2019e).

The common bottlenose dolphin (*Tursiops truncatus*) has a high potential to occur within the APE. The species is found throughout the world in both offshore and coastal waters. They are vulnerable to many stressors and threats including disease, biotoxin, pollution, habitat alteration, vessel collisions, human feeding of and activities causing harassment, interactions with commercial and recreational fishing, energy exploration and oil spills, and other types of human disturbance (such as underwater noise) (NOAA 2019e).



## Other Protected Species (Sea Turtles)

### *Loggerhead, Green, Leatherback, and Olive Ridley Sea Turtles*

The loggerhead sea turtle (*Caretta caretta*) is divided into nine DPS, five of which are protected as FE, and four of which are FT. The FE DPS has a low potential to occur within the APE. The species are circumglobal and occur throughout temperate and tropical regions of the Atlantic, Pacific, and Indian Oceans.

The green sea turtle (*Chelonia mydas*) is divided into 11 DPS, three of which are protected as FE, and eight of which are protected as FT. The FE DPS species has a moderate potential to occur within the APE. The species primarily nests in the Hawaiian Islands, U.S. Pacific Island territories, Puerto Rico, the Virgin Islands, and the east coast of Florida. Adults migrate from foraging areas to nesting beaches and may travel hundreds or thousands of kilometers each way. Green Sea Turtles are occasionally seen along the California Coast, often in El Niño years when the ocean temperature is higher than normal. The species has been documented in the SBC in recent years (NOAA 2019d).

The leatherback sea turtle (*Dermochelys coriacea*) is listed as FE throughout its range, with one Northwest Atlantic DPS a candidate for listing. The species has a low potential to occur within the APE. The species undertake long migrations between breeding and feeding areas and spend most of their lives in the ocean. The species feed off the Pacific coast of North America and migrate across the Pacific for nesting.

The olive Ridley sea turtle (*Lepidochelys olivacea*) is divided into two DPS, with the Pacific coast of Mexico DPS listed as FE and all other populations listed as FT. The FE species has a low potential to occur within the APE. The species occurs throughout the Pacific Islands and the southeast and west coasts of the United States.

## Environmentally Sensitive Habitat Areas and Critical Habitats

The guiding policies for the protection of marine habitats in the coastal zone are set forth in the California Coastal Act which states marine resources shall be maintained, enhanced, and, where feasible, restored. Special protection is given to areas and species of special biological or economic significance. Uses of the marine environment must be carried out in a manner that will sustain the biological productivity of coastal waters and maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes. The Carpinteria GP/LCP & EIR outlines the following ESHA requiring protection against any significant disruption of habitat values, and only uses dependent on those resources are allowed within those areas.

### *Rocky Points and Intertidal Areas*

The intertidal area within the APE consists of stretches of sandy beach broken up by rocky points. Rocky intertidal habitats provide a diversity of ecosystem benefits and provide food and shelter to an array of species including haul-outs for pinnipeds, forage areas for avian wildlife and a home for algae, sessile and motile invertebrates, and fish. The rocky points are distinctive habitat and provide shoreline protection, aesthetic qualities, and unique habitat complexity and species diversity. The rocky intertidal zone supports multiple species assemblages configured in tidal zones that span from the upper spray zone containing barnacles and snails to the lower tidal zones that support a diversity of marine algae, fish and larger motile invertebrates. California mussel beds are an important and prominent feature of the rocky intertidal that in many cases transitions to surfgrass.

Surfgrass is a flowering marine plant that attaches to low intertidal and shallow subtidal rock substrate. Surf grass beds provide nursery habitat for some commercially important species, including California spiny lobster, and surfgrass is adapted to the open coastal areas where it is exposed to wave action. Surf grass is relatively slow-growing and attaches directly to the rock substrate with exposed rhizomes. Damaged rhizomes increase the likelihood of additional surf grass being lost by wave action.

While sand beaches are not typically considered sensitive habitat areas as a whole, several species of migratory avian wildlife, California grunion, Pismo clam (*Tivela stultorum*) and eelgrass (*Zostera pacifica*) utilize or inhabit some portion of soft bottom sand beach habitat in the SBC. Avian wildlife, California grunion, and Pismo clams have been documented to occur in the intertidal sand beach areas of the APE and Pismo clams are a target species for recreational fisherman. No eelgrass beds have been documented to occur in or near the APE, but eelgrass is protected as special status aquatic vegetation and essential fish habitat (EFH) under NOAA/NMFS regulations.

#### *Shallow Rocky Reefs and Kelp Beds*

Subtidal rocky reef substrate provides fixed structure for the attachment of algae and invertebrates that form productive and complex ecosystems occupying different trophic levels. Macroalgae are primary producers that derive their nutrition from sunlight and dissolved nutrients, whereas sessile invertebrates are consumers nourished by filtering plankton and other organic matter from the water column (Mooney and Zavaleta 2015). Shallow rocky reefs and kelp forests facilitate complex trophic interactions at multiple levels that culminate in highly productive species-rich habitats in the shallow nearshore regions of California. Macroalgae develop surface coverage or canopy in various forms that provide food and shelter for a diversity of species. Kelp forests are formed by a variety of stipate macroalgae that grow to form floating surface canopy. Giant kelp is the dominant species throughout the SCB. Giant kelp (*Macrocystis pyrifera*) forms “forests” (beds) in water depths of up to 100-feet (30 m) along the California coast (CSA 1995a). Shallow rocky reefs and kelp beds provide a diversity of socio-economic and ecosystem contributions, both consumptive and non-consumptive, including the commercial and recreational harvest of kelp, fish and invertebrate species and an important conduit for cultural, recreational, and aesthetic benefits to users.

#### *Marine Mammal Rookeries and Hauling Grounds*

The area approximately 2,000-feet to the east of the APE is typically referred to as the Carpinteria Bluffs and provides one of four well established harbor seal rookeries and haul-out areas along the mainland southern coast of California (Marine Mammal Consulting Group 1995). No other marine mammal species are documented to maintain rookeries or haul-out areas near the APE. Significant marine mammal rookeries are located throughout the mainland of central and northern California, the offshore Channels Island, and various coastal islets. Harbor seals tend to habituate to repetitive and consistent levels of activity occurring at facilities, along roads or railways. However, haul-out harbor seals are not tolerant of human or dog activity along the beach, bluffs, or in the water, particularly when this activity is sudden or noisy.

#### *Black Abalone Critical Habitat*

The APE is not within black abalone critical habitat, but it is notable the critical habitat designation covers 242 square miles (390 square kilometers) of rocky habitat along the California coastline from the mean high water line down to 20-feet (6 m). The critical habitat designation area generally spans from Del Mar Landing in northern Sonoma County down to the entrance to Los Angeles

Harbor, including all of the offshore islands (NOAA 2019e). The subtidal areas within the APE are not defined as black abalone critical habitat, although there is potential for settlement of black abalone in the rocky intertidal habitat of the APE.

#### *Steelhead Critical Habitat*

The ocean outfall component of the project lies within federally designated critical habitat for southern California steelhead, as designated in September 2005.

### 4.3 Jurisdictional Waters and Wetlands

Areas potentially subject to the USACE pursuant to Section 404 of the Clean Water Act, the RWQCB pursuant to Section 401 of the Clean Water Act and the California Water Code (Porter-Cologne Water Quality Control Act), CDFW pursuant to California Fish and Game Code 1600, and the City of Carpinteria, the County of Santa Barbara, and the California Coastal Commission (coastal wetlands), were assessed during the literature review and reconnaissance survey. Results of the research and field visit determined four potential jurisdictional features occur within the APE: Franklin Creek, Carpinteria Creek, a roadside stormwater drain, and the Pacific Ocean.

Carpinteria Creek contains flows for at least three months out of most years and connects to the Pacific Ocean, which is defined as a traditional navigable water (TNW), and therefore subject to USACE, RWQCB, and CDFW jurisdiction. The creek is out of the project footprint and no physical disturbance to the creek is proposed.

Franklin Creek is an ephemeral stream that lacks relatively permanent flows and is a tributary to Santa Monica Creek which connects to the Pacific Ocean, and thus is also subject to USACE, RWQCB, and CDFW jurisdiction. The proposed project may cross Franklin Creek, depending on which well site is ultimately selected.

The concrete-lined roadside stormwater drain located along the east side of Linden Avenue is limited to flows during storm events and/or runoff and consisted of non-native vegetation on either side of the drain. Many roadside stormwater drains are artificially created, unconnected to natural waterways, and do not support protected habitat or important wetland functions. These drains are generally not subject to stream and wetland regulations. However, there are cases where drains are regulated: if the drain was originally a natural stream or connects to one; if the ditch meets the USACE definition of a wetland within the coastal zone (meets at least one of the three requirements: hydrophytic vegetation, hydric soils, hydrology); if the ditch supports native vegetation; or if the ditch has any connection to the tides. As such, the roadside stormwater drain may be subject to USACE, RWQCB, and CDFW jurisdiction.

The ocean outfall is within a TNW of the U.S., protected under Section 10 of the Rivers and Harbors Act (USACE), and subject to the plans and policies set forth in the Water Quality Control Plan for Ocean Waters of California (Ocean Plan).

### 4.4 Wildlife Movement

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration

corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

The habitats in the link do not necessarily need to be the same as the habitats that are being linked. Rather, the link merely needs to contain sufficient cover and forage to allow temporary inhabitation by ground-dwelling species. Typically, habitat linkages are contiguous strips of natural areas, though dense plantings of landscape vegetation can be used by certain disturbance-tolerant species. Depending upon the species using a corridor, specific physical resources (e.g., rock outcroppings, vernal pools, or oak trees) may need to be in the habitat link at certain intervals to allow slower-moving species to traverse the link. For highly mobile or aerial species, habitat linkages may be discontinuous patches of suitable resources spaced sufficiently close together to permit travel along a route in a short period of time.

Wildlife movement corridors can be both large- and small-scale. Overall, the APE is heavily developed and is divided by major roadways. At the regional/landscape level scale, the APE is not within any mapped landscape models, such as an Essential Connectivity Area or Natural Landscape block in the California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California (Spencer et al. 2010). Small scale habitat corridors are present within the APE and include drainages and other topographic features that facilitate movement, such as Franklin and Carpinteria Creeks. Carpinteria Creek also provides a means to facilitate regional connectivity for a number of species including, but not limited to the steelhead – Southern California DPS.

The Santa Ynez Mountains constitute a large, regional block of habitat to the north of the APE. Due to urban expansion, connectivity between the mountains and the project is limited to the narrow creek corridors present within the APE.

Franklin Creek is located within the northern component of the APE and could act as movement corridors for typical wildlife species adapted to urban environments. Fully developed properties are present adjacent to Franklin Creek and common wildlife adapted to urban and suburban areas (e.g., raccoon and striped skunk) could use the concrete-lined intermittent drainage for local movement. Wildlife species could also use the riverine habitat of Carpinteria Creek for local movement.

The offshore portion of the APE is located within designated EFH for finfish, krill (*Thysanoessa spinifera*, *Euphausia pacifica*, and other krill species), coastal pelagic species, and groundfish (NMFS 2019b). The offshore portion of the APE has the potential to support at least one life stage of economically important species included in the fishery management plans (FMP) listed in Section 3.2. Species covered under the FMPs for finfish, coastal pelagic species and groundfish include, but are not limited to, species such as northern anchovy, Pacific sardine, Pacific mackerel and jack mackerel. Coastal nearshore areas are identified as being important for one or multiple life stages (adult, juvenile, larva and egg) of a broad range species within the listed FMPs.

## 4.5 Resources Protected by Local Policies and Ordinances

The proposed project occurs within the limits of the city of Carpinteria, with the exception of potential injection well area #6 which occurs within unincorporated Santa Barbara County. Furthermore, the entire proposed project occurs within the local coastal zone. CVWD anticipates that the proposed project would be implemented generally consistent with the policies and ordinances established in the City's General Plan/Local Coastal Land Use Plan (excluding injection

well area #6) and the County's Coastal Land Use Plan (only applicable to injection well area #6) to protect coastal biological resources. Below is discussion of resources protected by policies and ordinances for each jurisdiction.

### **City of Carpinteria General Plan/Local Coastal Land Use Plan & Environmental Impact Report**

#### *OSC-1 Protect, Preserve and Enhance Local Natural Resources and Habitats*

ESHA within the city of Carpinteria is protected from development and preserved as natural open space or passive recreational areas. Any development on property including ESHA should be designed and conducted to protect the resources. Within environmentally sensitive habitat, only uses dependent upon those resources shall be allowed and the resources shall be protected against any disruption.

Known ESHA locations are identified in the ESHA Overlay map in the Carpinteria GP/LCP & EIR and include, but are not limited to Carpinteria Creek, Carpinteria Bluffs, Carpinteria Salt Marsh, seal rookery, Carpinteria reef, Pismo clam beds and the intertidal zones along the shoreline. Areas not identified in the map that meet the definition of ESHA (e.g., arroyo willow thickets) provided in Section 30107.5 of the Carpinteria GP/LCP & EIR, are also considered ESHA and afforded the same protections as formally designated areas.

Any activity proposed within an ESHA, including maintenance of property improvements such as weeding and brush clearing, tree trimming, and removal of dead or dying plant material ("maintenance"), shall not result in the significant disruption of habitat values and shall require approval from the City Biologist or a determination by the City that the proposed activity is consistent with the habitat management plan adopted by the City in the Carpinteria GP/LCP & EIR.

Additionally, all development adjacent to ESHA, in or adjacent to ocean-fronting parks or recreation areas, or contiguous to coastal waters, shall be regulated to prevent adverse impacts on habitat resources. Regulatory measures include, but are not limited to: setbacks, buffer zones, grading controls, noise restrictions, lighting restrictions, requirements for wildlife permeable fencing, and maintenance and establishment of native vegetation. Furthermore, development within ESHA would require a City development permit.

Carpinteria Creek and the small strand of riparian habitat (i.e., arroyo willow thicket) at the intersection of Olive Avenue and 6th Street were observed within the APE meet the City's ESHA definition. As such, this policy may be potentially relevant to these resources.

#### *OSC-4 Preserve the Biological Diversity of Shoreline Habitats*

The marine resources of the Carpinteria tidepools, reef, and other rocky reefs and intertidal areas shall be protected under this policy. Project activities should limit impacts on public beaches that include or are adjacent to rocky points and intertidal areas. If the project shows evidence of the depletion of these resources, CDFW shall be engaged to assess the extent of damage and implement mitigating measures, as needed. This policy is potentially relevant to project activities that may occur in rocky reefs and intertidal areas.

#### *OSC-5 Protect the Harbor Seal Hauling Ground from Human Disturbance*

This policy is set forth to protect the harbor seal hauling ground and project activities shall prohibit development and activity that could result in noise, vibration, or other disturbance that could result

in the degradation of the seal hauling grounds. This policy is potentially relevant to project activities that may disturb harbor seals while present in hauling grounds.

*OSC-6 Preserve the Natural Environmental Qualities of Creekways and Protect Riparian Habitat*

Under this policy, support for the preservation of creeks and their corridors is directed to protect the community's water quality, wildlife diversity, aesthetic values, and recreation opportunities. Alterations to a creek within the City require Coastal Act approval. Creeks are protected by only allowing creek bank and creek bed alterations where no practical alternative solution is available, where the best mitigation measures feasible have been incorporated, and where any necessary state and federal permits have been issued. Creek alterations are advised to utilize natural creek alteration methods where possible (e.g., earthen channels and biotechnical stabilization).

Creek alterations under this policy require all permitted construction and grading within stream corridors to be performed in such a manner so as to minimize impacts on biological resources and water quality such as increased runoff, creek bank erosion, sedimentation, biochemical degradation, or thermal pollution. All natural drainage patterns and runoff rates/volumes shall also be preserved to the greatest degree feasible by minimizing changes to natural topography, and minimizing the areas of impervious surfaces created by new development. Furthermore, creek alterations shall be evaluated for potential adverse impacts to water quality and shall apply Best Management Practices (BMPs) to minimize polluted runoff and water quality impacts resulting from creek alterations. A 50-foot setback from top of the upper bank of creeks or existing edge of riparian vegetation (dripline), whichever is further, is required to be established and maintained for all development.

This policy is potentially relevant to Franklin Creek, Carpinteria Creek, and the small strand of riparian habitat (i.e., arroyo willow thicket) located at the intersection of Olive Avenue and 6th Street.

*OSC-7 Conserve Native Plant Communities*

Various native plant communities consisting of but not limited to oak woodlands, oak, walnut, sycamore, and other native trees, are located throughout the City and are protected through appropriate development standards. Under this policy, when sites are graded or developed, areas with significant amounts of native vegetation shall be preserved and structures shall be sited and designed to minimize the impact of grading, paving construction of roads, runoff and erosion on native vegetation. New development shall include measures to restore any disturbed or degraded habitat within the proposed project with native, drought-tolerant plant species consistent with the existing native vegetation on the site.

The arroyo willow thicket previously mentioned meets the City's ESHA requirements. Additionally, protected trees (e.g., coast live oak, eucalyptus, City landmarks) are located throughout the APE which meets the City, County, and coastal zone tree protection measures. As such, this policy may be potentially relevant to these resources.

*OSC-8 Protect and Conserve Monarch Butterfly Tree Habitat*

The purpose of this policy is to preserve and restore habitat used by sensitive, rare, threatened, and endangered species. New development in or adjacent to habitat used by special status species shall be set back sufficiently far as to minimize impacts to the habitat area. For nesting and roosting trees used by sensitive, rare, threatened, or endangered raptors on the Carpinteria Bluffs or on parcels

adjacent to Carpinteria Creek, this setback shall be a minimum of 300 feet. Additions or alterations to existing development on parcels adjacent to Carpinteria Creek may be located within the applicable setback if a pre-construction survey by a qualified biologist determines the proposed development does not adversely affect the future use of the nesting or roosting trees. This policy also protects trees (e.g., eucalyptus) supporting (e.g., roosting) monarch butterfly populations.

Elements of suitable habitat (e.g., eucalyptus trees) were observed throughout the APE, particularly along Linden Avenue where the primary and southern potential pipeline alignment is proposed. No winter roost sites have been identified throughout the APE; however, the closest known roosting colony has been recorded approximately 700-feet northeast of the WWTP, along Carpinteria Creek (City of Carpinteria 2003). As such, this policy may be potentially relevant to these resources.

### *City Landmarks*

The City identified the palm trees located on the parkway between 7th and 8th Streets, at the corner of Linden Avenue and 7th Street, as Carpinteria City Landmark #4. The palms were planted prior to 1912 and were incorporated into the development of the Palms Hotel. Additionally, a sycamore tree located at 5300 6th Street, approximately 600-feet east of Palm Avenue, is estimated to be approximately 200 years old and is designated as City Landmark #5. The tree stands approximately 70-feet tall and has a base trunk diameter of 69 inches. The proposed southern potential and primary pipeline alignment travel through these streets and this policy may be relevant to the palms.

## **Santa Barbara County Article II Coastal Zoning Ordinance**

Pursuant to Public Resources Code Section 30500 of the California Coastal Act of 1976, Santa Barbara County was required to prepare a LCP for portions of the unincorporated areas of Santa Barbara County within the coastal zone. Part of the requirements for development of the County LCP includes the creation of a zoning ordinance. The following describes sections of the Santa Barbara County Article II Zoning Ordinance that may potentially be relevant to the proposed project component injection well area #6 and its associated pipeline.

### *Section 35-97.19 Development Standards for Stream Habitats*

Under this ordinance, the minimum buffer strip for streams in urban areas, as defined by the Coastal Land Use Plan, is presumptively 50-feet. However, this minimum buffer may be adjusted upward or downward on a case-by-case basis. The buffer is established based on an investigation of the factors such as: soil type and stability of stream corridors; how surface water filters into the ground, slope of land on either side of the stream; and location of the 100-year flood plain boundary. In addition to these factors, consultation with CDFW and RWQCB is also required to protect the biological productivity and water quality of streams. Riparian vegetation is to also be protected in this buffer.

In addition, no structures are to be located within the stream corridor except: public trails, dams for necessary water supply projects, flood control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development; and other development where the primary function is for the improvement of fish and wildlife habitat. Culverts, fences, pipelines, and bridges (when support structures are located outside the critical habitat) may be permitted when no alternative route/location is feasible. This ordinance is potentially relevant to Franklin Creek.

*Section 35-140 Tree Removal*

The purpose of this ordinance is to regulate the removal of qualifying trees within the coastal zone. The intent is to preserve healthy trees that are important for the protection of habitat areas and the scenic and visual quality of the County. A Coastal Development Permit (CDP) is required for the removal of any qualifying tree. A qualifying tree is defined as a tree which is six inches or more in diameter measured four feet above the ground and six feet or more in height and which is 1) located in a County street right-of-way; or 2) located within 50-feet of any major or minor stream except when such trees are removed for agricultural purposes; or 3) oak trees; or 4) used as a habitat by the monarch butterflies. However, a CDP to remove trees in the coastal zone shall only be issued for reasons such as: the trees are dead; the trees prevent the construction of a project for which a CDP has been issued and project redesign is not feasible; the trees are diseased and pose a danger to healthy trees in the immediate vicinity; or the trees are so weakened by age, disease, storm, fire, excavation, removal of adjacent trees, or any injury so as to cause imminent danger to persons or property. Qualifying trees (i.e., six inches or more in diameter measured four feet above the ground and six feet or more in height, located within 50-feet of any major or minor stream) under this ordinance were observed within the proposed project component injection well area #6. However, the likelihood of a CDP approval for removal of these trees would be unlikely as they do not meet the CDP qualifying requirements.

**Santa Barbara County Coastal Land Use Plan**

The Santa Barbara County Coastal Land Use Plan was partially certified by the Coastal Commission on March 17, 1981 and is the Local Coastal Program for unincorporated Santa Barbara County. It details the rules and regulations of land use within Santa Barbara County's coastal areas. The following Santa Barbara County Coastal Land Use Plan policies may potentially be relevant to the proposed project component injection well area #6 and its associated pipeline.

*Policy 9-37*

This policy consists of the same guidelines discussed above in the Santa Barbara County Article II Zoning Ordinance *Section 35-97.19 Development Standards for Stream Habitats*. The minimum buffer strip for streams in urban areas, as defined by the Santa Barbara County Coastal Land Use Plan, is presumptively 50-feet. However, this minimum buffer may be adjusted upward or downward on a case-by-case basis. The buffer is established based on an investigation of the factors such as: soil type and stability of stream corridors; how surface water filters into the ground, slope of land on either side of the stream; and location of the 100-year flood plain boundary. In addition to these factors, consultation with CDFW and RWQCB is also required to protect the biological productivity and water quality of streams. Riparian vegetation is to also be protected in this buffer. This policy is potentially relevant to Franklin Creek.

*Policy 9-38*

This policy consists of the same guidelines discussed above in the Santa Barbara County Article II Zoning Ordinance *Section 35-97.19 Development Standards for Stream Habitats*. No structures are to be located within the stream corridor except: public trails, dams for necessary water supply projects, flood control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development; and other development where the primary function is for the improvement of fish and wildlife habitat. Culverts, fences, pipelines, and bridges (when support structures are located



outside the critical habitat) may be permitted when no alternative route/location is feasible. This policy is potentially relevant to Franklin Creek.

## 4.6 Habitat Conservation Plans

The proposed project does not occur within any Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, conservation plans are not addressed further within this analysis.

## 5 Impact Analysis and Mitigation Measures

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The criteria used to evaluate potential project-related impacts to biological resources are presented in Section 2.1. This section discusses the possible adverse impacts to biological resources that may occur from implementation of the project and includes recommended avoidance, minimization, and mitigation measures that would reduce impacts to less than significant levels.

For each impact identified in this report, a statement of the level of significance of the impact is provided. Impacts are categorized in one of the following categories:

- No impact would result when no adverse change in the environment is expected; no mitigation would be required.
- A beneficial impact would result when the proposed project would have a positive effect on the natural or human environment and no mitigation would be required.
- A less than significant impact would not cause a substantial change in the environment, although an adverse change in the environment may occur; only compliance with standard regulatory conditions would be required.
- A significant (but mitigable) impact would have a substantial adverse impact on the environment, but could be reduced to a less-than-significant level through successful implementation of identified mitigation measures.
- A significant unavoidable impact would cause a substantial adverse effect on the environment, and application of all feasible mitigation measures would not reduce the impact to a less-than-significant level (Class I).

### 5.1 Special Status Species

According to the CEQA Appendix G checklist, the proposed project would have a significant effect on biological resources if it would:

- a) *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.*

#### *Special Status Plant Species*

No special status plant species have potential to occur within the APE. Special status plant species have specialized habitat requirements, including plant community types, soils, and other components. The project footprint generally lacks these requirements. In addition, none of the species analyzed were documented in the APE during the January 24, 2019 survey. Based on the lack of suitable habitat within the APE, no special status plants are expected to occur within the APE. Therefore, there would be no potential impacts to special status plant species.

#### *Special Status Wildlife Species*

No terrestrial special status wildlife species were observed or detected during the reconnaissance survey. Special status wildlife species were determined to occur within the APE based upon known

ranges, habitat preferences for the species, species occurrence records from the CNDDDB, and species occurrence records from other sites in the vicinity of the APE. The following special status terrestrial species were identified as having a moderate or high potential for occurrence within the APE: monarch, tidewater goby, southern California steelhead, western snowy plover, and yellow warbler.

The Monarch - California overwintering population is a City and County local sensitive species that has a moderate potential to occur within the APE. Elements of suitable habitat (e.g., eucalyptus trees) were observed throughout the APE, particularly along Linden Avenue where the primary and southern potential pipeline alignment is proposed. No roosting colonies have been identified within the APE; however, the closest known roosting colony has been recorded approximately 700-feet northeast of the WWTP, along Carpinteria Creek. Project activities along roadways could have potential indirect effects (e.g., noise, dust) to roosting monarchs. Implementation of mitigation measures BIO-1 and BIO-5 would help ensure impacts to roosting monarchs are avoided, thereby reducing indirect effects to monarch to a less than significant level.

Both tidewater goby and southern California steelhead trout have a high potential to occur within the southern portion the APE. The southern portion of the APE also falls within CDFW designated critical habitat for steelhead. No project activities are anticipated to directly impact both these species; however, implementation of measures BIO-1, BIO-2, BIO-10, and BIO-11 would reduce indirect effects to both these species to a less than significant level.

The California legless lizard is an SSC with a low potential to occur within the APE. Although elements of suitable habitat (e.g., sandy soils and sparse vegetation) are present within the southern portion of the APE (i.e., Carpinteria State Beach), the last known CNDDDB occurrence of this species was before 1983. Since then, Carpinteria State Beach has been significantly developed. As no project activities are proposed within Carpinteria State Beach and this species is not expected to occur within the remainder of the APE, the proposed project is not expected to result in impacts to this species.

The western snowy plover is a FT and a state SSC that has a moderate potential to occur within the southern portion of the APE (i.e., Carpinteria State Beach). Carpinteria State Beach consists of elements of suitable habitat (e.g., sandy beaches), but is also a highly developed recreational beach with high human disturbance. The species has been known to use the beach for foraging, roosting, and as a stopover during migration; however, the species is not known to nest within Carpinteria State Beach (California State Parks 2014). In addition, no project activities are proposed within Carpinteria State Beach and this species is not expected to occur within the remainder of the APE. Therefore, the proposed project is not expected to impact the species.

The APE contains habitat that can support special status birds (e.g., yellow warbler) and nesting birds, including raptors, protected under the CFGC and the MBTA. The adjacent native trees and ornamental vegetation throughout the APE provide suitable nesting habitat for avian species. Specifically, the tall eucalyptus trees throughout the APE contain suitable habitat for raptor species. Also, the Franklin Creek bridge may provide habitat for mud-nesting birds such as black phoebe (*Sayornis nigricans*). The project could adversely affect raptors and other nesting birds if construction occurs while they are present within or adjacent to the project footprint, through direct mortality or abandonment of nests. The loss of a nest due to construction activities would be a violation of the MBTA and CFGC Section 3503. BIO-1 through BIO-4 are recommended for compliance with the MBTA and CFGC 3503 and to ensure special status/nesting birds are not impacted, thereby reducing indirect effects to a less than significant level.

*Special Status Marine Species*

No special status marine species were observed or detected during the reconnaissance surveys. Special status marine species were determined to occur within the APE based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDDB, and species occurrence records from other sites in the vicinity of the APE. The following special status marine species were identified as having a moderate or high potential for occurrence within the APE: black, pink and green abalone, white shark, garibaldi, California grunion, northern elephant seal, harbor seal, California sea lion, common bottlenose dolphin, gray whale and green sea turtle.

Black, pink and green abalone have a moderate potential to occur within the various intertidal and shallow rocky reef portions of the APE. The rocky points and shallow subtidal rocky reefs are identified as ESHA in the Carpinteria GP/LCP & EIR. No project activities are anticipated to directly impact any of the marine rocky points or reef areas considered potential habitat for abalone; however, implementation of BIO-1, BIO-2 and BIO-7 would reduce indirect effects to the species to a less than significant level.

The white shark and garibaldi have a high potential to occur; however, no project activities are anticipated to directly impact the white shark and garibaldi or have an adverse change to their environment. California grunion also have a high potential to occur on shore in sandy beaches within the APE, from March to September. No project activities are anticipated to directly impact the beaches, therefore no direct or indirect effects to the species would occur.

The APE contains habitat that supports resident, foraging and transiting special status marine mammals, including both pinnipeds and cetaceans protected under the MMPA. The waters of the APE are relatively shallow (< -25-feet) reducing the potential for the cetaceans (e.g., humpback whale) to occur. The California sea lion, harbor seal, northern elephant seal, common bottlenose dolphin and gray whale have a moderate to high potential to occur. Marine mammals exposed to high-intensity sound repeatedly or for prolonged periods can experience hearing threshold shift, which is the loss of hearing sensitivity at certain frequency ranges (Kastak et al. 1999; Schlundt et al. 2000; Finneran et al. 2002, 2005). A permanent threshold shift (PTS) is said to occur when the loss of hearing sensitivity is unrecoverable. Noise can also cause other forms of disturbance when marine mammals alter their normal patterns of behavior to move away from the source. Based on NMFS (2018) Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing a temporary threshold shift (TTS) of 6 dB is considered the minimum threshold shift clearly larger than the animal's normal hearing ability. A TTS is a temporary, reversible increase in the threshold of audibility at a specified frequency or portion of an individual's hearing range above a previously established reference level. The project activities propose only limited marine construction inclusive of pneumatic drivers and drills, which are not expected to impact marine mammals. BIO-1 and BIO-6 are recommended for compliance with the MMPA to reduce marine mammal disturbance, thereby reducing indirect effects to a less than significant level. Additionally, harbor seals may use the shoreline as a haul-out and proposed project activities along the project's outfall pipe could have a potential indirect effect (e.g., noise, movement) on haul-out harbor seals. BIO-2 and BIO-3 would reduce potential impacts to a less than significant level.

Sea turtles, particularly the green sea turtle, have a moderate potential to occur within offshore areas of the APE. No project activities are anticipated to have an adverse change to their environment. However, if the species is present during in-water construction the species has a potential to be adversely affected. BIO-1 and BIO-6 are recommended to reduce sea turtle disturbance, thereby reducing indirect effects to a less than significant level.

*BIO-1 Worker Environmental Awareness Program*

Prior to initiation of all construction activities (including staging and mobilization), all personnel associated with project construction shall attend a Worker Environmental Awareness Program (WEAP) training, conducted by a qualified biologist, to assist workers in recognizing special status biological resources that may occur in the APE. This training will include information about southern California steelhead, tidewater goby, protected nesting birds, marine mammals, as well as other special status species potentially occurring in the APE.

The specifics of this program shall include identification of special status species and habitats, a description of the regulatory status and general ecological characteristics of special status resources, and review of the limits of construction and measures required to avoid and minimize impacts to biological resources within the work area. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employees, and other personnel involved with construction of the project. All employees shall sign a form provided by the trainer documenting they have attended the WEAP and understand the information presented to them. The crew foreman shall be responsible for ensuring crew members adhere to the guidelines and restrictions designed to avoid impacts to special status species. If new construction personnel are added to the project, the crew foreman shall ensure that the new personnel receive the WEAP training before starting work. The subsequent training of personnel can include videotape of the initial training and/or the use of written materials rather than in-person training by a biologist.

*BIO-2 Trash Management*

All food related trash shall be disposed of in closed containers and removed from the project site each day during the construction period. Construction personnel shall not feed or otherwise attract wildlife to the construction area. At project completion, all project-generated debris, vehicles, building materials, and rubbish shall be removed from the project footprint.

*BIO-3 Night Construction and Night Lighting*

Night-time construction should be avoided adjacent to Franklin Creek, Carpinteria Creek, and Carpinteria State Beach to avoid impacts to special status wildlife in and near these drainages and the beach. If construction must occur at night (between dusk and dawn), all lighting will be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties and to reduce impacts on local wildlife.

*BIO-4 Nesting Bird Surveys*

To avoid disturbance of nesting and special status birds, including raptor species protected by the MBTA and CFGC 3503, activities related to the project including, but not limited to, vegetation removal, ground disturbance, and construction and demolition shall occur outside of the bird breeding season for migratory birds (February 1 through August 31), if practicable.

If construction must begin during the breeding season, then a pre-construction nesting bird survey shall be conducted no more than seven days prior to initiation of ground disturbance and vegetation removal activities. The nesting bird pre-construction survey shall be conducted on foot inside the project footprint, including a 100-foot buffer (300-foot for raptors), and in inaccessible areas (e.g., private lands) from afar using binoculars to the extent practicable. The survey shall be conducted by a biologist familiar with the identification of avian species known to occur in southern California coastal communities. If nests are found, an avoidance buffer (dependent upon the species, the

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proposed work activity, and existing disturbances associated with land uses outside of the site) shall be determined and demarcated by the biologist with bright orange construction fencing, flagging, construction lathe, or other means to mark the boundary. All construction personnel shall be notified as to the existence of the buffer zone and to avoid entering the buffer zone during the nesting season. No ground-disturbing activities shall occur inside this buffer until the avian biologist has confirmed that breeding/ nesting is completed, and the young have fledged the nest. Encroachment into the buffer shall occur only at the discretion of the qualified biologist.

*BIO-5 Avoidance of Monarch Butterfly Winter Roost Sites*

To minimize indirect project impacts to potential monarch butterfly roosts, monarch butterfly roosts shall be avoided during all construction activities related to project activities, tree removal/trimming, vegetation clearing, and grading activities (collectively, "land clearing activities"). This can be accomplished by implementing either one of the following options:

1. Prohibit land clearing activities during the monarch wintering season (October 1 through March 1); or,
2. Conduct site-specific surveys prior to land clearing activities during the monarch wintering season (October 1 through March 1) and avoid monarch roosts.

If Option 2 is selected, surveys (described below) shall be conducted to identify any monarch roosts in the area proposed for disturbance. Monarch roosts shall be avoided during the wintering season by establishing a 50-foot buffer between land clearing activity and the roost.

An initial monarch survey shall be conducted of all potentially suitable habitat areas within the APE 30-days prior to the initiation of land clearing activities. The project site must continue to be surveyed on a weekly basis with the last survey completed no more than 7 days prior to the initiation of land clearing activities. The monarch butterfly survey must cover monarch wintering habitat within the APE. If monarch roosts are found, land clearing activities within 50-feet surrounding the roost shall be postponed or halted while the monarchs are present (typically October 1 through March 1). Construction activities may occur outside of the 50-foot setback areas during this time.

*BIO-6 Avoidance Measures for Marine Mammal and Sea Turtle Species*

To minimize disturbance to species status marine mammal and sea turtle species, general guidelines set forth in the MMPA shall be implemented. Vessels under power shall remain at least 100 yards (300 feet) away from whales and 50 yards (150 feet) from dolphins, porpoises, seals, sea lions and sea turtles. When encountering marine mammals the vessel shall slow down, operate at no-wake speed and the vessel shall be put in neutral to let the individual pass.

*BIO-7 Subtidal Biological Survey*

To minimize direct project impacts to special status abalone species and offshore ESHA including rocky points, intertidal areas, subtidal reefs and kelp beds, at least 45 days prior to the start of in-water project activities, a subtidal biological survey shall be completed by a qualified biologist to document areas of kelp, special status species, and rocky reef within the APE and a 100-foot buffer. If the survey identifies rocky reefs, kelp bed, or special status species, project activities shall avoid and anchor project-related vessels at least 50 feet away from special status species and habitat, if feasible. If the area cannot be avoided, the project shall utilize techniques that minimize turbidity (i.e. installation of a turbidity curtain), scarring on rocky habitat, and down cast sand excavated at or

near the outfall into sand channels away from rocky habitat. For consistency with Policy OSC 4, a post construction survey shall be completed by a qualified biologist to document final conditions.

## 5.2 Sensitive Natural Communities

The proposed project would have a significant effect on biological resources if it would:

- b) *Have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.*

The project proposes an open cut trench method along Olive Avenue, which is a developed public right-of-way, for the primary pipeline alignment. Open cut trenching and/or construction materials (e.g., stockpiled materials, construction equipment, and trash) have the potential to result in potentially significant indirect impacts to the arroyo willow thicket located in this area. The arroyo willow thicket meets the criteria for classification of ESHA, a coastal zone wetland, and a CDFW sensitive natural community. With implementation of BIO-1, BIO-2, and BIO-8, potential indirect impacts to the arroyo willow thicket would be reduced to a less than significant level.

The Carpinteria GP/LCP & EIR identifies areas of rocky points and intertidal areas, subtidal reef, kelp beds, and marine mammal rookeries and hauling grounds as ESHA. These ESHA designations are in place to protect local waters and the sensitive species within the habitat. Impacts to these areas may include degradation of water quality and removal of rocky habitat or species, such as giant kelp. Vessel anchoring, removal of kelp beds, and bottom disturbance which increases suspended sediment for an extended period may have a potential direct or indirect impact to ESHA and could result in a significant adverse impact to the environment. However, implementation of BIO-1, BIO-2, BIO-6 and BIO-7 would reduce potential impacts to sensitive habitats to a less than significant level. Additionally, BIO-9 through BIO-12 described below in Section 5.3 Jurisdictional Water and Wetlands would further reduce potential impacts.

### *BIO-8 Sensitive Habitat Fencing*

Prior to project mobilization, where the project is adjacent to native habitat (i.e., ESHA, riparian habitat, wetland, sensitive natural communities); temporary construction fencing shall be erected by the contractor at the edge of the temporary construction easement to avoid impacts to the habitat throughout the duration of construction.

## 5.3 Jurisdictional Waters and Wetlands

The proposed project would have a significant effect on biological resources if it would:

- c) *Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.*

### *Carpinteria Creek and Franklin Creek*

Impacts to Carpinteria Creek are not anticipated based on the proposed project; however, if injection well areas #5 or #6 are selected for construction, potential impacts to Franklin Creek may occur. The Franklin Creek crossing would be constructed in one of two ways: 1) open trench through

the concrete channel, or 2) via pipe bridge. Open trench construction across the concrete channel would cross Franklin Creek adjacent to Franklin Park, between Meadow View Lane and Sterling Avenue. The trench would be approximately 13-feet wide and would cross perpendicular to the channel. This portion of Franklin Creek is a concrete-lined channel that does not support wetlands, riparian habitat, or vegetation and the concrete channel would be restored to pre-project conditions after installation of the pipeline. Construction of the pipe span over Franklin Creek would be from the creek bank. Construction personnel would use small cranes, or excavators to raise and lower the pipe into place. The purified water pipe would be routed above grade before spanning Franklin Creek and would use pipe support(s) mounted to the adjacent bridge or concrete channel wall. If the pipe penetrates through the concrete channel wall instead of using pipe supports to clear it, a small amount of new rebar reinforced concrete would be used to close the penetration and provide confinement for the purified water pipe.

Impacts to the roadside stormwater drain along the east side of Linden Avenue, where the primary pipeline alignment component is proposed, are not anticipated based on the proposed project description. Caltrans is currently performing upgrades to U.S. Highway 101 at the Linden Street overpass which includes the installation of a pipeline on the overpass. The proposed project would connect to this pipeline greater than 50-feet from the drain and therefore the proposed project is not expected to result in direct or indirect impacts this feature.

Project-related direct impacts (e.g., open cut trenching) to Franklin Creek are expected to be temporary and restored to pre-existing project conditions. Therefore, direct impacts would be less than significant. However, direct impacts from the proposed project would be potentially subject to USACE jurisdiction pursuant to Section 404 of the Clean Water Act, the RWQCB pursuant to Section 401 of the Clean Water Act and the California Water Code (Porter-Cologne Water Quality Control Act), and CDFW pursuant to California Fish and Game Code 1600. Indirect impacts from open cut trenching and/or construction materials (e.g., stockpiled materials, construction equipment, and trash) that may be stored on-site could adversely affect water quality (e.g., increased turbidity, altered pH, decreased dissolved oxygen levels, etc.) within the jurisdictional waters if runoff were to occur during storm events. Therefore, BIO-9 through BIO-11 and BIO-13 shall be implemented within 50-feet of Franklin Creek and Carpinteria Creek to avoid potential indirect impacts to water quality within these jurisdictional features. With implementation of these mitigation measures (and adherence to agency permits and existing regulations), potential indirect impacts to creeks would be reduced to a less than significant level.

### *Pacific Ocean*

The outfall pipeline terminating offshore of Carpinteria State Beach will require modifications to the diffusers, involving light marine construction activities. This action may result in potential impacts to the course, location, or condition of the water body. The proposed project may alter the amount of effluent conveyed by the outfall and may result in an increased salinity and other constituents in the discharge. Navigable waters of the U.S. are regulated under Section 10 of the Rivers and Harbors Act and any structures or work outside the limits defined for navigable waters of the U.S. requires a Section 10 permit if the structure or work affects the course, location, or condition of the water body. No direct impacts to Carpinteria State Beach (on shore or off shore) are proposed. Off shore project activities would be completed by divers and a supporting vessel, require mounting of duckbill valves to the outfall, and potentially the removal of existing diffuser plates and installation of new fabricated diffuser plates with risers, elbows, and fanged duckbill valves. Tools required would be typical of underwater tools, including pneumatic drivers, drills, etc. Construction activities are expected to result in short-term and temporary increases in water column turbidity during sand



excavation similar to, but less than, those generated by storm waves, therefore the project is not expected to increase seawater turbidity to a significant level. To minimize indirect impacts to water quality offshore of Carpinteria State Beach, BIO-9 through BIO-12 shall be implemented during offshore construction activities to reduce the potential indirect effects to water quality.

Changes to the volume and dilution properties of the project's ocean discharge were evaluated in detail by Flow Sciences (2019). The existing secondary waste water discharge from the project's ocean outfall ranges from 1.8 to 2.5 MGD dependent on the season and consists of primarily fresh water, salinity of 1.5 ppt. Implementation of the proposed project would reduce wastewater discharge by approximately 80%, reducing ocean discharge flow to approximately 0.3 MGD on average or 1.5 MGD during periods when the injection wells are off-line and all effluent is discharged to the Pacific Ocean. The proposed modifications to the ocean outfall diffusers maintain 16 alternating ports but include the inclusion of Tideflex "duckbill" check valves that direct discharge horizontally versus the preexisting downward -30 degree angle.

The analysis performed by Flow Sciences was a near-field dilution analysis, in which the dilution of the discharged effluent is computed within the "Zone of Initial Dilution" (ZID). The ZID is defined as the zone immediately adjacent to a discharge where momentum and buoyancy-driven mixing produces rapid dilution of the discharge (Flow Sciences 2019). In this analysis, the ZID ends at the point where the effluent plume reaches the water surface. Based on the dilution results developed by Flow Sciences, modifications to the diffuser ports will increase the average dilution ratio within the ZID by seven, 75:1 versus 68:1 for the cool season, compared to existing conditions, assuming the same flow rate (2.5 MGD). The proposed decrease in the flow rate to 1.5 MGD further increases the average dilution ratio within the ZID by an additional factor of 22 raising the ratio to 97:1. When the project is complete and discharge flow is reduced to 0.3 MGD and the resulting salinity increased to nine (9) ppt however the dilution ratio increases to 200:1. Overall, the slight rise in salinity and reduced flow rates anticipated to result from the project would increase dilution ratios, thus decreasing mixing times and the extent of the ZID based on model outcomes presented in the Flow Sciences dilution study report. Therefore, in both cases the resulting ocean discharge will mix with the overlying receiving waters more rapidly and over a smaller spatial area than existing conditions thus reducing impacts to water quality and the potential to impact species or habitats. Considering that no substantial changes to the properties of the ocean discharge are anticipated and the fact that previous Receiving Water Monitoring Reports (2013 and 2008), developed in compliance with the WWTP NPDES permit, documented no impacts to water quality or adjacent benthic habitat, the project's ocean discharge is expected to meet Ocean Plan water quality objectives at the edge of the ZID and have no impacts to water quality, species assemblages, or habitat.

Considering the low discharge volumes and distribution of diffuser ports, impacts due to shear stress caused by the discharge would be limited to plankton and the impacts would be less than significant because of the small percentage of plankton abundances potentially affected. Because of the small ZID no impacts are expected to benthic infauna or macrofauna populations that may cause upper trophic level impacts to fish, marine mammals, seabirds, or other species. Therefore, potential indirect impacts to jurisdictional waters subject to Section 10 of the Rivers and Harbors Act, including EFH, would be less than significant.

Impacts to water quality and the marine environment can include the spread of invasive species, notably *Caulerpa taxifolia*. *Caulerpa taxifolia* is an extremely invasive seaweed that can infest coastal water bodies in southern California. It is a fast-growing, hardy plant that out-competes native strains, and can reduce native plant and animal diversity and abundance. Implementation of

BIO-12 is recommended to reduce the potential spread of marine invasive species and reduce the impact to a less than significant level.

*BIO-9 Disturbance Area and Staging*

Areas of temporary disturbance shall be minimized to the extent practicable. Staging and laydown areas shall be limited to sites unvegetated, previously disturbed (e.g., ROW, parking lots), and community parks (areas consisting of ruderal vegetation, ornamental landscaping, and outside of the Tree Protection Zone [TPZ; dripline plus 6-feet] of protected trees).

*BIO-10 Material Storage*

Materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage. Material storage shall be at least 50-feet from Franklin Creek, Carpinteria Creek, and Carpinteria State Beach. Any material/spoils from project activities shall be located and stored 50-feet from potential jurisdictional areas (Franklin Creek, Carpinteria Creek, and Carpinteria State Beach). Construction materials and spoils shall be protected from stormwater runoff using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate.

