MORRO BAY WATER RECLAMATION FACILITY

Draft Environmental Impact Report
SCH #2016081027

Prepared for
City of Morro Bay

March 2018

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Acronyms Used in this Report

AB	Assembly Bill
ACM	asbestos-containing materials
ACS	American Community Survey
AF	acre feet
AFY	acre-feet per year
amsl	above mean sea level
AOP	Advanced Oxidation Process
APCD	air pollution control district
APE	Area of Potential Effects
ATCM	Air Toxic Control Measure
AWTF	Advanced Water Treatment Facility
BACT	best available control technology
BAT	Best Available Technology
BCT	Best Control Technology
BMP	best management practice
BNR	biological nutrient removal
BOD	biological oxygen demand
BWRO	Brackish Water Reverse Osmosis
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CAL FIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation

CAMP	Construction Activity Management Plan
CAP	Clean Air Plan
CARB	California Air Resources Board
CBC	California Building Code
CBRA	Coastal Barriers Resources Act
CCAA	California Clean Air Act
CCC	California Coastal Commission
CCMP	California Coastal Management Program
CCR	California Code of Regulations
CCRWQCB	Central Coast Regional Water Quality Control Board
CDFW	California Department of Fish and Wildlife
CDP	Coastal Development Permit
CDP	census-designated place
CDPH	California Department of Public Health
CEC	California Energy Commission
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CGS	California Geologic Survey
CIP	Clean in Place
CLUP	Coastal Land Use Plan
CMC	California Men's Colony CNDDB California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNG	compressed natural gas
CO	Carbon monoxide
COSE	Conservation and Open Space Element
CRO	Cultural Resources Officer

CRLF	California red-legged frog
CSD	Cayucos Sanitary District
CWA	Clean Water Act
CY	cubic yards
CZLUO	Coastal Zone Land Use Ordinance
CZMA	Coastal Zone Management Act
dB	decibel
dBA	A-weighted decibel
DDW	Division of Drinking Water
DHCD	Department of Housing and Community Development
Draft EIR	Draft Environmental Impact Report
DMP	discharge monitoring plan
DNL	Day-Night Sound Level
DOC	California Department of Conservation
DPM	diesel particulate matter
DTSC	Department of Toxic Substance Control
DWR	Department of Water Resources
EIR	Environmental Impact Report
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
ESHA	Environmentally Sensitive Habitat Areas
EWP	EnergyWise Plan
FEMA	Federal Emergency Management Agency

FESA	Federal Endangered Species Act
FHWA	Federal Highway Adminstration
FIRM	Flood Insurance Rate Maps
FMMP	Farmland Mapping and Monitoring Program
FPP	Farmland Protection Program
FPPA	Farmland Protection Policy Act
FTA	Federal Transit Administration
GDP	gross domestic product
GHG	Greenhouse Gas Emission
gpm	gallons per minute
GRRP	Groundwater Replenishment Reuse Project
GSA	Geologic Study Area
HFC	hydroflurocarbons
HMBP	Hazardous Materials Business Plan
HMTA	Hazardous Materials Transportation Act
HP	horsepower
HSWA	Federal Hazardous and Solid Waste Amendments
IFI	Important Farmlands Inventory
IPCC	International Panel on Climate Change
IPR	Indirect Potable Reuse
IWMA	Integrated Waste Management Association
LAFCO	Local Agency Formation Commission
LBP	lead-based paint

LCP	Local Coastal Program
LESA	Land Evaluation and Site Assessment
LID	low impact design
LNG	liquefied natural gas
LRA	Local responsibility area
LUST	Leaking Underground Storage Tank
M&I	municipal and industrial
MACT	Maximum Available Control Technology
MBCSD	Morro Bay Cayucos Sanitary District
MBMC	Morro Bay Municipal Code
MBR	membrane bioreactor
MBPD	Morro Bay Police Department
MCC	motor control center
MCL	Maximum Contaminant Level
MEP	maximum extent practicable
MGD	Million Gallons per Day
MMI	Modified Mercalli Intensity
MMRP	Mitigation and Monitoring Reporting Program
MSA	Magnuson-Stevens Fishery Conservation and Management Act
MS4	Municipal Separate Storm Sewer System
MSR	Municipal Service Review
MSS	Morro shoulderband snail
MTBE	Methyl Tertiary Butyl Ether
MWRP	Master Water Reclamation Plan
NAAQS	National Ambient Air Quality Standards