*BIO-11 Construction Best Management Practices*

To avoid and/or minimize potential indirect impacts to jurisdictional waters and water quality, the following Best Management Practices shall be implemented within 50-feet of Franklin Creek and Carpinteria Creek:

- a. Prevent the off-site tracking of loose construction and landscape materials by implementing street sweeping, vacuuming, and rumble plates, as appropriate.
- b. Prevent the discharge of silt or pollutants off of the site when working adjacent to potentially jurisdictional waters. Install BMPs (i.e., silt barriers, sand bags, straw bales) as appropriate.
- c. Site washout areas shall be at least 50-feet from a storm drain, open ditch or surface water and ensure that runoff flows from such activities do not enter receiving water bodies.
- d. All vehicles and equipment shall be in good working condition and free of leaks. The contractor shall prevent oil, petroleum products, or any other pollutants from contaminating the soil or entering a watercourse (dry or otherwise). When vehicles or equipment are stationary, mats or drip pans shall be placed below vehicles to contain fluid leaks.
- e. All re-fueling, cleaning, and maintenance of equipment will occur at least 50-feet from potentially jurisdictional waters (Franklin Creek, Carpinteria Creek, and the roadside storm water drain).
- f. Any spillage of material will be stopped if it can be done safely. The contaminated area will be cleaned, and any contaminated materials properly disposed. For all spills, the project foreman or other designated liaison will notify CVWD immediately.
- g. Adequate spill prevention and response equipment shall be maintained on site and readily available to implement to ensure minimal impacts to the aquatic and marine environments.

*BIO-12 Aquatic Invasive Species Spread*

Prior to in-water construction, a survey for *Caulerpa taxifolia* shall occur. A qualified *Caulerpa* surveyor shall complete the survey 30 to 90 days prior to construction activities and during the high growth period of March 1- October 31, if feasible. If *Caulerpa* is identified within the project area

prior, during, or within 120 days after completion of authorized construction activities, NOAA NMFS and CDFW shall be contacted within 24 hours of first noting the occurrence. Project activities shall not disturb the area in which *Caulerpa* is identified until the Southern California *Caulerpa* Action Team is notified.

#### BIO-13 Water Diversion Plan

Project activities within Franklin Creek shall be planned when surface water is absent. If surface water is present within the work area, a water diversion plan shall be prepared to avoid construction activities within flowing water and minimize potential adverse effects to water quality (e.g., increased turbidity, altered pH, decreased dissolved oxygen levels). The plan shall establish water quality thresholds consistent with the RWQCB Central Coastal Basin, Water Quality Control Plan (Basin Plan). The plan shall include measures for water quality monitoring upstream and downstream of the work area. If water quality thresholds established in the Basin Plan are exceeded, the monitor will inform the construction manager and shall be granted the authority to temporarily halt project activities until monitoring indicates the constituent measurements are within the Basin Plan thresholds.

## 5.4 Wildlife Movement

The proposed project would have a significant effect on biological resources if it would:

- a) *Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites.*

Direct impacts to wildlife movement or EFH as a result of the proposed project would be less than significant. The completed project would not impede the movement of wildlife through the region nor alter EFH habitat. No direct impacts to marine rocky substrate are proposed. Due to their limited nature, marine construction activities are not expected to cause noise above disturbance thresholds and BIO-1, BIO-2 and BIO-6 are recommended for compliance with the MMPA to confirm marine mammals are not disturbed, thereby reducing indirect effects to a less than significant level. The indirect impacts to terrestrial species would also be less than significant and therefore no measures are recommended.

## 5.5 Local Policies and Ordinances

The proposed project would have a significant effect on biological resources if it would:

- e) *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance*

The Carpinteria GP/LCP & EIR policy *OSC-8 Protect and Conserve Monarch Butterfly Tree Habitat* requires new development in or adjacent to habitat used by special status species shall be set back sufficiently far as to minimize impacts to the habitat area. For nesting and roosting trees used by sensitive, rare, threatened, or endangered raptors on the Carpinteria Bluffs or on parcels adjacent to Carpinteria Creek, this setback shall be a minimum of 300 feet. However, additions or alterations to existing development on parcels adjacent to Carpinteria Creek may be located within the applicable setback if a pre-construction survey by a qualified biologist determines the proposed development does not adversely affect the future use of the nesting or roosting trees. This policy

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also protects trees (e.g., eucalyptus) supporting (e.g., roosting) monarch butterfly populations. Elements of suitable habitat (e.g., eucalyptus trees) were observed throughout the APE, particularly along Linden Avenue where the primary and southern potential pipeline alignment is proposed. No winter roost sites have been identified throughout the APE; however, the closest known roosting colony has been recorded approximately 700-feet northeast of the WWTP, along Carpinteria Creek (City of Carpinteria 2003). Proposed project activities along roadways (e.g., open cut trenching) could have potential indirect effects (e.g., noise, dust) to roosting monarchs. Implementation of mitigation measures BIO-1 and BIO-5 noted above would help ensure impacts to roosting monarchs are avoided, therefore the proposed project would be consistent with this policy.

Carpinteria GP/LCP & EIR policy *OSC-6 Preserve the Natural Environmental Qualities of Creekways and Protect Riparian Habitat* and Santa Barbara County Coastal Land Use Plan ordinance *Section 35-97.19 Development Standards for Stream Habitats* supports the preservation of creeks and their corridors. Under policy *OSC-6*, creek alterations require all permitted construction and grading within stream corridors to be performed in such a manner so as to minimize impacts on biological resources and water quality. Furthermore, a 50-foot setback from top of the upper bank of creeks or existing edge of riparian vegetation (dripline), whichever is further, is required to be established and maintained for all development. Under *Section 35-97.19*, a minimum buffer strip for streams in urban areas is presumptively 50 feet. However, this minimum buffer may be adjusted upward or downward on a case-by-case basis. The buffer is established based on an investigation of the factors such as: soil type and stability of stream corridors; how surface water filters into the ground, slope of land on either side of the stream; and location of the 100-year flood plain boundary.

The project proposes new AWPf components within the existing WWTP and greater than 50-feet from Carpinteria Creek. As such, this portion of the proposed project would be consistent with policy *OSC-6*.

Potential direct impacts from the project (e.g., open cut trench/pipe bridge over Franklin Creek, underground primary pipeline alignment along the intersection of Olive Avenue and 6th Street) within 50-feet of areas meeting the definition of policy *OSC-6* and ordinance *Section 35-97.19* (Franklin Creek, arroyo willow thicket) would be temporary because the creek would be restored to pre-existing project conditions and activities limited to existing developed areas (e.g., concrete lined/existing pipe bridge over Franklin Creek, public ROWs). In addition, the implementation of BIO-1, BIO-2, BIO-8, BIO-9 through BIO-11, and BIO-13 would reduce potential impacts to Franklin Creek and the arroyo willow thicket. Therefore, based on these factors the proposed project would not conflict with the policy and ordinance.

Carpinteria GP/LCP & EIR policy *OSC-1*, *OSC-4* and *OSC-5* supports the preservation of ESHA and marine resources including rocky reefs and intertidal areas. The policy protects those habitats and the species they support. As discussed above, BIO-1 through BIO-3, BIO-6, BIO-7 and BIO-9 through BIO-12 are recommended to reduce impacts to ESHA, shoreline and subtidal habitats, and marine mammals including harbor seal hauling grounds. With implementation of these measures, the project would not conflict with these policies.

Trees meeting the City (including City landmarks) and County tree protection standards, and relevant to *OSC-7* and *OSC-8*, were observed throughout the APE. The majority of the project alignment is located within developed public ROW which is lined sporadically with protected trees. Potential impacts to protected trees may include, but are not limited to, construction equipment compacting soil around the trees, disturbance of the canopy and the root zone, and trenching in the root zone. The following mitigation measure BIO-14 would reduce potential impacts to protected

trees. With implementation of this measure, the proposed project would not conflict with *OSC-7 Conserve Native Plant Communities*, *OSC-8 Protect and Conserve Monarch Butterfly Tree Habitat*, *the City Landmarks policies #4 and #5*, and *Section 35-140 Tree Removal*.

#### BIO-14 Tree Protection Zone Restrictions

Components of the project footprint that occur within 20-feet of the canopy drip line of protected trees shall be subject to the following:

- a. No ground disturbance, grading, trenching, construction activities or structural development shall occur within the tree protection zone (TPZ; dripline plus 6-feet).
- b. No equipment, soil, or construction materials shall be placed within the TPZ. No oil, gasoline, chemicals, paints, solvents, or other damaging materials may be deposited within the TPZ or in drainage channels, swales or areas that may lead to the TPZ.
- c. If work within the TPZ cannot be avoided, a qualified arborist shall monitor all activities within the TPZ of protected trees.
- d. Unless otherwise directed by the arborist, all work within the TPZ, including brush clearance, digging, trenching and planting, shall be done with hand tools or small hand-held power tools that are of a depth and design that will not cause root damage.
- e. Where trenching or digging within the TPZ is specifically permitted, the work shall be conducted in a manner that minimizes root damage, as directed by an arborist.
- f. Grade changes outside of the TPZ shall not significantly alter drainage to protected trees. Grading within the TPZ shall use methods that minimize root damage and ensure that roots are not cut off from air. Where erosion may be a factor return and protect the original grade or otherwise stabilize the soil.
- g. Protected trees shall not be used for posting signs, electrical wires or pulleys; for supporting structures; and shall be kept free of nails, screws, rope, wires, stakes and other unauthorized fastening devices or attachments.

## 5.6 Habitat Conservation Plans

The proposed project would have a significant effect on biological resources if it would:

- f) *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.*

The project does not occur within any Habitat Conservation Plan, Natural Community Conservation Plan, Marine Protected Area, or other approved local, regional, or state habitat conservation plan areas. The proposed project would not conflict with the provisions of any such plans. Therefore, the proposed project would not conflict with a Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plans and no impact would occur.

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## 6 Limitations, Assumptions, and Use Reliance

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This BRA has been performed in accordance with professionally accepted biological investigation practices conducted at this time and in this geographic area. The biological investigation is limited by the scope of work performed. Reconnaissance biological surveys for certain taxa may have been conducted as part of this assessment but were not performed during a particular blooming period, nesting period, or particular portion of the season when positive identification would be expected if present, and therefore, cannot be considered definitive. The biological surveys are limited also by the environmental conditions present at the time of the surveys. In addition, general biological (or protocol) surveys do not guarantee that the organisms are not present and will not be discovered in the future within the site. In particular, mobile wildlife species could occupy the site on a transient basis, or re-establish populations in the future. Our field studies were based on current industry practices, which change over time and may not be applicable in the future. No other guarantees or warranties, expressed or implied, are provided. The findings and opinions conveyed in this report are based on findings derived from site reconnaissance, jurisdictional areas, review of CNDDDB RareFind5, and specified historical and literature sources. Standard data sources relied upon during the completion of this report, such as the CNDDDB, may vary with regard to accuracy and completeness. In particular, the CNDDDB is compiled from research and observations reported to CDFW that may or may not have been the result of comprehensive or site-specific field surveys. Although Rincon believes the data sources are reasonably reliable, Rincon cannot and does not guarantee the authenticity or reliability of the data sources it has used. Additionally, pursuant to our contract, the data sources reviewed included only those that are practically reviewable without the need for extraordinary research and analysis.

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# Appendix A

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Regulatory Setting



# Regulatory Setting

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Special status habitats are vegetation types, associations, or sub-associations that support concentrations of special status plant or animal species, are of relatively limited distribution, or are of particular value to wildlife.

Listed species are those taxa that are formally listed as endangered or threatened by the federal government ( e.g., U.S. Fish and Wildlife Service [USFWS]), pursuant to the Federal Endangered Species Act (FESA) or as endangered, threatened, or rare (for plants only) by the State of California (i.e., California Fish and Game Commission), pursuant to the California Endangered Species Act or the California Native Plant Protection Act. Some species are considered rare (but not formally listed) by resource agencies, organizations with biological interests/expertise ( e.g., Audubon Society, CNPS, The Wildlife Society), and the scientific community.

The following is a brief summary of the regulatory context under which biological resources are managed at the federal, state, and local levels. Agencies with the responsibility for protection of biological resources within the project site include:

- U.S. Army Corps of Engineers (wetlands and other waters of the United States);
- Central Coast Regional Water Quality Control Board (waters of the State);
- U.S. Fish and Wildlife Service (federally listed species and migratory birds);
- California Department Fish and Wildlife (riparian areas, streambeds, and lakes; state-listed species; Species of Special Concern; nesting birds);

A number of federal and state statutes provide a regulatory structure that guides the protection of biological resources. These include:

## Terrestrial and Marine

- California Environmental Quality Act (CEQA)
- Federal Endangered Species Act (FESA)
- California Endangered Species Act (CESA)
- Clean Water Act (CWA)
- California Fish and Game Code (CFGC)
- Porter-Cologne Water Quality Control Act
- California Coastal Act
- City of Carpinteria General Plan/Local Coastal Land Use Plan & Environmental Impact Report
- Santa Barbara County Article II Coastal Zoning Ordinance

## **Terrestrial**

- Migratory Bird Treaty Act (MBTA)
- The Bald and Golden Eagle Protection Act

## **Marine**

- Rivers and Harbors Act of 1899
- Magnuson-Stevens Fishery Conservation and Management Act
- Marine Mammal Protection Act
- Coastal Zone Management Act
- National Marine Sanctuaries Act
- National Invasive Species Act
- Marine Life Protection Act
- Marine Life Management Act
- California Ocean Plan
- Marine Invasive Species Act

The agencies and statutes bulleted above are described in greater detail below:

### *U.S. Army Corps of Engineers*

Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (USACE) has authority to regulate activities that could discharge fill of material into wetlands or other “waters of the United States.” Perennial and intermittent creeks are considered waters of the United States if they are hydrologically connected to other jurisdictional waters (typically a navigable water). The USACE also implements the federal policy embodied in Executive Order 11990, which is intended to result in no net loss of wetland value or acres. In achieving the goals of the Clean Water Act, the USACE seeks to avoid adverse impacts and offset unavoidable adverse impacts on existing aquatic resources. Any fill of wetlands that are hydrologically connected to jurisdictional waters would require a permit from the USACE prior to the start of work. Typically, when a project involves impacts to waters of the United States, the goal of no net loss of wetland acres or values is met through avoidance and minimization to the extent practicable, followed by compensatory mitigation involving creation or enhancement of similar habitats.

### *Central Coast Regional Water Quality Control Board*

The State Water Resources Control Board (SWRCB) and the local Regional Water Quality Control Board (RWQCB) have jurisdiction over “waters of the State,” pursuant to the Porter-Cologne Water Quality Control Act, which are defined as any surface water or groundwater, including saline waters, within the boundaries of the State. The SWRCB has issued general Waste Discharge Requirements (WDRs) regarding discharges to “isolated” waters of the State (Water Quality Order No. 2004-0004-DWQ, Statewide General Waste Discharge Requirements for Dredged or Fill Discharges to Waters Deemed by the U.S. Army Corps of Engineers to be Outside of Federal Jurisdiction). The RWQCB administers actions under this general order for isolated waters not subject to federal jurisdiction, and is also responsible for the issuance of water quality certifications pursuant to Section 401 of the Clean Water Act for waters subject to federal jurisdiction.

### *United States Fish and Wildlife Service*

The USFWS implements the Migratory Bird Treaty Act (16 United States Code [U.S.C.] Section 703-711) and the Bald and Golden Eagle Protection Act (16 U.S.C. Section 668). The USFWS and National Marine Fisheries Service (NMFS) share responsibility for implementing the Federal Endangered Species Act (FESA) (16 U.S.C. § 153 et seq.). Generally, the USFWS implements the FESA for terrestrial and freshwater species, while the NMFS implements the FESA for marine and anadromous species. Projects that would result in “take” of any federally threatened or endangered species are required to obtain permits from the USFWS or NMFS through either Section 7 (interagency consultation with a federal nexus) or Section 10 (Habitat Conservation Plan) of the FESA, depending on the involvement by the federal government in permitting and/or funding of the project. The permitting process is used to determine if a project would jeopardize the continued existence of a listed species and what measures would be required to avoid jeopardizing the species. “Take” under federal definition means to harass, harm (which includes habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Proposed or candidate species do not have the full protection of the FESA; however, the USFWS and NMFS advise project applicants that they could be elevated to listed status at any time.

### *California Department of Fish and Wildlife*

The California Department of Fish and Wildlife (CDFW) derives its authority from the Fish and Game Code of California. The California Endangered Species Act (CESA) (Fish and Game Code Section 2050 et. seq.) prohibits take of state listed threatened or endangered. Take under CESA is restricted to direct mortality of a listed species and the law does not prohibit indirect harm by way of habitat modification. Where incidental take would occur during construction or other lawful activities, CESA allows the CDFW to issue an Incidental Take Permit upon finding, among other requirements, that impacts to the species have been minimized and fully mitigated.

The CDFW also enforces Sections 3511, 4700, 5050, and 5515 of the Fish and Game Code, which prohibits take of species designated as Fully Protected. The CDFW is not allowed to issue an Incidental Take Permit for Fully Protected species; therefore, impacts to these species must be avoided.

California Fish and Game Code sections 3503, 3503.5, and 3513 describe unlawful take, possession, or destruction of native birds, nests, and eggs. Section 3503.5 of the Code protects all birds-of-prey and their eggs and nests against take, possession, or destruction of nests or eggs. Section 3513 makes it a state-level offense to take any bird in violation of the federal Migratory Bird Treaty Act. CDFW administers these requirements.

Species of Special Concern (SSC) is a category used by the CDFW for those species which are considered to be indicators of regional habitat changes or are considered to be potential future protected species. Species of Special Concern do not have any special legal status except that which may be afforded by the Fish and Game Code as noted above. The SSC category is intended by the CDFW for use as a management tool to include these species in special consideration when decisions are made concerning the development of natural lands. The CDFW also has authority to administer the Native Plant Protection Act (NPPA) (Fish and Game Code Section 1900 et seq.). The NPPA requires the CDFW to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare. Effective in 2015, CDFW promulgated regulations (14 CCR 786.9) under the authority of the NPPA, establishing that the CESA’s permitting procedures would be applied to plants listed under the NPPA as “Rare.” With this change, there is little practical

difference for the regulated public between plants listed under CESA and those listed under the NPPA.

Perennial, intermittent, and ephemeral streams and associated riparian vegetation, when present, also fall under the jurisdiction of the CDFW. Section 1600 *et seq.* of the Fish and Game Code (Lake and Streambed Alteration Agreements) gives the CDFW regulatory authority over activities that divert, obstruct, or alter the channel, bed, or bank of any river, stream or lake.

#### *California Environmental Quality Act*

CEQA, or the California Environmental Quality Act, is a statute that requires state and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible. CEQA applies to certain activities of state and local public agencies. A public agency must comply with CEQA when it undertakes an activity defined by CEQA as a “project.” A project is an activity undertaken by a public agency or a private activity which must receive some discretionary approval (meaning that the agency has the authority to deny the requested permit or approval) from a government agency which may cause either a direct physical change in the environment or a reasonably foreseeable indirect change in the environment.

#### *Federal Endangered Species Act*

The purpose of the ESA is to protect and recover imperiled species and the ecosystems upon which they depend. It is administered by the U.S. Fish and Wildlife Service (Service) and the Commerce Department’s National Marine Fisheries Service (NMFS). The Service has primary responsibility for terrestrial and freshwater organisms, while the responsibilities of NMFS are mainly marine wildlife such as whales and anadromous fish such as salmon.

Under the ESA, species may be listed as either endangered or threatened. “Endangered” means a species is in danger of extinction throughout all or a significant portion of its range. “Threatened” means a species is likely to become endangered within the foreseeable future. All species of plants and animals, except pest insects, are eligible for listing as endangered or threatened. For the purposes of the ESA, Congress defined species to include subspecies, varieties, and, for vertebrates, distinct population segments.

#### *California Endangered Species Act*

The California Endangered Species Act (CESA) (Fish and Game Code Sections 2050-2116) sets forth procedures by which individuals, organizations, or the Department can submit petitions to the Fish and Game Commission requesting that a species, subspecies, or variety of plant or animal be added to, deleted from, or changed in status on the State lists of rare, threatened or endangered species. The factors that contribute to determining the need to list a species include the present or threatened modification or destruction of habitat, competition, predation, disease, overexploitation by collectors, or other natural occurrences or human-related activities. Procedures governing the submission and review of petitions for listing, uplisting, downlisting, and delisting of endangered and threatened species of plants and animals are described in Section 670.1, Title 14, California Code of Regulations.

#### *Federal Clean Water Act*

The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The basis of the CWA was

enacted in 1948 and was called the Federal Water Pollution Control Act, but the Act was significantly reorganized and expanded in 1972. “Clean Water Act” became the Act’s common name with amendments in 1972.

Under the CWA, EPA has implemented pollution control programs such as setting wastewater standards for industry. EPA has also developed national water quality criteria recommendations for pollutants in surface waters.

The CWA made it unlawful to discharge any pollutant from a point source into navigable waters, unless a permit was obtained. EPA’s National Pollutant Discharge Elimination System (NPDES) permit program controls discharges. Point sources are discrete conveyances such as pipes or man-made ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters.

### *California Fish and Game Code*

Enacted in 1957, many of the Fish and Game Code provisions are derived from the 1947 former Fish and Game Code, as well as older statutes under the former Penal and Political Codes originally enacted in 1872. The new statutes relating to more modern topics, such as endangered species, were added later. This is a fluid code amending and adjusting older California game laws, for example, to comply with newer protected species lists and regulations.

### *California Coastal Act*

In October 1972, the United States Congress passed Title 16 U.S.C. 1451-1464, which established a federal coastal zone management policy and created a federal coastal zone. By that legislation, the Congress declared a national interest in the effective management, beneficial use, protection and development of the coastal zone in order to balance the nation’s natural, environmental and aesthetic resource needs with commercial-economic growth. The Congress found and declared that it was a national policy “to encourage and assist the states to exercise effectively their responsibilities in the coastal zone through the development and implementation of management programs to achieve wise use of the land and water resources of the coastal zone giving full consideration to ecological, cultural, historic, and aesthetic values as well as to the need for economic development (16 U.S.C. 1452b). As a result of that federal enactment, coastal states were provided a policy and source of funding for the implementation of federal goals.

The California Coastal Zone Conservation Act of 1972 (Proposition 20) was a temporary measure passed by the voters of the state as a ballot initiative. It set up temporary regional Coastal Commissions with permit authority and a directive to prepare a comprehensive coastal plan. The coastal commissions under Proposition 20 lacked the authority to implement the Coastal Plan but were required to submit the Plan to the legislature for “adoption and implementation.”

The California Coastal Act of 1976 is the permanent enacting law approved by the State legislature. The Coastal Act established a different set of policies, a different boundary line, and different permitting procedures than Proposition 20. Further, it provides for the transfer of permitting authority, with certain limitations reserved for the State, to local governments through adoption and certification of Local Coastal Programs (LCP) by the Coastal Commission.

### *Porter-Cologne Water Quality Control Act*

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

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

The Porter-Cologne Act established nine Regional Water Boards (based on hydrogeologic barriers) and the State Water Board, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The State Water Board provides program guidance and oversight, allocates funds, and reviews Regional Water Boards decisions. In addition, the State Water Board allocates rights to the use of surface water. The Regional Water Boards have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions. The State Water Board and Regional Water Boards have numerous NPS-related responsibilities, including monitoring and assessment, planning, financial assistance, and management.

### *National Environmental Policy Act*

The National Environmental Policy Act (NEPA) was signed into law on January 1, 1970. NEPA requires federal agencies to assess the environmental effects of their proposed actions prior to making decisions. The range of actions covered by NEPA is broad and includes:

- Making decisions on permit applications,
- Adopting federal land management actions, and
- Constructing highways and other publicly-owned facilities.

Using the NEPA process, agencies evaluate the environmental and related social and economic effects of their proposed actions. Agencies also provide opportunities for public review and comment on those evaluations. Section 102 in Title I of the Act requires federal agencies to incorporate environmental considerations in their planning and decision-making through a systematic interdisciplinary approach. Specifically, all federal agencies are to prepare detailed statements assessing the environmental impact of and alternatives to major federal actions significantly affecting the environment. These statements are commonly referred to as Environmental Impact Statements (EIS) and Environmental Assessments (EA).

### *Migratory Bird Treaty Act*

The MBTA makes it illegal to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts\*, nests, or eggs of such a bird except under the terms of a valid Federal permit. Migratory bird species protected by the Act are listed in 50 CFR 10.13. The U.S. Fish and Wildlife Service has statutory authority and responsibility for enforcing the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-712). The MBTA implements



Conventions between the United States and four countries (Canada, Mexico, Japan and Russia) for the protection of migratory birds.

#### *The Bald and Golden Eagle Protection Act*

The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c), enacted in 1940, and amended several times since, prohibits anyone, without a permit issued by the Secretary of the Interior, from “taking” bald or golden eagles, including their parts\*, nests, or eggs. The Act provides criminal penalties for persons who “take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle... [or any golden eagle], alive or dead, or any part\*, nest, or egg thereof.” The Act defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.”

#### *Rivers and Harbors Act of 1899*

Section 9 of this Act, Rivers and Harbors Appropriation Act of 1899 (33 U.S.C. 403; Chapter 425, March 3, 1899; 30 Stat. 1151), commonly known as the Rivers and Harbors Act of 1899, prohibits the construction of any bridge, dam, dike or causeway over or in navigable waterways of the U.S. without Congressional approval. Administration of section 9 has been delegated to the Coast Guard. Structures authorized by State legislatures may be built if the affected navigable waters are totally within one State, provided that the plan is approved by the Chief of Engineers and the Secretary of Army (33 U.S.C. 401).

Under section 10 of the Act, the building of any wharfs, piers, jetties, and other structures is prohibited without Congressional approval, and excavation or fill within navigable waters requires the approval of the Chief of Engineers. Service concerns include contaminated sediments associated with dredge or fill projects in navigable waters.

#### *Magnuson-Stevens Fishery Conservation and Management Act*

The Magnuson-Stevens Fishery Conservation and Management Act (FCMA), as amended (16 U.S.C. 1801 et seq.) established:

- A fishery conservation zone between the territorial seas of the United States and 200 nautical miles offshore;
- An exclusive U.S. fishery management authority over fish within the fishery conservation zone (excluding highly migratory species);
- Regulations for foreign fishing within the fishery conservation zone through international fishery agreements, permits, and import prohibitions; and
- National standards for fishery conservation and management and eight regional fishery management councils to apply those national standards in fishery management plans.

Congress enacted the 1996 amendments to the Act, known as the Sustainable Fisheries Act (SFA) (P.L. 104-297), to address the substantially reduced fish stocks that declined as a result of direct and indirect habitat loss. The SFA requires that BOEM and other agencies consult with the National Oceanic and Atmospheric Administration’s National Marine Fisheries Service concerning actions that may adversely impact Essential Fish Habitat (EFH).

In 2007, President Bush signed the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006. It mandates the use of annual catch limits and accountability measures

to end overfishing, provides for fishery management by a limited access program, and calls for increased international cooperation.

#### *Marine Mammal Protection Act*

The Marine Mammal Protection Act (MMPA) was enacted on October 21, 1972. All marine mammals are protected under the MMPA. The MMPA prohibits, with certain exceptions, the “take” of marine mammals in U.S. waters and by U.S. citizens on the high seas, and the importation of marine mammals and marine mammal products into the U.S.

Jurisdiction for MMPA is shared by U.S. Fish and Wildlife Service (Service) and the National Marine Fisheries Service (NMFS). The Service’s Branch of Permits is responsible for issuing take permits when exceptions are made to MMPA.

#### *Coastal Zone Management Act*

The Coastal Zone Management Act (CZMA), passed in 1972 and administered by NOAA, provides for the management of the nation’s coastal resources, including the Great Lakes. The goal is to “preserve, protect, develop, and where possible, to restore or enhance the resources of the nation’s coastal zone.”

The CZMA outlines three national programs, the National Coastal Zone Management Program, the National Estuarine Research Reserve System, and the Coastal and Estuarine Land Conservation Program (CELCP). The National Coastal Zone Management Program aims to balance competing land and water issues through state and territorial coastal management programs, the reserves serve as field laboratories that provide a greater understanding of estuaries and how humans impact them, and CELCP provides matching funds to state and local governments to purchase threatened coastal and estuarine lands or obtain conservation easements.

#### *National Marine Sanctuaries Act*

The National Marine Sanctuaries Act (NMSA) authorizes the Secretary of Commerce to designate and protect areas of the marine environment with special national significance due to their conservation, recreational, ecological, historical, scientific, cultural, archeological, educational or esthetic qualities as national marine sanctuaries.

Day-to-day management of national marine sanctuaries has been delegated by the Secretary of Commerce to NOAA’s Office of National Marine Sanctuaries. The primary objective of the NMSA is to protect marine resources, such as coral reefs, sunken historical vessels or unique habitats.

#### *National Invasive Species Act*

The Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990, as amended by the National Invasive Species Act of 1996, was enacted to prevent and control infestations of the coastal inland waters of the United States by the zebra mussel and other nonindigenous aquatic nuisance species. The Act was also enacted to reauthorize the National Sea Grant College Program and for other purposes. The Act defines “nonindigenous species” as “any species or other viable biological material that enters an ecosystem beyond its historic range, including any such organisms transferred from one country into another.” “Aquatic nuisance species” is defined as “a nonindigenous species that threatens the diversity or abundance of native species or the ecological stability of infested waters, or commercial, agricultural, aquacultural or recreational activities dependent on such waters.”

### *Marine Life Protection Act*

The Marine Life Protection Act of 1999 directs the state to redesign California's system of marine protected areas (MPAs) to function as a network in order to: increase coherence and effectiveness in protecting the state's marine life and habitats, marine ecosystems, and marine natural heritage, as well as to improve recreational, educational and study opportunities provided by marine ecosystems subject to minimal human disturbance. Six goals guided the development of MPAs in the MLPA planning process:

- Protect the natural diversity and abundance of marine life, and the structure, function and integrity of marine ecosystems
- Help sustain, conserve and protect marine life populations, including those of economic value, and rebuild those that are depleted
- Improve recreational, educational and study opportunities provided by marine ecosystems that are subject to minimal human disturbance, and to manage these uses in a manner consistent with protecting biodiversity
- Protect marine natural heritage, including protection of representative and unique marine life habitats in CA waters for their intrinsic values
- Ensure California's MPAs have clearly defined objectives, effective management measures and adequate enforcement and are based on sound scientific guidelines
- Ensure the State's MPAs are designed and managed, to the extent possible, as a network

To help achieve these goals, three MPA designations (state marine reserves, state marine parks and state marine conservation areas), one marine managed area (state marine recreational management area) and special closures were used in the MPA planning process. For the purposes of MPA planning, a public-private partnership commonly referred to as the MLPA Initiative was established, and the state was split into five distinct regions (four coastal and the San Francisco Bay) each of which had its own MPA planning process. All four coastal regions have completed these individual planning processes. As a result, the coastal portion of California's MPA network is now in effect statewide. Options for a planning process in the fifth and final region, the San Francisco Bay, have been developed for consideration at a future date.

### *Marine Life Management Act*

The Marine Life Management Act (MLMA), which became law on January 1, 1999, established a fishery management system for four groups of fisheries:

- The nearshore finfish fishery and the white seabass fishery
- Emerging fisheries - new and growing fisheries that are not currently subject to specific regulation
- Those fisheries for which the Fish and Game Commission held some management authority before January 1, 1999. Future regulations affecting these fisheries will need to conform to the MLMA
- Those commercial fisheries for which there is no statutory delegation of authority to the Commission and Department. (In the case of these fisheries, CDFW may prepare, and the Commission may adopt, a fishery management plan, but that plan cannot be implemented without a further delegation of authority through the legislative process)

**Carpinteria Valley Water District Carpinteria Advanced Purification Project**

Borrowing from experience with federal fishery management law, the MLMA initiated a comprehensive approach to fisheries management. The primary vehicle for this approach is the development of fishery management plans for all of the State's major recreational and commercial fisheries.

*California Ocean Plan*

Ocean standards protect the beneficial uses of California's marine waters through establishing water quality objectives and implementation provisions in statewide water quality control plans and polices. Ocean standards plans and policies include: the Water Quality Control Plan for Ocean Waters of California (Ocean Plan); the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (California Thermal Plan); and the Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant cooling (Once-Through Cooling Policy).

The Ocean Standards Unit is responsible for developing and updating the statewide plans and policies involving marine waters, and providing scientific support and inter-agency coordination regarding marine pollution and resource management.

*Marine Invasive Species Act*

The Marine Invasive Species Program began in 1999 with the passage of California's Ballast Water Management for Control of Nonindigenous Species Act, which addressed the threat of species introductions from vessels arriving at California's ports. In 2003, the Marine Invasive Species Act was passed, reauthorizing and expanding the 1999 Act. Subsequent amendments to the Act and additional legislation further expanded the Program's scope.

The Marine Invasive Species Program seeks to reduce the risk of aquatic nonindigenous species introduction into California's waters through:

- The development, implementation, and enforcement of vessel biofouling and vessel ballast water management strategies and polices
- The use of best available technology and peer reviewed science
- Partnerships with stakeholders to improve awareness of invasive species issues and assess program efficacy

*City of Carpinteria General Plan/Local Coastal Land Use Plan & Environmental Impact Report*

The Carpinteria GP/LCP & EIR is the primary planning document for the City. It represents the community's collective vision for preserving and improving the quality of life in the Carpinteria Valley. State Planning and Zoning Law requires each city to adopt a comprehensive, long-term General Plan for the physical development of a city and any land outside its boundaries which, in its judgment, bears relation to its planning (i.e., sphere of interest). The General Plan is required to contain the following seven elements: Land Use, Circulation, Housing, Conservation, Open Space, Noise and Safety. The Carpinteria GP/LCP & EIR is organized into eight elements that address required and optional topics: Land Use; Community Design; Circulation; Housing; Open Space, Recreating & Conservation; Safety; Noise; and Public Facilities & Services. Each element includes a general discussion, identifies relevant issues, and provides objectives and policies to address these issues. Implementation policies are identified to provide direction for carrying out each element's objectives. The following policies were considered in this BRA:

- OSC-1: Protect, Preserve and Enhance Local Natural Resources and Habitats
- OSC-4: Preserve the Biological Diversity of Shoreline Habitats
- OSC-5: Protect the Harbor Seal Hauling Ground from Human Disturbance
- OSC-6: Preserve the Natural Environmental Qualities of Creekways and Protect Riparian Habitat
- OSC-7: Conserve Native Plant Communities
- OSC-8: Protect and Conserve Monarch Butterfly Tree Habitat
- City Landmarks

### *Santa Barbara County Article II Coastal Zoning Ordinance*

Pursuant to Public Resources Code Section 30500 of the California Coastal Act of 1976, this County must prepare a local coastal program (LCP) for that portion of the unincorporated area of the County within the Coastal Zone. County's local coastal program must include: (1) the Land Use Plan (LUP), which is the local coastal element (Public Resources Code Section 30108.55) of the County's general plan (Public Resources Code Section 30108.5);(2) a zoning ordinance, which is this Article, and (3) zoning district maps which apply the regulations of this ordinance to property, which when taken together, meet the requirements of and implement the provisions and policies of the Coastal Act of 1976, Public Resources Code Section 30108.6.

On March 17, 1981, the California Coastal Commission, pursuant to Public Resources Code Section 30512(d), certified most of County's Land Use Plan. The next step required in the preparation of the Local Coastal Program is the preparation and adoption by County of this zoning ordinance, which will implement the certified Land Use Plan by classifying and regulating the uses of land, buildings, and structures within the Coastal Zone.

The purposes of this ordinance are to:

- Protect, maintain, and where feasible, enhance and restore the overall quality of the Coastal Zone environment and its natural and manmade resources.
- Assure orderly, balanced utilization and conservation of Coastal Zone resources taking into account the social and economic needs of the people of this County and of the State.
- Maximize public access to and along the coast and maximize public recreational opportunities in the Coastal Zone consistent with sound resource conservation principles and constitutionally protected rights of private property owners.
- Assure priority for coastal-dependent and coastal-related development over other development on the coast.
- Provide a definite plan for development so as to guide the future growth of the County within the Coastal Zone.
- Protect the character and stability (social and economic) of agricultural, residential, commercial, and industrial areas.

The following ordinances were considered in this BRA:

- Section 35-61: Beach Development
- Section 35-97.19: Development Standards for Stream Habitats

*Santa Barbara County Coastal Land Use Plan*

The Santa Barbara County Coastal Plan was originally adopted by the Board of Supervisors on January 7, 1980 (Resolution 80-12). Subsequently, the plan was submitted to the South Central Regional Coastal Commission and the California Coastal Commission for review and certification. During the course of the state hearings, the Board of Supervisors approved several amendments to the plan. These amendments are incorporated into this document. The Santa Barbara County Coastal Plan was partially certified by the Coastal Commission on March 17, 1981. Three issues then refused certification were as follows:

- The east urban/rural boundary in Summerland and the land use designation between Greenwell Avenue and the more easterly County proposed urban/rural boundary;
- The west urban/rural boundary in Goleta and the land use designation for the Haskell's Beach property; and
- The Channel Islands and Policy 8-9 pertaining to clustered residential development on the Islands.

The first of these subsequently was resolved by Board-approved and Commission certified amendments to this Plan (through the Summerland Community Plan). The latter two have not been resolved directly, but the possible significance of the Channel Islands issue has been greatly diminished through the establishment of Channel Islands National Park. The following ordinances were considered in this BRA:

- **Policy 9-37:** The minimum buffer strip for major streams in rural areas, as defined by the land use plan, shall be presumptively 100-feet, and for streams in urban areas, 50-feet. These minimum buffers may be adjusted upward or downward on a case-by-case basis. The buffer shall be established based on an investigation of the following factors and after consultation with the Department of Fish and Game and Regional Water Quality Control Board in order to protect the biological productivity and water quality of streams:
  - 1) Soil type and stability of stream corridors;
  - 2) How surface water filters into the ground;
  - 3) Slope of the land on either side of the stream; and
  - 4) Location of the 100-year flood plain boundary.

Riparian vegetation shall be protected and shall be included in the buffer. Where riparian vegetation has previously been removed, except for channelization, the buffer shall allow for the reestablishment of riparian vegetation to its prior extent to the greatest degree possible. Riparian vegetation shall be protected and shall be included in the buffer. Where riparian vegetation has previously been removed, except for channelization, the buffer shall allow for the reestablishment of riparian vegetation to its prior extent to the greatest degree possible.

- **Policy 9-38:** No structures shall be located within the stream corridor except: public trails, dams for necessary water supply projects, flood control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development; and other development where the primary function is for the improvement of fish and wildlife habitat. Culverts, fences, pipelines, and bridges (when support structures are located outside the critical habitat) may be permitted when no alternative route/location is feasible. All development shall incorporate the best mitigation measures feasible.

# Appendix B

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Site Photographs

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**Photograph 1.** View looking southwest, from 6<sup>th</sup> Street. Riparian vegetation was observed to cover a small area at the intersection of Olive Avenue and 6th Street, northwest of the WWTP, and adjacent to where the primary pipeline alignment is proposed.



**Photograph 2.** View looking northeast from Olive Avenue and 6th Street at the location to be used as a staging area.



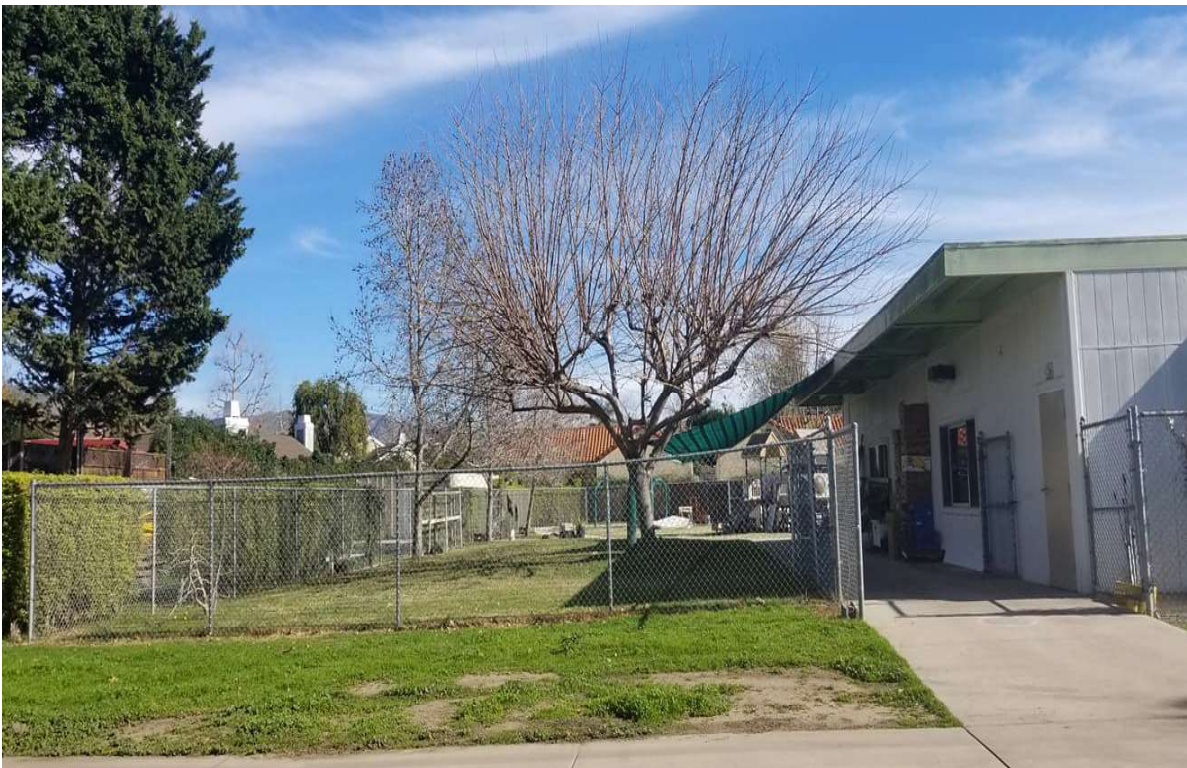
**Photograph 3.** View facing southwest from the existing bridge that crosses over Franklin Creek. Franklin Creek is a concrete-lined flood control channel. Oak trees and sycamore trees occur on the west side of the channel within a potential injection well area.



**Photograph 4.** View facing east from Santa Ynez Avenue in Carpinteria Valley Memorial Park; a potential monitoring well area.



**Photograph 5.** View looking north from the northwest corner of El Carro Park; a potential location for monitoring well area #2.



**Photograph 6.** View facing east, from a potential injection well area #2 located off El Carro Lane. This site is currently in use as a daycare facility.



**Photograph 7.** View facing north from a potential injection well site #3 located east of Linden Avenue and north of El Carro Lane.



**Photograph 8.** View facing east from within a parking lot east of Franklin Creek. This parking lot is potential injection well area #4.



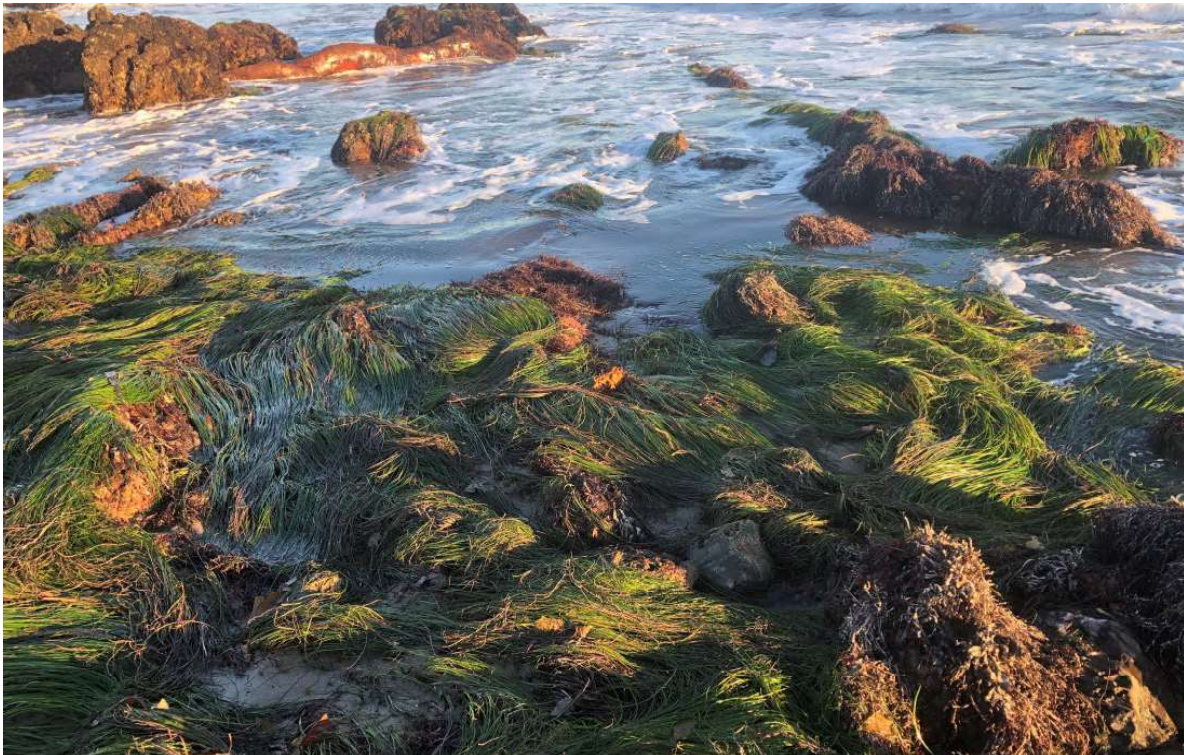
**Photograph 9.** View facing southwest from the west side of Franklin Creek at a potential injection well site #5 located east of Sterling Avenue.



**Photograph 10.** View facing north from the west side of Franklin Creek. This property is the site of potential injection well area #6.



**Photograph 11.** View looking south along ocean outfall alignment and Carpinteria Creek during negative - 1.71 foot tide.



**Photograph 12.** View looking east at eastern end of APE. Note intertidal community and dense meadow of surfgrass.



**Photograph 13.** View east from Carpinteria State Park. Ocean outfall alignment is adjacent to Carpinteria Creek in background.