NAHC	California Native American Heritage Commission
NEHRP	National Earthquake Hazards Reduction Program
NIST	National Institute of Standards and Technology
NOP	Notice of Preparation
NOD	Notice of Determination
NOI	Notice of Intent
NOx	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Science
NSF	National Science Foundation
NWI	National Wetland Inventory
O&M	Operations and Maintenance
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Adminstration
PCB	polychlorinated biphenyls
PG&E	Pacific Gas and Electric Company
PFC	perflurocarbons
$PM_{2.5}$	fine particulate matter
PM_{10}	respirable particulate matter
PMP	Plant Master Plan
POTW	publicly-owned treatment works
ppm	parts per million
PPV	peak particle velocity
PRD	permit registration document
PSD	Prevention of Significant Deterioration

PVC	polyvinyl chloride
RACT	Reasonably Available Control Technology
RCRA	Resource Conservation and Recovery Act
RMS	Resource Management System
RP	Responsible Party
RO	Reverse Osmosis
ROG	reactive organic gas
ROW	right of way
RWC	recycled wastewater contribution
RWQCB	Regional Water Quality Control Board
SBR	sequence batch reactor
SDWA	Safe Drinking Water Act
SF	square feet
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SLCUSD	San Luis Coastal Unified School District
SLOAPCD	San Luis Obispo Air Pollution Control District
SLOCOG	San Luis Obispo Council of Governments
SOC	Statement of Overriding Considerations
SOI	Sphere of Influence
SRA	State Responsibility Area
SRF	State Revolving Fund
SWMP	Stormwater Management Program
SWP	State Water Project
SWPPP	Stormwater Pollution Prevention Plan

SWRCB	State Water Resources Control Board
TAC	toxic air contaminants
TDS	total dissolved solids
TOC	total organic carbon
TMDL	Total Maximum Daily Load
TSS	Total suspended solids
UIC	Underground Injection Control
URL	Urban Reserve Line
USDA	U.S. Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Species
USGS	United State Geological Survey
UST	underground storage tanks
UV	Ultraviolet
UWMP	Urban Water Management Plan
Vdb	decibel notation
WDR	Waste Discharge Requirements
WPA	Water Planning Area
WRF	Water Reclamation Facility
WRFCAC	WRF Citizens Advisory Committee
WWTP	Wastewater Treatment Plant