**Photograph 14.** Intertidal community adjacent to eastern end of APE.

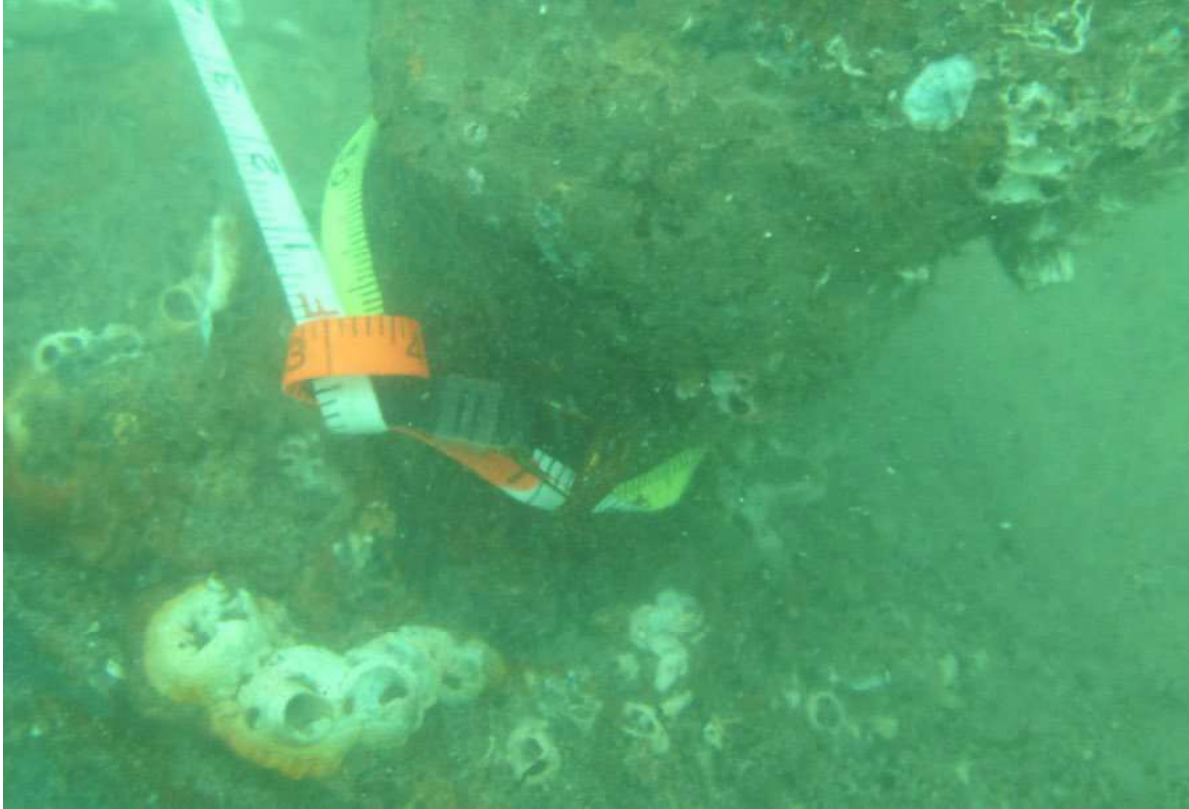


**Photograph 15.** Ocean outfall diffuser. Note sand covering outfall pipe.



**Photograph 16.** Broken ocean outfall diffuser. Note diffuser actively discharging low saline water.





**Photograph 17.** Ocean outfall diffuser. Note section of pipeline exposed with invertebrate growth (*Serpulorbis arenarius*).



**Photograph 18.** Ocean outfall diffuser. Note diffuser actively discharging low saline water.



**Photograph 19.** Rocky subtidal invertebrate community within APE.



**Photograph 20.** Rocky subtidal invertebrate community within APE. Note sand burial on rocky habitat.



**Photograph 21.** Rocky subtidal algae community within APE. Note sand burial on rocky habitat.

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# Appendix C

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Floral and Faunal Compendium



**Terrestrial Plant Species Observed Within the Study Area on January 24, 2019**

Scientific Name	Common Name	Status	Native or Introduced
<b>Shrubs</b>			
<i>Isocoma menziesii</i>	Menzies' goldenbush	–	Native
<i>Rubus ursinus</i>	California blackberry	–	Native
<i>Ricinus communis</i>	castor bean	–	Introduced
<b>Herbs</b>			
<i>Plantago lanceolata</i>	ribwort	–	Introduced
<i>Carpobrotus edulis</i>	iceplant	–	Introduced
<i>Salsola tragus</i>	Russian thistle	–	Introduced
<i>Brassica</i> sp.	mustard sp.	–	Introduced
<b>Trees</b>			
<i>Salix lasiolepis</i>	arroyo willow	–	Native
<i>Quercus agrifolia</i>	coast live oak	–	Native
<i>Platanus racemosa</i>	California sycamore	–	Native
<i>Phoenix canariensis</i>	Canary island date palm	–	Introduced
<i>Pinus</i> sp.	pine sp.	–	Introduced
<i>Eucalyptus</i> sp.	eucalyptus species	–	Introduced
<i>Jacaranda mimosifolia</i>	black poui	–	Introduced
<i>Nerium oleander</i>	oleander	–	Introduced
<i>Syagrus romanzoffiana</i>	queen palm	–	Introduced
<i>Liquidambar styraciflua</i>	sweetgum	–	Introduced
<b>Grasses</b>			
<i>Bromus</i> sp.	brome species	–	Introduced
<i>Arundo donax</i>	giant reed	–	Introduced
<i>Brassica</i> sp.	mustard species	–	Introduced

Calflora. 2019. Information on wild California plants for conservation, education, and appreciation. Berkeley, CA. [www.calflora.org](http://www.calflora.org) (accessed January 2019).

California Native Plant Society. 2019. Inventory of Rare and Endangered Plants. V.7-08c-Interim 8-22-02. [www.rareplants.cnps.org](http://www.rareplants.cnps.org) (accessed January 2019).

### Animal Species Observed Within the Study Area on January 24, 2019

Scientific Name	Common Name	Status	Native or Introduced
<b>Birds</b>			
<i>Ardea alba</i>	great egret	–	Native
<i>Buteo jamaicensis</i>	red-tailed hawk	–	Native
<i>Falco sparverius</i>	western gull	–	Native
<i>Calypte anna</i>	Anna’s hummingbird	–	Native
<i>Dryobates pubescens</i>	downy woodpecker	–	Native
<i>Sayornis nigricans</i>	black phoebe	–	Native
<i>Tyannus vociferans</i>	Cassin’s kingbird	–	Native
<i>Corvus brachyrhynchos</i>	American crow	–	Native
<i>Corvus corax</i>	common raven	–	Native
<i>Aphelocoma californica</i>	California scrub-jay	–	Native
<i>Psaltriparus minimus</i>	bushtit	–	Native
<i>Sialia mexicana</i>	western bluebird	–	Native
<i>Mimus polyglottos</i>	northern mockingbird	–	Native
<i>Melospiza crissalis</i>	California towhee	–	Native
<i>Spinus psaltria</i>	lesser goldfinch	–	Native
<i>Carpodacus mexicanus</i>	house finch	–	Native
<b>Reptiles</b>			
<i>Sceloporus occidentalis</i>	western fence lizard	–	Native

Rodewald, P. (Editor). 2015. The Birds of North America. Cornell Laboratory of Ornithology, Ithaca, NY. <https://birdsna.org/Species-Account/bna/home> (accessed January 2019).

California Herps. 2018. A Guide to the Amphibians and Reptiles of California. <http://www.californiaherps.com/index.html> (accessed January 2019).

### Marine Species Observed Within the APE on January 22 and 30, 2019

Scientific Name	Common Name	Status	Native or Introduced
<b>Algae</b>			
<i>Bossiella orbigniana</i>	corraline algae	–	Native
<i>Gracilaria</i> spp.	–	–	Native
<i>Rhodomyenia</i> spp.	–	–	Native
<i>Prionitis</i> spp.	–	–	Native
<i>Nienburgia andersoniana</i>	–	–	Native
<i>Ulvoid</i> spp.	sea lettuce	–	Native
<i>Cladophora graminea</i>	–	–	Native
<i>Corallina</i> spp.	–	–	Native
<i>Dictyota</i> spp.	–	–	Native
<i>Cystoseria osmundacea</i>	chain bladder kelp	–	Native
<i>Phyllospadix</i> spp.	surfgrass	–	Native
<i>Egregia menziesii</i>	feather boa kelp	–	Native



Scientific Name	Common Name	Status	Native or Introduced
<b>Invertebrates</b>			
<i>Anthopluera elegantissima</i>	aggregating anemone	–	Native
<i>Chthamalus</i> spp.	acorn barnacle	–	Native
<i>Mytilus californianus</i>	California mussel	–	Native
<i>Pollicipes polymerus</i>	gooseneck barnacle	–	Native
<i>Lottia gigantea</i>	owl limpet	–	Native
<i>Lottia</i> spp.	–	–	Native
<i>Acmea</i> spp.	–	–	Native
<i>Phragmatopoma californica</i>	sandcastle worm	–	Native
<i>Tegula</i> spp.	turban snails	–	Native
<i>Megastrea undosa</i>	wavy turban snail	–	Native
<i>Kelletia kelletii</i>	Kellet's whelk	–	Native
<i>Styela montereyensis</i>	stalked tunicate	–	Native
<i>Eudistylia polymorpha</i>	feather duster worm	–	Native
<i>Olivella biplicata</i>	purple olive shell	–	Native
<i>Spirobranchus giganteus</i>	Christmas tree worm	–	Native
<i>Serpulorbis arenarius</i>	–	–	Native
<i>Parapholas californica</i>	pidcock clam	–	Native
<i>Hydractinia</i> spp.	hydroid	–	Native
<i>Membranipora fusca</i>	encrusting bryozoan	–	Native
<i>Thalamoporella californica</i>	–	–	Native
<i>Chama arcana</i>	jewel oyster	–	Native
<i>Strongylocentrotus purpuratus</i>	purple urchin	–	Native
<i>Chaetopterus</i> spp.	parchment tube worm	–	Native
<i>Thelepus crispus</i>	terebellid worm	–	Native
<i>Crisia</i> spp.	–	–	Native
Unidentified spones	–	–	Native
Unidentified bryozoans	–	–	Native
Unidentified tunicates	–	–	Native
<b>Fish</b>			
<i>Atherinops affinis</i>	topsmelt	–	Native
<i>Neoclinus blanchardi</i>	sarcastic fringehead	–	Native
<i>Urolophus halleri</i>	round ray	–	Native

Miller, Daniel J., Lea, Robert N., Guide to the Coastal Marine Fishes of California. State of California the Resources Agency Department of Fish and Game. 1972

Gotshall, Daniel W., Guide to Marine Invertebrates Alaska to Baja California. Sea Challengers, Inc. Monterey, California. 1994

Source: Abbott, Isabella A., Hollenberg, George J., Marine Algae of California. Stanford University Press. 1992

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# Appendix D

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Special Status Species Evaluation Tables



## Special Status Plant and Animal Species in the Regional Vicinity of the APE

Scientific Name Common Name	Status <sup>1</sup>	Habitat Requirements	Potential for Occurrence/ Basis for Determination
<b>Plants</b>			
<i>Amsinckia douglasiana</i> Douglas' fiddleneck	G4/S4 4.2	Valley and foothill grassland, oak woodland. Monterey shale; dry habitats. 0-1950 m. annual herb. Blooms Mar-May	<b>Not Expected.</b> No suitable habitat present in APE.
<i>Astragalus didymocarpus</i> var. <i>milesianus</i> Miles' milk-vetch	G5T2/S2 1B.2	Coastal scrub. Clay soils. 50-385 m. annual herb. Blooms Mar-Jun	<b>Not Expected.</b> No suitable habitat (coastal scrub) present in APE. Project is also outside the of the species' known elevation range.
<i>Atriplex coulteri</i> Coulter's saltbush	–	Coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland. Ocean bluffs, ridgetops, as well as alkaline low places. Alkaline or clay soils. 2-460 m. perennial herb. Blooms Mar-Oct	<b>Not Expected.</b> Historical record (1927) shows species occurrence throughout APE; however, no suitable habitat (coastal bluff scrub, coastal dunes, soils) was observed to be present during the reconnaissance survey on January 24, 2019.
<i>Atriplex serenana</i> var. <i>dauidsonii</i> Davidson's saltscale	G5T1/S1 1B.2	Coastal bluff scrub, coastal scrub. Alkaline soil. 0-460 m. annual herb. Blooms Apr-Oct	<b>Not Expected.</b> No suitable habitat (coastal bluff scrub, coastal scrub, soils) present in APE.
<i>Calochortus catalinae</i> Catalina mariposa-lily	G3G4/S3S4 4.2	Valley and foothill grassland, chaparral, coastal scrub, cismontane woodland. In heavy soils, open slopes, openings in brush. 15-700 m. perennial bulbiferous herb. Blooms (Feb)Mar-Jun	<b>Not Expected.</b> No suitable habitat (coastal scrub) present in APE.
<i>Calochortus fimbriatus</i> late-flowered mariposa-lily	G3/S3 1B.3	Chaparral, cismontane woodland, riparian woodland. Dry, open coastal woodland, chaparral; on serpentine. 270-1435 m. perennial bulbiferous herb. Blooms Jun-Aug	<b>Not Expected.</b> No suitable habitat present in APE. Project is also outside the of the species' known elevation range.
<i>Calochortus palmeri</i> var. <i>palmeri</i> Palmer's mariposa-lily	G3T2/S2 1B.2	Meadows and seeps, chaparral, lower montane coniferous forest. Vernal moist places in yellow-pine forest, chaparral. 485-2500 m. perennial bulbiferous herb. Blooms Apr-Jul	<b>Not Expected.</b> No suitable habitat present in APE. Project is also outside the of the species' known elevation range.
<i>Calystegia sepium</i> ssp. <i>binghamiae</i> Santa Barbara morning-glory	G5TXQ/SX 1A	Marshes and swamps (coastal). 0-30 m. perennial rhizomatous herb. Blooms Aug	<b>Not Expected.</b> No suitable habitat (marshes and swamps) present in APE.
<i>Centromadia parryi</i> ssp. <i>australis</i> southern tarplant	G3T2/S2 1B.1	Marshes and swamps (margins), valley and foothill grassland, vernal pools. Often in disturbed sites near the coast at marsh edges; also in alkaline soils sometimes with saltgrass. Sometimes on vernal pool margins. 0-975 m. annual herb. Blooms May-Nov	<b>Not Expected.</b> No suitable habitat (marshes, swamps, soils) present in APE.

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Scientific Name Common Name	Status <sup>1</sup>	Habitat Requirements	Potential for Occurrence/ Basis for Determination
<i>Cercocarpus betuloides</i> var. <i>blancheae</i> island mountain- mahogany	G5T4/S4 4.3	Chaparral, closed-cone coniferous forest. 30-600 m. perennial evergreen shrub. Blooms Feb-May	<b>Not Expected.</b> No suitable habitat present in APE. Project is also outside the of the species' known elevation range.
<i>Chloropyron maritimum</i> ssp. <i>maritimum</i> salt marsh bird's-beak	FE/SE G4?T1/S1 1B.2	Marshes and swamps, coastal dunes. Limited to the higher zones of salt marsh habitat. 0-10 m. annual herb (hemiparasitic). Blooms May-Oct(Nov)	<b>Not Expected.</b> No suitable habitat (marshes and swamps) present in APE. One species occurrence (several plants) recorded in 2013 approximately 0.6 mile west of APE.
<i>Chorizanthe</i> <i>polygonoides</i> var. <i>longispina</i> long-spined spineflower	G5T3/S3 1B.2	Chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, vernal pools. Gabbroic clay. 30-1540 m. annual herb. Blooms Apr-Jul	<b>Not Expected.</b> No suitable habitat present in APE. Project is also outside the of the species' known elevation range.
<i>Convolvulus simulans</i> small-flowered morning- glory	G4/S4 4.2	Chaparral, coastal scrub, valley and foothill grassland. Wet clay, serpentine ridges. 30-700 m. annual herb. Blooms Mar-Jul	<b>Not Expected.</b> No suitable habitat (coastal scrub, chaparral) present in APE.
<i>Deinandra paniculata</i> paniculate tarplant	G4/S4 4.2	Coastal scrub, valley and foothill grassland, vernal pools. Usually in vernal pools or on mima mounds near them. 25-940 m. annual herb. Blooms (Mar)Apr-Nov	<b>Not Expected.</b> No suitable habitat (coastal scrub, vernal pools) present in APE.
<i>Fritillaria ojaiensis</i> Ojai fritillary	G3/S3 1B.2	Broadleafed upland forest (mesic), chaparral, lower montane coniferous forest, cismontane woodland. Usually loamy soil. Sometimes on serpentine; sometimes along roadsides. 100-1140 m. perennial bulbiferous herb. Blooms Feb-May	<b>Not Expected.</b> No suitable habitat (upland forest, coniferous forest) present in APE.
<i>Hordeum intercedens</i> vernal barley	G3G4/S3S4 3.2	Valley and foothill grassland, vernal pools, coastal dunes, coastal scrub. Vernal pools, dry, saline streambeds, alkaline flats. 5-1000 m. annual herb. Blooms Mar-Jun	<b>Not Expected.</b> No suitable habitat (coastal dunes, coastal scrub) present in small areas of APE.
<i>Lasthenia conjugens</i> Contra Costa goldfields	FE G1/S1 1B.1	Valley and foothill grassland, vernal pools, alkaline playas, cismontane woodland. Vernal pools, swales, low depressions, in open grassy areas. 1-450 m. annual herb. Blooms Mar-Jun	<b>Not Expected.</b> No suitable habitat present in APE.
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i> Coulter's goldfields	G4T2/S2 1B.1	Coastal salt marshes, playas, vernal pools. Usually found on alkaline soils in playas, sinks, and grasslands. 1-1375 m. annual herb. Blooms Feb-Jun	<b>Not Expected.</b> No suitable habitat present in APE.
<i>Lilium humboldtii</i> ssp. <i>ocellatum</i> ocellated Humboldt lily	G4T4?/S4? 4.2	Chaparral, coastal scrub, cismontane woodland, lower montane coniferous forest, riparian forest. Yellow-pine forest or openings, oak canyons. 30-1800 m. perennial bulbiferous herb. Blooms Mar-Jul(Aug)	<b>Not Expected.</b> No suitable habitat (coastal scrub, chaparral) present in APE.

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<i>Lonicera subspicata</i> var. <i>subspicata</i> Santa Barbara honeysuckle	G5T2?/S2? 1B.2	Chaparral, cismontane woodland, coastal scrub. 5-825 m. perennial evergreen shrub. Blooms May-Aug(Dec-Feb)	<b>Not Expected.</b> No suitable habitat (coastal scrub, chaparral) present in APE.
<i>Malacothrix saxatilis</i> var. <i>arachnoidea</i> Carmel Valley malacothrix	G5T2/S2 1B.2	Chaparral, coastal scrub. Rock outcrops or steep rocky roadcuts. 30-1040 m. perennial rhizomatous herb. Blooms (Mar)Jun-Dec	<b>Not Expected.</b> No suitable habitat (coastal scrub, chaparral) present in APE.
<i>Monardella hypoleuca</i> ssp. <i>hypoleuca</i> white-veined monardella	G4T3/S3 1B.3	Chaparral, cismontane woodland. Dry slopes. 50-1280 m. perennial herb. Blooms (Apr)May-Aug(Sep-Dec)	<b>Not Expected.</b> No suitable habitat (chaparral) present in APE. Project is also outside the of the species' known elevation range.
<i>Nasturtium gambelii</i> Gambel's water cress	FE/ST G1/S1 1B.1	Marshes and swamps. Freshwater and brackish marshes at the margins of lakes and along streams, in or just above the water level. 5-330 m. perennial rhizomatous herb. Blooms Apr-Oct	<b>Not Expected.</b> No suitable habitat (marshes and swamps) present in APE.
<i>Phacelia hubbyi</i> Hubby's phacelia	G4/S4 4.2	Chaparral, coastal scrub, valley and foothill grassland. Gravelly, rocky areas and talus slopes. 0-1000 m. annual herb. Blooms Apr-Jul	<b>Not Expected.</b> No suitable habitat (coastal scrub, chaparral) present in APE.
<i>Phacelia ramosissima</i> var. <i>australitoralis</i> south coast branching phacelia	G5?T3Q/S3 3.2	Chaparral, coastal scrub, coastal dunes, coastal salt marsh. Sandy, sometimes rocky sites. 5-300 m. perennial herb. Blooms Mar-Aug	<b>Not Expected.</b> Some suitable habitat (sandy sites) present in small area of APE; however, no coastal scrub/coastal dunes present.
<i>Piperia michaelii</i> Michael's rein orchid	G3/S3 4.2	Coastal bluff scrub, coastal scrub, cismontane woodland, chaparral, closed-cone coniferous forest, lower montane coniferous forest. Mudstone and humus, generally dry sites. 3-915 m. perennial herb. Blooms Apr-Aug	<b>Not Expected.</b> No suitable habitat (coastal scrub, chaparral) present in APE.
<i>Quercus dumosa</i> Nuttall's scrub oak	G3/S3 1B.1	Closed-cone coniferous forest, chaparral, coastal scrub. Generally on sandy soils near the coast; sometimes on clay loam. 15-640 m. perennial evergreen shrub. Blooms Feb-Apr (May-Aug)	<b>Not Expected.</b> No suitable habitat (closed-cone coniferous forest, coastal scrub, chaparral) present in APE. Historical record (1929) shows species occurrence throughout APE; however, the exact location of the species is unknown and was mapped in the general vicinity of the City of Carpinteria.
<i>Ribes amarum</i> var. <i>hoffmannii</i> Hoffmann's bitter gooseberry	G4?T3/S3 3	Chaparral, riparian woodland. 5-1190 m. perennial deciduous shrub. Blooms Mar-Apr	<b>Not Expected.</b> No suitable habitat (chaparra) present in APE.

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Scientific Name Common Name	Status <sup>1</sup>	Habitat Requirements	Potential for Occurrence/ Basis for Determination
<i>Sanicula hoffmannii</i> Hoffmann's sanicle	G3/S3 4.3	Broadleafed upland forest, coastal scrub, coastal bluff scrub, chaparral, cismontane woodland, lower montane coniferous forest. Cool slopes in deep soil, often in moist shaded serpentine soils, or in clay soils. 30-300 m. perennial herb. Blooms Mar-May	<b>Not Expected.</b> No suitable habitat (coastal scrub, chaparral) present in APE. Project is also outside the of the species' known elevation range.
<i>Scrophularia atrata</i> black-flowered figwort	G2?/S2? 1B.2	Closed-cone coniferous forest, chaparral, coastal dunes, coastal scrub, riparian scrub. Sand, diatomaceous shales, and soils derived from other parent material; around swales and in sand dunes. 10-445 m. perennial herb. Blooms Mar-Jul	<b>Not Expected.</b> No suitable habitat present in APE.
<i>Suaeda taxifolia</i> woolly seablite	G4/S4 4.2	Coastal bluff scrub, coastal dunes, marshes and swamps. Margins of salt marshes. 0-50 m. perennial evergreen shrub. Blooms Jan-Dec	<b>Not Expected.</b> No suitable habitat (coastal scrub, marshes) present in APE.
<b>Invertebrates</b>			
<i>Cicindela hirticollis</i> <i>gravida</i> sandy beach tiger beetle	G5T2/S2	Inhabits areas adjacent to non-brackish water along the coast of California from San Francisco Bay to northern Mexico. Clean, dry, light-colored sand in the upper zone. Subterranean larvae prefer moist sand not affected by wave action.	<b>Not Expected.</b> Elements of suitable habitat (freshwater creek, dry light sand) are present at the southern end of APE. However, CNDDDB records indicate only one historical record (1979) along Carpinteria State Beach. No specific location indicated. The area in which this species was observed, within Carpinteria State Beach, has been significantly developed since the observation and the species is considered extirpated in this area.
<i>Coelus globosus</i> globose dune beetle	G1G2/S1S2	Inhabitant of coastal sand dune habitat; erratically distributed from Ten Mile Creek in Mendocino County south to Ensenada, Mexico. Inhabits foredunes and sand hummocks; it burrows beneath the sand surface and is most common beneath dune vegetation.	<b>Not Expected.</b> Historical record (1934) shows species occurrence throughout the southern portion of the APE; however, no suitable habitat (coastal sand dune) was observed to be present during the reconnaissance survey on January 24, 2019.



Scientific Name Common Name	Status <sup>1</sup>	Habitat Requirements	Potential for Occurrence/ Basis for Determination
<i>Danaus plexippus pop. 1</i> monarch – California overwintering population	G4T2T3/S2S3	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	<b>Moderate Potential.</b> Suitable habitat (eucalyptus) observed throughout the APE where eucalyptus trees are present. CNDDDB record from 1990-91 show species occurrence along Carpinteria Creek, southeastern of the APE. Species not observed during the reconnaissance survey on January 24, 2019.
<i>Branchinecta lynchi</i> Vernal pool fairy shrimp	FT G3/S2S3	Endemic to the grasslands of the Central Valley, central Coast Mountains, and South Coast Mountains. Inhabits, small clearwater sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	<b>Not Expected.</b> No suitable habitat present within the APE.
<i>Panoquina errans</i> wandering (=saltmarsh) skipper	G4G5/S2	Southern California coastal salt marshes. Requires moist saltgrass for larval development.	<b>Not Expected.</b> No suitable habitat (coastal salt marsh) present within APE. One species occurrence (4 females) in 2007 within 0.5 miles west of APE.
<i>Haliotis cracherodii</i> black abalone	FE SC (NMFS) P IUCN	Primarily found in rocky intertidal and shallow subtidal reefs along the coast.	<b>Moderate Potential.</b> Suitable rocky reef and intertidal habitat present. Species not observed during field survey.
<i>Haliotis corrugata</i> pink abalone	SC (NMFS) P	Occurs on rocky substrate in intertidal and subtidal habitats along California coast.	<b>Moderate Potential.</b> Suitable rocky reef habitat present. Species not observed during field survey.
<i>Haliotis fulgens</i> green abalone	SC (NMFS) P	Occurs on rocky substrate in intertidal and subtidal habitats along California coast.	<b>Moderate Potential.</b> Suitable rocky reef and intertidal habitat present. Species not observed during field survey.
<i>Haliotis sorenseni</i> white abalone	FE P	Primarily found in rocky substrates alongside sand channels within coastal waters, typically at depths of 50-180 feet	<b>Low Potential.</b> The APE extends into approximately 30 feet of water. The species is not expected to occur in shallow depths.
<b>Fish</b>			
<i>Eucyclogobius newberryi</i> tidewater goby	FE G3/S3 SSC	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	<b>High Potential.</b> Suitable habitat (Carpinteria Creek) present at southern end of APE. CNDDDB record in 1995 shows species occurrence along Carpinteria Creek within 0.5 miles of APE.

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Scientific Name Common Name	Status <sup>1</sup>	Habitat Requirements	Potential for Occurrence/ Basis for Determination
<i>Oncorhynchus mykiss irideus</i> pop. 10 steelhead - southern California DPS	FE G5T1Q/S1	Federal listing refers to populations from Santa Maria River south to southern extent of range (San Mateo Creek in San Diego County). Southern steelhead likely have greater physiological tolerances to warmer water and more variable conditions.	<b>High Potential.</b> The project is within federally-designated critical habitat for this species.
<i>Carcharodon carcharias</i> white shark	P IUCN, CITES, CMS	Temperate oceans of the world. Found in shore waters near the surface up to depths of 1000 meters.	<b>High Potential.</b> The outfall pipeline is in suitable habitat for the species and sightings have been seen off Carpinteria Beach in recent years.
<i>Hypsypops rubicundus</i> garibaldi	P	Occurs from Monterey Bay to Baja California in rocky reefs, ranging from shallow sub-tidal to a depth of 95 feet.	<b>High Potential.</b> The outfall pipeline is in suitable habitat for the species and the species is common in southern California rocky reefs.
<i>Stereolepis gigas</i> giant sea bass	P IUCN	Rarely occurring north of Point Conception. Prefer edges of nearshore rocky reefs that are shallow, at 35-130 feet deep.	<b>Low Potential.</b> Adults are generally found in 10 to 40 meters of water. The project does not provide suitable habitat. There is a low potential for juveniles to occur within the APE due to the habitat requirement of shallow water depths ranging from 6 to 10 meters.
<b>Amphibians</b>			
<i>Rana draytonii</i> California red-legged frog	FT G2G3/S2S3 SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	<b>Not Expected.</b> No suitable habitat (deep water, dense riparian vegetation) present within APE. Although a small strand of riparian habitat was identified west of the WWTP, it lacks water and access to estivation habitat.
<i>Anaxyrus californicus</i> Arroyo toad	FE SSC G2G3/S2S3	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash, etc. Rivers with sandy banks, willows, cottonwoods, and sycamores; loose, gravelly areas of streams in drier parts of range.	<b>Not Expected.</b> No suitable habitat present within APE. Although a small strand of riparian habitat was identified west of the WWTP, it lacks the presence of other suitable habitat elements (e.g., rivers with sandy banks, cottonwoods, loose, gravelly areas of streams in drier parts of range).

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<b>Reptiles</b>			
<i>Anniella pulchra</i> California legless lizard	G3/S3 SSC	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with high moisture content.	<b>Low Potential.</b> Suitable habitat (sandy soils, sparse vegetation) present at southern end of APE. CNDDDB indicates three historical (before 1983) species occurrences along Carpinteria State Beach within 0.5 miles of APE. The area in which this species was observed, within Carpinteria State Beach, has been significantly developed since the observations. Species not observed during the reconnaissance survey on January 24, 2019.
<i>Chelonia mydas</i> green sea turtle	FE	Adult and juvenile green turtles live are generally found nearshore as well as in bays and lagoons, on reefs, and especially in areas with seagrass beds.	<b>Moderate Potential.</b> The species is highly migratory and may be present within the APE during warm water years or summer months.
<i>Caretta caretta</i> loggerhead sea turtle	FT	They are circumglobal, occurring throughout the temperate and tropical regions of the Atlantic, Pacific, and Indian Oceans. Loggerheads are the most abundant species of sea turtle found in U.S. coastal waters.	<b>Low Potential.</b> The species is highly migratory and has a low potential to occur within the APE.
<i>Dermochelys coriacea</i> leatherback sea turtle	FE	The Eastern Pacific leatherback subpopulation nests along the Pacific coast of the Americas from Mexico to Ecuador, and marine habitats extend from the coastline westward.	<b>Low Potential.</b> The species is not expected to occur within the APE but it is highly migratory and transits in offshore waters of California on occasion.
<i>Lepidochelys olivacea</i> olive Ridley sea turtle	FE	The olive Ridley sea turtle is considered the most abundant sea turtle in the world and can be found in the Pacific Islands, Southeast, and the West Coast.	<b>Low Potential.</b> The species is highly migratory and has a low potential to occur within the APE.
<b>Birds</b>			
<i>Charadrius nivosus</i> <i>nivosus</i> western snowy plover	FT G3T3/S2S3 SSC	Sandy beaches, salt pond levees & shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	<b>Moderate Potential.</b> Suitable habitat (sandy beaches) present at southern end of APE; however, 1978 CNDDDB record determined suitable habitat is no longer present due to development. Carpinteria State Beach may be used for foraging and roosting, but not nesting.
<i>Passerculus</i> <i>sandwichensis beldingi</i> Belding's savannah sparrow	SE G5T3/S3	Inhabits coastal salt marshes, from Santa Barbara south through San Diego County. Nests in Salicornia on and about margins of tidal flats.	<b>Not Expected.</b> No suitable habitat (coastal salt marsh) present within APE. CNDDDB record (2001) estimated 75 pairs within 0.5 miles west of APE.

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Scientific Name Common Name	Status <sup>1</sup>	Habitat Requirements	Potential for Occurrence/ Basis for Determination
<i>Rallus obsoletus levipes</i> light-footed Ridgway's rail	FE/SE G5T1T2/S1 FP	Found in salt marshes traversed by tidal sloughs, where cordgrass and pickleweed are the dominant vegetation. Requires dense growth of either pickleweed or cordgrass for nesting or escape cover; feeds on molluscs and crustaceans.	<b>Not Expected.</b> No suitable habitat (salt marsh, pickleweed, cordgrass) present within APE.
<i>Setophaga petechia</i> yellow warbler	G5/S3S4 SSC	Riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada. Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	<b>Moderate Potential.</b> A small stand of riparian habitat occurs in the APE to the west of the WWTP. Carpinteria Creek, to the east and mainly outside of the APE, also consists of suitable riparian habitat (riparian plant associates near water). The riparian habitat within the APE may be utilized for foraging; however, the habitat is limited in size and sparse and therefore the species is not likely to nest in this location.
<i>Gymnogyps californianus</i> California condor	FE/SE FP G1/S1	Require vast expanses of open savannah, grasslands, and foothill chaparral in mountain ranges of moderate altitude. Deep canyons containing clefts in the rocky walls provide nesting sites. Forages up to 100 miles from roost/nest.	<b>Not Expected.</b> No suitable habitat (open savannah, grasslands, foothill chaparral) present within APE.
California least tern <i>Sterna antillarum browni</i>	FE/SE G4T2T3Q/S2 FP	Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, landfills, or paved areas.	<b>Not Expected.</b> Elements of suitable habitat are present in the southern portion of the APE (sand beaches); however, the species is not known to nest, forage, or roost within Carpinteria State Beach.
Least Bell's vireo <i>Vireo bellii pusillus</i>	FE/SE G5T2/S2	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	<b>Not Expected.</b> A small stand of riparian habitat occurs in the APE to the west of the WWTP. Carpinteria Creek, to the east and mainly outside of the APE, also contains riparian habitat. However, the habitat is limited in size and sparse, and the species is more closely associated with the Santa Ynez River in Santa Barbara County.
Marbled murrelet <i>Brachyramphus marmoratus</i>	FT/SE G3G4/S1	Feeds near-shore; nests inland along coast from Eureka to Oregon border and from Half Moon Bay to Santa Cruz. Nests in old-growth redwood-dominated forests, up to six miles inland, often in Douglas-fir.	<b>Not Expected.</b> No suitable habitat (old-growth redwood-dominated forests) present within APE.

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Southwestern willow flycatcher <i>Empidonax traillii</i> <i>extimus</i>	FE/SE G5T2/S1	Riparian woodlands in Southern California.	<b>Not Expected.</b> A small stand of riparian habitat occurs in the APE to the west of the WWTP. Carpinteria Creek, to the east and mainly outside of the APE, also consists of riparian habitat. However, the species is not likely to nest due to the limited extent and low riparian habitat density within the APE.
<b>Mammals</b>			
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	G3G4/S2 SSC	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	<b>Not Expected.</b> Some suitable habitat (buildings) present throughout APE; however, human disturbance is high throughout the APE.
<i>Mirounga angustirostris</i> northern elephant seal	FP MMPA	Breeding occurs in Channel Islands and birth occurs from December to March. May occur on land in sandy or rocky areas along coastline. Ocean dive depths can be up to 300-800 meters.	<b>Moderate Potential.</b> Animals may occur transiting through the APE, however the small APE and high frequency of humans and dogs along the beach greatly reduces potential occurrences
<i>Phoca vitulina</i> harbor seal	MMPA	Temperate coastal habitats along the coast of California. Rest on rocks, reefs, beaches.	<b>High Potential.</b> Habitat is present within the APE and animals frequent rocky points along the adjacent bluffs, however human disturbance is high throughout the APE
<i>Zalophus californianus</i> California sea lion	MMPA	Shallow waters in temperate coastal habitats along the coast of California. Rest on beaches, docks, buoys, and jetties. Prefer sandy beaches or rocky coves for breeding and haul-out sites.	<b>High Potential.</b> Some foraging habitat is present in the APE, however human disturbance and the limited extent of the APE reduces the potential for occurrences
<i>Arctocephalus townsendi</i> Guadalupe fur seal	FT MMPA	Guadalupe fur seals live in the waters off southern California and the Pacific coast of Mexico. During the breeding season, they are found in coastal rocky habitats and caves. Little is known about their whereabouts during the non-breeding season.	<b>Low Potential.</b> Some foraging habitat is present throughout APE; however, human disturbance is high and animals are likely to avoid populated areas based on behavioral tendencies
<i>Eschrichtius robustus</i> gray whale	MMPA	Breeding occurs in lagoons in Baja California in the fall. Migration occurs northward along the west coast from mid-February to May.	<b>Moderate Potential.</b> Animals may occur transiting through the APE however the limited extent and shallow nature of the APE reduces the potential for occurrences

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Scientific Name Common Name	Status <sup>1</sup>	Habitat Requirements	Potential for Occurrence/ Basis for Determination
<i>Megaptera novaeangliae</i> humpback whale	FE MMPA	Feeding and migration occurs off the coast of California during spring, summer, and fall.	<b>Low Potential.</b> Animals may occur transiting through the APE; however, the limited extent and shallow nature of the APE reduces the potential for occurrences
<i>Tursiops truncatus</i> Common bottlenose dolphin	MMPA	Bottlenose dolphins are found in temperate and tropical waters around the world. They inhabit a wide variety of habitats, including harbors, bays, gulfs, and estuaries, as well as nearshore coastal waters, deeper waters over the continental shelf, and even far offshore in the open ocean.	<b>High Potential.</b> Animals are likely to occur transiting through the APE however and the limited extent of the APE and reduces the potential for occurrences
<i>Balaenoptera musculus</i> blue whale	FE	Blue whales migrate seasonally between summer feeding grounds and winter breeding grounds. They prefer deep waters to shallow coastal waters. The North Pacific blue whales live off the California coast and migrate to waters off the coast of Mexico and Central America in winter.	<b>Not Expected.</b> No suitable habitat present within APE.
<i>Balaenoptera physalus</i> fin whale	FE	Primarily found in deep, offshore waters of all major oceans, primarily in temperate to polar latitudes. Most migrate from the Arctic and Antarctic feeding areas in the summer to tropical breeding and calving areas in the winter.	<b>Not Expected.</b> No suitable habitat present within APE.
<i>Eubalaena japonica</i> northern Pacific right whale	FE	Although migration patterns are unknown, it is thought the whales spend the summer in far northern feeding grounds and migrate south to warmer waters, such as southern California, during the winter. Nursery areas are in shallow, coastal waters.	<b>Not Expected.</b> No suitable habitat present within APE.
<i>Balaenoptera borealis</i> sei whale	FE	Found in subtropical, temperate, and subpolar waters, however, temperate waters in the mid-latitudes are preferred. They are typically observed in deeper waters far from the coastline.	<b>Not Expected.</b> No suitable habitat present within APE.
<i>Physeter microcephalus</i> sperm whale	FE	Primarily found in deep, offshore waters. In some mid-latitudes, sperm whales seem to generally migrate north and south depending on the seasons, moving toward the poles in the summer. However, in tropical and temperate areas, there appears to be no obvious seasonal migration.	<b>Not Expected.</b> No suitable habitat present within APE.

Scientific Name Common Name	Status <sup>1</sup>	Habitat Requirements	Potential for Occurrence/ Basis for Determination
<i>Orcinus orca</i> southern resident killer whale		During the spring, summer, and fall, the range of Southern Resident killer whales includes the inland waterways of Washington State and the transboundary waters between the United States and Canada. Less is known about their winter movements and range. They have been spotted as far south as central California during the winter months and as far north as Southeast Alaska.	<b>Not Expected.</b> No suitable habitat present within APE.
<b>Sensitive Natural Communities</b>			
Southern Coastal Salt Marsh	G2/S2.1	—	<b>Not Expected.</b> Not observed during the reconnaissance survey on January 24, 2019.

<sup>1</sup> Notes:

Regional Vicinity refers to within a 5 mile and a 7-quad search radius of site.

FE = Federally Endangered FT = Federally Threatened FC = Federal Candidate Species

SE = State Endangered ST = State Threatened SC = State Candidate SR = State Rare

FP = CDFW Fully Protected SSC = CDFW Species of Special Concern P= State Protected Species

SC (NFMS)= Species of concern by the National Marine Fisheries Service

IUCN= Included in the World Conservation Union’s Red List of Vulnerable Species CITES= Protected under the Convention of International Trade in Endangered Species of Fauna and Flora CMS= Protected by the Convention on Migratory Species

MMPA= Protected under the Marine Mammal Protection Act

**CNPS California Rare Plant Rank**

1A=Presumed Extinct in California

1B=Rare, Threatened, or Endangered in California and elsewhere

2A=Plants presumed extirpated in California, but more common elsewhere

2B=Plants Rare, Threatened, or Endangered in California, but more common elsewhere

**California Rare Plant Rank Threat Code Extension**

.1=Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)

.2=Fairly endangered in California (20-80% occurrences threatened)

.3=Not very endangered in California (<20% of occurrences threatened)

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## **Appendix E**

### Cultural Resources Assessment

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# Carpinteria Advanced Purification Project

## Cultural Resources Assessment Report

*prepared by*

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**March 2019**



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California, Santa Barbara

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# Executive Summary

---

Rincon Consultants, Inc. (Rincon) was retained by Woodard & Curran, on behalf of the Carpinteria Valley Water District (WWTP), to perform a cultural resources assessment for the Carpinteria Advanced Purification Project (project) in Santa Barbara County, California. The purpose of this report is to document the tasks conducted by Rincon; specifically, delineation of an Area of Potential Effect (APE), a cultural resources records search, Native American outreach, local historic group consultation, and a field survey. This study has been completed in accordance with the requirements of the California Environmental Quality Act (CEQA). This report has also been prepared to conform to the requirements of Section 106 of the National Historic Preservation Act (NHPA) in case a federal nexus (i.e., federal funding and/or permitting) is established during the course of the project.

The results of the cultural resources assessment indicate the mapped boundary of one previously recorded archaeological resource (CA-SBA-7) extends into the project APE in the vicinity of the Carpinteria Wastewater Treatment Plant (WWTP). A review of the extant data obtained from archaeological investigations conducted at CA-SBA-7 over the last 70 years suggests the site's substantial cultural deposits are concentrated on the eastern side of Carpinteria Creek outside of the APE. Test excavations conducted adjacent to the APE determined deposits west of the creek were limited to isolated shell fragments; no prehistoric artifacts or organic-rich midden deposits indicative of long-term use were identified by these studies.

Discussions with CVWD personnel indicate the sediments underlying the WWTP have also been extensively disturbed up to 20 feet below current ground surface by the construction and reconstruction of plant facilities. Based on these findings, it may be concluded even if cultural deposits associated with CA-SBA-7 were once present, it is likely these remains have been destroyed.

Results of the cultural resources assessment indicate no historic period built-environment resources are located within the APE. Although the WWTP was originally constructed over 50 years ago, it has since been completely rebuilt. Therefore, no buildings or structures on the property qualify for evaluation for the NRHP or CRHR.

Due to levels of previous disturbance throughout the APE, including in areas reportedly containing portions of CA-SBA-7, Rincon does not recommend any further work related to cultural resources. However, unanticipated discoveries are a possibility during ground disturbance. Rincon recommends a finding of ***less than significant impact with mitigation to historical and unique archaeological resources*** and presents the following recommendation in case of unanticipated discovery of cultural resources during project development. The project is also required to adhere to regulations regarding the unanticipated discovery of human remains, detailed below.

Previous studies indicate the deposits from CA-SBA-7 are located along the creek margins opposite the current APE. Previous testing along the APE also indicated only some shell fragments were noted subsurface in the vicinity of the APE. Based on the results of the current study and past testing results, Rincon recommends a finding of ***no effect to historic properties*** under Section 106 of the NHPA. Rincon recommends no further work be required under Section 106. Rincon assumes the

State Historic Preservation Office will concur with this finding and will not require additional archaeological testing due to the amount of previous testing conducted in and near the project APE.

## Unanticipated Discovery of Cultural Resources

If cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt and an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983) should be contacted immediately to evaluate the find. If the discovery proves to be significant under the NHPA and/or CEQA, additional work such as data recovery excavation and Native American consultation may be warranted to mitigate any significant impacts/adverse effects.

## Human Remains

The discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission, which will determine and notify a most likely descendant (MLD). The MLD has 48 hours from being granted site access to make recommendations for the disposition of the remains. If the MLD does not make recommendations within 48 hours, the land owner shall reinter the remains in an area of the property secure from subsequent disturbance.



# 1 Introduction

---

Rincon Consultants, Inc. (Rincon) was retained by Woodard & Curran, on behalf of the Carpinteria Valley Water District (CVWD), to perform a cultural resources assessment for the Carpinteria Advanced Purification Project (CAPP; project) in Santa Barbara County, California. The purpose of this report is to document the tasks conducted by Rincon; specifically, the delineation of the Area of Potential Effect (APE), a cultural resources records search, Native American outreach, local historic group consultation, and a field survey. Rincon understands the project is subject to the California Environmental Quality Act (CEQA). In case a federal nexus is established, this report has also been prepared to conform to the requirements of Section 106 of the National Historic Preservation Act (NHPA).

## 1.1 Project Description

The proposed project includes construction of an Advanced Water Purification Facility (AWPF), injection wells, conveyance pipelines, backwash pipelines, pump station, monitoring wells, and modifications to the existing ocean outfall. Existing production wells would be used to extract the purified water back out of the groundwater basin for use in the potable supply. A detailed description of each project component is provided below.

### 1.1.1 Advanced Water Purification Facility

The AWPF is proposed to be constructed at the existing Carpinteria Wastewater Treatment Plant (WWTP). The AWPF would be built east of the disinfection basins and west of the Storage Building and Maintenance Building, within an existing paved area. The total AWPF footprint would be approximately 10,900 square feet. An existing storage building in the east portion of the property may be demolished concurrently with the proposed project. A backwash line would also be constructed along the existing north utility corridor and main utility corridor to the WWTP influent pump station.

### 1.1.2 Purified Water Pump Station

A Purified Water Pump Station (PWPS) would be constructed near the AWPF. The footprint of the PWPS, which includes associated above grade piping, surge tank, and miscellaneous equipment, would be 2,000 square feet (33 feet by 60 feet). The PWPS would entail the construction of a concrete pad and roof decking over a below grade concrete clearwell. The below grade concrete clearwell would be used to temporarily store purified water before being pumped to the injection wells. The clearwell would require excavation of approximately 345 cubic yards of soil to a depth of 14 feet below ground surface.

### 1.1.3 Conveyance Pipelines to Injection Wells

The PWPS and piping conveyance system would be constructed to serve up to three injection wells. A majority of the pipeline alignments would be installed via open cut trench within roadway rights-of-way (ROWs). In some cases, pipeline segments may be constructed via trenchless technologies. Approximately 6,100 linear feet (LF) of 12-inch diameter common pipeline would convey the

purified water to the well lateral split. Three 8-inch diameter pipeline extensions, totaling approximately 2,000 LF, would be used to distribute the water to individual injection wells.

A segment proposed for construction which may not use open cut trench or use trenchless construction is the segment to serve the injection well at Franklin Park, which must cross Franklin Creek. If open cut trenching is not selected for the Franklin Creek crossing, a pipe bridge would be used, similar to an existing pipe bridge over Franklin Creek. The existing pipe bridge spans the creek, adjacent to a pedestrian bridge between Meadow View Lane and Sterling Avenue. The 8-inch pipe would span the creek and support itself; no external pipe supports or permanent loading of the pedestrian bridge would be required. The pipe span across Franklin Creek would be approximately 25 feet.

Additionally, the portion of the pipeline segment on Linden Avenue crossing U.S. Highway 101 will be installed as a pipeline casing by CalTrans as part of the U.S. Highway 101-Linden Avenue Overcrossing project.

Table 1 provides a summary of the proposed street alignments and construction methods for each pipe segment. There may be a need to use a trenchless technology for portions of some segments; however, these segments are not yet determined.