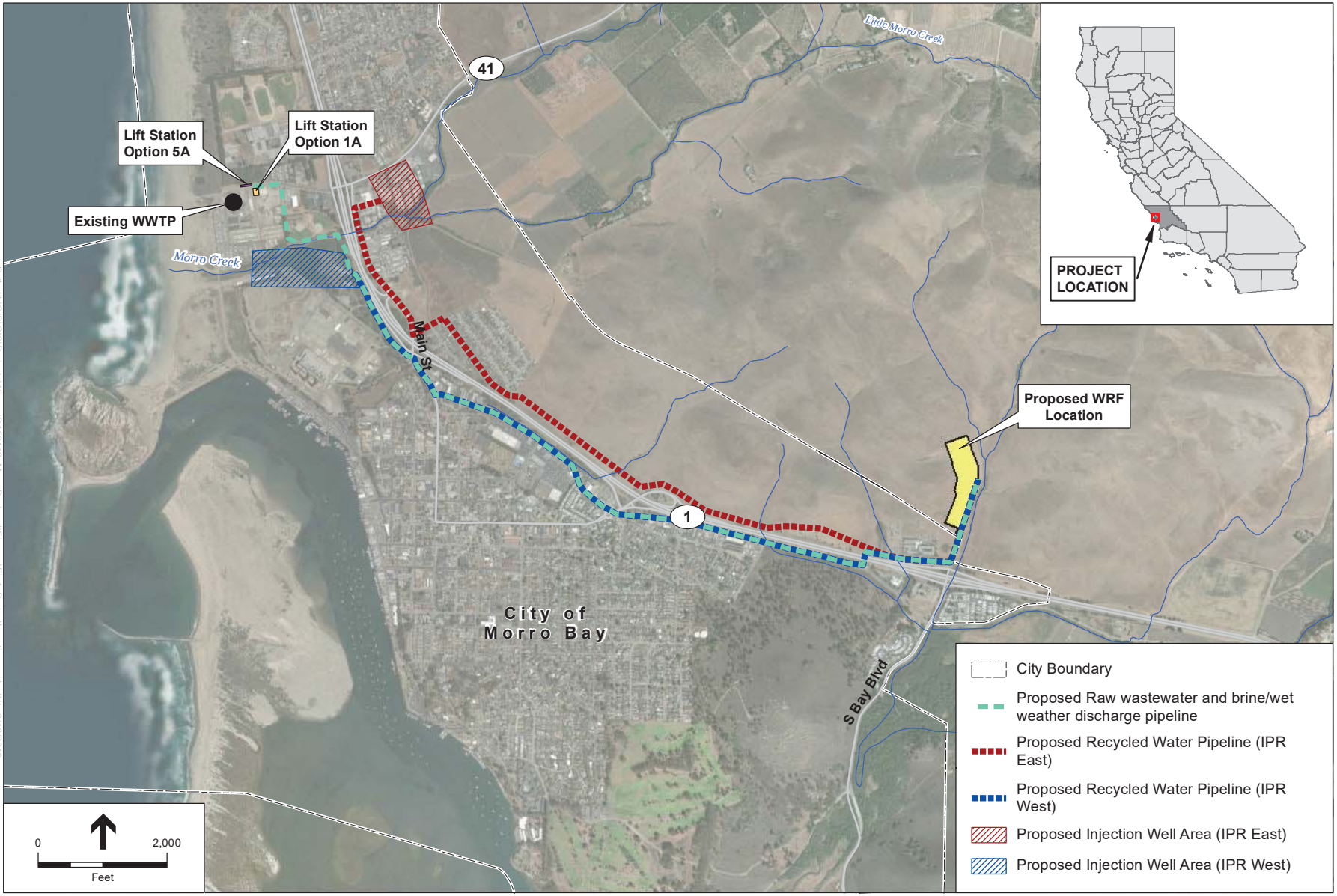
EXECUTIVE SUMMARY

ES.1 Introduction

The City of Morro Bay (City), as the Lead Agency pursuant to the California Environmental Quality Act (*CEQA*) and State CEQA Guidelines (*CEQA Guidelines*), has prepared this Draft Environmental Impact Report (Draft EIR) to provide the public and pertinent agencies with information about the potential effects on the local and regional environment associated with the proposed Morro Bay Water Reclamation Facility (WRF) Project (proposed project). The proposed project would provide wastewater treatment services for the City and potentially additional surrounding communities or customers. The existing wastewater treatment facility, the Morro Bay-Cayucos Wastewater Treatment Plant (WWTP), would be replaced by the proposed project and the new treatment facility planned by the Cayucos Sanitary District (CSD). The proposed project is intended to provide opportunities for the City to produce and beneficially reuse advanced treated recycled water and to meet or exceed all wastewater treatment requirements of the California State Water Resources Control Board (SWRCB). The potential beneficial end use for the advanced treated recycled water is indirect potable reuse (IPR) through groundwater replenishment. The project components are shown in **Figure ES-1**.