**Table 1 Conveyance Pipelines and Preferred Alignment**

Street <sup>1</sup>	Length (linear feet)	Diameter (inches)	Proposed Construction Method
Olive Avenue	220	12	Open cut trench, paved City street
6th Street	1,100	12	Open cut trench, paved City street
Maple Avenue	1,300	12	Open cut trench, paved City street
Carpinteria Avenue	120	12	Open cut trench, paved City street
Eugenia Place	680	12	Open cut trench, paved City street
Easement between Eugenia Place and Linden Avenue	340	12	Open cut trench, paved City street
Linden Avenue <sup>2</sup>	2,340	12	Pipeline casing within U.S. Highway 101 Overcrossing
Linden Avenue	125	8	Open cut trench, paved City street
Meadow View Lane	720	8	Open cut trench, paved City street
El Carro Lane	535	8	Open cut trench, paved City street

<sup>1</sup>Alternative alignments between Palm Ave and Linden Ave, or 6th Street and Carpinteria Ave could be selected for the final alignment of the 12-inch pipeline. Choosing one of these alternative alignments would not change the total length of the 12-in pipeline. The segments would be constructed via open cut trench in paved City streets.

<sup>2</sup>Approximately 1,250 LF of the 2,340 LF, 12-inch pipeline installed on Linden Ave would be installed by Caltrans as part of the U.S. Highway 101-Linden Avenue Overcrossing project

### 1.1.4 Injection Wells

Injection wells are proposed at six potential sites. In total, three injection wells are planned for construction. The injection wells would be constructed utilizing below-grade vaults or above-grade with the well head facilities placed in screened cages or behind fences. A 42,000-gallon tank would be constructed at each of the injection well sites. Individual well sites, including a backwash water holding tank, would have an approximate footprint of 6,000 square feet (60 feet by 100 feet). During construction, the impacted area would encompass approximately 10,000 square feet to

accommodate the drill rig, laydown, support equipment, and groundwater treatment tanks. The exact locations of the selected well, backwash water holding tank, and associated equipment have not been selected within the available sites.

### 1.1.5 Well Backwash Discharge Pipelines

The disposal of backwash discharge associated with the cleaning of the well screens would require the construction of up to 1,400 LF of new 12-inch pipe for connection between the well sites and the existing sanitary sewer. Drainage disposal includes construction of 600 LF of new 12-inch pipe for direct drainage to Franklin Creek or to existing drainage culverts owned by the City of Carpinteria. Drainage backwash piping is proposed to be constructed via open cut trench within roadway ROWs.

### 1.1.6 Monitoring Wells

Four monitoring well locations are proposed for the project. The locations selected for monitoring wells would be dependent on the selected injection well locations. The monitoring wells would include either three nested PVC casings or three individual monitoring wells on each site. For the nested monitoring well, three, 3-inch diameter casings in each monitoring well would be nested in a 24-inch borehole and equipped with a sampling pump. For individual monitoring wells, 3-inch casings would be installed for each aquifer at different depths. During construction, the area affected would be approximately 5,000 square-feet to accommodate the drill rig, laydown, support equipment, and groundwater treatment tanks. Once installed, above-ground facilities would include a small circular vault lid (up to 3 feet in diameter) enclosing a below-ground vault containing the nested well or three monitoring wells at different depths.

### 1.1.7 Ocean Outfall Modifications

The WWTP currently discharges effluent through a single 24-inch diameter concrete-coated, welded steel outfall at a depth of 21 to 24 feet below mean sea level. The outfall is approximately 1,600 feet long with the last 93 feet having 16 diffuser ports spaced evenly every 6 feet on the main barrel of the outfall and one diffuser port on the flanged end of the pipeline. The diffusers consist of a 4-inch diameter pipe riser with a 90-degree elbow on the end. As part of the proposed project, duckbill valves would be installed on each diffuser. No other modifications to the ocean outfall are proposed for the project.

## 1.2 Project Location

The project is located in the city of Carpinteria and in unincorporated Santa Barbara County, California. As depicted in Figure 1, the project lies within the United States Geological Survey (USGS; 2015) *Carpinteria, California 7.5-minute topographic quadrangle*. The Public Land Survey System depicts the project area within Township 4N, Range 25W, San Bernardino Meridian (Earth Point 2018).

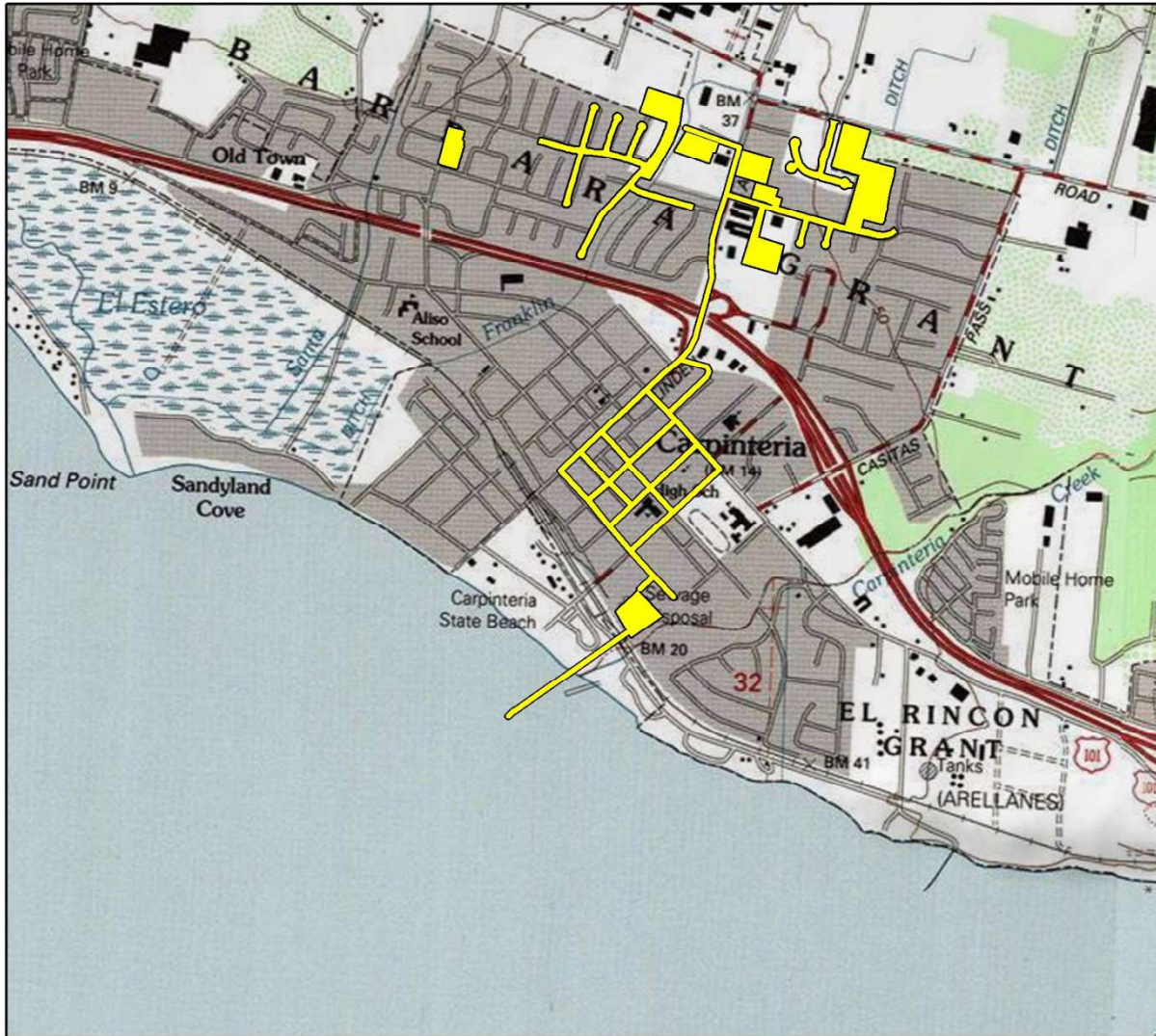
Carpinteria is located approximately 12 miles south of the city of Santa Barbara and approximately 80 miles north of the city of Los Angeles. The project is primarily within Carpinteria's municipal boundaries, with the exception of one potential injection well area and associated pipeline which lie in unincorporated Santa Barbara County. The proposed project is south of U.S. Highway 192, west of Carpinteria Creek, and east of Santa Ynez Avenue. The western boundary of the project site extends into the Pacific Ocean.

Woodard & Curran

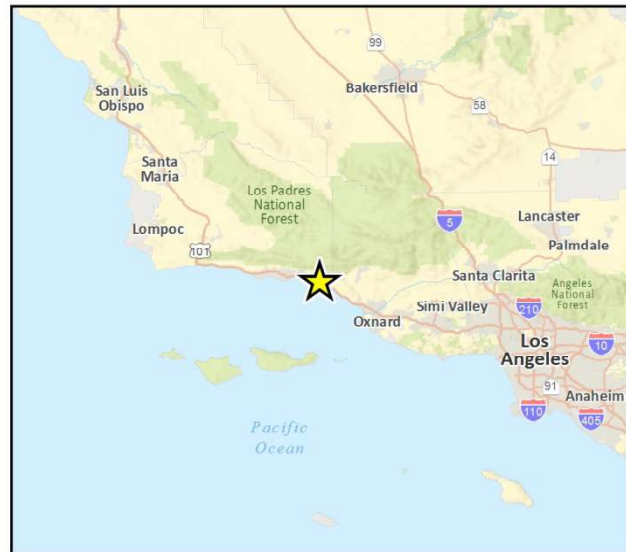
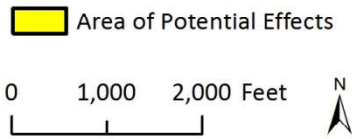
**Carpinteria Advanced Purification Project**

The AWPf component of the project is proposed to be located within the existing WWTP site, located at 5351 6th Street. The WWTP is approximately 0.1 mile northeast from the Pacific Ocean.

Figure 1 Project Location Map



Imagery provided by National Geographic Society, Esri and its licensors © 2019. Carpinteria Quadrangle. T04N R25W S20,21,28,29,32. The topographic representation depicted in this map may not portray all of the features currently found in the vicinity today and/or features depicted in this map may have changed since the original topographic map was assembled.



CRFig 1 Proj Locs Map

The WWTP is bordered on the east by Carpinteria Creek and on the south by the Union Pacific Railroad (UPRR).

The injection and monitoring well areas would be located approximately 0.7 to 1.0 mile north of the AWP. Six potential injection well sites have been identified, though only three would be selected as design continues and property rights are acquired. The potential monitoring well areas are proposed in various streets between Santa Ynez Avenue and Jay Street. The land uses surrounding these proposed areas are a mix of residential, commercial, institutional, recreational, and agricultural. Conveyance pipelines between the AWP and the injection wells would generally run within the public roadway ROW. The pipeline would cross U.S. Highway 101 at the Linden Street overpass.

The offshore component of the project consists of an existing ocean outfall located in the nearshore coastal areas of the Santa Barbara Channel (SBC). The SBC extends from Point Conception to Point Mugu and is bordered by the four northern Channel Islands – San Miguel, Santa Rosa, Santa Cruz and, Anacapa. The ocean outfall begins underground initiating at the WWTP, running under Carpinteria State Beach to the shallow subtidal at which point it lies exposed on the seafloor to its terminus approximately 1,000 feet offshore (approximately 22 feet below mean lower low water). Coastal processes seasonally bury and expose the outfall pipeline with sand throughout its subtidal nearshore extent.

### 1.3 Area of Potential Effects

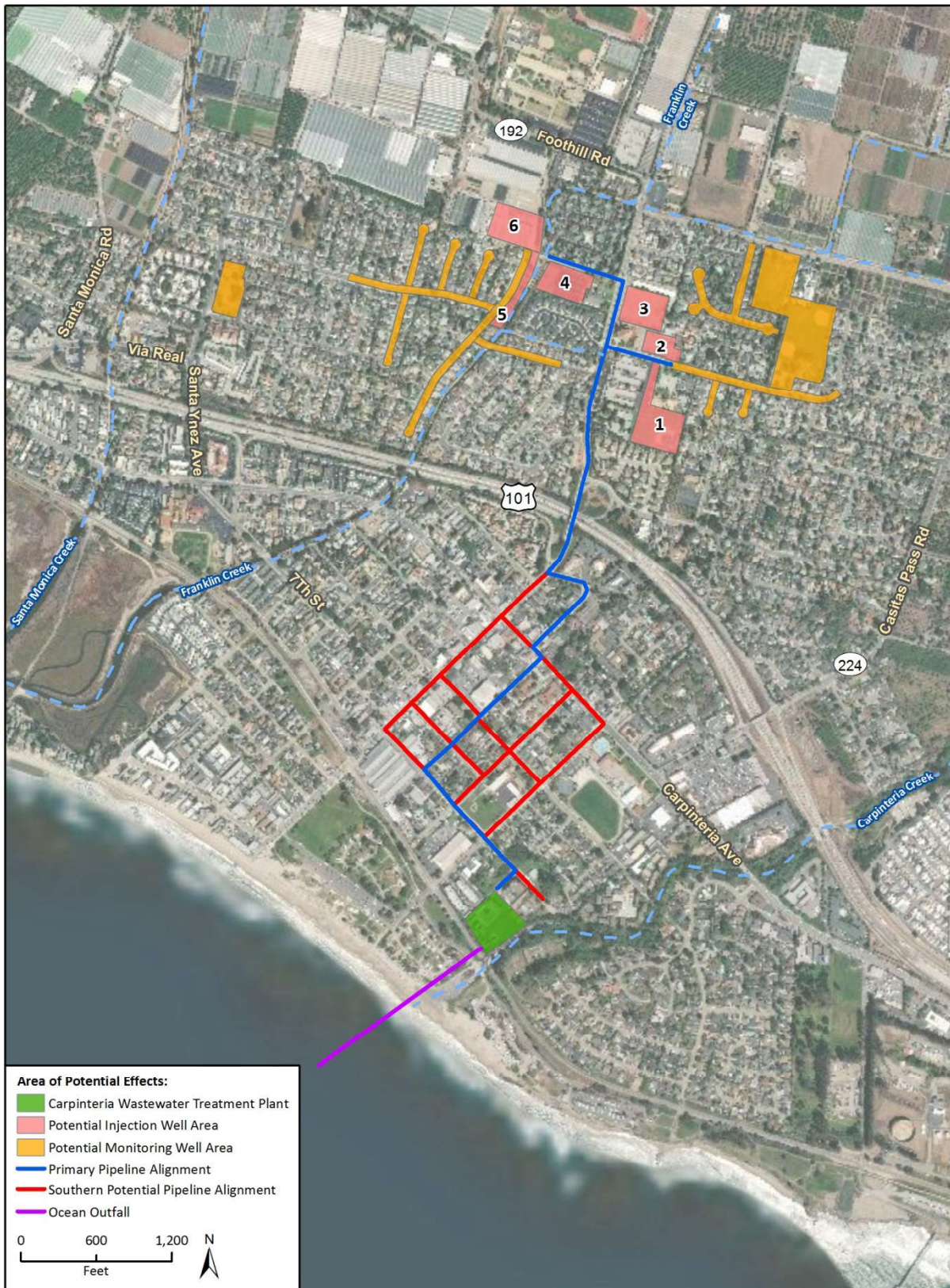
The APE of a project is defined in 36 Code of Federal Regulations (CFR) 800.16(d) as the “geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such property exists.” The APE generally depicts all areas expected to be affected by the proposed project, including staging and construction areas (Figure 2). As defined for this project, the APE encompasses the proposed project footprint described above.

The APE must additionally be considered as a three-dimensional space and include any ground disturbance associated with the project. The maximum depth of ground disturbance for the majority of the project is expected to be roughly 20 feet, with the exception of the wells, which would be drilled to a maximum depth of approximately 1,220 feet. Therefore, the vertical depth of the APE varies, but is not expected to exceed 20 feet in all areas except the well locations, where it would extend to 1,220 feet.

No indirect effects (i.e., visual, auditory, or atmospheric) are anticipated for the project. The AWP and PWPS would be constructed within the existing WWTP. An examination of historical aerial images indicates none of the buildings or structures surrounding this portion of the APE are over 50 years of age (HistoricAerials.com 2019). The conveyance pipelines, monitoring wells, and ocean outfall components of the project would be constructed at- or below-grade. As such, the project does not have the potential to indirectly affect cultural resources. Finally, the proposed injection wells may be constructed above-grade and will include one 42,000-gallon well backwash storage tank. Three of the proposed well location sites (Well Sites #4, #5, and #6) are surrounded by recent development and do not have the potential to indirectly affect cultural resources. The remaining three proposed well locations sites (Well Sites #1, # 2, and #3) are located adjacent to several single-family residences, the Carpinteria Family School, and the Saint Joseph Catholic Church, each of which is over 50 years of age. Land use in the immediate vicinity of these buildings has significantly changed over the last 50 years as the area has transformed from largely agricultural to residential

use. Due to these changes, the setting of the project area has been dramatically altered. Given these alterations, the construction of above-grade injection wells and/or the well backwash storage tank does not have the potential to indirectly affect cultural resources.

Figure 2 APE Map



Imagery provided by Esri and its licensors © 2019.

CRF-fig 2 APE Aerial



## 1.4 Personnel

Rincon Archaeologist Hannah Haas, MA, RPA provided management oversight for this cultural resources study. Rincon Senior Archaeologist Tiffany Clark, PhD, RPA, served as Principal Investigator for this study. Dr. Clark meets the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeology (National Park Service 1983). Archaeologist Dustin Merrick conducted the Native American outreach, cultural resources records search, field survey, and is the primary author of this report. Architectural Historian Susan Zamudio-Gurrola, MHP conducted the local historic group consultation. Geographic Information Systems Analyst Jon Montgomery prepared the figures found in this report. Principals Christopher Duran, MA, RPA, and Jennifer Haddow, PhD, reviewed this report for quality control.

## 2 Regulatory Setting

---

This section includes a discussion of the applicable state and local laws, ordinances, regulations, and standards governing cultural resources that should be adhered to before and during implementation of the proposed project.

### 2.1 Federal Regulations

The proposed project is considered a federal undertaking due to the potential for federal funding and is subject to Section 106 of NHPA. Section 106 applies when a project, activity, or program is funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including those carried out by or on behalf of a federal agency; those carried out with federal financial assistance; and those requiring a federal permit, license or approval. Cultural resources are considered during federal undertakings chiefly under Section 106 of NHPA of 1966 (as amended) through one of its implementing regulations, 36 CFR 800 (Protection of Historic Properties), as well as the National Environmental Policy Act. Properties of traditional, religious, and cultural importance to Native Americans are considered under Section 101 (d) (6) (A) of NHPA, and Section 106 36 CFR 800.3-800.10. Other federal laws include the Archaeological Data Preservation Act of 1974, the American Indian Religious Freedom Act of 1978, the Archaeological Resources Protection Act of 1979, and the Native American Graves Protection and Repatriation Act of 1989, among others.

Section 106 of NHPA (16 United States Code 470f) requires federal agencies to take into account the effects of their undertakings on historic properties and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings (36 CFR 800.1). Under Section 106, the significance of any adversely affected historic property is assessed and mitigation measures are proposed to reduce any impacts to an acceptable level. Historic properties are those significant cultural resources that are listed in or are eligible for listing in the NRHP per the criteria listed below (36 CFR 60.4).

The quality of significance in American, state, and local history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and meet one or more of the following criteria:

- A. Are associated with events that have made a significant contribution to the broad patterns of our history
- B. Are associated with the lives of persons significant in our past
- C. Embody the distinctive characteristics of a type, period, or method of installation, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction
- D. Have yielded, or may be likely to yield, information important in prehistory or history

Ordinarily, cemeteries, birthplaces, or graves of historic figures; properties owned by religious institutions or used for religious purposes; structures that have been moved from their original locations; reconstructed historic buildings; and properties that are primarily commemorative in

nature are not considered eligible for the NRHP, unless they satisfy certain conditions. In general, a resource must be 50 years of age to be considered for the NRHP, unless it satisfies a standard of exceptional importance.

## 2.2 State Regulations

CEQA requires a lead agency to determine whether a project may have a significant effect on historical resources (Public Resources Code [PRC], Section 21084.1) or tribal cultural resources (PRC Section 21074[a] [1] [A]-[B]). A historical resource is a resource listed, or determined to be eligible for listing in the California Register of Historical Resources (CRHR); a resource included in a local register of historical resources; or an object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (State CEQA Guidelines, Section 15064.5[a] [1-3]).

A resource shall be considered historically significant if it meets any of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage
2. Is associated with the lives of persons important to our past
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values
4. Has yielded, or may be likely to yield, information important in prehistory or history

Generally, a cultural resource must be at least 50 years of age to be considered for listing on the CRHR. Resources that have achieved significance within the past 50 years may also be eligible for inclusion in the CRHR, provided that enough time has lapsed to obtain a scholarly perspective on the events or individuals associated with the resource (Office of Historic Preservation N.d.:3).

In addition, if it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC Section 21083.2[a], [b]).

PRC Section 21083.2(g) defines a unique archaeological resource as an artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person

As of July 1, 2015, California Assembly Bill 52 (AB 52) was enacted and expands CEQA by defining a new resource category called tribal cultural resources (TCRs). AB 52 establishes "a project with an effect that may cause a substantial adverse change in the significance of a TCR is a project that may have a significant effect on the environment" (PRC Section 21084.2). It further states the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a TCR, when feasible (PRC Section 21084.3).

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PRC Section 21074(a)(1)(A) and (B) defines TCRs as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe” and meets either of the following criteria:

1. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources, as defined in PRC Section 5020.1(k)
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC 5024.1. In applying these criteria, the lead agency shall consider the significance of the resource to a California Native American tribe

AB 52 also establishes a formal consultation process for California tribes regarding TCRs. The consultation process must be completed before a CEQA document can be certified. Under AB 52, lead agencies are required to “begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project.” Native American tribes to be included in the process are those that have requested notice of projects proposed within the jurisdiction of the lead agency.

## 2.3 Local Regulations

Information regarding the cultural resources policies and programs contained in the City of Carpinteria General Plan is provided here for informational purposes and to provide a context for related work in the project vicinity. The General Plan is not directly applicable to the current project. The General Plan includes cultural resource goals and policies in its Open Space, Recreation, and Conservation Element. Policy OSC-16a requires a careful review of any development which may disturb significant cultural resources and includes implementation policies to that end, including an exploration of all available measures to avoid development on archaeological sites. Implementation Policy OSC-16a.78 requires a qualified archaeologist and Native American monitor observe all grading activities in the vicinity of identified archaeological resources.

## 3 Setting

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The project APE is located in southern Santa Barbara County less than 0.1 mile east of the Pacific Ocean at a maximum elevation of 10 meters (34 feet) above mean sea level. The APE is in an urbanized area containing both residential and commercial development. Vegetation, where present, consists primarily of non-native grasses and trees.

### 3.1 Prehistoric setting

The APE is located in what has been defined as the Northern California Bight (Northern Bight) archaeological region, one of eight organizational divisions of the state (Moratto 1984; Glassow et al. 2007; Moratto and Chartkoff 2007). The Northern Bight archaeological region encompasses the area from Vandenberg Air Force Base on the coast, south to Point Conception, including the Channel Islands, south along the coast to Rancho Palos Verdes, into the Los Angeles Basin, and north to the “northern margins of Ventura and Santa Barbara Counties” (Glassow et al. 2007:191).

#### 3.1.1 Paleo-Coastal Tradition (ca. 10,000 – 7000 BCE)

The Paleo-Indian Period, also referred to as the Paleo-Coastal Tradition, defines the earliest human occupation of the Northern Bight, and describes the cultural trends and subsistence strategies of prehistoric populations from approximately 10,000 to 7000 BCE (Glassow et al. 2007). The Paleo-Indian Period in North America is largely recognized by projectile points associated with extinct large mammal remains, such as mammoth, bison, and dire wolves, particularly in the Southwest and Plains regions (Reed 1992; Slaughter et al. 1992; Huckell 1996; Erlandson et al. 2007). These projectile points have been classified as the Clovis style, which exhibit a lanceolate shape with a flute initiated from the base that extends as far as the midline (Justice 2002; Hollenshead 2007).

The earliest accepted dates for human occupation in California were recovered from archaeological sites on two of the Northern Channel Islands, located off the southern coast of Santa Barbara County. The earliest radiocarbon dates known for the region, calibrated to approximately 11,000 years before present (B.P.), were derived from human remains and rodent bones recovered from within the same deposits on Santa Rosa Island (Johnson et al. 2002; Erlandson et al. 2007; Glassow et al. 2007). Archaeological deposits from the Daisy Cave site on San Miguel Island establishes the presence of people in this area approximately 10,000 years ago (Erlandson 1991; Erlandson et al. 2007). In San Luis Obispo County, archaeological sites CA-SLO-1764 (Lebow et al. 2001), Cross Creek (CA-SLO-1797; Fitzgerald 2000), and CA-SLO-832 (Jones et al. 2001) yielded radiocarbon dates from approximately 9,000 years ago (Jones and Ferneau 2002).

Recent data from Paleo-Indian sites in southern California indicate the economy was a diverse mix of hunting and gathering, with a major emphasis on aquatic resources in many coastal areas (e.g., Jones and Ferneau 2002; Erlandson et al. 2007). Archaeological deposits at the Daisy Cave site yielded an assemblage of “the oldest known fishhooks in the Americas” (Erlandson et al. 2007:57). Shell middens discovered on the mainland of California have also yielded dates from 8000 to 7000 BCE (Erlandson et al. 2007).

A fluted projectile point fragment was recovered from site CA-SBA-1951 on the Santa Barbara Channel coastal plain (Erlandson et al. 1987; Erlandson 1994). Another fluted projectile point was reportedly found on the surface in Nipomo, San Luis Obispo County (Mills et al. 2005; Rondeau et al. 2007). Large side-notched projectile points of the Central Coast Stemmed series in this area date to as early as 8,000 years ago (Justice 2002) suggesting some overlap with the Clovis type. Central Coast Stemmed projectile points have been recovered along the Central Coast, which is located immediately north of the Northern Bight region. These sites include Diablo Canyon (CA-SLO-2; Greenwood 1972), Cross Creek (CA-SLO-1797; Fitzgerald 2000), Little Pico Creek (CA-SLO-175; Jones and Waugh 1995), and the Honda Beach site (CA-SBA-530; Glassow 1997), among others. At the Metcalf site (CA-SCL-178), in southern Santa Clara Valley, Hildebrandt (1983) recovered two large side-notched points associated with charcoal dates ranging from 9,960 – 8,500 years ago.

### 3.1.2 Millingstone Horizon (ca. 7000 – 5000 BCE)

It is generally accepted human occupation of California originated from small, dispersed occupations during the Paleo-Indian period. Populations increased from the Paleo-Indian Period to the Millingstone Horizon, possibly as a result of an ecological adaptation to collecting plant resources. Rogers (1929) originally identified the Millingstone Horizon along the Santa Barbara Channel. Wallace (1955, 1978) further defined the period, noting the appearance and abundance of milling implements in archaeological sites from this period. The milling implements, including milling stones (e.g., metates, milling slabs) and hand stones (e.g., manos, mullers), are associated with the horizontal motion of grinding small seeds and nuts, and lend to the name Millingstone Horizon (Desautels and Leach 1978; Glassow et al. 2007).

These milling implements are particularly noted in archaeological sites along the coast of California and become even more prevalent near the end of the horizon (Wallace 1955, 1978; Warren 1968; Desautels and Leach 1978). Excavations at the Tank Site (CA-LAN-1) in Topanga Canyon from 1947 to 1948 confirmed the presence of a significant number of milling implements that correspond with the Millingstone Horizon (Treganza and Bierman 1958). Although the milling implements suggest an emphasis on seed and nut gathering, Millingstone populations likely employed a mixed food procurement strategy which included hunting. Flaked stone assemblages, which include crude core and cobble-core tools, flake tools, large side-notched projectile points, and pitted stones (Desautels and Leach 1978; Glassow et al. 2007; Jones et al. 2007), shell middens, and faunal remains in coastal Millingstone Period sites point to broad-spectrum hunting and gathering of shellfish, fish, birds, and mammals. This mixed food procurement strategy demonstrates adaptation to regional and local environments, leading to population increase.

### 3.1.3 Early Period (ca. 5000 – 2000 BCE)

The Early Period of the Northern Bight is marked by a lower frequency of radiocarbon dated archaeological sites as well as changes in artifact forms. Differences in artifact forms, particularly in ground stone implements, likely represent changes in subsistence (Glassow et al. 2007). The material culture recovered from Early Period sites within the Northern Bight region provides evidence for continued exploitation of inland plant and coastal marine resource as well as the incorporation of “newly important food resources” found in specific habitats (Glassow et al. 2007:197). In addition to the use of metates and manos, prehistoric populations began to use mortars and pestles, such as those recovered from the Sweetwater Mesa (CA-LAN-267) and Aerophysics (CA-SBA-53) sites (Glassow et al. 2007).

Artifact assemblages recovered from Early Period sites also include bipointed bone gorge hooks used for fishing, *Olivella* beads, bone tools, and pendants made from soapstone. The frequency of projectile points in Early Period assemblages also increased, while the style began to change from lanceolate forms to side-notched forms (Glassow et al. 2007). This projectile point style trend, first identified by David Banks Rogers in 1929, was confirmed by Greenwood (1972) at Diablo Canyon. The projectile point trend has become apparent at numerous sites along the California coast as well as a few inland sites (e.g., CA-SBA-210 and CA-SBA-530). In many cases, manifestations of this trend are associated with the establishment of new and larger settlements, such as at the Aerophysics site (Glassow et al. 2007; Jones et al. 2007).

### 3.1.4 Middle Period (ca. 2000 BCE – CE 1)

The Middle Period describes a pronounced trend toward greater adaptation to regional or local resources as well as the development of socioeconomic and political complexity in prehistoric populations (Glassow et al. 2007). The remains of fish, land mammals, and sea mammals are increasingly abundant and diverse in archaeological deposits along the coast.

Coastal populations developed shell fishhooks, and projectile points changed from side-notched dart points to contracting stem styles. Flaked stone tools used for hunting and processing—such as large side-notched, stemmed, lanceolate or leaf-shaped projectile points, large knives, edge modified flakes, and drill-like implements—occurred in archaeological deposits in higher frequencies and are more morphologically diversified during the Middle Period. Bone tools, including awls, are more numerous than in the preceding period, and the use of asphaltum adhesive became common. Circular fish hooks which date from between 1000 and 500 BCE, compound bone fish hooks which date between CE 300 and 900, notched stone sinkers, and the tule reed or balsa raft, indicative of complex maritime technology, became part of the toolkit during this period (Kennett 1998; King 1990; Arnold 1995; Jones and Klar 2005; Glassow et al. 2007).

Populations continued to follow a seasonal settlement pattern until the end of the Middle Period; large, permanently occupied settlements with formal architecture, particularly in coastal areas, appear to have been the norm by the end of the Middle Period (Kennett 1998; Glassow et al. 2007). Prehistoric populations began to bury the deceased in formal cemeteries with artifacts that may represent changes in ideology and the development of ritual practices (Glassow et al. 2007).

### 3.1.5 Middle – Late Transition Period (ca. CE 1 – 1000)

The Middle-Late Transition period is marked by major changes in settlement patterns, diet, and interregional exchange. Prehistoric populations continued to occupy more permanent settlements, with the continued use of formal, though crowded cemeteries and the burial of goods with the deceased. Burials are normally flexed, placed face down, and oriented toward the north or west (Warren 1968). The interments are typically marked by vertical pieces of whalebone, and have abundant grave goods, such as ornaments, effigies, and utensils.

After CE 500, a wealth of ornaments, ceremonial, and artistic items characterize the Northern Bight “Chumash Tradition” along the central coast and offshore islands (Warren 1968). Ground stone items include bowls, mortars and pestles, balls, grooved stones, doughnut stones, stone beads, pendants, pipes, tubes, and mammal effigies. Projectile points, both large and small, were typically non-stemmed and leaf-shaped, with convex or concave bases. Chipped stone implements also included drills and scrapers. Utilitarian objects were made from bone (e.g., awls, fishhooks, whistles, and tubes) and shell (e.g., fishhooks and abalone shell dishes). Shell beads and ornaments were

abundant, and bowls, pestles, pipes, and stone tubes were inlaid with shell beads and engraved. Bowls, pipes, and ornaments were commonly manufactured from steatite.

The manufacture of the plank canoe, called *tomol*, allowed coastal prehistoric populations to catch larger fish that occupied deeper sea waters (Glassow et al. 2007). Following the introduction of the *tomol*, which was lined with naturally occurring asphaltum, populations began to use harpoons, hooks and lines, and nets to catch deep sea fish and mammals (Van Horn 1979). The plank canoe appears to have influenced “commerce between the mainland coast and the Channel Islands,” and fish remains indicate “a noticeable increase in the acquisition of large deep-sea fish such as tuna and swordfish” (Glassow et al. 2007:204).

Projectile points diagnostic of both the Middle and Late periods are found in Northern Bight archaeological sites (Glassow et al. 2007). These projectile points include large, contracting-stemmed types typical of the Middle Period, as well as small, leaf-shaped Late Period projectile points, which likely reflect the introduction of the bow and arrow. Middle-Late Transition Period sites indicate populations replaced *atlatl* (dart) technologies with the bow and arrow, which required smaller projectile points.

Mortars and pestles became more common during this transitional period, gradually replacing manos and metates as the dominant milling equipment. Many archaeologists believe this change in milling stones signals a change from the processing and consuming of hard seed resources to the increasing reliance on acorn (e.g., Glassow et al. 1988; True 1993).

### 3.1.6 Late Period (ca. CE 1000 – Historic Contact)

Late Period archaeological sites indicate sociopolitical and economic complexity among populations in the Northern Bight. Glassow et al. (2007:205) notes between 1200 and 1300 a social stratification becomes clear archaeologically. Climatic change may have stimulated the development of specialized crafts, regional trade, and changes in food procurement. Unlike the large Middle period shell middens, Late Period sites are more frequently single-component deposits. There are also more inland sites, with fewer and less visible sites along the Pacific shore during the Late Period. The settlement pattern and dietary reconstructions indicate a lesser reliance on marine resources than observed for the Middle and Middle-Late Transition periods, as well as an increased preference for deer and rabbit (Jones 1995). An increase in the number of sites with bedrock mortar features that date to the Late Period suggests nuts and seeds began to take on a more significant dietary role in Late Period populations.

Late Period sites are distinguished by small, finely-worked projectile points and temporally diagnostic shell beads. These shell beads were used as monetary currency to trade with inland populations. Trade brought many maritime goods, such as fish, shellfish, and steatite bowls to inland locations, such as CA-SBA-3404, CA-SBA-485, and CA-SBA-2358, particularly during the latter part of the Late Period. Small, finely-worked projectile points are typically associated with bow and arrow technology, which is believed to have been introduced to the area by the Tatic migration from the deserts into southern California.

## 3.2 Ethnographic Context

The APE lies within Chumash ethnographic territory, which extends from the current city of Malibu, north beyond San Luis Obispo, and inland as far as 68 kilometers (42 miles) (Glassow 1996). The Chumash also inhabited the northern Channel Islands. The Chumash spoke six closely related languages, divided into two broad groups – Northern Chumash, consisting of only Obispeño, and



Southern Chumash, including Purisimeño, Ineseño, Barbareño, Ventureño, and Island Chumash (Mithun 1999). The Chumash are divided into three main groups, including Interior, Coastal, and Northern Channel Islands Chumash. The coastal Barbareño Chumash referred to themselves as the Wal-wa-ren-na, and “occupied the narrow coastal plain from Point Conception to Punta Gorda in Ventura County” (Grant 1978b:509).

Chumash villages generally ranged between 30 and 200 people, with the largest settlements numbering anywhere from 500 to 800 people (Glassow 1996:14). Grant (1978b) describes a typical Chumash village along the Santa Barbara Channel as consisting of “several houses, a sweathouse, store houses, a ceremonial enclosure, gaming area, and a cemetery usually placed well away from the living area.” Archaeological investigations have recognized separate areas within cemeteries for elites and non-elites (King 1969).

Permanent Chumash villages included hemispherical or rounded mud-covered (insulated) pole and thatch dwellings arranged in close groups (Brown 2001). Thatching was made from tule, Carrizo grass, wild alfalfa, and fern (Grant 1978b). Smaller Chumash groups correspondingly occupied short-term special-purpose camps throughout the year to acquire seasonal resources (Glassow 1996). Cooking fires were centered within the dwelling to allow smoke to ventilate through a hole in the roof (Grant 1978b).

The Chumash are well-known for their wooden plank canoe, or *tomol*. The *tomol* facilitated the procurement of marine resources and the trade network between the mainland and the Channel Islands. Sea mammals were hunted with harpoons, while deep-sea fish were caught using nets and hooks and lines. In addition to marine resources, the Chumash subsistence focused on acorns, pine nuts, prickly pear cactus, and other plant resources, and land animals such as mule deer, antelope, quail, dove, and other waterfowl (Brown 2001). The Chumash also manufactured various other utilitarian and non-utilitarian items. Eating utensils, ornaments, fishhooks, harpoons, and other items were made using bone and shell. Olivella shell beads were especially important for trade.

Spanish explorers first arrived in the Santa Barbara Channel region in 1542. Contact had much more of an impact starting in 1770 with the establishment of the missions. Mission life led to severe population decline and culture loss (Johnson 1987). Although the Chumash languages are no longer commonly spoken (Timbrook 1990), many descendants of the Chumash still live in the region and a cultural revitalization has been ongoing since the twentieth century (Glassow et al. 2007). Today, the Santa Ynez Band of Chumash Indians, whose reservation is approximately 32 kilometers (20 miles) northwest of the APE, is the only federally recognized tribe.

### 3.3 History

Post-European contact history for the state of California is generally divided into three periods: the Spanish Period (1769–1822), the Mexican Period (1822–1848), and the American Period (1848–present). The following provides a general discussion of the history of California following European contact.

#### 3.3.1 Spanish Period (1769 – 1822)

The Santa Barbara Channel region was first visited by the Cabrillo Expedition in October of 1542 (Chesnut 1993). A second Spanish expedition, consisting of two ships under the command of Sebastian Vizcaino, arrived in the Santa Barbara area in 1602. For more than 200 years, Cabrillo, Vizcaino and other Spanish, Portuguese, British, and Russian explorers sailed the Alta (upper)

California coast and made limited inland expeditions, but they did not establish permanent settlements (Bean 1968; Rolle 2003).

The Spanish began to permanently occupy Alta California in the late eighteenth century. While the Spanish funded expeditions to claim Alta California for the Spanish government, Franciscan missionaries traveled to proselytize and convert the local populations to Catholicism. Gaspar de Portolá established the first Spanish settlement, a military fort named El Presidio Real de San Diego, in Alta California in May 1769. The Presidio of San Diego was the first of four presidios established throughout Alta California for the Spanish government. A year later, in June 1770, Portolá established the El Presidio Real de San Carlos de Monterrey, a bay originally identified by the Spanish explorer Sebastian Vizcaino in the early seventeenth century. Juan Bautista de Anza established El Presidio Real de San Francisco in June 1776. The Spanish established El Presidio de Santa Bárbara, the fourth and final presidio, in Alta California in 1782. The presidio was a temporary structure until construction of a permanent adobe structure began in 1784.

Franciscan Father Junípero Serra founded Mission San Diego de Alcalá in June 1769. The San Diego Mission was the first of 21 missions founded by the Franciscans in the late eighteenth and early nineteenth centuries. Misión Santa Barbara is the tenth mission founded by the Spanish, and was founded in 1786, four years after the establishment of the presidio. The Chumash that lived in the vicinity of the project APE came under the control of the Spanish at Mission Santa Barbara. Other missions established along the central coast include Misión San Luis Obispo de Tolosa, founded in 1772, and Misión La Purísima Concepción, founded in 1787 (Weber 1992).

Mission Santa Barbara was reconstructed twice to enlarge the church in 1789 and 1793. The Spanish began to rebuild the church again in 1812 following damage from a major earthquake. The presidio and the mission were constructed using large adobe bricks shaped by a form and then sun dried. Large ceramic roof tiles called *tejas* were created by molding the clay on timbers until fully dried, creating the long, rounded shape seen at both the presidio and mission. Some floors were lined with clay tiles called *ladrillos* formed from the same clay used for the roof tiles, but mostly remained dirt. Mission Santa Barbara benefitted from construction of a dam and aqueduct system that diverted water from Mission Canyon. The Spanish relied on Chumash labor to construct the buildings, dam, and aqueduct system. Spanish families began to settle the area, becoming Pueblo Santa Barbara. These settlers began to use the Goleta Valley for ranching and agriculture, and Pueblo Santa Barbara became an epicenter for hide and tallow trade.

Mission life led to severe population decline and culture loss among the Chumash. The Spanish brought with them diseases for which the Chumash had no immunity. Living and working in close proximity spread diseases throughout the native populations and killed many. The Spanish also introduced domestic plants and animals for labor and food. These non-native species vastly altered the landscape, forcing the Chumash to adopt new foods and lifeways.

### 3.3.2 Mexican Period (1822 – 1848)

Mexico's revolution against Spain achieved success in 1821. News of the victory reached California in 1822, marking the beginning of the Mexican period. The hallmarks of the Mexican period are the secularization of the missions, completely accomplished by 1836, and a greater distribution of private land grants to prominent citizens, including retired military personnel. The Secularization Act of 1833 enabled Mexican governors in California to distribute former mission lands to individuals in the form of land grants. "The intention of the secularization of the California missions in 1834 was to transform the mission centers into Pueblos; the Indians, with their knowledge of trade and

agriculture, would become Mexican citizens in these Pueblos," Grant (1978a:507) explains. Mexican governors made more than 700 land grants between 1833 and 1846, putting most of the state's lands into private ownership for the first time (Shumway 2007). Forty land grants were issued in Santa Barbara County, where its fertile valleys were ideal for the ranching and agriculture prevalent during this period (Avina 1976; Tompkins 1976, 1987; Chesnut 1993).

Although Pueblo Santa Barbara thrived on hide and tallow trade, ranchers soon identified a more prosperous market in providing beef for the growing gold-mining population. Daniel Hill applied for a land grant in the mid-1840s and was granted the land he would name Rancho La Goleta after the adjacent Goleta Slough, an estuary that historically formed an island (Mescaltitlan) surrounded by wetlands and marshes. Modugno (2015) explains "the area around the east side of the slough had already been nicknamed La Goleta, or the schooner, because some schooners had run aground in that area, and at least one schooner had been built there." The Map of the Rancho La Goleta, published in the 1840s, indicates a wreck at the mouth of the slough just south of the rancho (University of California Berkeley N.d.). The project APE lies within the former boundary of Rancho La Goleta, which was bordered on the east by Rancho Santa Barbara Pueblo and Rancho Las Positas Y La Calera and on the west by Rancho Dos Pueblos (Office of the County Surveyor 2008).

### 3.3.3 American Period (1848 – Present)

The discovery of gold in northern California in 1848 led to the California Gold Rush, despite the first California gold being discovered in Placerita Canyon in 1842 (Guinn 1915). Southern California remained dominated by cattle ranches in the early American period, though droughts and increasing population resulted in farming and a growth in urban professions that increasingly supplanted ranching through the late nineteenth century. By 1853, the population of California exceeded 300,000. Thousands of settlers and immigrants continued to immigrate into the state, particularly after the completion of the transcontinental railroad in 1869.

The American Period officially began with the signing of the Treaty of Guadalupe Hidalgo in 1848, in which the United States agreed to pay Mexico \$15 million for the conquered territory of California, Nevada, Utah, and parts of Colorado, Arizona, New Mexico, and Wyoming. In 1850, several months before California was admitted as the 31st state, the County of Santa Barbara was incorporated. Following the admittance of California to the union, the Goleta Valley became an agricultural center and was known as a prominent walnut, avocado, and lemon-growing region. Oil and gas extraction also took place in the area, with multiple wells established near the project APE by the 1930s (State of California, Department of Conservation 2017).

By 1860 Daniel Hill had acquired an additional 1,000 acres of land from the adjacent Rancho Dos Pueblos for his cattle ranch. Cattle grazed on the surrounding foothills, decimating much of the vegetation in the area. Heavy rains in late 1861 through early 1862, in conjunction with the loss of vegetation from cattle grazing, caused substantial erosion and deposition of sediment and debris in the slough. A severe drought followed, and cattle ranching became less lucrative. Hill sold his remaining cattle, filed a homestead claim, and sold the remainder of his lands for farming and estate development.

### 3.3.4 Carpinteria

Carpinteria received its name originally from the Spanish explorer Gaspar de Portolá when he was on his way to find what is now known as Monterey Bay in 1769. He and his crew named the area "La Carpintería" (the workshop) after they noticed Native Americans in the area constructing several

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*tomols*. Like much of the Central Coast, local Native American groups in the Carpinteria area were significantly and irrevocably affected by the European colonization of California and their integration into the Franciscan mission system. The mission system created a dramatic reduction of quality of life and introduced diseases that significantly reduced the native population. As part of the secularization of the mission, the Carpinteria Valley was split into two land grants, bisected by Carpinteria Creek. West of the creek was granted to several families who each received huge tracts of land. East of the creek was granted to Teodoro Arellanes on October 1, 1835. These grants remained until the Mexican-American War when California was purchased from Mexico as part of the Treaty of Guadalupe-Hidalgo. As part of this agreement and the California Land Act of 1851, the Arellanes land grant had to be proven legitimate for the family to keep their 4,469-acres of land. After 20 years and appealing all the way to the Supreme Court, the appeal was granted and the Arellanes family was able to keep their land. In addition to ranching and agriculture, Carpinteria saw early development in mining for natural resources such as asphalt. The development of these mines created small towns in the Carpinteria Valley that boomed then declined towards the twentieth century until most were abandoned or their claim was forfeited in the early 1900's. The current Carpinteria State Beach was acquired in 1932 for \$106,010. Carpinteria remains one of the many tourist locations in Southern California with many local attractions such as the California Avocado Festival.

## 4 Background Research

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Background research for the cultural resources assessment included record searches, a review of historical maps and aerial photographs, Native American outreach, and historical group consultation. A summary of findings of each of these efforts is provided below.

### 4.1 Cultural Resources Record Search

On January 23, 2019, Rincon conducted a search of the California Historical Resources Information System at the Central Coastal Information Center (CCIC) located at University of California, Santa Barbara. The search was conducted to identify any previously recorded cultural resources and previously conducted cultural resources studies within the APE and a 0.5-mile radius surrounding it. The records search also included a review of the NRHP, the CRHR, and the Historic Resources Inventory (Appendix A).

#### 4.1.1 Previous Studies

The CCIC records search identified 86 previously conducted cultural resources studies within a 0.5-mile radius of the APE, listed in Appendix A. Eleven of these prior cultural resource studies encompassed portions of the APE and are detailed below. The remaining studies are listed in Appendix A.

##### 4.1.1.1 SR-00026

Report SR-00026 is a positive survey report conducted by Larry R. Wilcoxon in 1977 for the City of Carpinteria Public Works Department for a proposed storm drainage system. The survey was conducted on portions of Fifth Street, Holly Avenue, Sawyer Avenue, and Elm Street. During the survey, shellfish remains were discovered, and three auger holes were excavated to a maximum depth of 107 centimeters below ground surface. No subsurface remains were discovered during testing. The author concluded the area is located within the 100-year flood zone and the shellfish remains are likely not cultural in origin.

##### 4.1.1.2 SR-00850

Report SR-00850 is a positive survey report conducted by Larry R. Wilcoxon in 1974 for the United States Department of Agriculture Soil Conservation Service as part of the proposed Carpinteria Valley Watershed Project. The survey resulted in the discovery of two archaeological sites, both of which are located outside of the current project's record search radius.

##### 4.1.1.3 SR-01011

Report SR-01011 is a report for a cultural resources survey of a proposed fiber optic cable project. The report was conducted by Dames & Moore for US Sprint Communications Company in 1988. The survey found a number of sites within or adjacent to the 96-mile-long project area. Five of these archaeological resources were documented within Carpinteria, three (CA-SBA-6, CA-SBA-7, and CA-SBA-2177) of which are located near the current APE. The author recommended CA-SBA-6 and CA-

SBA-7 either be avoided or data recovery be conducted. The author recommended no further action to mitigate impacts to CA-SBA-2177.

#### *4.1.1.4 SR-01032*

Report SR-01032 is a California Department of Transportation (Caltrans) report conducted in 1991 for a proposed widening of the existing four lanes of U.S. Highway 101 in Santa Barbara County to add an additional two lanes starting at Bailard Avenue in Carpinteria and extending to Milpas Street in Santa Barbara. No cultural resources were observed during the study but records search results indicated 20 cultural resources were within or adjacent to the project boundary.

#### *4.1.1.5 SR-01937*

Report SR-01937 is a cultural resources study conducted by California State Parks in 1995 for the construction of a proposed bicycle trail through Carpinteria State Beach. The survey of the bike path alignment identified portions of CA-SBA-7 within Carpinteria State Beach, outside of the current APE. The author determined the project would have no impact on the site because the project would be built on fill and the bike trail would follow already existing informal trails. It was recommended a monitor to be present for work occurring near the site.

#### *4.1.1.6 SR-02615*

Report SR-02615 is an Historic Property Survey Report conducted by Caltrans in 2000 for the improvements of U.S. Highway 101 between Post Miles 2.2 and 3.3 in Carpinteria. No cultural resources were identified during a field study or archival research, and no historic properties were identified within the project APE.

#### *4.1.1.7 SR-02619*

Report SR-02619 was a negative Historic Property Survey Report conducted by Terry Joslin in 2005. The proposed project was for minor repairs to U.S. Highway 101 from the intersection of U.S. Highway 101 and State Route 150 in Carpinteria north to Milpas Street in Santa Barbara. The study did not identify any cultural resources within the project APE.

#### *4.1.1.8 SR-02938*

Report SR-02938 is a Historic Property Survey Report conducted by Caltrans for the U.S. Highway 101 Six-Lane Project in Carpinteria. Records search and survey results indicated ten prehistoric sites (one with an historic component), one isolate, ten sensitive areas (stream crossings), and three historically sensitive areas within or adjacent to the APE. None of the sites or sensitive areas described in Report SR-02938 are located within the current project's APE.

#### *4.1.1.9 SR-04058*

Report SR-04058 is a cultural resource investigation by SWCA Environmental Consultants in 2006 for the maintenance of fiber optic cable for Qwest Communications International, Inc. The project involved 1,431 linear miles of fiber optic cable extending from Oregon to the Arizona border, including California. The investigation included literature searches, Sacred Lands File searches, pedestrian survey, relocation of previously recorded sites, and monitoring of routine maintenance.

No previously unknown cultural resources were identified during the fieldwork within the records search area for the current project.

#### 4.1.1.10 SR-04111

Report SR-04111 was a monitoring report for the Long Haul Fiber Optic Running Line, San Luis Obispo to Burbank, California. The project involved the installation of a 205-mile-long, buried fiber optic cable system. Cultural resource monitoring for the project was conducted by TRC Companies, Inc. The study also included testing at CA-SBA-6 and CA-SBA-7, which identified intact portions of the sites outside the current APE.

#### 4.1.1.11 SR-04262

Report SR-04262 is a Phase 1 cultural resources investigation conducted by Conejo Archaeological Consultants in 2007 and updated in 2010 for the construction of a new well and improvements to the Carpinteria Valley Water District's Central Zone pipeline in Carpinteria. The study did not result in the identification of cultural resources within the current APE.

### 4.1.2 Recorded Resources

The CCIC records search identified 23 previously recorded cultural resources within a 0.5-mile radius of the APE, listed in Table 2. Previously Recorded Cultural Resource within 0.5 Mile of the APE. These include twelve historic buildings, five historic period archaeological sites, four prehistoric archaeological sites, and two prehistoric isolated artifacts. Of those resources, one prehistoric archaeological site (CA-SBA-7), is mapped as extending into the current APE, specifically in the area of the proposed AWPf and PWPS. A description of CA-SBA-7 is provided below.

#### 4.1.2.1 CA-SBA-7

CA-SBA-7 is a large prehistoric/ethnohistoric village site first documented by D.B. Rogers in 1929. Rogers recorded the site as running for almost a mile southeast from the southern bank of Carpinteria Creek. Rogers suggested the site may represent the remains of the Chumash village of *Mishopshow*. Also known by its Spanish name La Carpintería, *Mishopshow* was visited by Fray Juan Crespi during the Gaspar de Portolá Expedition.

In 1948, University of California, Berkeley archaeologists excavated part of the site near Concha Loma Drive south of Carpinteria Creek, removing a large amount of groundstone and an unidentified number of burials. Additional archaeological investigations were conducted at CA-SBA-7 by L. Spanne (1968), who updated the site record based on his findings. He noted the boundary of CA-SBA-7 was farther south than Rogers' original descriptions. In the late 1980s, Dames & Moore (Haley and York 1988) conducted archaeological testing both west and east of Carpinteria Creek within the UPRR ROW. The findings of their study indicate while cultural materials were present in the area, these deposits had been extensively disturbed. The most intact portion of the site has been identified along a terrace in Carpinteria State Beach. CA-SBA-7 was tested again in 2000 by Chambers Group (Luhnow and Mason 2000), who excavated a series of shovel test pits (STPs) and identified a small area of intact deposits east of Carpinteria Creek.

In 2001, Ivan Strudwick documented an extension of CA-SBA-7 north of Carpinteria Creek within the current project APE. Strudwick excavated a series of six STPs in the vicinity of the UPRR ROW and Palm Avenue. Strudwick's resource record update describes the prehistoric cultural component in

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this area as “nearly non-existent,” represented by less than five grams of shell recovered from two STPs. Strudwick noted the deposits in this area were highly disturbed with historic period and modern materials recovered below the marine shell.

Although the archaeological investigations by Haley and York (1988) and Strudwick (2001) found cultural remains west of Carpinteria Creek, evidence for the presence of CA-SBA-7 in the vicinity of the current APE remains questionable. As noted above, Strudwick’s (2001) excavations identified very small amounts of shell and recovered no artifacts in the STPs excavated along Palm Avenue and the UPRR ROW. Similarly, Haley and York (1988) also found cultural deposits west of Carpinteria Creek were limited to a low density of shell scatter at the base of the filled railway bank. The shell fragments were presumed to be archaeological, though no artifacts were found to be associated with the recovered remains.

A 2004 site record update prepared by Cheryle Hunt provides an evaluation of CA-SBA-7 for CRHR listing. Hunt identified the site as eligible under Criterion A for its association with Spanish exploration and as a major archaeological site where aspects of prehistory were defined and Criterion D for its contribution of significant data. No other NRHP or CRHR evaluation information is provided in the site record. The site is also listed as California Historical Landmark #535. Landmarks preceding Number 770 are not automatically eligible for listing in the CRHR; therefore, it remains unlisted but likely eligible.



**Table 2 Previously Recorded Cultural Resource within 0.5 Mile of the APE**

Primary Number	Trinomial	Resource Type	Description	Recorder(s) and Year(s)	NRHP/CRHR Status	Relationship to APE
P-42-000006	CA-SBA-6	Prehistoric Site	Habitation and Burial Site	1929 (David Ranks Rogers); 1968 (L. Spanne); 1988 (R. Haley and A. York); 2001 (Ivan Strudwick); 2002 (Howard C. Higgins); 2011 (Shane James and Karen Osland); 2016 (John M. Foster)	Presumed Eligible	Outside
P-42-000007	CA-SBA-7	Prehistoric Site	Chumash Village	1929 (David B. Rogers); 1983 (Jim Woodward); 1988 (Brian Haley and A. York); 2001 (Ivan Strudwick); 2003 (Shannon Gilbert and Cheryle Hunt)	California Historical Landmark	<b>Within</b>
P-42-000129	CA-SBA-000129	Prehistoric Site	Sparse Shell Midden	1960 (Jay Ruby)	Unknown	Outside
P-42-002177	CA-SBA-002177	Historic Site	Refuse Scatter	1988 (B. Hayley and A. York)	Unknown	Outside
P-42-003622	CA-SBA-003622	Historic Site	Highway 192	1999 (M. Darcangelo and S. Mikesell); 2005 (B. Larson, A. Walters and A. Rischel)	Ineligible for National Register	Outside
P-42-003734	CA-SBA-003734H	Historic Site	Oil Well Platform	2003 (Shannon Gilbert)	Unknown	Outside
P-42-003735	CA-SBA-003735H	Historic Site	Las Conchas Mine Site	2003 (Shannon Gilbert)	Unknown	Outside
P-42-003736	CA-SBA-003736H	Historic Site	Trash Deposit	2004 (Shannon Gilbert and Cheryle Hunt)	Unknown	Outside
P-42-003942	CA-SBA-003942	Prehistoric Site	Shellfish Scatter	2008 (William Hildebrandt and Michael Darcangelo)	Unknown	Outside
P-42-038777	-	Prehistoric Isolate	Handstone	2008 (W. Hildebrandt and M. Darcangelo)	Appears Ineligible	Outside
P-42-038778	-	Prehistoric Isolate	Handstone	2008 (W. Hildebrandt and M. Darcangelo)	Appears Ineligible	Outside
P-42-040779	-	Historic Building	OHP Property Number – 114220	Unknown	Unknown	Outside
P-42-040780	-	Historic Building	Mildred N. Crawford House	Unknown	Unknown	Outside

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Primary Number	Trinomial	Resource Type	Description	Recorder(s) and Year(s)	NRHP/CRHR Status	Relationship to APE
P-42-040781	-	Historic Building	Gordon E. Hall House	1989 (G. Scott)	Recommended Ineligible	Outside
P-42-040782	-	Historic Building	C.O. Anderson House Hernandez House	1989 (G. Scott)	Recommended Ineligible	Outside
P-42-040783	-	Historic Building	Harry A. Lintz House	1989 (G. Scott)	Recommended Ineligible	Outside
P-42-040784	-	Historic Building	Odett House	1989 (G. Scott)	Recommended Ineligible	Outside
P-42-040785	-	Historic Building	Jones House Caudillo House	1989 (G. Scott)	Recommended Ineligible	Outside
P-42-040786	-	Historic Building	1151 Linden	1989 (G. Scott)	Recommended Ineligible	Outside
P-42-040787	-	Historic Building	Braley House Garcia House	1989 (G. Scott)	Recommended Ineligible	Outside
P-42-040788	-	Historic Building	Ayala House	1989 (G. Scott)	Recommended Ineligible	Outside
P-42-040789	-	Historic Building	Manuel C. Castillo House	1989 (G. Scott)	Recommended Ineligible	Outside
P-42-041015	-	Historic Building	SCE Carpinteria Substation	2012 (Wendy L. Tinsley Becker)	Ineligible for National Register	Outside

Source: CCIC 2019

## 4.2 Historical Imagery Review

A review of historical aerial photographs indicates the WWTP was present as early as 1967, though it has been drastically altered since that time and was completely reconstructed in the 1990s (NETR online 2018). The roads through which the conveyance pipelines would be constructed south of U.S. Highway 101 have each been present and surrounded by development since as early as 1947. The area of the project north of U.S. Highway 101, including the locations of injection wells, monitoring wells, and conveyance pipelines, was largely undeveloped in 1947. By 1967, the Carpinteria Family School, St. Joseph's Catholic Church, and several single-family residences were constructed in the general vicinity of the project APE, though the area remained relatively rural and retained numerous orchards and other agricultural uses. By 1994, the entire vicinity of the APE north of U.S. Highway 101 was developed with numerous single-family residences.

## 4.3 Native American Outreach

Rincon assisted CVWD in fulfilling its Native American consultation efforts as part of the Section 106 process. Towards this end, Rincon contacted the Native American Heritage Commission (NAHC) on January 16, 2019 to request a Sacred Lands File (SLF) search of the APE and a 0.5-mile radius surrounding it. As part of this request, Rincon asked the NAHC to provide a list of Native American groups and/or individuals culturally affiliated with the area who may have knowledge of cultural resources within the APE. The NAHC responded on January 22, 2019 stating the results of the SLF search were positive with instructions to contact the relevant local Native American groups. Rincon sent letters to the NAHC-listed contacts on February 8, 2019 and followed up with contacts by telephone on February 12, 2019 (Appendix B).

On February 12, 2019, Patrick Tumamait of the Barbareño/ Ventureño Band of Mission Indians stated he advised cultural resource monitoring due to the extreme sensitivity of the area.

On February 12, 2019, Mona Tucker of the yak tityu tityu yak tiñhini – Northern Chumash Tribe stated she would defer to the local Native American group.

On February 12, 2019, Freddie Romero of the Santa Ynez Chumash stated an Extended Phase I study should be conducted. If that was not possible, he stated he wanted monitoring conducted.

## 4.4 Local Historic Consultation

On February 8, 2019, Rincon contacted three local historic groups to request input on potential or known historic resources within the APE or vicinity. These groups included: the Carpinteria Valley Historical Society/Museum of History, the Gledhill Library at the Santa Barbara Historical Museum, and the City of Carpinteria Community Development Department. Rincon followed up with these groups by email on February 18, 2019.

Steve Goggia at the City of Carpinteria Community Development Department responded via telephone on February 19, 2019 stating he and his colleague Nick Bobroff had responded to the project's notice of preparation (NOP) with cultural resources concerns about the project. Mr. Goggia provided a copy of the letter which stated depending upon the findings of the Phase I assessment, subsurface investigation or construction monitoring may be warranted. The letter also requested the list of landmarks within the city be updated to include Tar Pits Park (outside of the APE) and the Carpinteria Valley Baptist Church (outside but adjacent to the APE). Mr. Goggia did not identify any cultural resources within or near the APE that would be affected by the proposed project.

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Nick Bobroff at the City of Carpinteria Community Development Department responded via email to provide information on previously evaluated historical resources in the City of Carpinteria near the APE. The following resources were identified adjacent to pipeline segments, but are outside of the APE and will not be impacted by the project:

- 750 Palm Ave: eligible for listing at local level
- 607 Walnut Ave: eligible for listing at local, state and national levels
- 908 Walnut Ave: eligible for listing at local level, may be eligible for listing at state or national levels
- 924 Walnut Ave: eligible for listing at local, state and national levels
- 800 Maple Ave: eligible for listing at local, state and national levels
- 5157 Eighth St (wall only): eligible for listing at local level
- 550 Linden Ave/5045 Sixth St: eligible for listing at local, state and national levels
- 686 Linden Ave: eligible for listing at local level
- 789 Linden Ave: eligible for listing at local level
- 890 Linden Ave: eligible for listing at local and state level

On February 25, 2019, Rincon made follow-up calls and left messages for both the Gledhill Library and the Carpinteria Valley Historical Society/Museum of History. David Griggs, director and curator of the Carpinteria Valley Museum of History, replied via telephone on February 26, 2019. He expressed concern for potential damage to the Portola Sycamore tree east of the plant and to the former Alcatraz Refinery Company site near the shore. Both the Portola Sycamore tree and the former Alcatraz Refinery Company site are near but outside the APE and will not be affected by the project. Mr. Griggs asked how he could stay informed about the project's progress; Rincon provided him with the contact information.

As of the date of this report no response has been received from the Gledhill Library (Appendix C).

## 5 Field Survey

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### 5.1 Methods

On January 30, 2019, Rincon Cultural Resources Specialist Dustin Merrick performed a field survey of the APE. The APE was surveyed using a combination of windshield and pedestrian survey methods to fully examine all exposed ground surface and document conditions. Mr. Merrick carefully examined all areas of exposed ground surfaces for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, ceramics, fire-affected rock), ecofacts (marine shell and bone), soil discoloration that might indicate the presence of a cultural midden, soil depressions, and features indicative of the former presence of structures or buildings (e.g., standing exterior walls, postholes, foundations) or historic debris (e.g., metal, glass, ceramics). Ground disturbances such as burrows and drainages were also visually inspected. Transect spacing throughout the exposed surfaces of the APE was no less than 15 meters.

### 5.2 Results

The entirety of the APE is developed and lacks ground visibility, with the exception of the ocean outfall alignment, which traverses an unpaved area of Santa Cruz Campground at Carpinteria State Beach (Figure 3). Close attention was paid in this area for any indication of archaeological deposits that may be associated with CA-SBA-7. No artifacts or cultural remains were observed on the ground surface in this portion of the APE.

The WWTP is completely paved and developed with modern structures and does not contain any above-ground cultural resources (Figure 4). Per discussions with Mark Bennett of the Carpinteria Sanitation District, construction of past and existing WWTP facilities have greatly disturbed the underlying soils. Mr. Bennett indicated some of the components of the plant were constructed below grade, though the depth of disturbance is unclear (Mark Bennett, personal communication, January 30, 2019). Additionally, Craig Murray, the Carpinteria Sanitation District General Manager has indicated multiple instances of earth disturbance from plant construction and reconstruction activities up to a depth of 15-20 feet below current ground surface throughout the WWTP (personal communication, March 25, 2019).

The injection well areas are each either paved or landscaped and lack ground visibility. Injection Parcel 1 is located on the Carpinteria Family School property and covered primarily by portable buildings used as classrooms, pavement, and a baseball field. Prior to construction of the school, the area was in use as an agricultural field (HistoricAerials.com 2019). The parcel has been previously graded for installation of existing facilities and past agricultural activities and is unlikely to contain subsurface archaeological resources. No cultural resources were identified during the pedestrian survey of the Injection Parcel 1 area.

Injection Parcels 2 and 4 are each covered by parking lots and were likely graded for that purpose. Prior to being paved, both areas were in use for agricultural purposes. A small portion of Parcel 4 remains unpaved and was fully surveyed (Figure 5). No evidence of archaeological resources was identified in the unpaved area during the survey.

Injection Parcel 3 is an unpaved and vacant lot. The lot is surrounded by lighting indicating recreational use as a sports field. Ground visibility on this parcel was fair (roughly 70%) with minor obstruction caused by scattered grasses. No evidence of cultural resources was identified on Injection Parcel 3.

**Figure 3 Area of Ocean Outfall Pipeline Alignment, Facing Southwest**



**Figure 4 View of WWTP, Facing Northwest**



**Figure 5 Injection Well Location 4, Facing South**



Injection Parcel 5 encompasses Franklin Park, situated along the edge of a channelized Franklin Creek. The area is unpaved but likely represents fill placed during creek channelization. No evidence of cultural resources was identified during the pedestrian survey of this parcel.

Injection Parcel 6 has remained in use for agricultural purposes since as early as 1947 (HistoricAerials.com 2019). The property is currently occupied by large greenhouses and was therefore not able to be fully surveyed (Figure 6). However, spoil piles visible from historical aerials and the edges of the property indicate the property has been highly disturbed.

The proposed monitoring well locations are located primarily within paved roadways and were windshield surveyed. Monitoring wells may also be located in El Carro Park, which was surveyed on foot (Figure 7). The entirety of the park is covered with landscaped grass and lacked ground visibility. No cultural resources were identified in any of the monitoring well locations.

Areas where shell was reported on the north side of Carpinteria Creek were completely paved during the current survey and thus could not be carefully examined. Finally, the proposed pipeline alignments within existing roadways were fully developed and lacked any exposed ground surfaces (Figure 8).

**Figure 6 Injection Well Location 6, Facing Northeast**





**Figure 7 Monitoring Well Location in El Carro Park, Facing South**



**Figure 8 Pipeline Alignment on the Intersection of Carpinteria Avenue and Walnut Avenue, Facing Northwest**



## 6 Findings and Recommendations

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The cultural resources records search, Native American outreach, historic group consultation, and field survey resulted in the identification of one previously recorded archaeological resource (CA-SBA-7), whose mapped boundary is adjacent to the project APE in the vicinity of the WWTP. A review of the extant data obtained from archaeological investigations conducted at CA-SBA-7 over the last 70 years indicates the site's substantial cultural deposits are concentrated on the eastern side of Carpinteria Creek outside of the APE. This finding is supported by test excavations conducted by Strudwick (2001) and Haley and York (1988) along the UPRR ROW, which found deposits west of the creek were limited to isolated shell fragments; no prehistoric artifacts or organic-rich midden deposits indicative of long-term use were identified by these studies in the vicinity of the project APE.

Discussions with CVWD personnel indicate the sediments underlying the WWTP have also been extensively disturbed up to 20 feet below current ground surface by the construction and reconstruction of plant facilities. Based on these findings, it may be concluded even if cultural deposits associated with CA-SBA-7 were once present, it is likely these remains have been destroyed.

Results of the cultural resources assessment indicate no historic period built-environment resources are located within the APE. Although the WWTP was originally constructed over 50 years ago, it has since been completely rebuilt. Therefore, no buildings or structures on the property qualify for evaluation for the NRHP or CRHR.

Due to levels of previous disturbance throughout the APE, including in areas reportedly containing portions of CA-SBA-7, Rincon does not recommend any further work related to cultural resources. However, unanticipated discoveries are a possibility during ground disturbance. Rincon recommends a finding of ***less than significant impact with mitigation to historical and unique archaeological resources*** and presents the following recommendation in case of unanticipated discovery of cultural resources during project development. The project is also required to adhere to regulations regarding the unanticipated discovery of human remains, detailed below.

Previous studies indicate the deposits from CA-SBA-7 are located along the creek margins opposite the current APE. Previous testing along the APE also indicated only some shell fragments were noted subsurface in the vicinity of the APE. Based on the results of the current study and past testing results, Rincon recommends a finding of ***no effect to historic properties*** under Section 106 of the NHPA. Rincon recommends no further work be required under Section 106. Rincon assumes the State Historic Preservation Office will concur with this finding and will not require additional archaeological testing due to the amount of previous testing conducted in and near the project APE.

### 6.1 Unanticipated Discovery of Cultural Resources

If cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt and an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983) should be contacted immediately to evaluate the find. If the discovery proves to be significant under the NHPA and/or

CEQA, additional work such as data recovery excavation and Native American consultation may be warranted to mitigate any significant impacts/adverse effects.

## 6.2 Human Remains

The discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission, which will determine and notify a most likely descendant (MLD). The MLD has 48 hours from being granted site access to make recommendations for the disposition of the remains. If the MLD does not make recommendations within 48 hours, the land owner shall reinter the remains in an area of the property secure from subsequent disturbance.

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**Carpinteria Advanced Purification Project**

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## **Appendix F**

### Paleontological Resources Assessment

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**Rincon Consultants, Inc.**

209 East Victoria Street  
Santa Barbara, California 93101

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info@rinconconsultants.com  
www.rinconconsultants.com

March 26, 2019  
Rincon Project No: 17-05223

Rosalyn Prickett, AICP  
Principal/Senior Water Resources Planner  
Woodard & Curran  
10509 Vista Sorrento Parkway, Suite 205  
San Diego, California 92121  
Via email: [rprickett@woodardcurran.com](mailto:rprickett@woodardcurran.com)

**Subject: Paleontological Resources Assessment for the Carpinteria Advanced Purification Project, Santa Barbara County, California**

Dear Ms. Prickett:

Woodard & Curran retained Rincon Consultants, Inc. (Rincon) on behalf of the Carpinteria Valley Water District (CVWD) to conduct a paleontological resource assessment for the Carpinteria Advanced Purification Project (CAPP or project) in Santa Barbara County, California. The assessment goals are to identify the geologic units potentially impacted by development of the project, determine the paleontological sensitivity of geologic units in the project area, assess potential for impacts to paleontological resources from development of the project, and recommend mitigation measures to reduce impacts to scientifically significant paleontological resources, as necessary. Attachment A contains the figures referenced in this report.

## Project Location and Description

The project area is in the city of Carpinteria and unincorporated Santa Barbara County, California (Attachment A, Figure 1). Carpinteria is approximately 12 miles south of Santa Barbara and approximately 80 miles north of Los Angeles. Specifically, the project encompasses portions of Township 4 North, Range 25 West, Sections 20, 21, 28, and 29 on the Carpinteria, California, United States Geological Survey 7.5-minute topographic quadrangle.

The project will develop a sustainable, locally controlled water supply for CVWD. The recent critical drought and projected changes to the area's existing water supplies stress the importance and need for a local, sustainable water supply. The project would consist of a new Advanced Water Purification Facility Plant (AWPF) at the Carpinteria Sanitary District wastewater treatment facility, a purified water pump station, injection wells, monitoring wells, an approximately 6,100-linear-foot pipeline to convey purified water to the injection wells, and modification to the existing Carpinteria Sanitary District ocean outfall to accommodate the reduced brine flows from current conditions. All facilities in the project footprint would be located in the city of Carpinteria, aside from one potential well site (Injection Well #6) situated in an unincorporated area of Santa Barbara County (Attachment A, Figure 2). The AWPF would be located at the existing Carpinteria Sanitary District Wastewater Treatment Plant site at 5351 6th Street, approximately 0.1 mile from the Pacific Ocean, and adjacent to Carpinteria Creek. The injection well sites would be located approximately one mile north of the AWPF. Six potential injection



well sites are identified, though only three would be selected as design continues and property rights are acquired. Conveyance pipelines between the AWPf and the injection wells would run mostly in the public roadway rights-of-way. The pipeline would cross U.S. Highway 101 at the Linden Street overpass.

## Regulatory Setting

Fossils are remains of ancient, commonly extinct organisms, and as such are nonrenewable resources. The fossil record is a document of the evolutionary history of life on earth, and fossils can be used to understand evolutionary pattern and process, rates of evolutionary change, past environmental conditions, and the relationships among modern species (i.e., systematics). The fossil record is a valuable scientific and educational resource, and individual fossils are afforded protection under federal, state, and local environmental laws, where applicable.

This study has been completed in accordance with the requirements of the California Environmental Quality Act (CEQA) as well as federal regulations in the case a federal nexus is established during the course of project execution. A federal nexus may be established if federal funding is acquired and/or federal permitting is necessary. Compliance with both federal and state regulations allows the lead agency to apply the results of this technical study should a federal nexus be established at a later time. State and local regulations applicable to potential paleontological resources in the project area are summarized below.

## Federal Regulations

A variety of federal statutes address paleontological resources specifically. They are applicable to all projects occurring on federal lands, and may be applicable to specific projects if the project involves a federal agency license, permit, approval, or funding.

The National Environmental Policy Act (United States Code, Section 4321 et seq.; 40 Code of Federal Regulations, Section 1502.25), as amended, directs federal agencies to “preserve important historic, cultural, and natural aspects of our national heritage (Section 101(b) (4)).” The current interpretation of this language includes scientifically important paleontological resources among those resources potentially requiring preservation.

The Paleontological Resources Preservation Act (PRPA) is part of the Omnibus Public Land Management Act of 2009 (Public Law 111-011 Subtitle D). The PRPA directs the Secretary of the Interior or the Secretary of Agriculture to manage and protect paleontological resources on federal land, and develop plans for inventorying, monitoring, and deriving the scientific and educational use of such resources. The PRPA prohibits the removal of paleontological resources from federal land without a permit, establishes penalties for violations, and establishes a program to increase public awareness about such resources. While specific to activity occurring on federal lands, some federal agencies may require adherence to the directives outlined in the PRPA for projects on non-federal lands if federal funding is involved, or the project includes federal oversight.



## State Regulations

### California Environmental Quality Act

Paleontological resources are protected under CEQA, which states in part a project will “normally” have a significant effect on the environment if it, among other things, will disrupt or adversely affect a paleontological site except as part of a scientific study. Specifically, in Section V(c) of Appendix G of the State CEQA Guidelines, the Environmental Checklist Form, the question is posed thus: “Will the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.” To determine the uniqueness of a given paleontological resource, it must first be identified or recovered (i.e., salvaged). Therefore, CEQA mandates mitigation of adverse impacts, to the extent practicable, to paleontological resources.

CEQA does not define “a unique paleontological resource or site.” However, the Society of Vertebrate Paleontology (SVP) has defined a “significant paleontological resource” in the context of environmental review as follows:

Fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are typically to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years) (SVP 2010).

The loss of paleontological resources meeting the criteria outlined above (i.e., a significant paleontological resource) would be a significant impact under CEQA, and the CEQA lead agency is responsible for ensuring that impacts to paleontological resources are mitigated, where practicable, in compliance with CEQA and other applicable statutes.

### California Public Resources Code

Section 5097.5 of the Public Resources Code states:

No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

Here “public lands” means those owned by, or under the jurisdiction of, the state or any city, county, district, authority, or public corporation, or any agency thereof. Consequently, public agencies are required to comply with Public Resources Code Section 5097.5 for their own activities, including construction and maintenance, and for permit actions (e.g., encroachment permits) undertaken by others.

## Methods

Rincon evaluated the paleontological sensitivity of the geologic units which underlie the project area using the results of the paleontological locality search and review of existing information in the scientific literature concerning known fossils in those geologic units. Rincon submitted a request to the Los



Angeles County Museum (LACM) for a list of known fossil localities from the project area and immediate vicinity (i.e., localities recorded on the United States Geological Survey Carpinteria, California 7.5-minute topographic quadrangle), and reviewed geologic maps and scientific literature.

Rincon assigned a paleontological sensitivity to the geologic units in the project area. The potential for impacts to significant paleontological resources is based on the potential for ground disturbance to directly impact paleontologically sensitive geologic units. The SVP (2010) has defined paleontological sensitivity and developed a system for assessing paleontological sensitivity, as discussed below.

## Paleontological Resource Potential

Significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, diagnostically important, or are common but have the potential to provide valuable scientific information for evaluating evolutionary patterns and processes, or which could improve our understanding of paleochronology, paleoecology, paleophylogeography, or depositional histories. New or unique specimens can provide new insights into evolutionary history; however, additional specimens of even well represented lineages can be equally important for studying evolutionary pattern and process, evolutionary rates, and paleophylogeography. Even unidentifiable material can provide useful data for dating geologic units if radiocarbon dating is possible. As such, common fossils (especially vertebrates) may be scientifically important, and therefore considered highly significant.

The SVP (2010) describes sedimentary rock units as having high, low, undetermined, or no potential for containing significant nonrenewable paleontological resources. This criterion is based on rock units in which significant fossils have been determined by previous studies to be present or likely to be present. While these standards were written specifically to protect vertebrate paleontological resources, all fields of paleontology have adopted these guidelines, which are given here verbatim:

- I. **High Potential (Sensitivity).** Rock units from which significant vertebrate or significant invertebrate fossils or significant suites of plant fossils have been recovered have a high potential for containing significant non-renewable fossiliferous resources. These units include but are not limited to, sedimentary formations and some volcanic formations which contain significant nonrenewable paleontological resources anywhere within their geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils. Sensitivity comprises both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, or botanical and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, ecologic, or stratigraphic data. Areas which contain potentially datable organic remains older than Recent, including deposits associated with nests or middens, and areas which may contain new vertebrate deposits, traces, or trackways are also classified as significant.
- II. **Low Potential (Sensitivity).** Sedimentary rock units that are potentially fossiliferous, but have not yielded fossils in the past or contain common and/or widespread invertebrate fossils of well documented and understood taphonomic, phylogenetic species and habitat ecology. Reports in the paleontological literature or field surveys by a qualified vertebrate paleontologist may allow determination that some areas or units have low potentials for yielding significant fossils prior to the start of construction. Generally, these units will be poorly represented by specimens in institutional collections and will not require protection or salvage operations. However, as excavation for construction gets underway it is possible that significant and unanticipated paleontological





resources might be encountered and require a change of classification from Low to High Potential and, thus, require monitoring and mitigation if the resources are found to be significant.

- III. Undetermined Potential (Sensitivity).** Specific areas underlain by sedimentary rock units for which little information is available have undetermined fossiliferous potentials. Field surveys by a qualified vertebrate paleontologist to specifically determine the potentials of the rock units are required before programs of impact mitigation for such areas may be developed.
- IV. No Potential.** Rock units of metamorphic or igneous origin are commonly classified as having no potential for containing significant paleontological resources.

## Existing Conditions

### Regional Geologic Setting

The project area is located in the Carpinteria Valley in a seismically active region of Santa Barbara County in the Transverse Ranges geomorphic province of California (California Geological Survey 2002). The Transverse Ranges extend from southwestern San Bernardino County, westward through northern Los Angeles County and Ventura County, and terminate at the Pacific Ocean near Point Arguello in western Santa Barbara County. The Transverse Ranges near the project area include the Santa Ynez Mountains and are characterized by east-west trending faults, and folds, including the active San Andreas fault (Norris and Webb 1990; Upson and Thomasson 1951).

The Carpinteria Valley is situated in an area referred to as the Santa Barbara Fold Belt, a seismically-active region located along the coastal piedmont (the area between the mountains and the ocean) from east of Carpinteria to west of Goleta (Gurrola et al. 1998). The Santa Barbara Fold Belt consists of west to northwest trending folds and blind reverse faults deforming late Pleistocene to Holocene marine terraces, terrace deposits, and alluvial fans (Gurrola et al. 1998). This deformation is thought to have yielded localized topographic highs in the Carpinteria Valley, such as the Shepard Mesa and Summerland Hills. Surficial deposits in the Carpinteria Valley are comprised of Holocene-aged stream channel, floodplain, and alluvial fan deposits of gravels, sands, and silt.

The project includes two geologic units mapped at the surface (Attachment A, Figure 3): Quaternary alluvium (Qa) and Quaternary beach sand deposits (Qs) (Dibblee and Ehrenspeck 1986; Minor et al. 2009). Quaternary young alluvium was deposited during the Holocene to latest Pleistocene and is composed of unconsolidated and poorly sorted alluvial sand, gravel, and silt of modern drainages and piedmont alluvial fans (Dibblee and Ehrenspeck 1993). Surficial Holocene alluvium, particularly deposits younger than 5,000 years old, are too young to preserve fossils. However, Holocene sediments may grade into older Quaternary (Pleistocene) alluvial deposits which may preserve fossil remains.

Older Quaternary terrestrial alluvium and marine terrace deposits (Qoa) are not mapped at the surface of the project area; however, Dibblee and Ehrenspeck (1986) and Minor et al. (2009) mapped these Pleistocene deposits nearby at the ground surface. The Pleistocene deposits are likely present at moderate depth beneath the younger Holocene alluvium in the project area, and are composed of weakly to moderately consolidated, moderately bedded, pebble-cobble gravel and conglomerate, pebbly to conglomeratic sand and sandstone, and silt and siltstone. They include a fossiliferous basal conglomerate deposited on wave-cut platforms and overlain by beach, aeolian, and alluvial sediments (Minor et al. 2009). Pleistocene deposits have a well-documented record of abundant and diverse vertebrate fauna throughout California, including Santa Barbara County (Dibblee 1966). Fossil specimens of sabre-toothed cat, bison, crow, dire wolf, skunk, lion, weasel, pocket mouse, pocket gopher, mollusk,



foraminifera, and coral have been reported in the vicinity of the project area (McLeod 2019; University of California Museum of Paleontology [UCMP] 2019; Shaw and Quinn 2015).

Despite not being mapped in the project footprint, it is important to note the adjacent bluff exposures of the Miocene Monterey Formation. These deposits are unconformably overlain by the Pleistocene alluvium and marine terrace deposits immediately adjacent to the southeast portion of the study area (Minor et al. 2009). These deposits are composed of calcareous, siliceous, and phosphatic mudstone and shale, which have yielded an abundance of fossil specimens including birds, fish, sea lions, sea cows, porpoises, whales, and sharks (UCMP 2019; McLeod 2019) (Attachment A, Figure 3).

## Museum Fossil Locality Records

A search of the paleontological locality records at the LACM resulted in no previously recorded fossil localities in the project area; however, several vertebrate localities have been recorded nearby in Pleistocene alluvial deposits (which may underlie the project area at moderate depth below the younger Holocene surficial deposits). The closest vertebrate fossil locality, LACM (CIT) 139, is located just southeast of the project area along the coast of Carpinteria. This late Pleistocene locality has yielded several fossil specimens of crow (*Corvus caurinus*), extinct lion (*Felis atrox*), skunk (*Mephitis mephitis*, *M. occidentalis*, *Spilogale phenax*), weasel (*Mustela*), fox (*Urocyon cinereoargenteus*), dire wolf (*Canis dirus*), sabre-tooth tiger (*Smilodon sp.*), pocket mouse (*Perognathus*), pocket gopher (*Thomomys bottae*), and Bison (*Bison sp.*) with depth of recovery unreported.

## Results

### Paleontological Resource Potential of the Project Area

In accordance with SVP (2010) guidelines, Rincon determined the paleontological sensitivity of the project area based on a literature review and museum locality search. Quaternary alluvium (Qa) and Quaternary beach sand deposits (Qs) mapped at the surface of the project area have been assigned a low paleontological sensitivity because Holocene sedimentary deposits, particularly those younger than 5,000 years old, are generally too young to contain fossilized material. The Holocene sediments may be underlain by older Quaternary (Pleistocene) alluvial and marine terrace deposits (Qoa), assigned a high resource potential, at moderate depth of approximately 15 feet below ground surface (bgs), based on a geotechnical study conducted in the vicinity of the project area (Rincon Consultants, Inc. 2006). Although not exposed at the surface in the project area, it is necessary to account for the buried Pleistocene alluvial deposits due to their high paleontological resource potential. Refer to Table 1 for paleontological sensitivity in the project area.



**Table 1 Paleontological Sensitivity of the Geologic Units in the Project Area**

Geologic Unit <sup>1</sup>	Unit Symbol	Typical Fossils	Paleontological Sensitivity <sup>2</sup>
Quaternary Alluvium	Qa	None	Low at surface
Quaternary Beach Sand Deposits	Qs	None	Low
Older Quaternary Alluvium (not mapped at the surface of the project area, but may present in the subsurface)	Qoa	Nonmarine and marine mammal	High

## Impact Analysis

The Holocene age deposits mapped at the surface of the project area have a low paleontological sensitivity. Based on the findings of previous geotechnical work (Rincon Consultants, Inc. 2006), Holocene alluvium overlies the paleontologically-sensitive Pleistocene alluvium and marine terrace deposits to a depth of approximately 15 feet bgs; therefore, impacts to paleontological resources are not expected above 15 feet bgs. As currently proposed, project ground disturbance will reach a maximum depth of 20 feet bgs during excavation for the AWPf. However, previous excavation activities across the project site have disturbed the sediments to an estimated depth of 20 feet bgs. As a result, impacts to paleontological resources are not anticipated. Further paleontological resource management is not recommended unless paleontologically-sensitive strata are unexpectedly encountered during ground disturbance resulting in the discovery of unanticipated resources during the course of the project.

## Recommendations

Rincon does not recommend any further paleontological resources work at this time; however, the following measures are recommended in the case of unanticipated fossil discoveries. This measure would apply to all phases of project construction and would ensure that any unanticipated fossils present on site are preserved.

- In the event an unanticipated fossil discovery is made during the course of the project development, then in accordance with SVP (2010) guidelines, a qualified professional paleontologist should be retained in order to examine the find and to determine if further paleontological resources mitigation is warranted.



If you have any questions regarding this Paleontological Resources Assessment, please contact us.

Sincerely,

**Rincon Consultants, Inc.**

Handwritten signature of Jorge Mendieta in blue ink.

Jorge Mendieta, BA  
Associate Paleontologist

Handwritten signature of Jessica DeBusk in blue ink.

Jessica DeBusk, BS, MBA  
Principal Investigator/Program Manager

Handwritten signature of Jennifer Haddow in blue ink.