As described in Section 15121(a) of the *CEQA Guidelines*, this Draft EIR is intended to serve as an informational document for pertinent public agency decision makers. Accordingly, this Draft EIR has been prepared to identify the significant environmental effects of the proposed project, identify mitigation measures to minimize significant effects, and consider reasonable project alternatives. The environmental impact analyses in this Draft EIR are based on a variety of sources, including agency consultation, technical studies, and field surveys.

The proposed project is eligible for the State Revolving Fund (SRF) Loan Program. The U.S. Environmental Protection Agency (USEPA) sponsors the SRF Loan Program to provide funding for construction of publicly-owned treatment facilities and water reclamation projects. This funding for capital improvements to wastewater treatment and water recycling facilities is authorized under the federal Clean Water Act. In order to comply with requirements of the SRF Loan Program, which is administered by SWRCB in California, an EIR must fulfill additional requirements known as CEQA-Plus. The CEQA-Plus requirements have been established by the USEPA and are intended to supplement CEQA and the *CEQA Guidelines* with specific requirements for environmental documents acceptable to the SWRCB when reviewing applications for wastewater treatment facility loans. They are not intended to supersede or replace *CEQA Guidelines*. The USEPA's CEQA-Plus requirements have been incorporated into the



SOURCE: ESRI 2016

Morro Bay Water Reclamation Facility Project. 150412

Figure ES-1
Project Location

SWRCB's 2004 *Environmental Review Process Guidelines for SRF Loan Applicants* (*SRF Guidelines*). This Draft EIR has been prepared in accordance the CEQA-Plus requirements.

ES.2 Project Background

The USEPA or the SWRCB regulate municipal wastewater discharges into the Pacific Ocean through National Pollutant Discharge Elimination System (NPDES) Permits in accordance with Section 402 of the federal Clean Water Act. USEPA or the California Regional Water Quality Control Boards issue (or reissue) NPDES permits to wastewater dischargers every five years. The existing WWTP serves the City and the community of Cayucos, and is owned and operated jointly by the City and the CSD. Prior to the current 2017 NPDES Permit No. CA0047881 and Waste Discharge Requirements (WDR) Order No R3-2017-0050, the WWTP discharged to the Pacific Ocean under NPDES Permit No. CA0047881 and WDR Order No. R3-2008-0065, which was a Clean Water Act Section 301(h) modified NPDES permit that waived full secondary treatment requirements for biological oxygen demand (BOD) and total suspended solids (TSS). The existing WWTP has operated under that modified permit since its last upgrade in 1984. On July 7, 2003, the City submitted an application for renewal o NPDES permit to USEPA and Central Coast Regional Water Quality Control Board (RWQCB) which expired in March 2014. The final renewed discharge permit was adopted by the RWQCB on December 7, 2017. The 301(h) modifications were no longer included in the 2017 renewal. A time schedule order will be provided by RWQCB for compliance with full secondary treatment requirements.

Based on an agreement with the RWQCB, the City and CSD had previously pursued bringing the existing facility to full secondary treatment in place of continued requests for a 301(h) modified discharge permit. The agreement allowed the City and CSD to pursue secondary treatment on a schedule that was mutually agreed upon by both agencies and the RWQCB. In February 2015, the RWQCB stated the new facility was expected to be fully operational by 2021 in order to meet its goals.

The existing WWTP is located in the Coastal Zone; as such, in order to upgrade the existing WWTP at its existing location, a Coastal Development Permit (CDP) is required from the California Coastal Commission (CCC). However, in January 2013, the CCC denied the City and CSD's project application for the CDP to demolish the existing WWTP and construct a new treatment facility on the same site. The basis for that denial included the CCC's assessment that the new facilities would be inconsistent with the City's Local Coastal Plan (LCP) zoning provisions, failed to avoid coastal hazards, failed to include a sizeable reclaimed water component, and that the project location was within an LCP-designated sensitive view area.