Jennifer Haddow, PhD  
Principal Environmental Scientist

## **Attachments**

Attachment A    Figures



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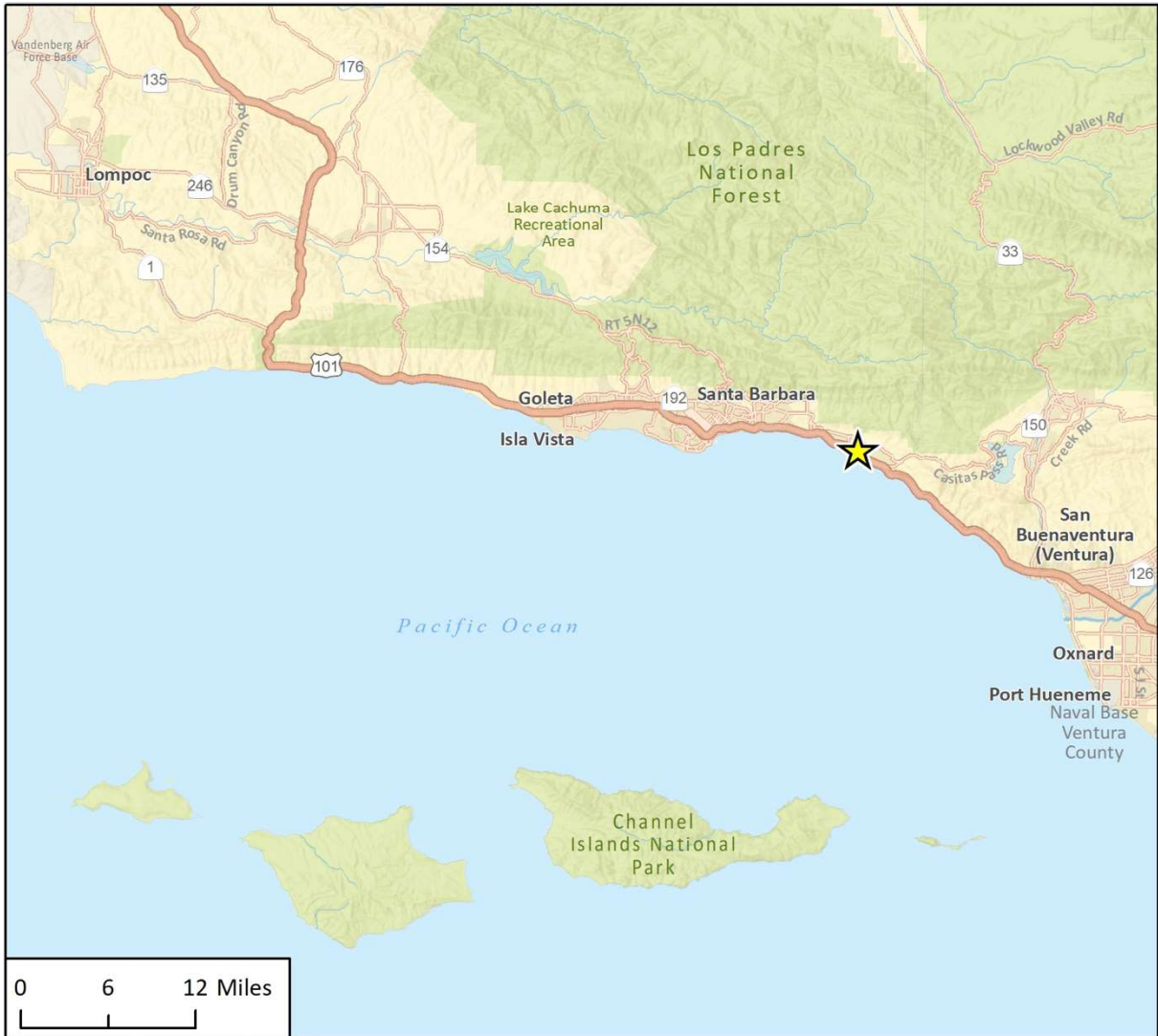
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# Attachment A

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Figures

**Figure 1 Project Vicinity Map**



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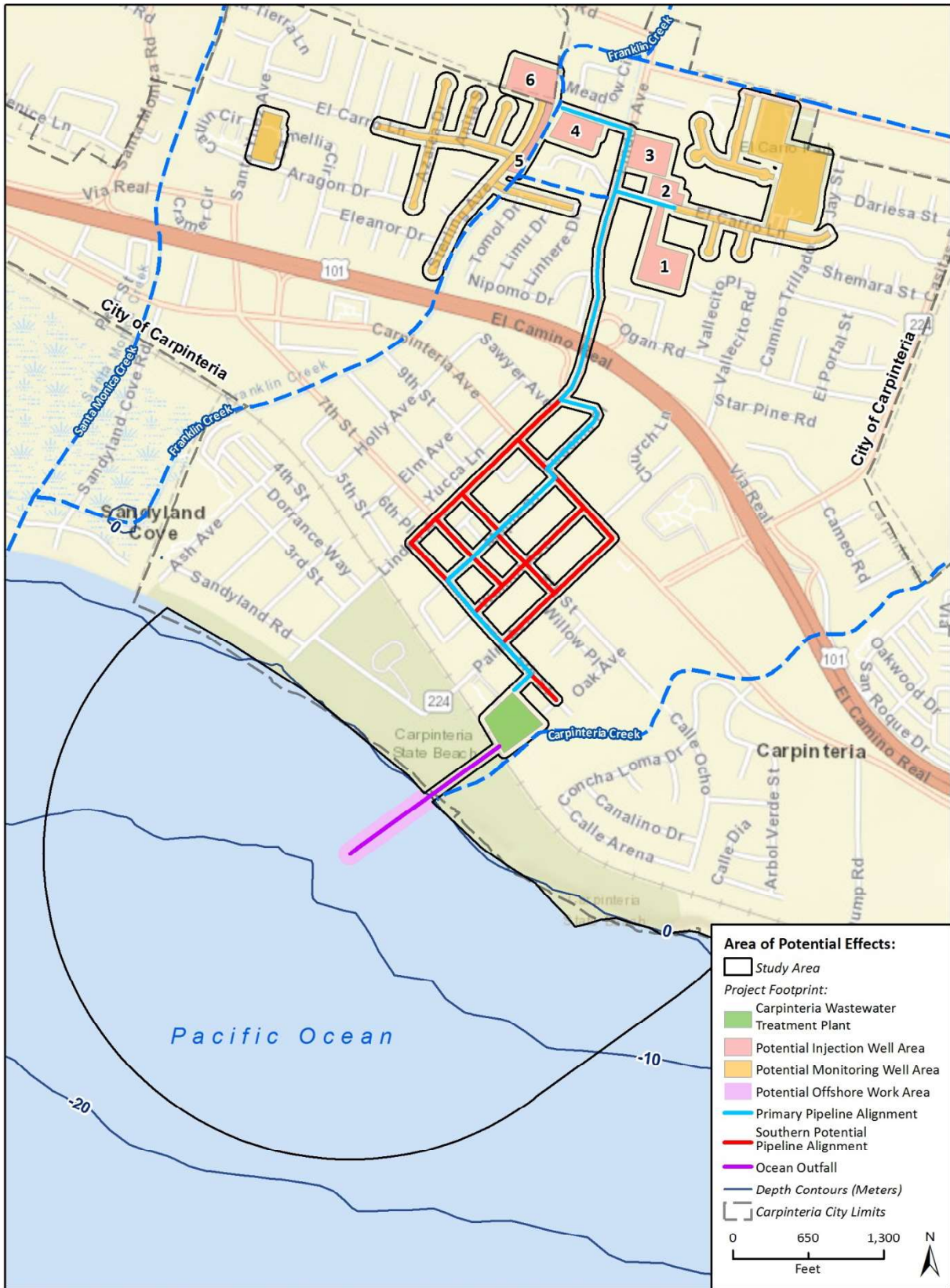
★ Project Location



Fig 1 Regional Location



Figure 2 Map of the Project Area and Disturbance Footprint



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Fig 2 APE

Figure 3 Geologic Units in the Project Area



Geological basemap provided by Dibblee, T.W., and Ehrenspeck, H.E., ed., 1986, Geologic map of the Carpinteria quadrangle, Santa Barbara County, California: Dibblee Geological Foundation, Dibblee Foundation Map DF-04, scale 1:24,000

Fig 2 Geologic Units and Paleontological Sensitivity of the Project Area

## **Appendix G**

EnviroStor and GeoTracker Maps

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# GEOTRACKER

Enter an address

Map Address

**Sites and Facilities - INFO**

**Cleanup Sites**

- LUST Cleanup Sites
- Cleanup Program Sites
- Military Cleanup Sites
- ▲ DTSC Cleanup Sites

**Permitted Facilities**

- Waste Discharge Requirements (WDR) Sites
- Permitted USTs - INFO
- ▲ DTSC Hazardous Waste Sites
- Land Disposal Sites
- Irrigated Lands Regulatory Program Sites
- Oil / Gas Sites
- Confined Animal Sites

**Other Sites**

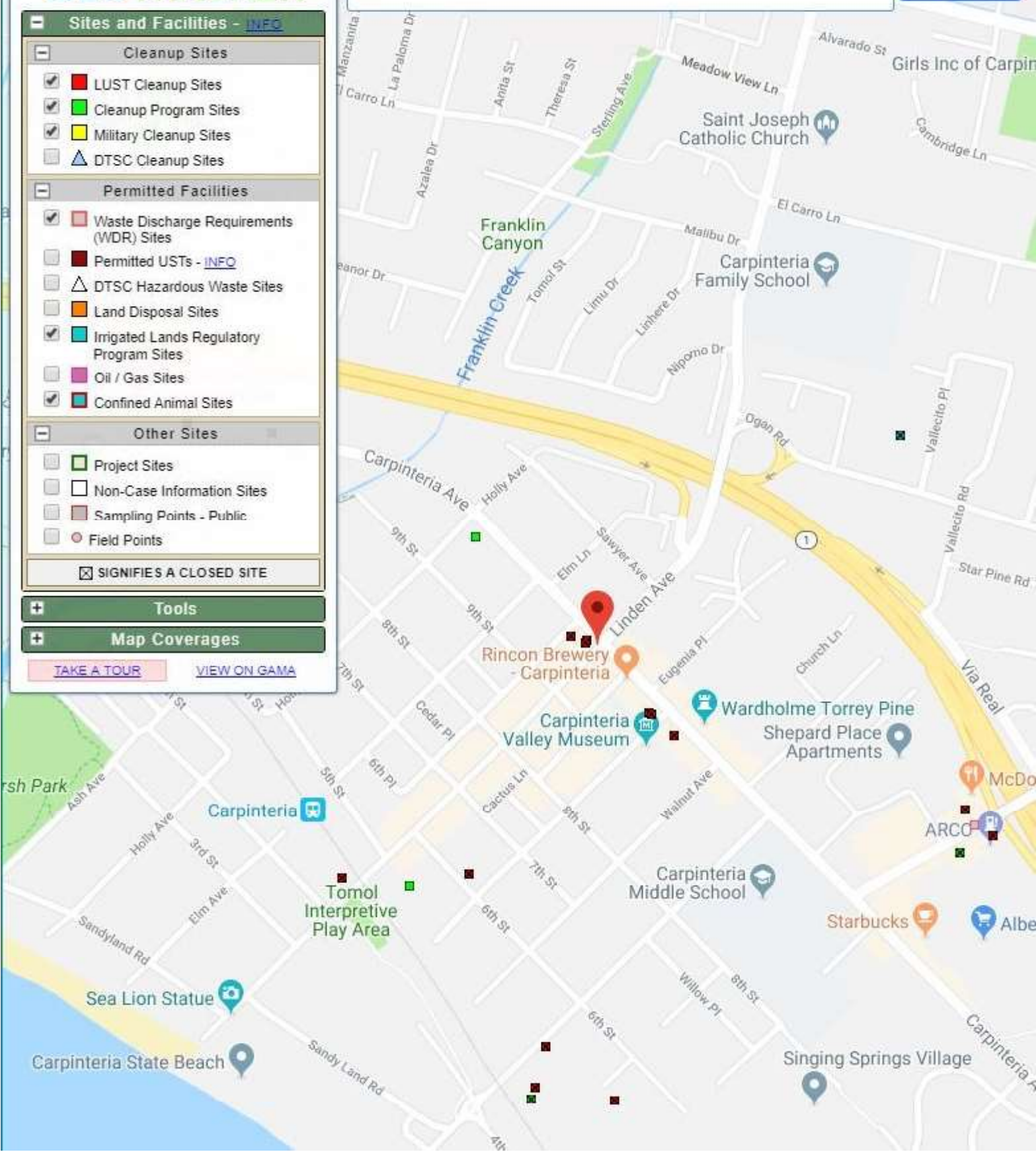
- Project Sites
- Non-Case Information Sites
- Sampling Points - Public
- Field Points

SIGNIFIES A CLOSED SITE

**Tools**

**Map Coverages**

[TAKE A TOUR](#) [VIEW ON GAMA](#)



# ENVIROSTOR

- Sites and Facilities**
- Cleanup Sites
  - Federal Superfund
  - State Response
  - Voluntary Cleanup
  - School Cleanup
  - Evaluation
  - School Investigation
  - Military Evaluation
  - Tiered Permit
  - Corrective Action

STATUS  
All Statuses

- Permitted Sites**
- Operating
  - Post-Closure
  - Non-Operating

- Other Sites
- GIS Layers

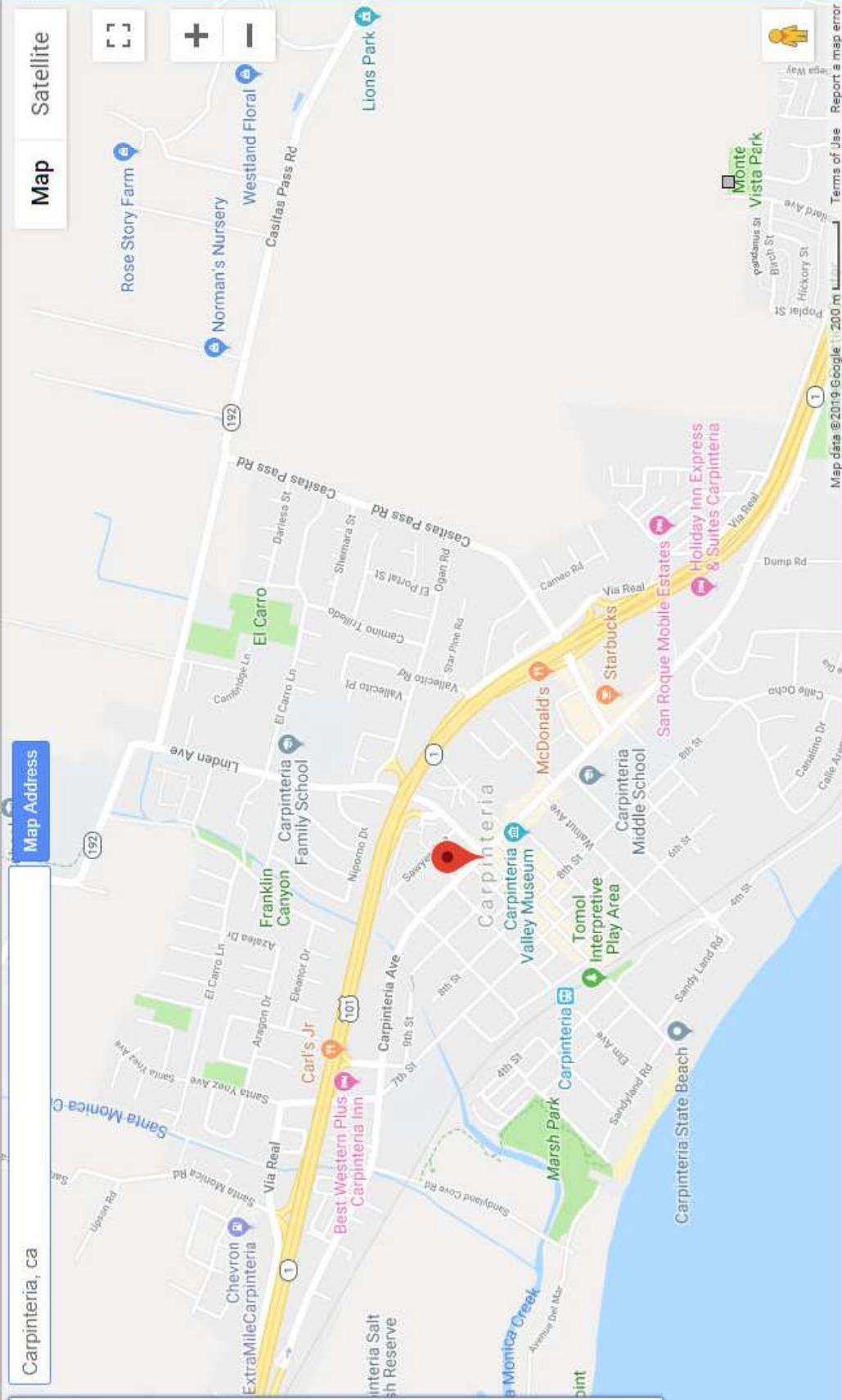
**Tools**

[TAKE A TOUR](#) [SHARE THIS MAP](#)

Carpinteria, ca

Map Address

Map Satellite



EXPORT THIS LIST TO EXCEL

Terms of Use Report a map error

Map data ©2019 Google

1200 m

CITY

CARPINTERIA

ADDRESS

11011103 BALLARD AVENUE

PROJECT TYPE

SCHOOL INVESTIGATION

STATUS

NO ACTION REQUIRED

SITES CURRENTLY VISIBLE ON MAP

PROJECT NAME

KESTER PROPERTY SCHOOL SITE

1 SITES LISTED

## **Appendix H**

### Sea Level Rise Summary Technical Memorandum

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## MEMORANDUM

TO: Rosalyn Prickett, Rob Morrow  
CC: Sally Johnson  
FROM: Enrique Lopezcalva  
DATE: March 25, 2019  
RE: Carpinteria Advanced Purification Project – Sea Level Rise Vulnerability

---

This memorandum presents a summary of information related to Carpinteria Sanitary District's Wastewater Treatment Plant (WWTP) site vulnerability to sea level rise (SLR) and fluvial flooding, as presented in relevant documents. The main purpose of this memorandum is to deconstruct the complexity of the analysis typically associated with SLR vulnerability studies and simplify results specifically related to the WWTP site. The main sources of information on which the vulnerability summary is based are the *Final City of Carpinteria Coastal Vulnerability and Adaptation Project (CCVAP)* (City of Carpinteria, 2019) and the report *Rising Seas in California, an Update on Sea Level Rise Science* (Griggs, G, et. al. 2017) with guidance from the California Ocean Science Trust.

### Background for Results Interpretation

Factors associated with vulnerability assessment of coastal infrastructure generally can include both long term trends and event-based impacts. Long term trends include SLR and coastal erosion, while events that trigger vulnerability include extreme tides, waves, El Niño thermal expansion, vertical land movement under seismic episodes, and storm-related elements such as storm surge and fluvial flooding. Climate change science predicts that two key factors of vulnerability, meaning sea level and extreme precipitation, will be impacted, with sea levels forecasted to rise and precipitation changing in intensity and pattern. Vulnerability assessments typically combine factors that are likely to be combined in natural conditions such as higher sea levels in the future coupled with the associated coastal erosion, the wave action and storm surge associated with a storm, and the precipitation in land potentially compounding flooding conditions.

The CCVAP was selected as the main source of information to analyze the WWTP site vulnerability due to three main considerations:

- 1) The study considers local conditions and setting and looks at a comprehensive list of coastal hazards specifically on the City of Carpinteria coast line based on the *Santa Barbara County Coastal Hazard Modeling and Vulnerability Assessment* (Revell Coastal and ESA, 2016)
- 2) The study explores the WWTP site vulnerability specifically, as part of its analysis
- 3) The study comprehensively analyzes and addresses the hazard factors described above, relevant to coastal vulnerability

Coastal vulnerability studies and fluvial flooding assessments have been conducted historically, including the Federal Emergency Management Agency (FEMA) analysis that delineates the floodplain under the 100-yr storm event and FEMA coastal storm flooding analyses. SLR, however, is a new dimension of vulnerability that has the potential to significantly change the exposure to hazards. SLR forecast vary primarily based on three factors:



- 1) Assumptions about the concentration of greenhouse gases (GHGs) in the atmosphere in the future, as defined by Reasonable Concentration Pathways (RCPs).
- 2) The forecast of steric (density) changes in the ocean (primarily due to thermal expansion). This thermal expansion is, in turn, forecasted to be different under the different assumptions on RCPs.
- 3) The model uncertainty associated with the land-ice dynamics and the contribution to sea level by land ice sheets melting into the ocean. This is expected to be the largest influence in SLR and, just as the thermal expansion in the ocean, is forecasted differently under different RCPs.

Given the uncertainty associated with the three factors above, international, national, sub-national and state agencies and organizations have worked with scientists to define guidelines to select SLR scenarios and levels for local planning and vulnerability assessments. The CCVAP follows the guidelines of the California Ocean Protection Council Science Advisory Team Working Group, the California Ocean Science Trust, and the California Coastal Commission, and uses sound science and engineering methods and practices. The CCVAP bases many of the conclusions on coastal hazards on the 2016 *County of Santa Barbara Coastal Resilience Project* (Revell Coastal and ESA, 2016). The report is also consistent with science and findings under the *California Fourth Climate Assessment* (Pierce, et al., 2018) and compares its results with forecasts developed by USGS's Coastal Storm Modeling System version 3.0 (CoSMoS 3.0).

A key feature of the guidelines currently in use in California is the recognition of the uncertainty associated with forecasts and the use of ranges and probabilities in the description of potential future conditions of sea level. This memorandum preserves the probabilistic approach in the summary of the WWTP site vulnerability in the next section.

### **Identified Vulnerabilities**

The CCVAP includes a comprehensive scope of sectors analyzed for vulnerability including transportation, land use parcels and structures, hazard material sites, stormwater infrastructure environmentally sensitive areas, and others. Included in the sectors is the wastewater infrastructure (sewer lines and lift stations and the WWTP) using information from the County Public Works and Carpinteria Sanitary District. The report overlays the geospatial relevant elements of the wastewater sector to the hazards evaluated, which include:

- Tidal inundation
- Coastal storm wave flooding
- Barrier beach flooding
- Wave run up
- Coastal erosion (short- and long-term)
- And combined coastal hazards
- 100-yr storm fluvial flooding (not combined with the hazards above)

All these hazards were evaluated in multiple future years including scenarios of SLR in each future year. Detailed description of hazard modeling is included in the 2016 *County of Santa Barbara Coastal Resilience Project* (Revell Coastal and ESA, 2016). It is notable that thermal expansion associated with El Niño events is not included in the analysis and could represent a considerable additional influence in



sea level. Vertical land movement (under earthquake and other conditions) is also not part of the conditions evaluated.

The fluvial flooding hazard in the CCVAP is based on FEMA modeling and thus, does not account for forecasted precipitation intensity changes due to climate change. The 2016 *County of Santa Barbara Coastal Resilience Project* includes considerations of scenarios with increased intensities and shows larger areas impacted under the 100-yr storm event in 2100 as compared to today and mid-century forecasts (See Figure 9 in the *Santa Barbara County Coastal Hazard Modeling and Vulnerability Assessment*, ESA, 2015)

Key results for the WWTP site, after consideration of the multiple scenarios and hazards evaluated, are summarized here. The WWTP site is forecasted to be impacted by flooding under the following conditions:

- Fluvial flooding under 100-yr storm
- Fluvial flooding under 500-yr storm
- Combined hazard scenarios (including a 1% annual chance storm event under SLR conditions) once SLR reaches levels of approximately 5 ft over current mean sea levels

Coastal sewer lines and lift stations are forecasted to be impacted by flooding earlier in the SLR curve, with persistent seawater infiltration once SLR reaches 1 ft over current mean sea level (Section 6 in the CCVAP).

There are several flood-prone areas within the City of Carpinteria, generally located in low-lying areas near creeks and the coast. The FEMA Flood Insurance Rate Map (FIRM) dated 2018 shows the WWTP site is located in a Special Flood Hazard Zone (land area covered by the floodwaters of the base flood) and the WWTP itself is located within Zone X, indicating a 500-yr storm probability or 0.2% annual chance flood (FEMA, 2018a). In April 2018, FEMA issued a Letter of Map Revision (LOMR) which mapped a majority of the WWTP site in the Regulatory Floodway of Carpinteria Creek. In May 2018, the City issued a *Carpinteria Creek No-Rise Determination and Certification* (River Focus, 2018) that demonstrated proposed development on the WWTP site would have no impact on the revised FEMA Regulatory Floodway or base flood elevation (BFE). Subsequently, CSD prepared a comprehensive appeal to the April 2018 proposed LOMR. This appeal is currently being reviewed by FEMA and if upheld would reflect a regulatory floodway that remains within the primary channel of Carpinteria Creek and does not include the WWTP site. Note that the *Santa Barbara County Coastal Hazard Modeling and Vulnerability Assessment* (ESA 2015) fluvial flooding assessment also shows the WWTP site as vulnerable under 100-yr storm conditions, although it is not clear if those simulations and/or results are based on FEMA information and/or assumptions.

## Results Interpretation

Given the complexity of the analysis and the level of uncertainty associated with forecasts, the results need to be interpreted in either a temporal dimension (when is the site vulnerable) or a probabilistic dimension (what is the likelihood that the conditions of vulnerability will be present), or both. The table below presents a summary of the results under this perspective.



**Table 1: Projected Sea Level Rise at WWTP Site**

Condition/Event	Year				
	2020	2060	2080	2100	2150
100-yr Storm <sup>1</sup>	1%	1%	1%	1%	1%
500-yr Storm <sup>1</sup>	0.2%	0.2%	0.2%	0.2%	0.2%
5-ft SLR <sup>2,3</sup>	0%	~1%	~1%	~2%	>30%

<sup>1</sup> Annual Probability

<sup>2</sup> Probability that SLR is 5 ft over current mean sea level in that year.

<sup>3</sup> An additional forecast of SLR is available, more extreme, referred to as the H++ scenario. It has been generated under different assumptions and methods that don't allow to establish a probability. Under H++ scenario, the 5ft SLR condition could be reached in Carpinteria as early as 2070.

In Table 1 above, the fluvial flooding events' (first two rows) probability represent the probability of those events happening in any given year (1% and 0.2% annual probability). They are mutually exclusive in terms of when the event happens (at any given time, we can only have the 100-yr storm or the 500-yr storm).

The probability listed on Table 1 for SLR condition should not be interpreted as an annual probability (there is not a return period for SLR). Instead, the SLR probability needs to be interpreted as the likelihood of the condition to be reached by that year. But once the 5-ft SLR condition is reached, it becomes permanent with forecasts indicating that levels will only increase over time. Thus, the combined probability of the SLR condition and the storm condition should not be treated as joint probabilities (with a likelihood equal to the product of the two individual events). As mentioned, once the SLR condition is reached, it becomes permanent (sea level is at that level or worse) and the annual probability of the fluvial flooding continues to be 1% and 0.2% annually for the two events.

An important consideration in the vulnerability assessment in the CCVAP is that fluvial flooding and SLR-driven hazards were not combined in the analysis. Vulnerability did include a SLR condition combined with a storm (a storm with an annual probability of 1%), but that storm was imposed on the ocean/coast only and not on the precipitation inland.

From the temporal perspective, results indicate that the WWTP site is vulnerable to some hazards (specifically the 100-yr storm fluvial flooding and 500-yr storm fluvial flooding) now and into the future. Results also indicate that vulnerability driven by SLR combined with coastal hazards is not a concern before late in the century (2070 under H++ and later under other hazards).

For the lifecycle of the current Proposed Project, and well beyond that through 2100, sea level rise does not represent a significant hazard. The CSD WWTP is relatively well protected by its existing design and exterior berm. However, the CSD's wastewater collection system and pump facilities will need to address seawater intrusion earlier in this century (likely 2080 timeframe), as those facilities have relatively lower profiles.

## References

City of Carpinteria, 2018. *Draft City of Carpinteria Coastal Vulnerability and Adaptation Project*.

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## **Appendix I**

### Groundwater Model Information

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**TECHNICAL MEMORANDUM****Pueblo Water Resources, Inc.**

4478 Market St., Suite 705

Ventura, CA 93003

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Fax: 805.644.0480



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To: Carpinteria Valley Water District Date: March 15, 2019

Attention: Robert McDonald, P.E. Project No: 15-0099  
General Manager

Copy to: Rob Morrow, P.E.  
Project Manager (Woodard & Curran)

From: Robert Marks, P.G., C.Hg.

Subject: Carpinteria Advanced Purification Project – Groundwater Model Simulation Results  
**DRAFT**

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**INTRODUCTION****GENERAL STATEMENT**

Presented in this Technical Memorandum (TM) is a summary of groundwater modeling simulation results performed for the Carpinteria Advanced Purification Project (CAPP). The subject analysis was performed to evaluate various operational scenarios for the proposed CAPP project to evaluate whether acceptable groundwater level mounding and minimum aquifer retention times can be achieved by the project. This TM discusses the hydrogeologic setting, the groundwater model used, and the results of three simulated project operational scenarios.

**BACKGROUND**

The Carpinteria Valley Water District (CVWD) recently completed a Recycled Water Facilities Plan, which identified Groundwater Replenishment (GWR) in the Carpinteria Groundwater Basin (CGB) via Indirect Potable Reuse (IPR) injection wells as the preferred end use of potential future advanced treated wastewater (ATW) sourced from the Carpinteria Wastewater Treatment Plant (CWWTP). Work performed previously by PWR in support of the IPR project has included a well siting study for project IPR wells and groundwater modeling of initial IPR project operational scenarios. The results of this previous work identified several potential IPR wells sites in the basin that were physically suitable to support IPR well construction and permanent facilities.

Five properties were identified in the basin by the well siting study that could potentially accommodate IPR well sites and are shown on **Figures 1 and 2**. As shown, the potential IPR wells sites are concentrated in a relatively small area of the basin and are located between two of CVWD's most productive municipal supply wells, the Headquarters Well (29D7) and the El Carro #2 Well (28D2). The final IPR well site selection process is currently ongoing; however, for purposes of this groundwater modeling evaluation, all of the potential IPR well sites under



consideration overlies the Confined Area of the CGB, and subsurface stratigraphy (depths and thicknesses of the various aquifers) and aquifer hydraulic parameters are not likely to vary significantly from site to site in this area of the basin; therefore, it is assumed that the anticipated well completions, well performance characteristics (injection rates) and injected water travel/residence times will not vary significantly between the potential IPR well sites.

The primary purpose of the groundwater modeling was to evaluate aquifer water level responses to various operational scenarios and to predict aquifer travel paths and residence times of the injected water sourced from the CWWTP. The predicted water levels at the IPR injection wells must be maintained below ground surface in order to sustain injection capacities and avoid adverse impacts (e.g., groundwater “daylighting” at the ground surface). In addition, current state regulations require the recycled wastewater to be retained within the aquifer system for specified periods of time before being captured and pumped by a water supply well used for drinking water purposes. The amount of aquifer residence time required is dependent on the level of treatment achieved by the AWT system; for the CAPP project it is our understanding that the residence time requirements may vary between 2 to 4.5 months, depending on the final design selected for the AWT.

## **FINDINGS**

### **HYDROGEOLOGIC SETTING**

#### **Regional Setting**

The CGB has been studied extensively over the last 60 years in previous investigations, most notably by the United States Geological Survey (USGS), *Geology and Ground Water Reservoirs of the South-Coast Basin of Santa Barbara County, California*, USGS Water Supply Paper 1108, J.E. Upson, 1951, Geotechnical Consultants, Inc. (GTC), *Hydrogeologic Investigation of Carpinteria Ground Water Basin*, dated June 1976, and most recently by Pueblo Water Resources, Inc. (PWR), *Hydrogeologic Update and Groundwater Model Project*, dated June 2012. These documents have extensively documented the stratigraphy, structure, and hydraulic characteristics of the aquifer systems of the CGB.

As described in these documents, the CGB is located on the south flank of the Santa Ynez Mountains, one of the east-west trending ridges of the Transverse Range Geomorphic Province. The basin represents the north limb of a structural syncline that has been filled with water bearing sediments. The principal aquifers occur primarily within marine sediments of the Pleistocene- and upper Pliocene-aged Carpinteria and Casitas Formations. These principal zones include Aquifers A, B, C, and D, with Aquifer A representing the shallowest major aquifer and Aquifer D being the deepest. Geologically, Aquifer A likely represents the basal conglomerate of the Carpinteria Formation, whereas Aquifers B, C, and D are contained within the Casitas Formation. The base of Aquifer D is considered to represent the effective base of freshwater in the basin (GTC) and is generally 1,200 to 1,700 feet below sea level in the basin.

Lithologically, primary water bearing deposits in the basin consist of interbedded unconsolidated and semi-consolidated sand, gravel, silt and clay (and combinations thereof)



deposits. The coarser grained sandy/gravelly strata in these deposits comprise the individual primary aquifer zones (i.e., Aquifers A through D). These primary aquifer zones are generally on the order of 50 to 100 feet thick each. Finer grained strata of silt and clay are generally thicker and form a series of aquitards between the primary aquifer zones. These aquitards are laterally extensive in the basin and confine water held in the primary aquifers under artesian pressure. The CVWD's two primary production wells in the basin (Headquarters and El Carro Wells) and are completed in Aquifers A through C, and these are also the target aquifers for the project IPR injection wells.

## Hydrostratigraphy

The hydrostratigraphy of the potential IPR well sites can be established from the aquifer structural contours developed as part of PWR's 2012 hydrogeologic update for the basin, which indicate the following approximate (+/- 50 ft depending on site) stratigraphic delineation at the sites:

**Table 1. IPR Well Site Stratigraphy**

Aquifer Zone	Depths (ft bgs)	Thickness (ft)
A	280 – 340	60
B	930 – 990	60
C	1100 – 1200	100

## Well Performance and Capacities

Wells completed in the target Aquifers A - C generally produce water at rates ranging from approximately 500 gpm to 1,500 gpm, with specific capacities<sup>1</sup> in the range of 3 to 16 gpm/ft. Specifically, for this project, pumping test data for the Headquarters (HQ) and El Carro #2 (EC #2) wells following their construction both indicated sustainable production rates of approximately 1,500 gpm, with 24-hour specific capacities of approximately 7 and 9 gpm/ft, respectively.

Both the HQ and EC #2 wells have also been analyzed for injection capacity and performance as part of previous investigation of Aquifer Storage and Recovery (ASR) technology in the CGB by CVWD<sup>2,3</sup>. These investigations included the performance of pilot/demonstration injection testing using potable water at each well. Analysis of the various

<sup>1</sup> Specific capacity is the ratio of well discharge rate to drawdown. Units are typically expressed as gallons per minute per foot of drawdown (gpm/ft). The value is useful for normalizing and comparing performance between different wells and for predicting the performance of a given well at differing discharge rates.

<sup>2</sup> Padre Associates, Inc. (2003), *Aquifer Storage and Recovery Demonstration Project*, report prepared for Carpinteria Valley Water District.

<sup>3</sup> Pueblo Water Resources, Inc. (2013), *EC #2 ASR Demonstration Project; Summary of Operations*, draft Technical Memorandum prepared for Carpinteria Valley Water District.



factors affecting injection capacities (e.g., water level mounding, backflushing capacity, hydrofracturing potential, etc.) and the pilot injection testing data resulted in estimated long-term sustainable injection capacities for the HQ and EC#2 wells of approximately 300 and 400 gpm, respectively. Accordingly, an average per-well injection rate of 350 gpm (0.5 million gallons per day [mgd]) has been adopted for the project IPR injection wells.

## **GROUNDWATER MODEL DESCRIPTION**

The three-dimensional calibrated groundwater flow model used is the Carpinteria Groundwater Basin Model, which was developed by the CVWD in 2012 and is documented in a report prepared by PWR<sup>4</sup> (with assistance from HydroMetrics Water Resources, Inc.), the details of which will not be repeated here. In summary, the USGS model code MODFLOW-NWT (Niswonger et al., 2011) is used and the model domain encompasses the basin boundaries covering an area of approximately 36 square miles. The model grid consists of 72 rows and 156 columns with a uniform grid spacing of 300 feet. The model consists of seven active layers in the project area and include:

- Layer 1: Shallow aquifer
- Layer 2: Aquifer A
- Layer 3: Aquitard
- Layer 4: Aquifer B
- Layer 5: Aquitard
- Layer 6: Aquifer C
- Layer 7: Undifferentiated deposits

The model was calibrated to a base period consisting of Water Years (WY) 1985 – 2008 with annual stress periods. The mean error (ME) of the calibrated model is -1.7 feet, which is approximately 0.5 percent of the total head range, indicating that the model errors are significantly less than the industry standard of 5 percent.

### **Model Refinements**

For this project, the model grid was refined to uniform grid spacing of 37.5 feet in the vicinity of the project IPR injection wells to facilitate particle tracking. The area of model grid refinement is shown on **Figure 1**. The model water balance and water level hydrographs for key wells in the vicinity model were verified to have no significant changes relative to calibrated baseline scenario as a result of the grid refinement.

Particle tracking using the USGS MODPATH program was added to the model to determine injected water travel paths and distances and retention times of the recycled water. It



is noted that MODPATH does not take into account mixing or dispersion; therefore, the MODPATH results provide only an indication of the direction and rate of groundwater flow. Using MODPATH, particles are released from the simulated IPR injection wells at the beginning of any given scenario. MODPATH then uses the groundwater levels and flows simulated by MODFLOW to show where particles representing the injected recycled water travels to by specified times.

## GROUNDWATER MODELING SCENARIOS

A total of three project operational scenarios were simulated, as summarized below:

1. IPR Injection Only: Added the two IPR wells injecting at 0.5 mgd each continuously throughout the 24-yr model base period (WY 1985 – 2008) to evaluate water-level responses at the IPR wells.
2. IPR “Put-and-Take”: Same as Scenario 1 but increased the pumping rates of both the HQ and EC#2 wells by 0.5 mgd ea to match the injection rate. This represents a potential long-term basin operational management strategy.
3. IPR with HQ and EC#2 1-Yr Max Pumping: Increased the pumping rate of both HQ and EC#2 to their design rates of 1,500 gpm (2.16 mgd) continuously for an entire year. This is intended to represent a “worst-case” short-term (1-yr) scenario where CVWD may need to pump those wells at their maximum capacities to meet demands (e.g., during a short-term drought when other sources of supply are limited). The intent was to examine a potential maximum for recycled water travel distances.

The resulting predicted water levels and particle tracking paths and aquifer residence times are discussed below:

### Simulation Results – Predicted Water Levels

A well location map showing the known existing wells in the vicinity of the proposed IPR injection wells is presented as **Figure 2**. **Figures 3 through 6** show simulated water levels at the two proposed IPR wells, as well as the nearest 6 offsite wells surrounding the IPR wells (both CVWD and private wells). The hydrographs show the predicted water levels under calibrate baseline (No Project) and the above-described Scenario 1 (Injection Only) and Scenario 2 (Put-and-Take) conditions superimposed. Relevant observations regarding the simulation results include the following:

**Scenario 1 (Injection Only):** Water levels at the IPR injection wells significantly exceed ground surface in all but the driest years (e.g., WY 89 – 90), with water levels reaching as much as 80 feet above ground surface during wet periods (e.g., WY 98). Water level increases at the

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<sup>4</sup> Pueblo Water Resources, Inc. and HydroMetrics Water Resources, Inc., (2012), *Carpinteria Groundwater Basin Hydrogeologic Update and Groundwater Model Project, Final Report*, prepared for Carpinteria Valley Water District.



proximate offsite wells are somewhat less than at the IPR wells (as would be expected) but are also still excessive in many years.

**Scenario 2 (Put-and-Take):** Water levels at the IPR injection wells are only approximately 10 feet higher than calibrated baseline (No Project) and the levels are essentially maintained at or below ground surface throughout the simulation. The water levels at the offsite wells are essentially the same as calibrated baseline (No Project) conditions.

Based these results, it appears that IPR injection only is likely infeasible under most conditions and CVWD will need to increase their municipal pumping rates most years commensurately with the injection rates of recycled water in order to maintain water levels below ground surface (i.e., to avoid artesian conditions and the potential “daylighting” of injected water at the ground surface).

### **Simulation Results – Particle Tracking**

Particle tracking was not performed for Scenario 1 (Injection Only) because that project operational scenario is considered infeasible due to excessive water level conditions. The results for Scenarios 2 and 3 are presented on **Figures 7 through 9** and **Figures 10 through 12**, respectively. Each figure shows the resulting particle traces (20 particles per IPR well) for 3-, 6- and 12-month travel times and are discussed further below:

**Scenario 2 (Put-and-Take):** The particle tracking results for Aquifers A, B and C are shown on Figures 7 through 9, respectively. This scenario represents the likely typical operation of the basin with the proposed CAPP IPR wells. The results show that the maximum travel distances occur in Aquifer B and at IPR-1 under this scenario, with a maximum 3-month travel distance of approximately 435 ft. No existing wells are predicted to be impacted within 12 months.

**Scenario 3 (Short-Term Maximum CVWD Pumping):** Figures 10 through 12 show the particle traces for Scenario 3 (Max CVWD Pumping), Aquifers A, B and C, respectively. This scenario is intended to represent a potential “worst-case” scenario in terms of CVWD pumping that could result in maximum travel distances and shortest aquifer residence times. As shown, under this scenario all of the injected water goes into Aquifers B and C (Figures 11 and 12), respectively) and virtually no particles are moving goes into Aquifer A (i.e., note the absence of particle traces on Figure 10). Similar to Scenario 2, the maximum travel distances occur in Aquifer B and at IPR-1 in this scenario as well, with a maximum 3-month travel distance of approximately 425 ft.

It is notable, however, that the vast majority of IPR-2 particles in Aquifer C would be captured by EC #2 (located a distance of approximately 1,120 feet) after approximately 12 months of travel time. Further inspection of the model results shows a disproportionate level of drawdown in Aquifer C at EC #2, with a pumping level of -69.7 feet mean sea level (msl) compared to -58.8 feet msl in Aquifer A (a head differential of 10.9 feet). It appears this creates a downward gradient that draws the injected water at IPR-2 preferentially into Aquifer C and towards EC #2 compared to Aquifers A and B.



## **CONCLUSIONS AND RECOMENDATIONS**

Based on the findings presented herein and our experience with similar projects, we offer the following conclusions and recommendations:

- IPR “Injection Only” is likely infeasible, as it would result in excessive water level conditions under all but the lowest basin water level conditions (i.e., drought conditions).
- IPR “Put-and-Take” appears feasible, and only requires that CVWD pump/recover commensurate volumes of water that are being injected on an average annual basis in order to maintain acceptable water level conditions. The existing CVWD wells have sufficient excess capacity for this and it does not appear that the project will require additional production recovery wells.
- Maximum particle travel distances occur in Aquifer B from IPR-1 at around 400 – 450 feet after 3 months, depending on the scenario.
- Minimum aquifer residence time occurs in Aquifer C, with injectate from IPR-2 having a predicted arrival time of approximately 12 months at EC #2 under the “worst case” case Scenario 3, which simulates the CVWD wells pumping at their maximum capacity continuously for one year; however, it is noted that this is not a typical operation for CVWD’s wells and represents an extreme case.
- The findings indicate that the required minimum aquifer residence time of 2 to 4.5 months can be achieved; however, it is recommended that a field tracer test be conducted to confirm the simulated results.

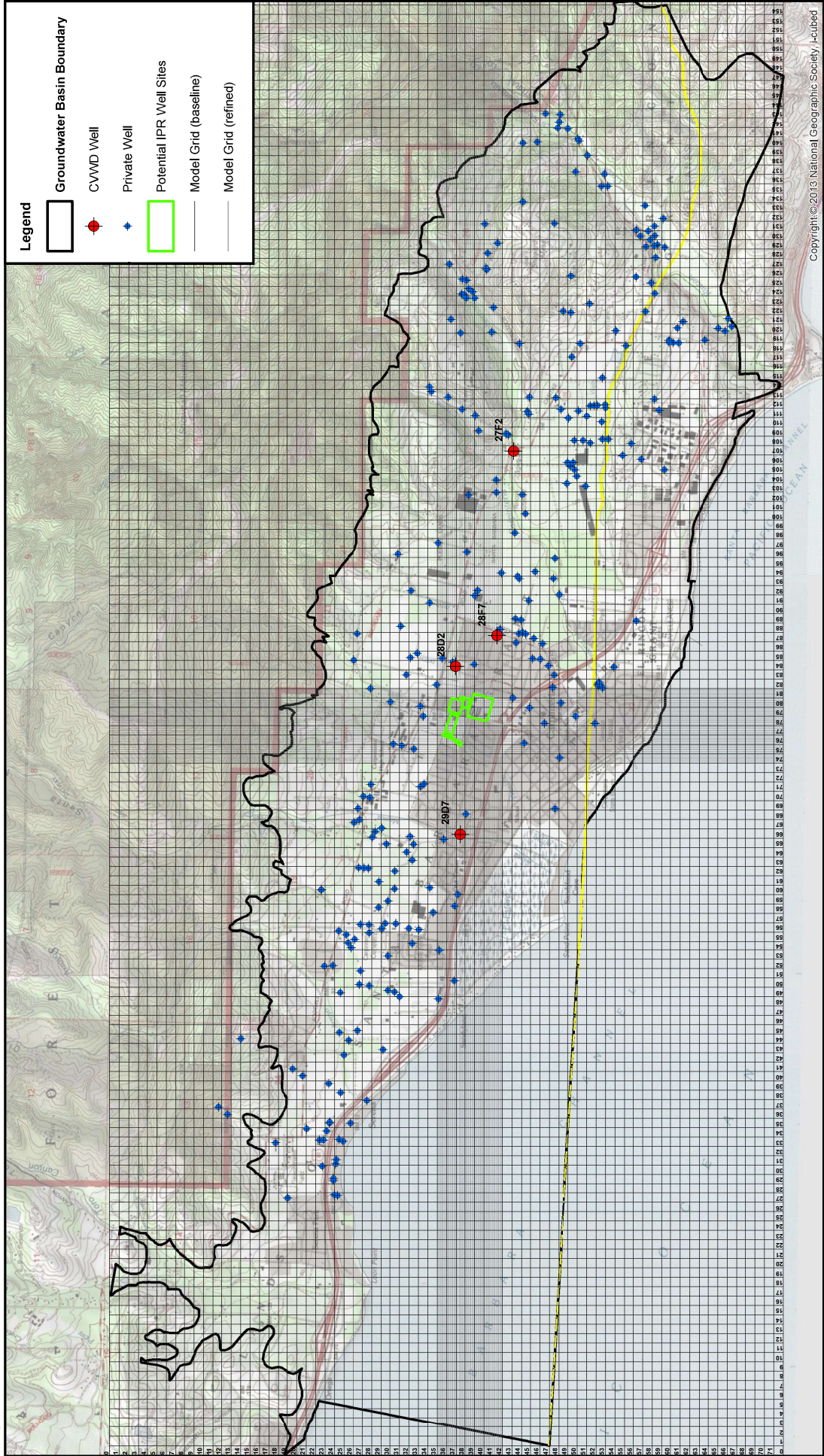
## **CLOSURE**

This technical memorandum has been prepared exclusively for the Carpinteria Valley Water District for the specific application to the Carpinteria Advanced Purification Project (CAPP). The findings and conclusions presented herein were prepared in accordance with generally accepted hydrogeologic practices. No other warranty, express or implied, is made.

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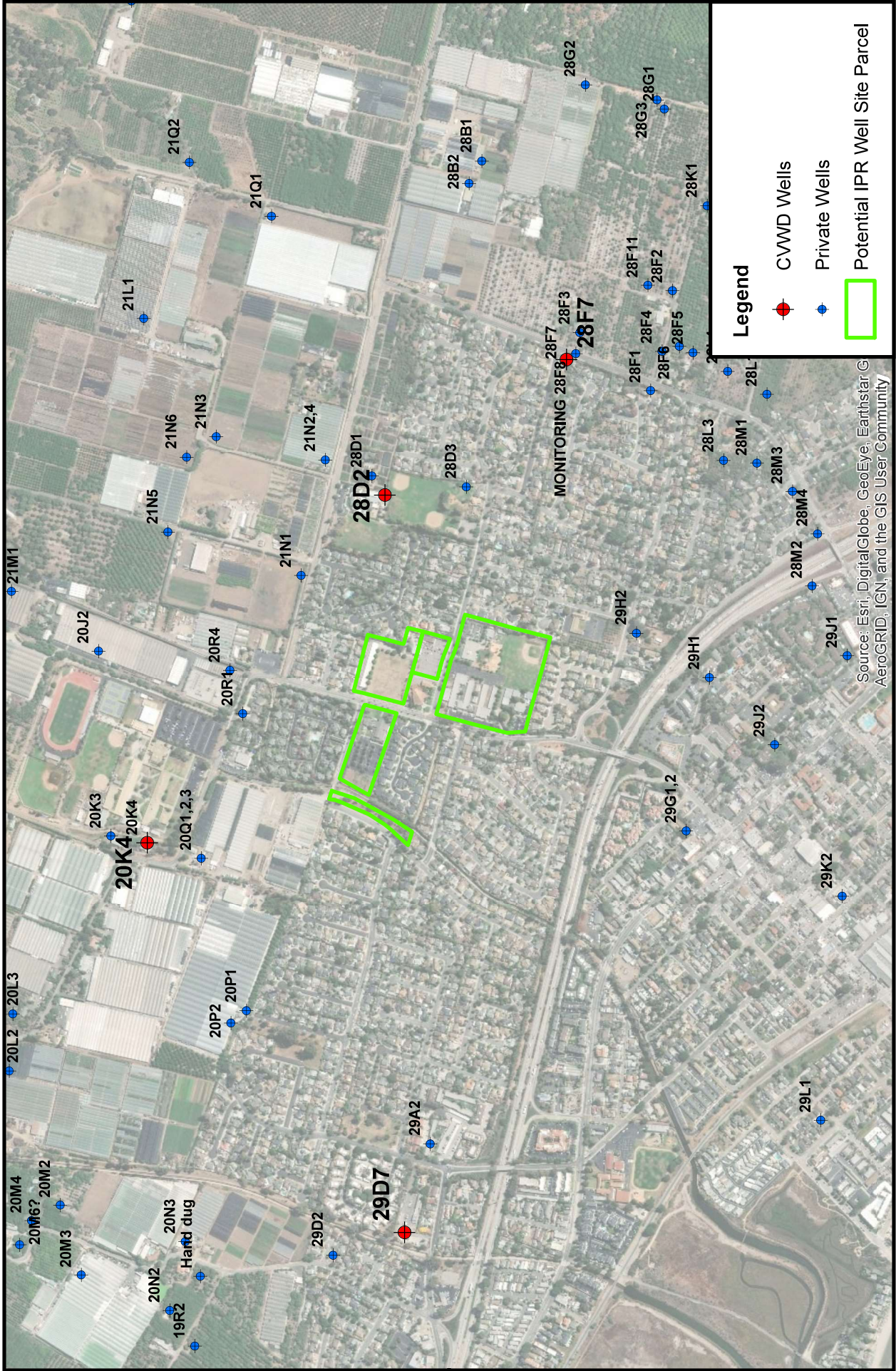


March 2019  
Project No. 15-0099



**FIGURE 1. BASIN MAP AND REFINED MODEL GRID**  
CAPP IPR Groundwater Modeling Assessment  
Carpinteria Valley Water District

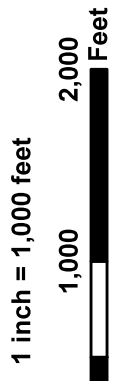
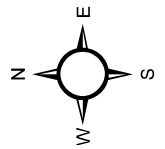
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Project No. 15-0099



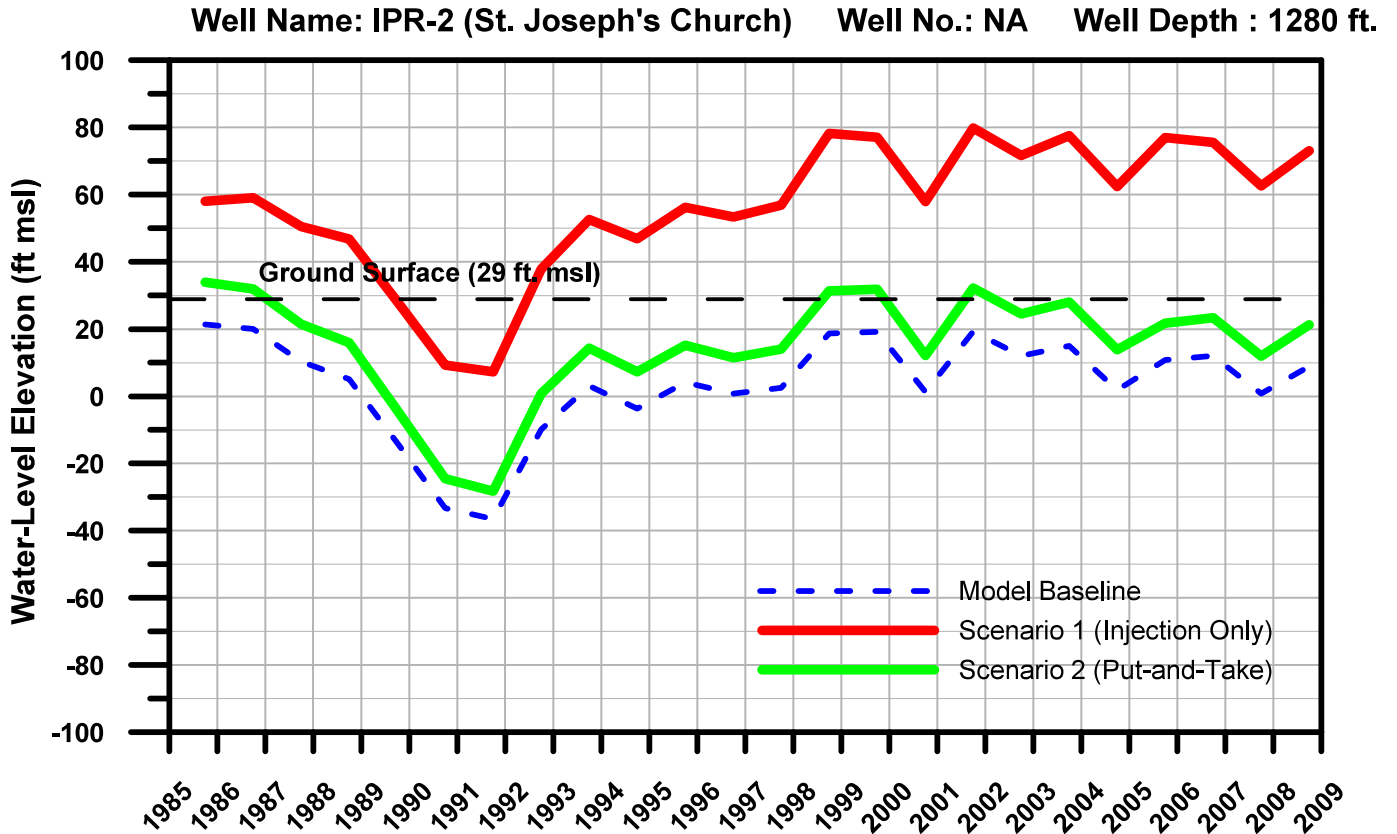
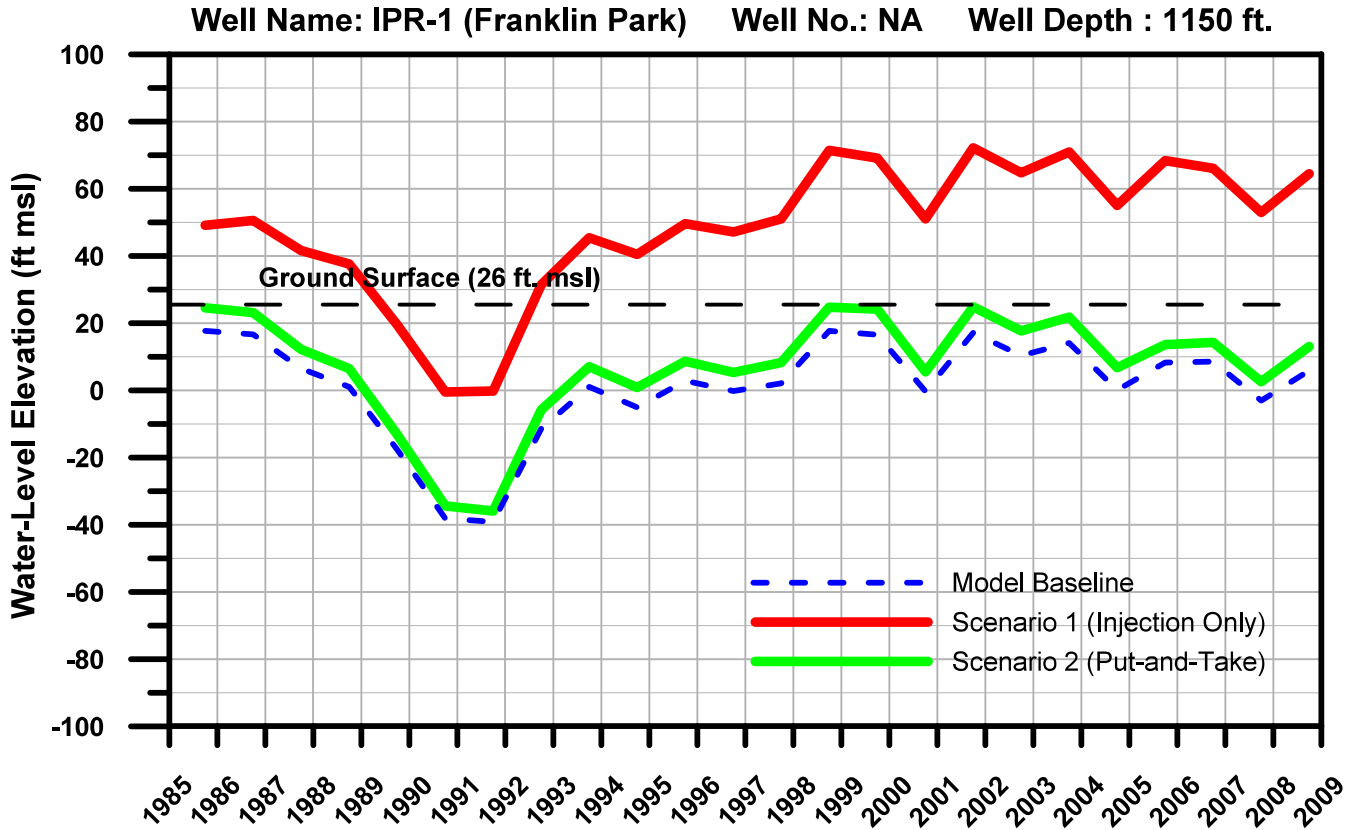
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AeroGRID, IGN, and the GIS User Community

**Legend**

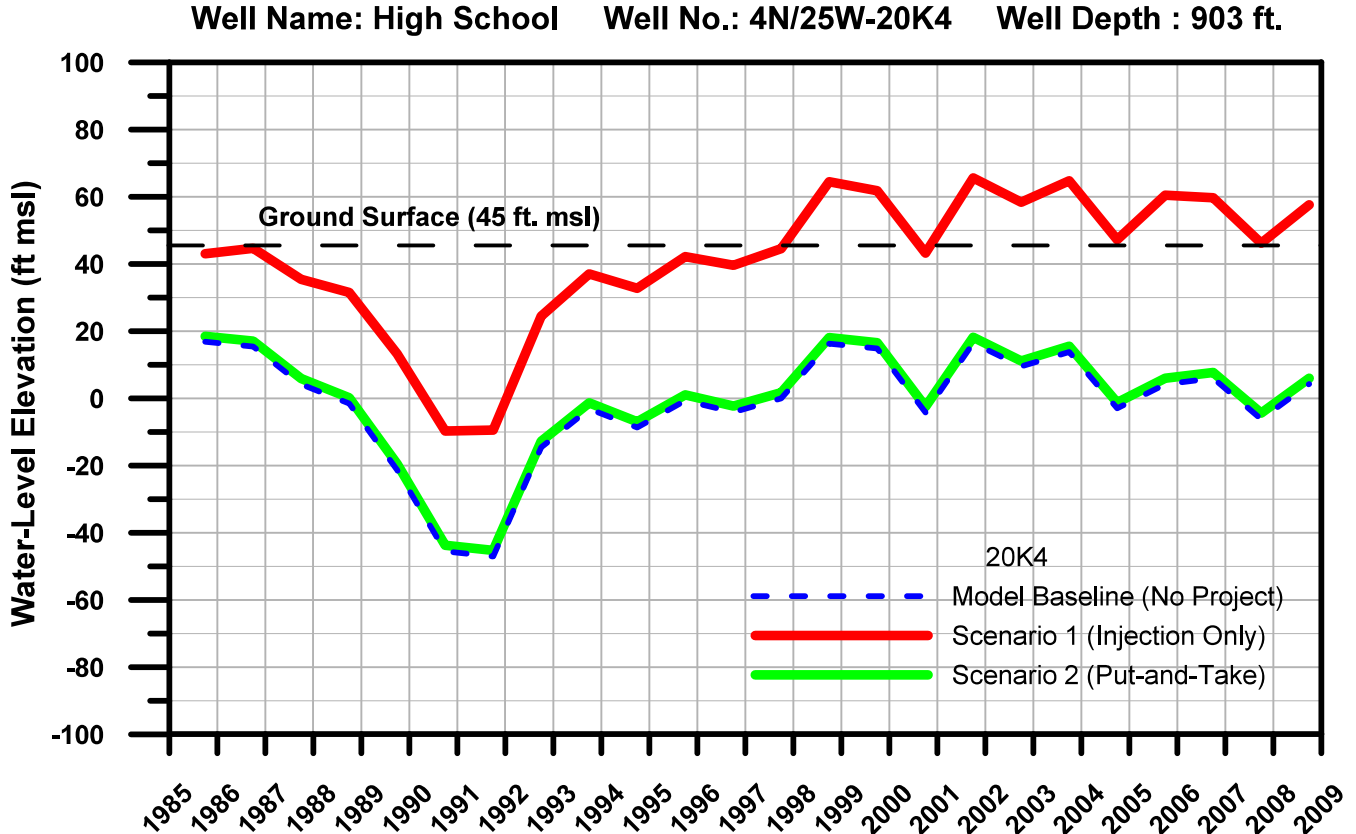
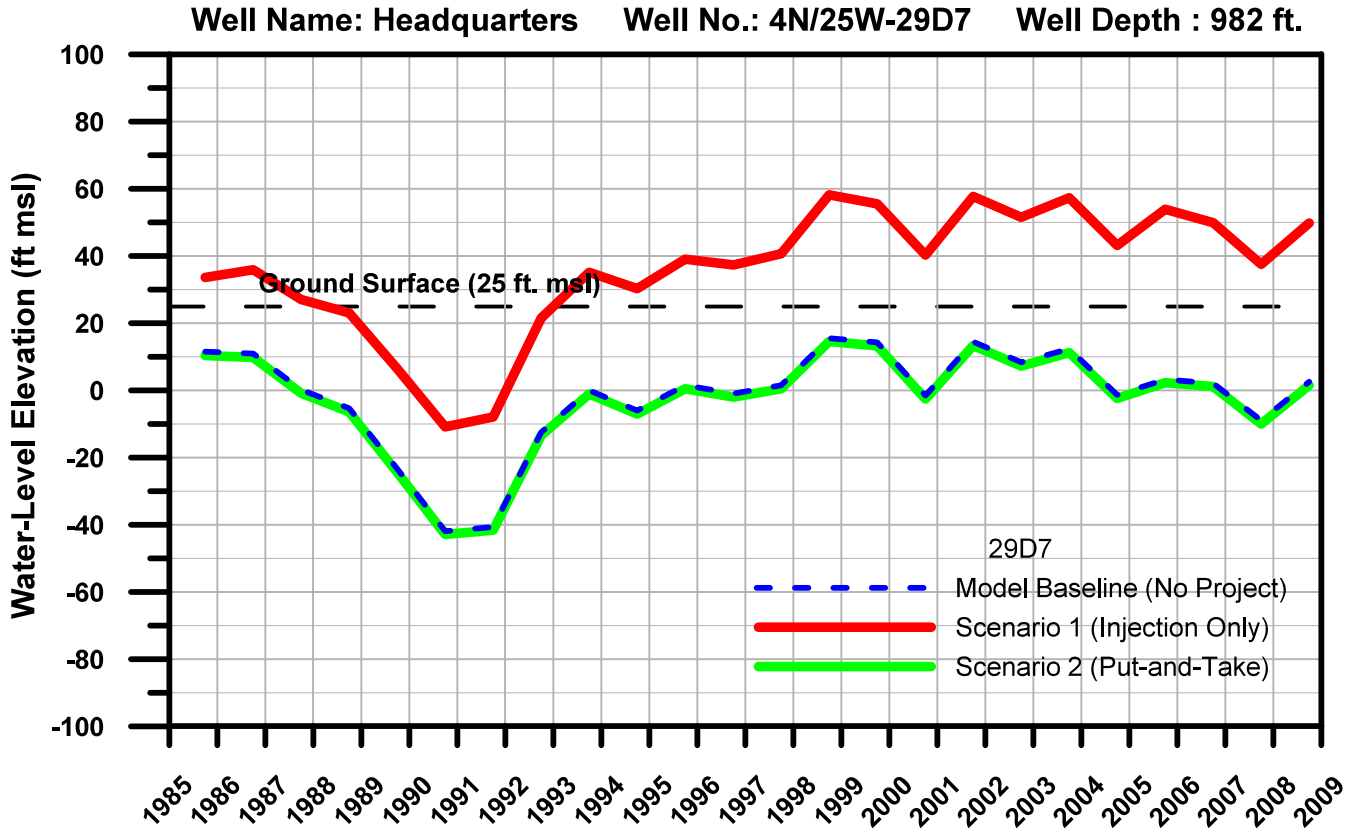
- ◆ CVWD Wells
- ◆ Private Wells
- Potential IPR Well Site Parcel



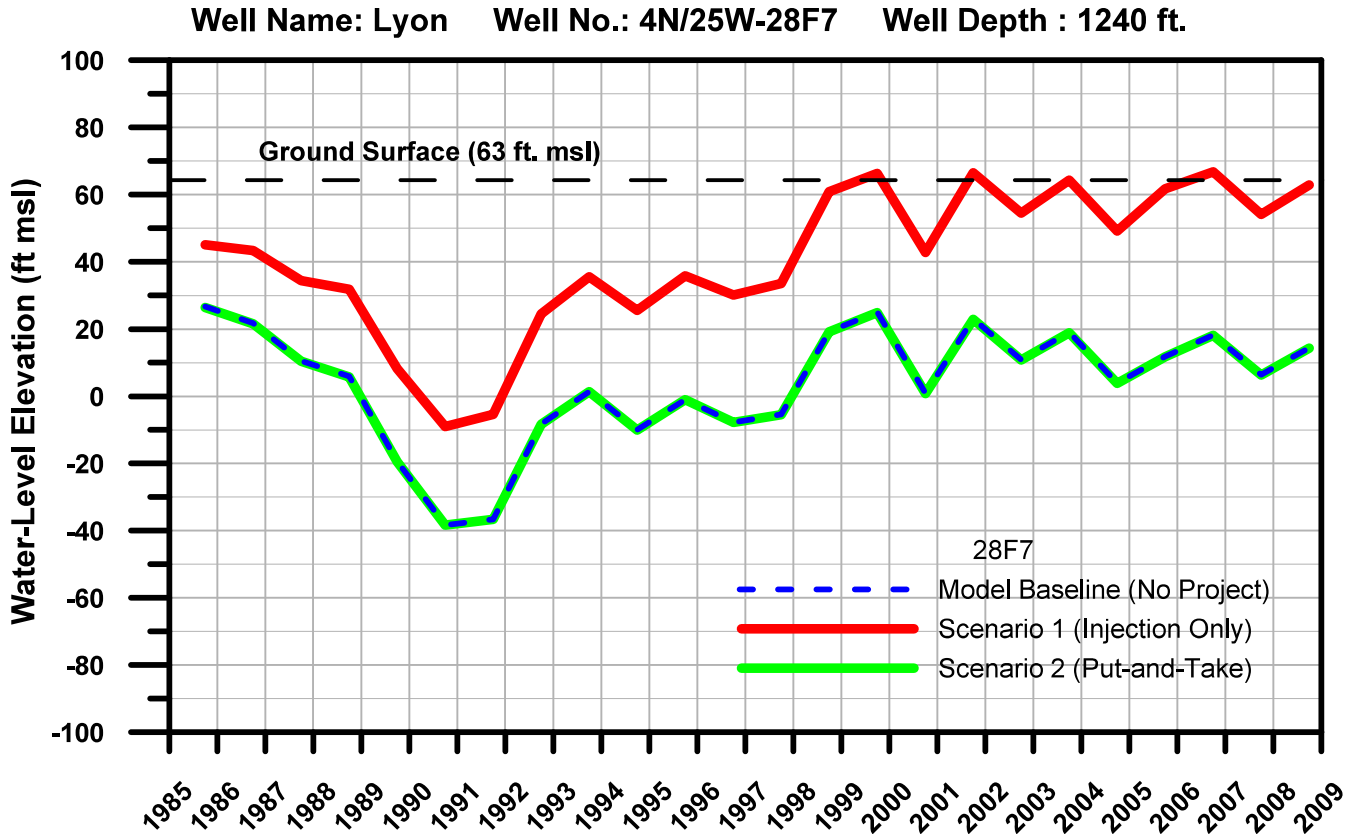
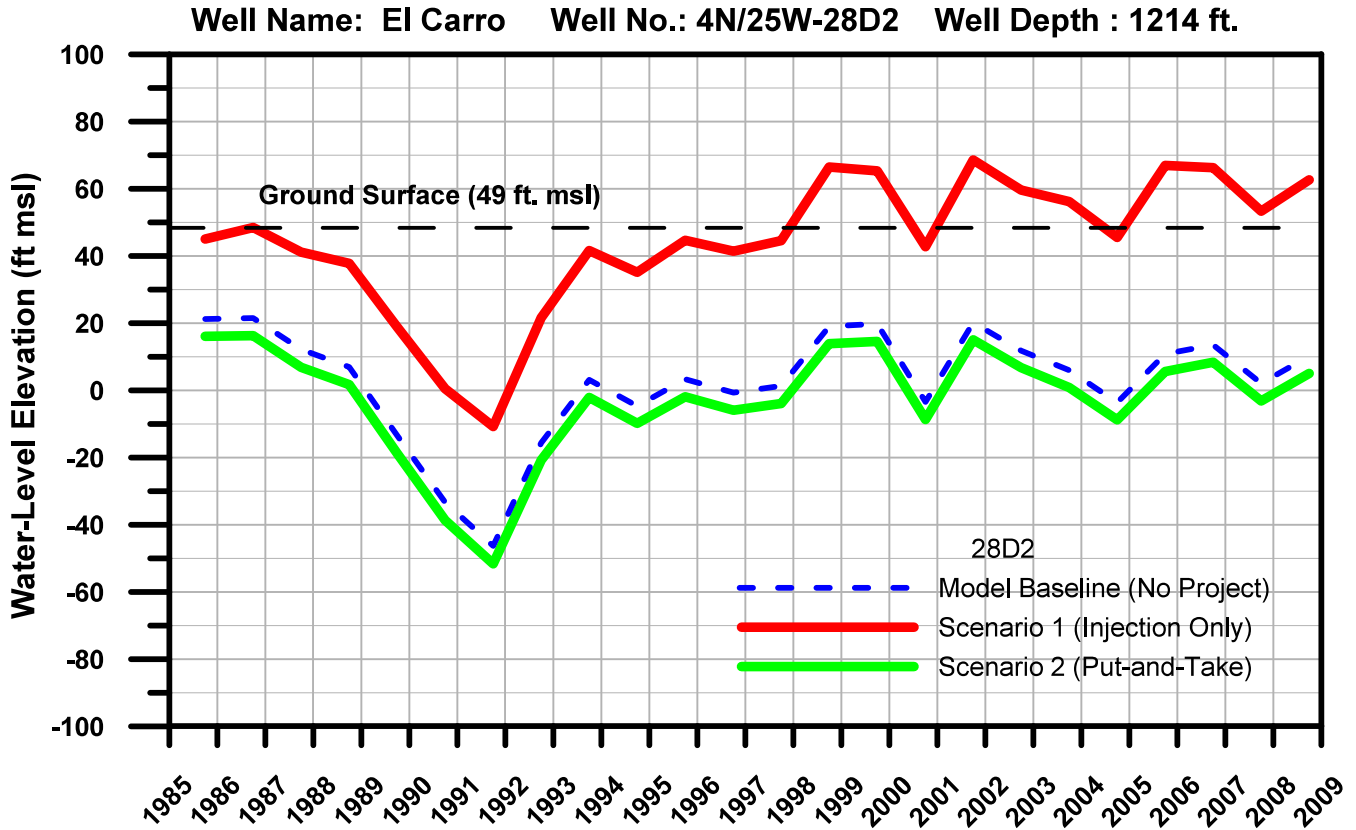
**FIGURE 2. WELL LOCATION MAP**  
CAPP IPR Groundwater Modeling Assessment  
Carpinteria Valley Water District



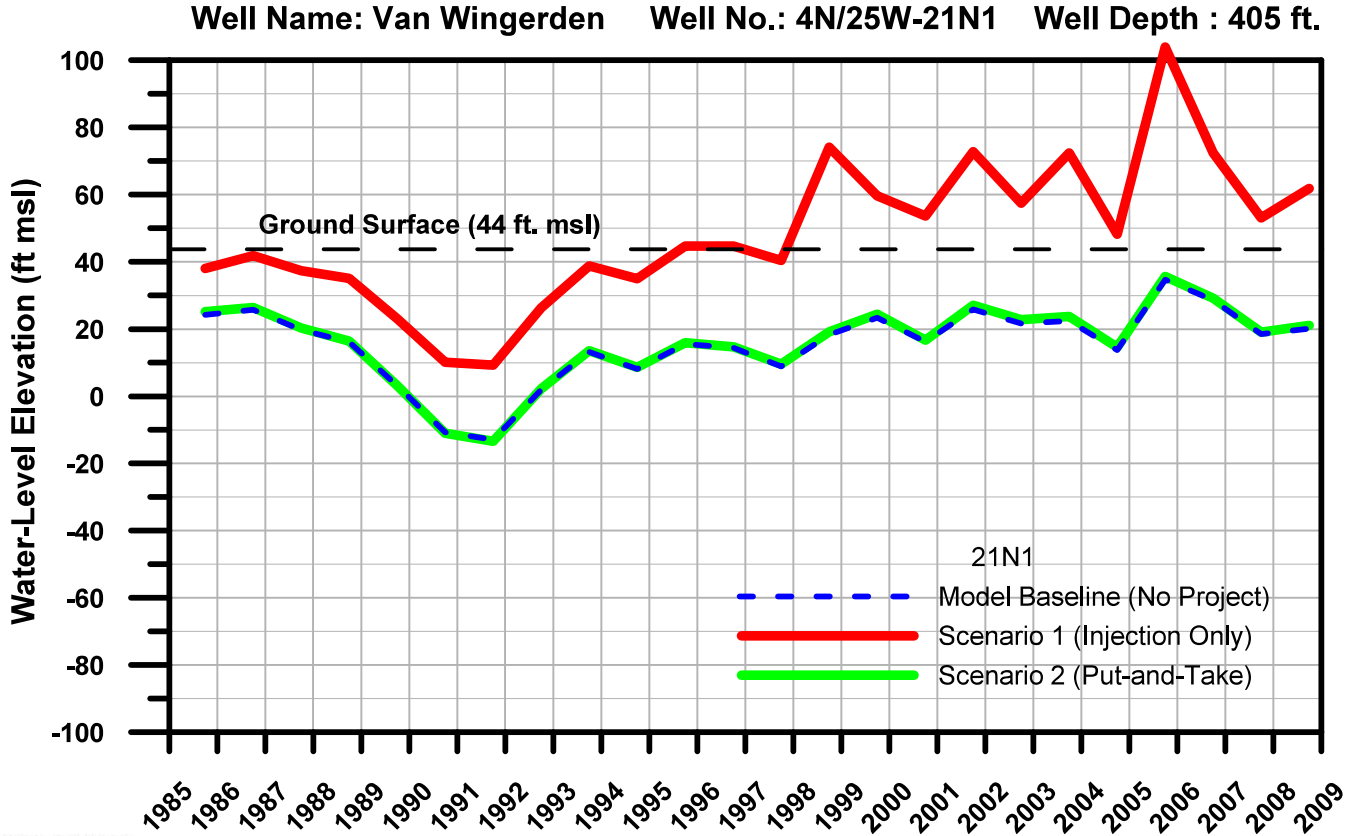
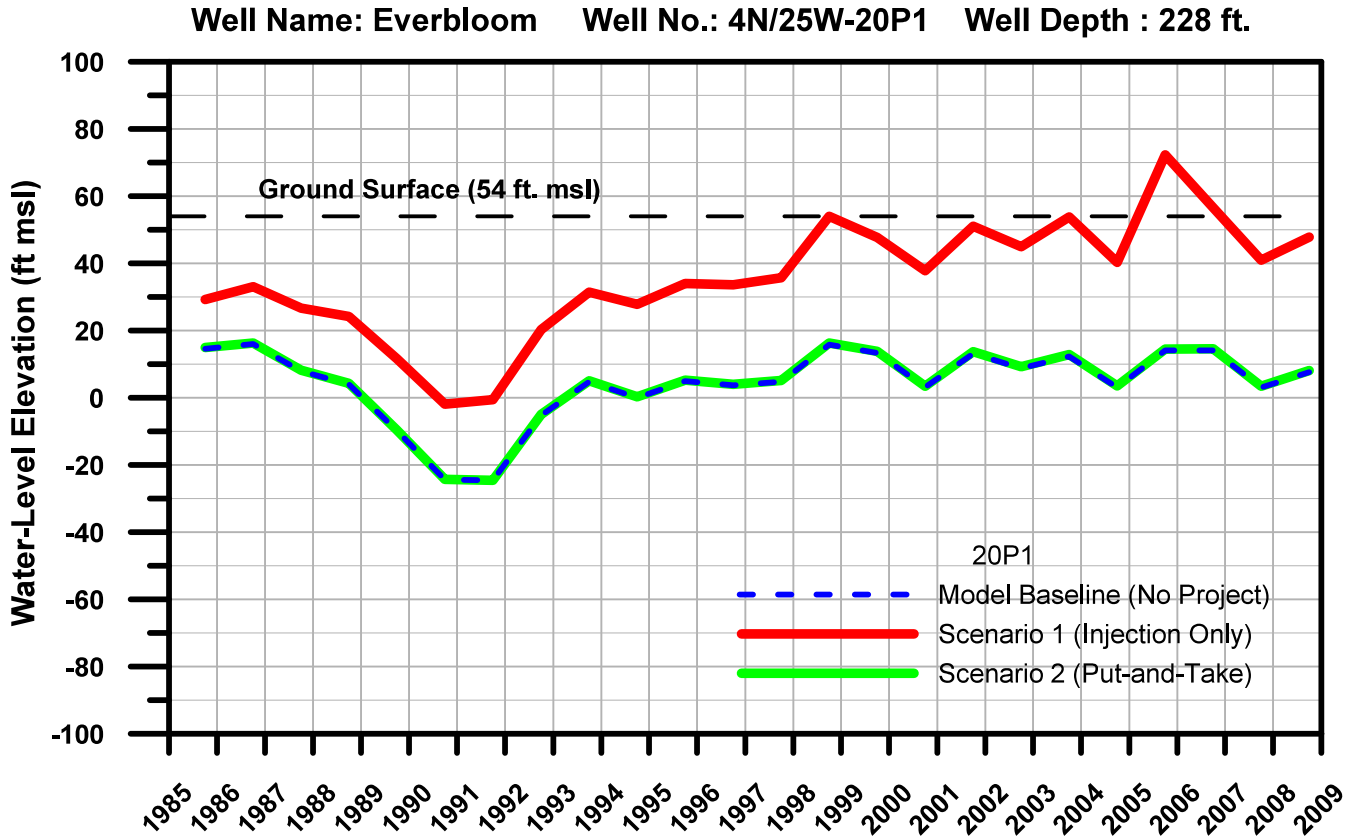
**FIGURE 3. WATER LEVEL HYDROGRAPHS (Simulated IPR Wells)  
 CAPP IPR Well Groundwater Modeling Assessment  
 Carpinteria Valley Water District**



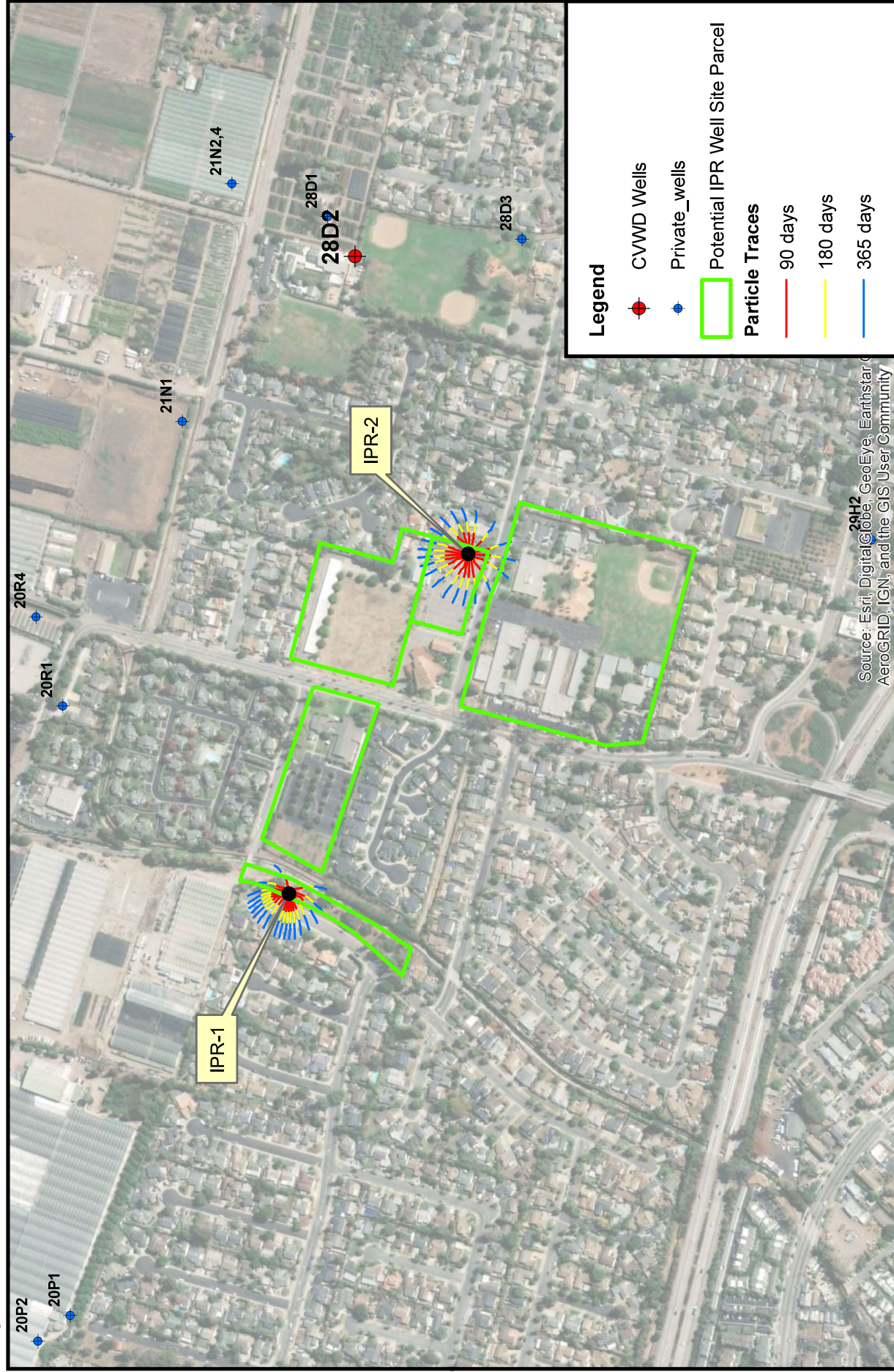
**FIGURE 4. WATER LEVEL HYDROGRAPH (29D7 - 20K4)  
 CAPP IPR Well Groundwater Modeling Assessment  
 Carpinteria Valley Water District**



**FIGURE 5. WATER LEVEL HYDROGRAPH (28D2 - 28F7)  
 CAPP IPR Well Groundwater Modeling Assessment  
 Carpinteria Valley Water District**

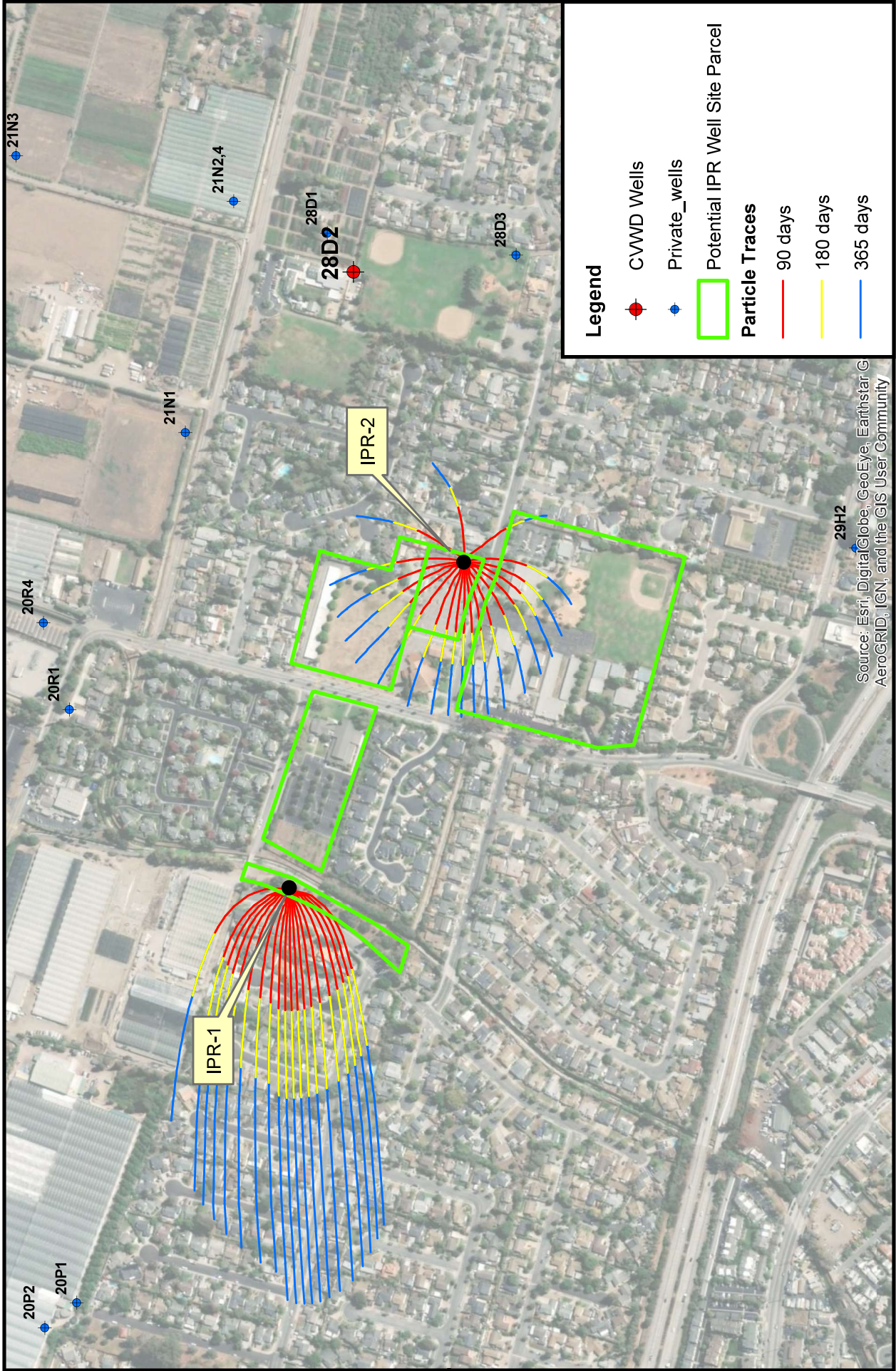


**FIGURE 6. WATER LEVEL HYDROGRAPHS (20P1 - 21N1)  
 CAPP IPR Well Groundwater Modeling Assessment  
 Carpinteria Valley Water District**



29H2  
Source: Esri, DigitalGlobe, GeoEye, Earthstar  
AeroGRID, IGN, and the GIS User Community

**FIGURE 7. PARTICLE TRACES - SCENARIO 2, AQUIFER A**  
CAPPP IPR Groundwater Modeling Assessment  
Carpinteria Valley Water District



Source: Esri, DigitalGlobe, GeoEye, Earthstar G  
AerGRID, IGN, and the GIS User Community

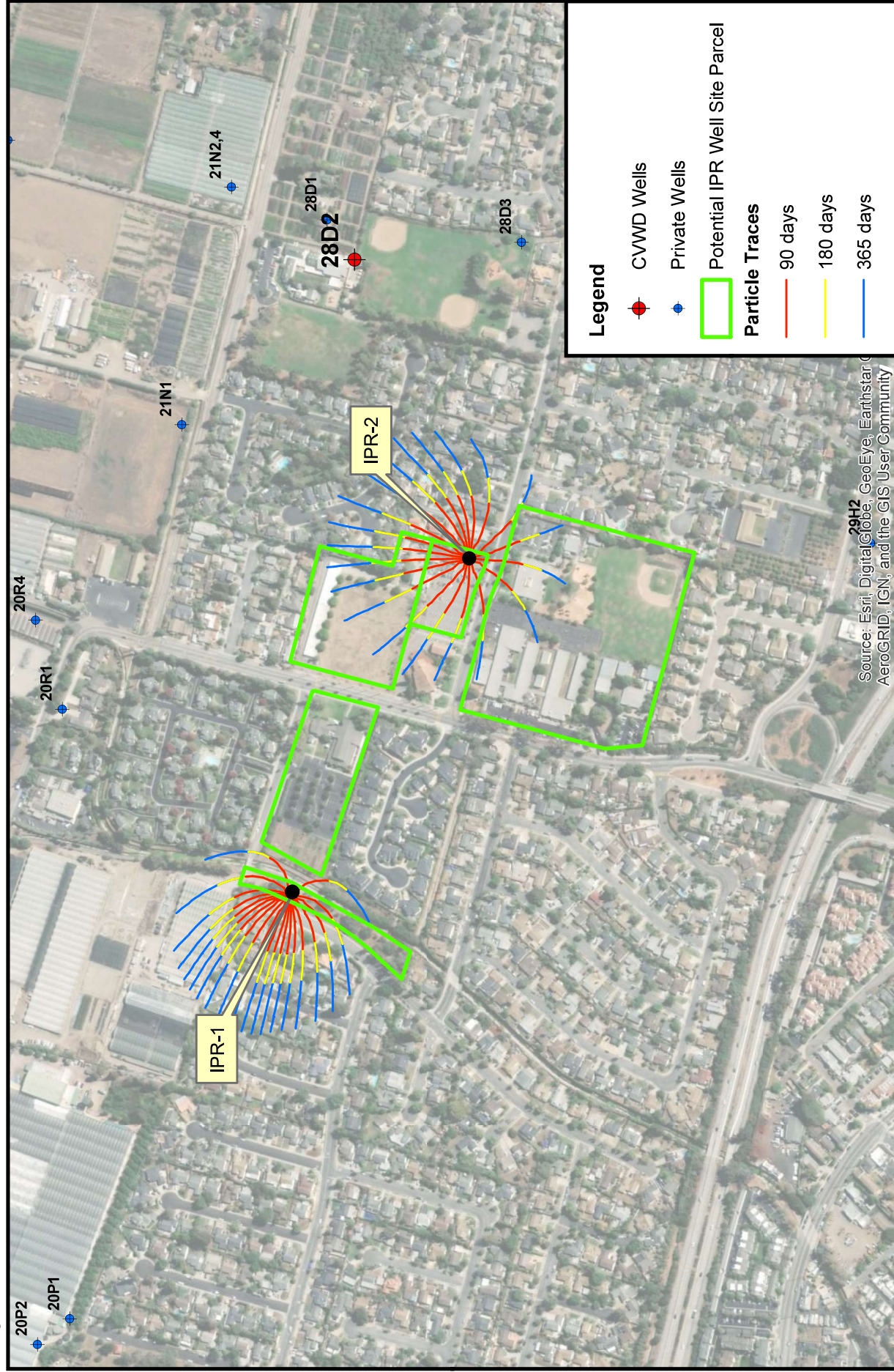
**FIGURE 8. PARTICLE TRACES - SCENARIO 2, AQUIFER B**  
CAPP IPR Groundwater Modeling Assessment  
Carpinteria Valley Water District

**PUEBLO**  
water resources

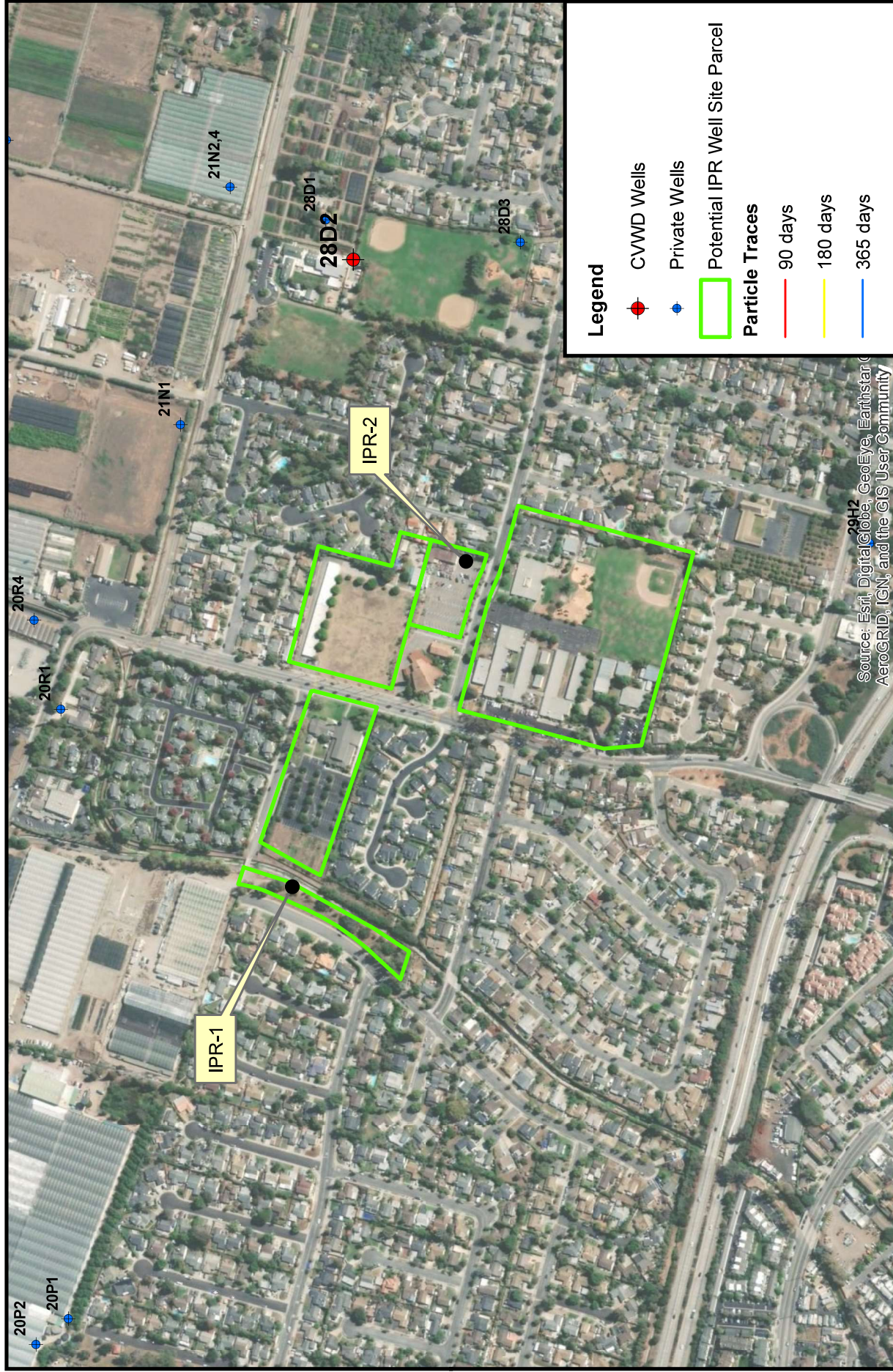
1 inch = 500 feet

0 500 1,000 Feet

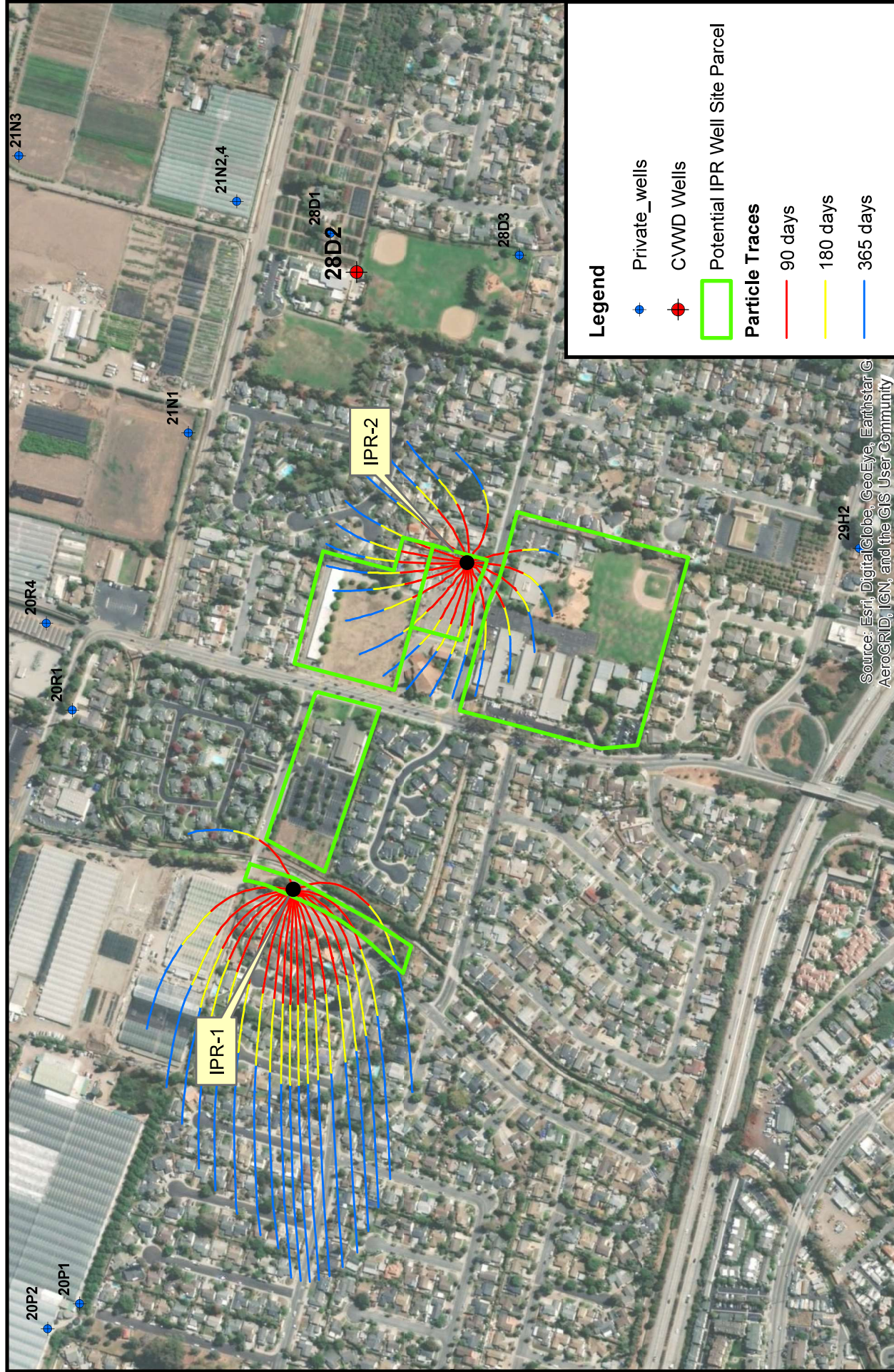




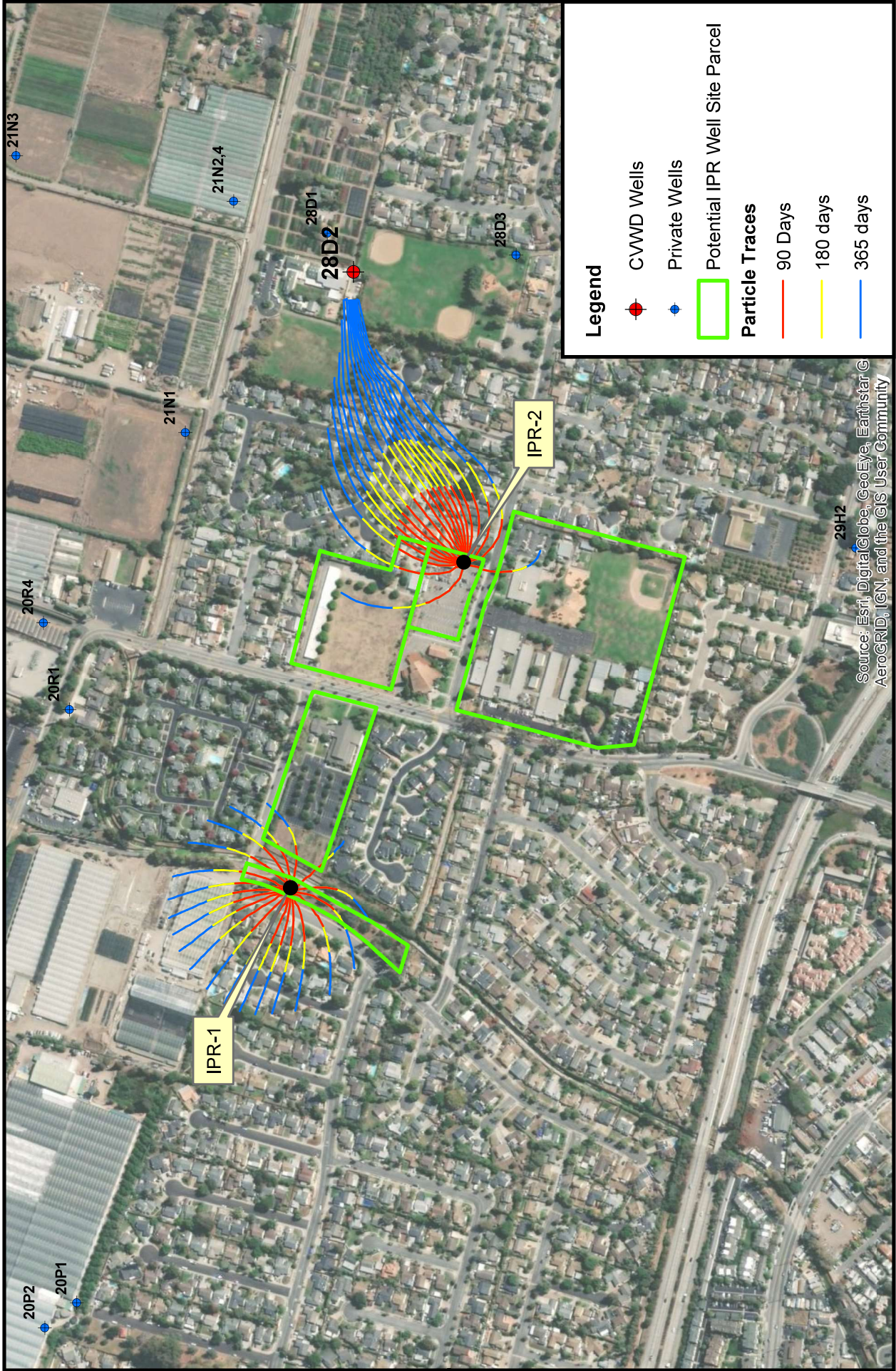
**FIGURE 9. PARTICLE TRACES - SCENARIO 2, AQUIFER C**  
CAPP IPR Groundwater Modeling Assessment  
Carpinteria Valley Water District