Following this denial, the City began planning a new WRF and pursuing alternative locations for a new upgraded wastewater treatment plant. The City realized that the denial presented an opportunity to design and construct a WRF to enhance the City's water supply portfolio through the production of recycled water. From 2013 to the beginning of 2014, the community defined goals to guide the planning and design process for the new WRF. Public outreach was conducted through stakeholder meetings, stakeholder interviews, and public workshops, which gathered input related to cost, environmental concerns, engineering and design issues, site-related issues,

and logistics and process issues. Through that public outreach program, criteria were determined for the siting process, and various studies were conducted to examine the suitability of each site. Some of the criteria included, but were not limited to, compliance with NPDES Permit requirements, distance to the City sewer collection system, avoidance of coastal hazards, minimal visual impacts, and sustainable use of public resources. In order to ensure public involvement during this process, a Citizens Advisory Committee (WRFCAC) was created in July 2014 to help oversee and evaluate the siting process.

Five comparative siting studies were performed between 2013 and 2017. Starting with the results of the Rough Screening Evaluation, 17 study sites were first examined for the potential location of the WRF. By December 2013, it was narrowed down to seven study sites (Chevron, Morro Valley, Chorro Valley, California Men's Colony (CMC) Wastewater Treatment Plant site, Power plant – southern portion, Panorama, and Giannini), which ranged in size and number of properties included in each. Finally, the City Council narrowed the sites down to focus on the Morro Valley, Chorro Valley, and Giannini Property in May 2014. Within those three general areas, there were four specific locations: Rancho Colina and Righetti (both in Morro Valley), Tri-W (now called the "South Bay Boulevard" site, in Chorro Valley) and Giannini. It should be noted there was also a feasibility analysis performed for a regional facility at the CMC site that could serve the needs of the City and partner agencies; however, it concluded not to be feasible. In April 2016, after direction to investigate other potential sites, the list of potential sites was revised to include Rancho Colina, Righetti, Tri-W, Chevron/Toro Creek, and Madonna. After the 2016 comparative study was completed, the Tri-W site, which became known as the South Bay Boulevard site, was found to be the final site preference, and preliminary planning efforts began at that location based on City Council direction at that time. The CCC supports the proposed new treatment plant location and has been supportive in the concept of working with the City and, as needed, San Luis Obispo County (County), on a CDP for a WRF at that location.

In April 2015, the CSD decided to pursue an independent path from the City to build its own new wastewater facility, and unilaterally adopted a resolution to that effect on April 30, 2015. From that point forward, the City's efforts have been focused on finding a suitable site to build a WRF to serve only its customers, exclusive of CSD customers. Thus, current plans are for the City and CSD to build separate treatment facilities and, once operational, decommission the jointly-owned WWTP. The City has welcomed CSD to continue to participate in a joint venture since that time. CSD has consistently indicated it has no further interest in that approach, and, in fact, has found a site and made plans for a facility at a different location that would address its long-range wastewater disposal needs.

ES.3 Project Objectives

The Morro Bay City Council refined and adopted the project objectives for the proposed project on October 24, 2017. The primary goals of the proposed project have not changed. The following refined objectives reflect the input of the community and stakeholders since issuance of the

Notice of Preparation (NOP) in 2016, demonstrating the purpose and value of the CEQA scoping process:

- All aspects of the WRF project shall be completed ensuring economic value with a special emphasis on minimizing rate payer and City expense
- Communicate WRF project progress including general project status, milestones, and budget/cost information to our community members regularly
- Produce tertiary disinfected wastewater in accordance with 22 California Code of Regulations (CCR) 60001, *et seq.* requirements for unrestricted urban irrigation
- Design to produce reclaimed wastewater to augment the City's water supply, by either direct or indirect means, as described in a master water reclamation plan and to maximize funding opportunities
- Include features in the WRF project to maximize the City's opportunities to secure funding and maximize efficiencies, including energy generation and recovery.
- Design to minimize the impacts from contaminants of emerging concern in the future
- Ensure compatibility with neighboring land uses