**FIGURE 10. PARTICLE TRACES - SCENARIO 3, AQUIFER A**  
CAPP IPR Groundwater Modeling Assessment  
Carpinteria Valley Water District



**FIGURE 11. PARTICLE TRACES - SCENARIO 3, AQUIFER B**  
CAPP IPR Groundwater Modeling Assessment  
Carpinteria Valley Water District



Source: Esri, DigitalGlobe, GeoEye, Earthstar ©  
AerGRID, IGN, and the GIS User Community

**FIGURE 12. PARTICLE TRACES - SCENARIO 3, AQUIFER C**  
CAPP IPR Groundwater Modeling Assessment  
Carpinteria Valley Water District

**Appendix J**

Dilution Study

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## **DRAFT TECHNICAL MEMORANDUM**

**DATE:** March 28, 2019

**TO:** Rosalyn Prickett  
Woodard & Curran

**FROM:** Gang Zhao, Ph.D., P.E.  
Kristen Bowman Kavanagh, P.E.  
E. John List, Ph.D., P.E.

**SUBJECT:** Near-field dilution analysis of the Carpinteria Valley Water District IPR Project  
FSI 174080

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### **1. INTRODUCTION**

As part of the Carpinteria Valley Water District's Indirect Potable Reuse (IPR) project, Flow Science Incorporated (Flow Science) was retained by Woodard & Curran to analyze the near-field dilution of the IPR project brine effluent that is proposed to be discharged to the Pacific Ocean. The IPR project includes plans to build an advanced water purification facility (AWPF), which will provide advanced treatment for the effluent from the Carpinteria Sanitary District (CSD) wastewater treatment plant (WWTP). The highly treated effluent would then be injected into the Carpinteria Valley Groundwater Basin for reuse. The AWPF will produce a maximum of approximately 0.3 mgd of brine effluent, which will be discharged through the CSD ocean outfall. In addition, preliminary design work has been started to modify the diffuser of the CSD ocean outfall. Dilution of the effluent discharged from both the current and the proposed new outfall diffuser needs to be analyzed to evaluate the performance of the proposed diffuser modification.

This technical memorandum summarizes the analyses Flow Science completed for the near-field dilution of the selected discharge scenarios of the IPR project and describes the input data and methods Flow Science used to analyze the selected scenarios.

## 2. ANALYSIS INPUT DATA

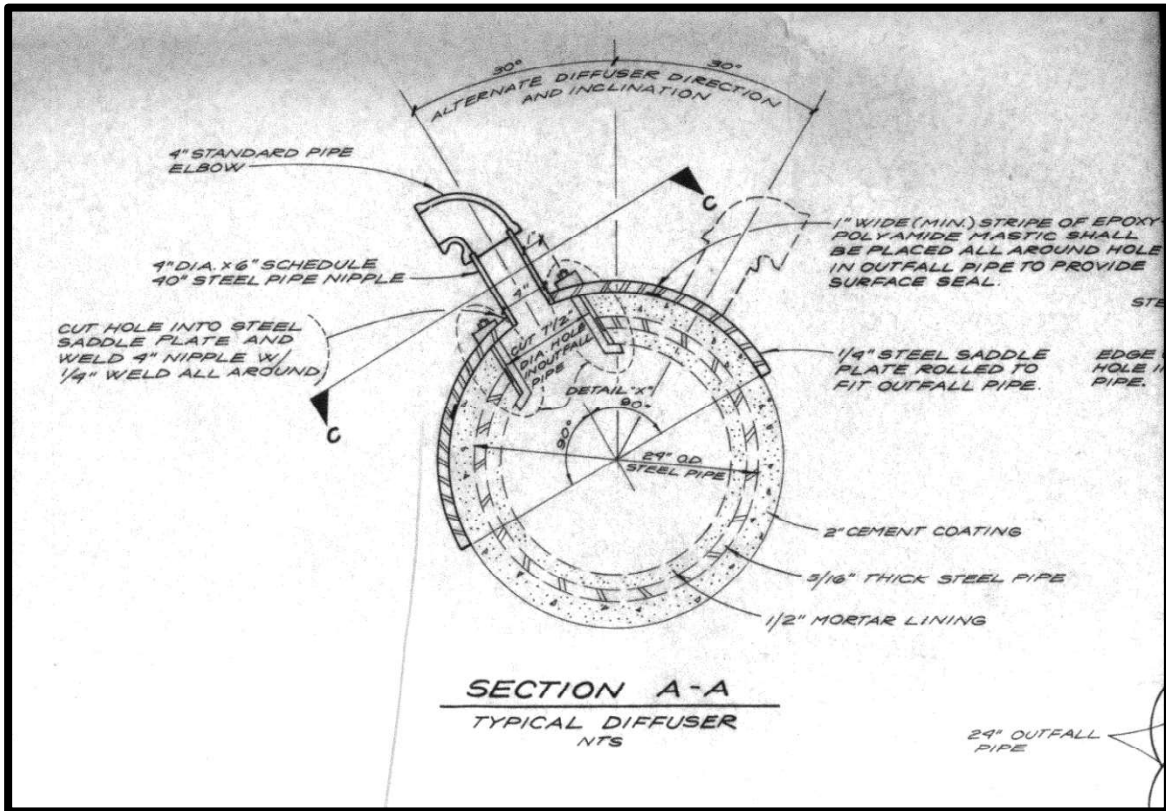
### 2.1 DIFFUSER CONFIGURATION

The existing CSD ocean outfall has a diffuser located approximately 800 ft offshore in the Santa Barbara Channel (see Figure 1). The diffuser has 17 discharge ports. Eight 4-inch ports discharge effluent from one side of the diffuser and eight 4-inch ports discharge from the opposite side of the diffuser in an alternating pattern. In addition, there is one 8-inch port in the end flange of the diffuser. The ports are spaced 6 ft apart and are located approximately 22 feet below mean sea level. Figure 2 shows a typical section of the current diffuser.



Figure 1. Location of CSD ocean outfall





**Figure 2. Typical diffuser section (currently in place)**

Preliminary design work is underway to modify the current diffuser. The modified diffuser will have 17 ports fitted with Tideflex “duckbill” check valves, and effluent will be discharged horizontally (*i.e.*, with a 0° port vertical angle). The preliminary design calls for 16 ports to be fitted with 4-inch duckbill check valves, while the end port will be fitted with a single 8-inch duckbill check valve. The opening area of the “duckbill” check valves depends on the discharge flow rate. For the discharge flow rates modeled in this analysis, the opening area of the valve was determined by Woodard & Curran from data provided by the valve manufacturer, and an effective port diameter was derived to provide the same opening area. Key parameters of the current diffuser and the proposed new diffuser are summarized in Table 1. Due to model limitations, the end port of the new diffuser was represented as a 4-inch diffuser check valve, rather than an 8-inch diffuser check valve. The end port of the existing diffuser was not included in the model, consistent with previous modeling efforts.

**Table 1. Current versus modified diffuser configuration for the model input**

Parameter	Current Diffuser	New Diffuser
Depth of diffuser ports	22 feet below MSL	22 feet below MSL
Number of open ports	16	17
Port spacing	6 feet	6 feet
Port diameter	4 inches	Depends on flow rate
Port vertical angle	-30°	0

## 2.2 DISCHARGE CHARACTERISTICS

A range of discharge scenarios with various discharge flow rates, effluent salinity, and discharge seasons were selected for this analysis. The selected discharge scenarios are summarized in Table 2. Effluent temperature was determined based on data of effluent temperature for 2013-2018. For the cool season, the effluent temperature is the average of the first quarter effluent temperature; for the warm season, the average temperature for the months July to October, the four months with the highest average effluent temperature, is selected as the effluent temperature. The first two scenarios in Table 2 are for the current diffuser configuration, and the remainders are for the modified diffuser. All scenarios in Table 2 were analyzed for a stagnant (no current) receiving water condition, consistent with the California Ocean Plan (2015). Temperature and salinity data were used to calculate densities of the effluent and ambient water, which are important parameters in dilution analyses.

Three flow rates were modeled, as follows:

- **2.5 MGD** represents the average dry weather flow capacity of the WWTP as listed in CSD’s NPDES Permit (Central Coast Regional Water Quality Control Board, NPDES NO. CA0047364). It is also larger than the maximum month wet weather flow rate of 1.8 MGD discharged to the Pacific Ocean, based on effluent flow data for 2009–2018.
- **1.5 MGD** represents the preliminary design dry weather flow capacity of the advanced treatment facility. Under normal operating conditions, advanced-treated water will be injected into the groundwater basin. However, there may be periods when the injection wells are off-line and all effluent is discharged to the Pacific Ocean. This represents such a scenario.
- **0.3 MGD** represents the design dry weather flow capacity of the advanced treatment facility. In this scenario, all WWTP effluent is receiving advanced

treatment, and the outfall receives 100% RO concentrate. This scenario represents the worst-case condition for effluent water quality.

**Table 2. Discharge scenarios analyzed**

Scenario	Description of Discharge	Season	Effluent Flow (mgd)	Effluent Salinity (ppt)	Effluent Temp. (°F)	Port Diameter (in)	Port Angle
Current Diffuser Configuration							
1	ADWF Capacity	Warm	2.5	1.5	78	4	-30°
2	ADWF Capacity	Cool	2.5	1.5	69	4	-30°
Modified Diffuser Configuration							
3	ADWF Capacity	Warm	2.5	1.5	78	2.9	0°
4	ADWF Capacity	Cool	2.5	1.5	69	2.9	0°
5	Project Design Dry Weather Flow	Warm	1.5	1.5	78	2.6	0°
6	Project Design Dry Weather Flow	Cool	1.5	1.5	69	2.6	0°
7	RO Concentrate Dry Weather Flow	Warm	0.3	9	78	1.7	0°
8	RO Concentrate Dry Weather Flow	Cool	0.3	9	69	1.7	0°

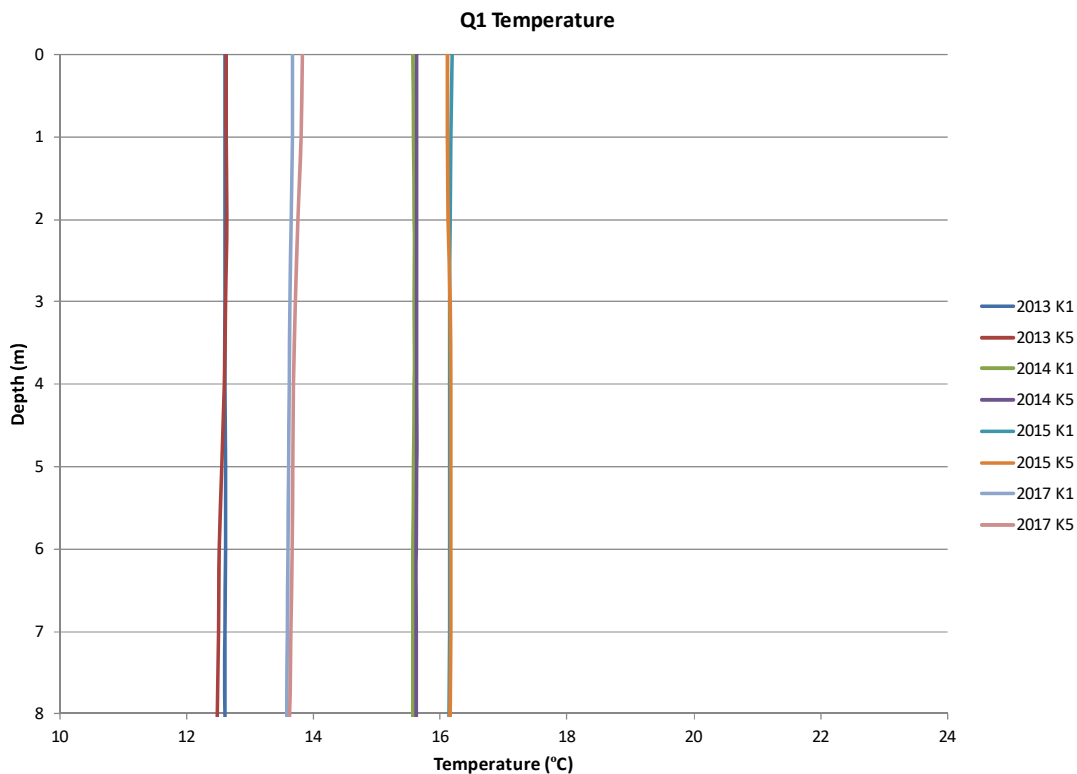
### 2.3 RECEIVING WATER PROFILES

Salinity and temperature data over the entire depth of the receiving water column for all typical seasonal conditions are needed in computing the effluent dilution. Receiving water profile data are not available at the CSD outfall diffuser. However, ocean profile data have been collected quarterly at the Goleta Sanitary District (GSD) ocean outfall, which is approximately 16 miles to the west of the CSD outfall. These ocean profile data are summarized in quarterly receiving water monitoring reports (Goleta Sanitary District, 2013-2017). The GSD's nearshore stations, K1 and K5, are located in relatively shallow water, and these two stations are farther away from the GSD outfall than other nearshore stations. Data from stations K1 and K5 are less affected by the GSD outfall effluent than data collected at other nearshore stations. Thus data collected at stations K1 and K5 were used to represent the receiving water conditions at the CSD outfall.

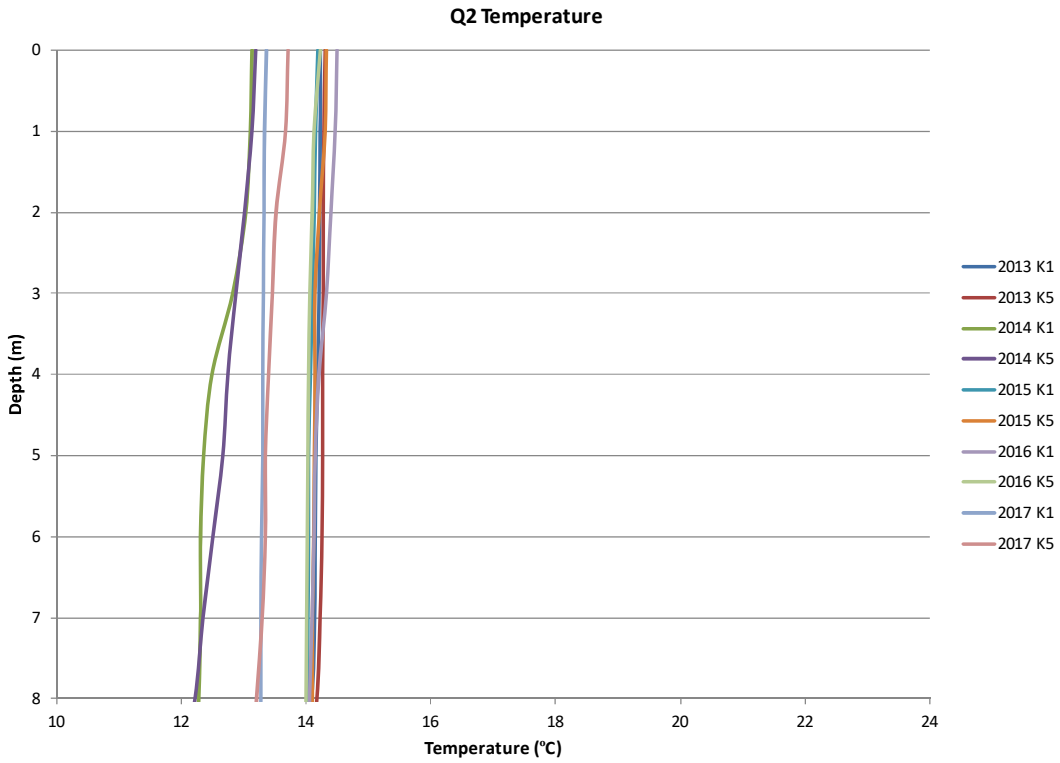
The GSD ocean profile data from the first quarter of 2013 through the second quarter of 2017 were examined to determine typical ocean conditions. Data for the first quarter of 2016 and after the second quarter of 2017 are not available. The ocean temperature data

were grouped by quarter and are presented in Figures 3 through 6, and the quarterly ocean salinity data are presented in Figures 7 through 10. Note that the water depth at the CSD outfall is about 25 ft (8 meters). Therefore only the top 25 ft of ocean profile data were used in the dilution analysis.

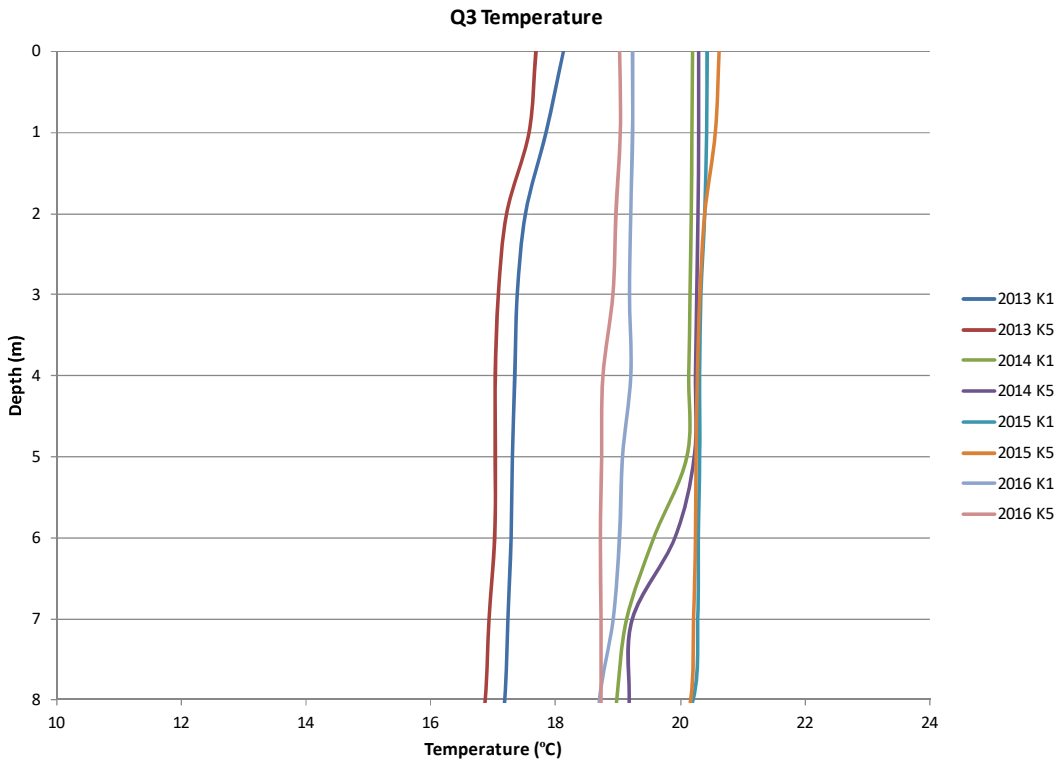
The ocean temperature profiles in Figures 3 through 6 show that water temperature is nearly uniform over the top 25 ft (8 m) for the first quarter (cool season), while thermal stratification exists in various degrees for the other quarters. Note that most of the data for the fourth quarter were collected in the month of October, and the ocean water had not cooled down. Therefore the fourth quarter data do not represent cool seasonal conditions. For the first and second quarters, the observed ocean temperature was in the range of 12 °C to 16.5 °C; for the third and fourth quarters, the ocean temperature was in the range of 16 °C to 22.5 °C. The ocean salinity profiles presented in Figures 7 through 10 show that salinity is generally uniform over the top 25 ft (8 m) of water. The observed ocean salinity was in the range of 33 ppt to 33.7 ppt, and most salinity profiles centered around 33.5 ppt. Variations in salinity are small and without discernible seasonal patterns.



**Figure 3. Ocean temperature data for the first quarter**



**Figure 4. Ocean temperature data for the second quarter**



**Figure 5. Ocean temperature data for the third quarter**

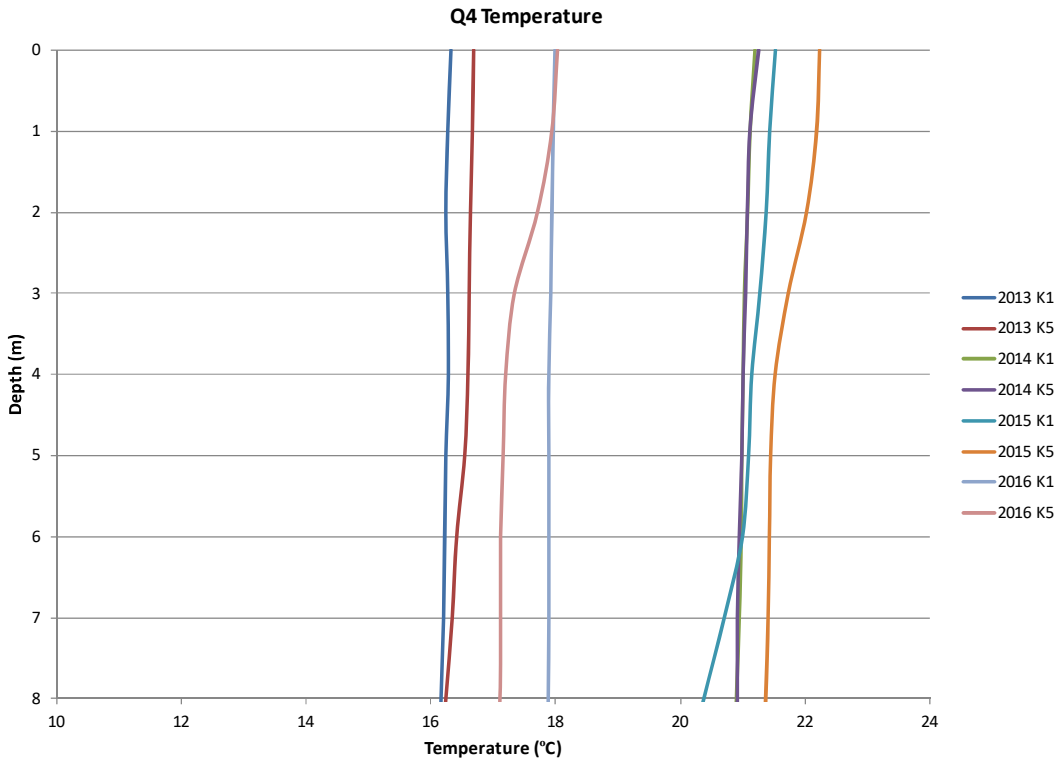


Figure 6. Ocean temperature data for the fourth quarter

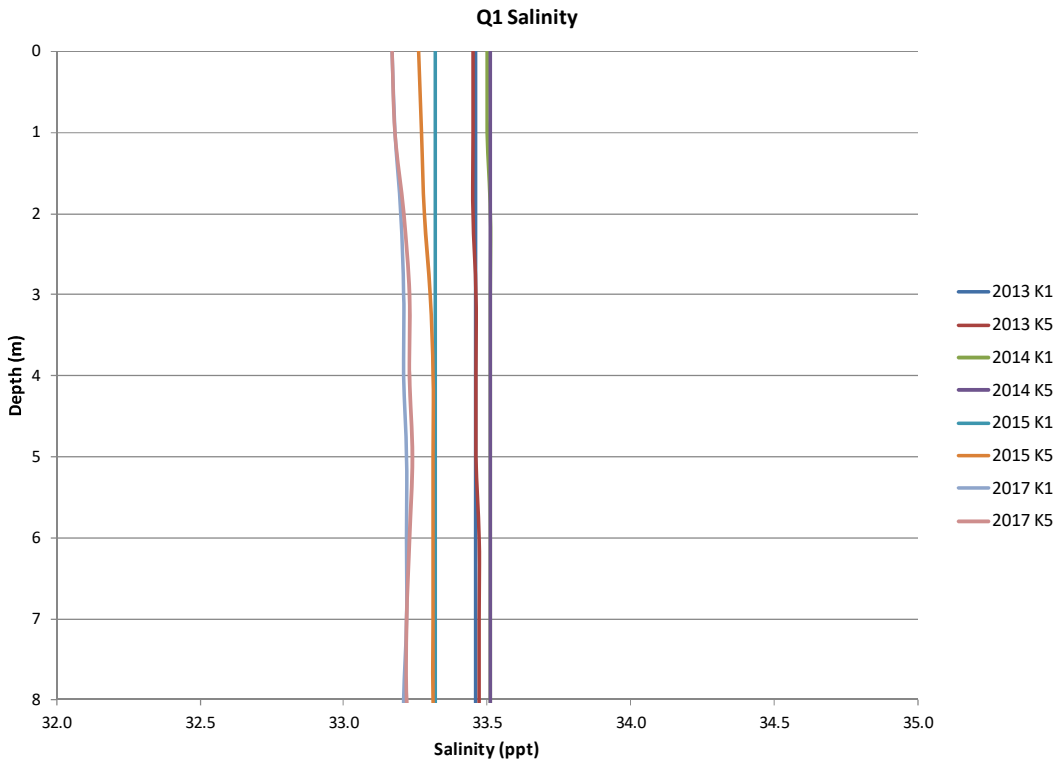


Figure 7. Ocean salinity data for the first quarter

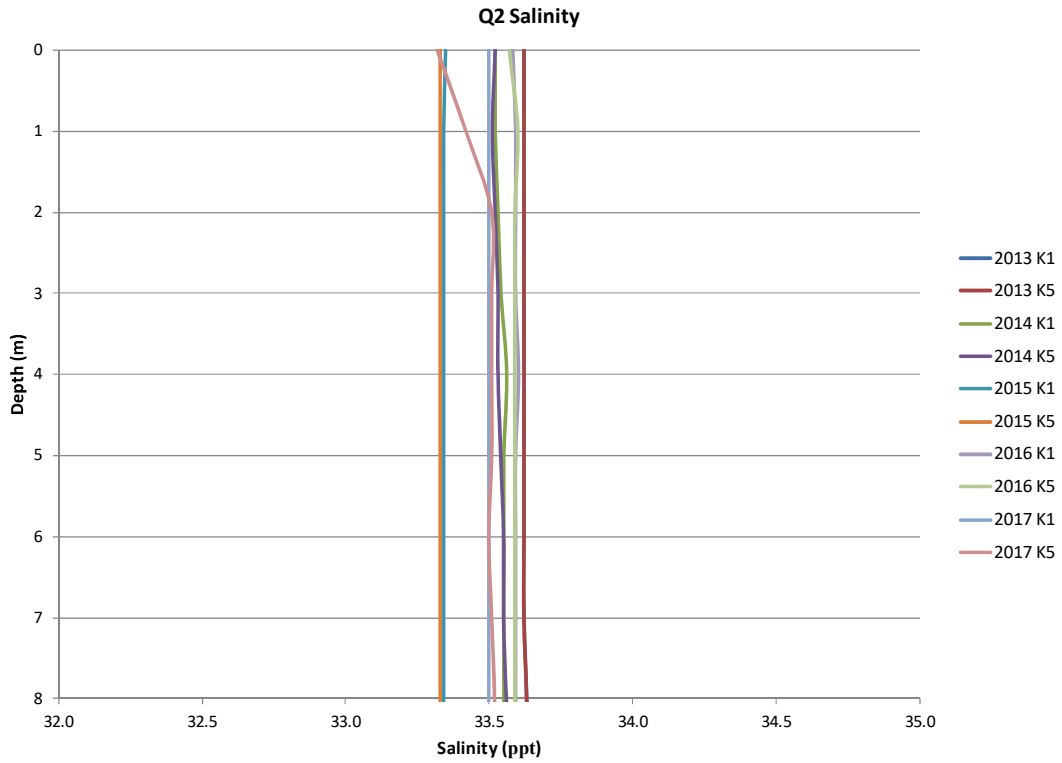


Figure 8. Ocean salinity data for the second quarter

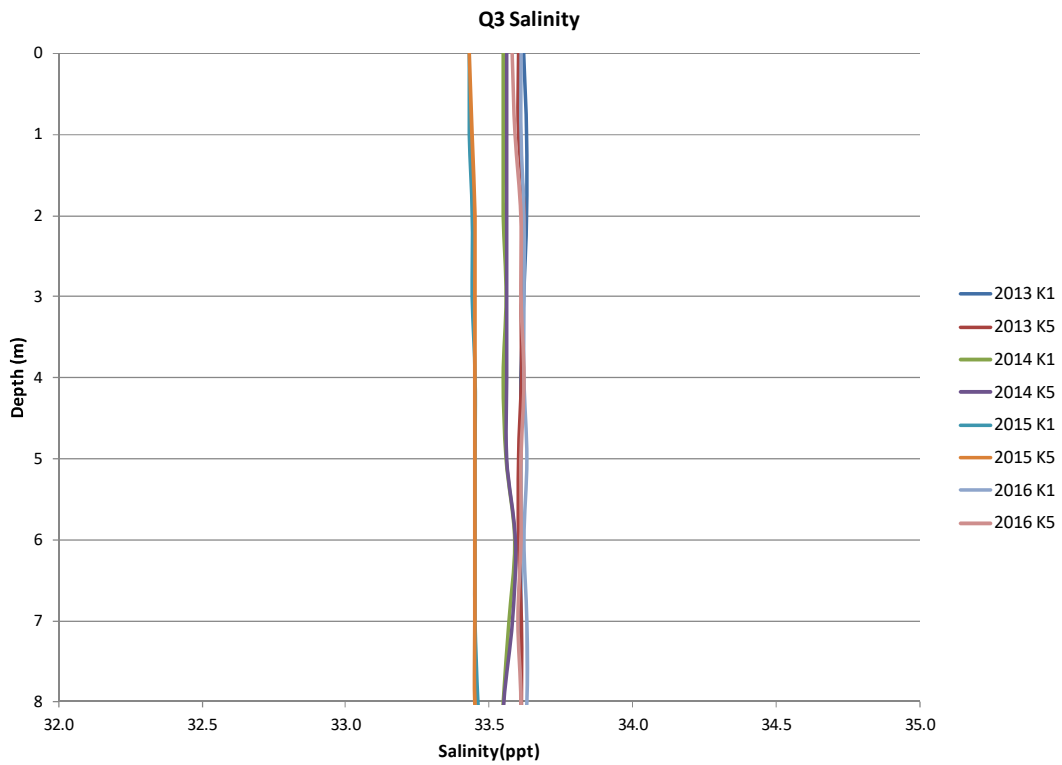
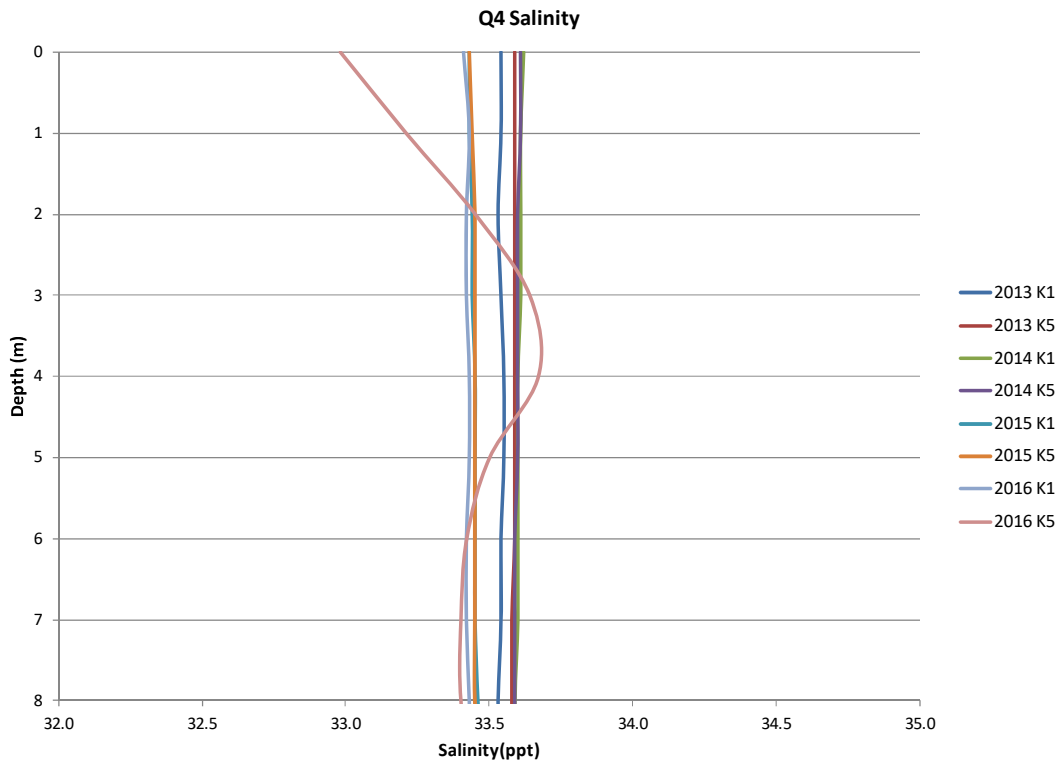


Figure 9. Ocean salinity data for the third quarter



**Figure 10. Ocean salinity data for the fourth quarter**

For the cool season (first quarter), the data indicate that density stratification is negligible, and the difference in density is small among data collected from different years. Test model runs show that the profile at Station K5 collected in the first quarter of 2013 led to the lowest cool season effluent dilution. For the warm season, the profile at Station K5 collected in the fourth quarter of 2015 shows strong density stratification, which leads to the lowest warm season effluent dilution. These two profiles were selected to represent the cool and warm seasons in this analysis. The top 25 ft (8 meters) of the selected profiles are displayed in Table 3 and shown in Figure 11.

**Table 3. Ocean temperature and salinity profiles used for dilution analysis**

Depth (m)	Cool Season		Warm Season	
	Station K5, Q1 2013		Station K5, Q4 2015	
	Temp. (°C)	Salinity (ppt)	Temp. (°C)	Salinity (ppt)
0	12.63	33.45	22.23	33.43
1	12.63	33.45	22.18	33.44
2	12.64	33.45	22.02	33.45



Depth (m)	Cool Season		Warm Season	
	Station K5, Q1 2013		Station K5, Q4 2015	
	Temp. (°C)	Salinity (ppt)	Temp. (°C)	Salinity (ppt)
3	12.62	33.46	21.73	33.45
4	12.6	33.46	21.52	33.45
5	12.56	33.46	21.45	33.45
6	12.52	33.47	21.43	33.45
7	12.51	33.47	21.41	33.45
8	12.49	33.47	21.37	33.45

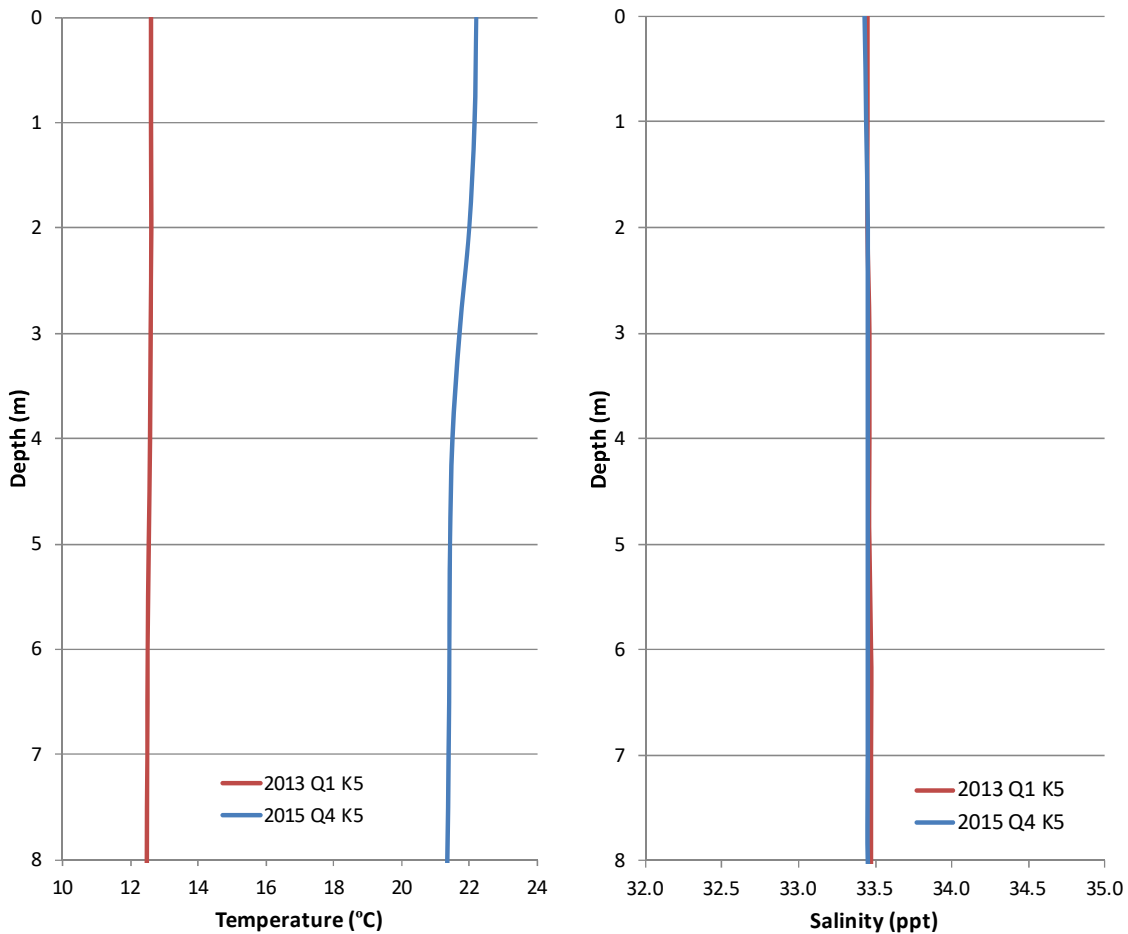


Figure 11. Selected ocean temperature and salinity profiles

Dilution analyses for ocean outfalls are typically used to characterize “worst case,” stagnant (no current) receiving water conditions, and stagnant conditions are typically used as the basis for developing NPDES permit conditions. For these reasons, Flow Science has conducted the dilution analyses presented in this report for a zero-current, stagnant receiving water condition and regards this as a “worst case” condition.

### **3. DILUTION ANALYSIS METHOD**

The analysis performed by Flow Science is a near-field dilution analysis, in which the dilution of the discharged effluent is computed within the “Zone of Initial Dilution” or ZID. The ZID is defined as the zone immediately adjacent to a discharge where momentum and buoyancy-driven mixing produces rapid dilution of the discharge. In this analysis, the ZID ends at the point where the effluent plume reaches the water surface.

Visual Plumes is a mixing zone computer model to simulate effluent discharged into a receiving water body that was developed from a joint effort led by the United States Environmental Protection Agency (U.S. EPA). Visual Plumes can simulate both single and merging submerged plumes, and stratified ambient flow can be specified by the user. The UM3 model — part of the EPA Visual Plumes diffuser modeling package — was used to simulate the effluent plume in this analysis. Note that the Visual Plumes model is not capable of simulating diffuser ports discharging effluent in alternating directions, which is how the CSD diffuser discharges effluent. In this analysis, it is assumed that all ports of the CSD diffuser discharge effluent in the same direction. This is a conservative assumption because it reduces the spacing between ports, leading to early merging of the plumes from individual ports and a lower computed dilution of the effluent.

## 4. DILUTION ANALYSIS RESULTS

The dilution analysis results presented in this report represent the point where the plumes just reached the sea surface. Horizontal spreading of the plumes at the sea surface was not included in this analysis. Results for the selected scenarios are presented in Table 4. The values of dilution in Table 4 are the ratio of the total volume of water within the plume to the volume of the effluent discharged through the diffuser. For example, a dilution value of 10 means the plume contains 9 parts of ocean water and 1 part of the effluent. When the effluent is discharged from the diffuser ports, it has an initial momentum which has a component in the horizontal direction. This initial momentum moves the plume away from the diffuser ports in the horizontal direction as the plume rises in the water column. When the plume reaches the sea surface, the centerline of the plume will be at some horizontal distance away from the diffuser ports. This horizontal distance of the plume centerline from the diffuser ports is also presented in Table 4.

The results in Table 4 indicate that dilution during the warm season is slightly lower than for the cool season. Comparison of the results at a 2.5 mgd effluent discharge flow rate for the current diffuser configuration (Scenarios 1 and 2) versus the new modified diffuser (Scenarios 3 and 4) indicate that the modified diffuser configuration could increase dilution by approximately 10%. For the modified diffuser, when the effluent discharge rate was reduced from 2.5 mgd to 1.5 mgd, the average dilution increased from 74 and 75 to 93 and 97 for the warm and cool seasons, respectively. When the effluent was changed to 0.3 mgd of the RO brine, the average dilution increased to 200 and 220 for the warm and cool seasons, respectively.

Both the average dilution of the effluent and the dilution at the plume centerline are presented in Table 4. For a discharge with an approved ZID, the effluent plume is required to meet water quality standards at the boundary of the ZID, and water quality standards can be exceeded within the ZID. The centerline of a plume is usually within the ZID. Therefore, the average dilution of the effluent is more appropriate for representing the effluent dilution of a discharge with a ZID.



**Table 4. Dilution analysis results for selected scenarios**

Scenario	Effluent discharge flow rate (mgd)	Season	Effluent salinity (ppt)	Effluent temp. (°F)	Average Dilution	Centerline Dilution	Horizontal distance from port (ft)
Current Diffuser Configuration							
1	2.5	Warm	1.5	78	67	36	8
2	2.5	Cool	1.5	69	68	36	8
Modified Diffuser Configuration							
3	2.5	Warm	1.5	78	74	41	12
4	2.5	Cool	1.5	69	75	41	11
5	1.5	Warm	1.5	78	93	50	9
6	1.5	Cool	1.5	69	97	51	9
7	0.3	Warm	9	78	200	111	4
8	0.3	Cool	9	69	220	114	4

## 5. REFERENCES

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