ES.4 Project Description

The proposed project would include new wastewater treatment facilities at the WRF site that would produce advanced treated recycled water that meets or exceeds 22 CCR 60001 *et seq.* (Title 22) requirements for IPR. The proposed project would allow the City to meet the SWRCB requirements and timeline for upgrading to at least full secondary treatment, and would exceed this minimal requirement through development of an advanced water treatment facility. The proposed project would not require modification of the existing sewer collection system. All wastewater would continue to flow to a collection point near the existing WWTP site, where new offsite conveyance facilities would be built to connect the existing wastewater infrastructure to the proposed WRF site. As part of the proposed project, a new lift station and new conveyance pipelines would be installed.

Implementation of the proposed project would allow for the decommissioning of the existing WWTP, once CSD's new and independent wastewater facility is completed and operational. During operation, advanced treated recycled water produced at the WRF would be used for groundwater recharge in the Morro Valley Groundwater Basin using subsurface application like injection wells. A recycled water distribution system would be built to convey water to one of two injection well areas. Project facilities may include, but not be limited to, recycled water conveyance pipeline, a pump station, injection wells and monitoring wells. Brine produced by the treatment process will be discharged through the existing ocean outfall.

The proposed project facilities are described in detail in the draft Water Reclamation Facility Master Plan (Black & Veatch, November 2016) and Master Water Reclamation Plan (MKN & Associates, March 2017). The pertinent details about the project as they pertain to the analysis of environmental impacts are presented in Chapter 2, Project Description, in the Draft EIR. For

additional detail, the Water Reclamation Facility Master Plan and Master Water Reclamation Plan can be found on the project web site: http://morrobaywrf.com/.

ES.5 Summary of Impacts

Table ES-1, at the end of this chapter, presents a summary of the impacts and mitigation measures identified for the proposed project. This Draft EIR provides analysis of impacts for those environmental topics where it was determined in the NOP, or through subsequent analysis that the proposed project would result in "potentially significant impacts."

"Significant effect" is defined by the *CEQA Guidelines* §15382 as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant."

Determining the severity of project impacts is fundamental to achieving the objectives of CEQA. The level of significance for each impact examined in this Draft EIR was determined by considering the predicted magnitude of the impact to baseline environmental conditions against the applicable threshold. Thresholds were developed using criteria from the *CEQA Guidelines* and checklist; state, federal, and local schemes; local/regional plans and ordinances; accepted practice; consultation with recognized experts; and other professional opinions.

Each potentially significant impact includes a numbered impact statement with and significance determination for the environmental impact as follows:

- Class I. Significant and Unavoidable: An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per §15093 of the State CEQA Guidelines.
- Class II. Significant but Mitigable: An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings to be made under §15091 of the State CEQA Guidelines.
- Class III. Not Significant: An impact that may be adverse, but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.
- Class IV. Beneficial: An effect that would reduce existing environmental problems or hazards.

The impacts associated with the proposed project would occur during both construction and operational phases. Most construction impacts would be short term and temporary and would be either considered less than significant or reduced to less than significant levels with appropriate mitigation measures. However, significant impacts of the proposed project include unavoidable direct and cumulative impacts to historic and archaeological resources and human remains due to

construction of the proposed conveyance pipelines and the IPR injection and monitoring wells. Operation of the proposed project would primarily affect hydrology and groundwater, in particular changes in groundwater levels and groundwater quality during recharge and recovery operations. Operational impacts either are considered less than significant or are reduced to less than significant levels with appropriate mitigation measures.

ES.6 Project Alternatives

According to the *CEQA Guidelines*, an EIR must describe a reasonable range of alternatives to a project that could feasibly attain most of the basic project objectives, and would avoid or substantially lessen the project's significant environmental effects. The alternatives analysis in the Draft EIR summarizes the alternatives screening process conducted to identify feasible alternatives that meet project objectives. As required by CEQA and the *CEQA Guidelines*, the analysis first considers which alternatives can meet most of the basic project objectives, and then to what extent those remaining alternatives can avoid or reduce the environmental impacts associated with the project. Information used to select an "environmentally superior alternative" is also provided.

According to the *CEQA Guidelines,* an EIR must describe a range of reasonable alternatives to the project or alternative project locations that could feasibly attain most of the basic project objectives and would avoid or substantially lessen any of the significant environmental impacts of the proposed project. This Draft EIR indicates implementation of the proposed project could result in significant and unavoidable impacts to cultural resources (historic and archaeological resources and human remains) that cannot be reduced to less than significant levels, even with mitigation measures. The alternatives analysis must include the "No Project Alternative" as a point of comparison. The No Project Alternative includes existing conditions and reasonably foreseeable future conditions that would exist if the proposed project were not approved (*CEQA Guidelines* §15126.6). The following alternatives are discussed further in Chapter 6, Alternatives Analysis, in the Draft EIR.

Alternative 1: No Project Alternative

Pursuant to Section 15126.6(e) of the *CEQA Guidelines*, the No Project Alternative shall be evaluated to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The No Project Alternative shall:

> *discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time the environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.*

The No Project Alternative would result in the continued operation and maintenance of the existing WWTP and associated wastewater treatment infrastructure. Given the CSD is moving forward with its own treatment project, under the No Project Alternative the WWTP would provide treatment for influent wastewater only from the City's service area. However, operating

the WWTP in accordance with the status quo would not comply with the effluent water quality criteria and the SWRCB/RWQCB order to upgrade the plant to meet discharge water quality criteria, resulting in increased costs associated with fines. As required to be considered by CEQA, what would be reasonably expected to occur in the foreseeable future if the project were not approved would be upgrades to the existing plant to provide full secondary treatment to meet the State's minimum water quality criteria for all discharges through the existing outfall.

Upgrade of the WWTP was considered in the September 2007 WWTP Facility Master Plan Report (Carollo Engineers, 2007). The Report recommended new headworks, oxidation ditch and secondary clarifiers, biosolids handling facilities, disinfection, and electrical and control facilities. Construction of those facilities would occur within the existing WWTP footprint and would provide full secondary treatment for influent at a capacity that meets the projections of the City's future wastewater generation without participation of the CSD. To mitigate for potential inundation during a 100-year flood event, the new facilities would be elevated at least one foot above the flood depth, which could be as great as six feet.

Under the No Project Alternative, the proposed project would not be constructed, nor would the lift station, associated conveyance pipelines, or injection and monitoring wells. As a result, the significant impacts to historic and archaeological resources, as well as human remains, would not occur. The No Project Alternative would avoid those significant and unavoidable impacts associated with the proposed project. However, the No Project Alternative also would not achieve the benefits of the proposed project, including removing critical community infrastructure from a coastal hazard area subject to flooding and sea level rise. In addition, the No Project Alternative would not meet any of the project objectives, including the ability to provide reclaimed wastewater to augment the City's water supply or to meet wastewater effluent conditions that reduce impacts from contaminants of emerging concern.

The No Project Alternative is not feasible because it would require a CDP from the CCC, which previously denied the same permit for an upgrade to the WWTP. The basis for that denial included the CCC's assessment such upgraded facilities would be inconsistent with the City's LCP's zoning provisions, would fail to avoid coastal hazards and would fail to include a sizeable reclaimed water component; and the project location would be within an LCP-designated sensitive view area. It is expected the CCC would similarly deny a CDP for the proposed No Project Alternative.

Alternative 2: Pipeline Alignment Alternative

Alternative 2 would result in construction of all the same facilities as the proposed project, except for a segment of the raw wastewater pipeline that would have a different alignment and result in the construction of approximately 2,500 linear feet of additional pipeline. The additional pipeline construction would be along Embarcadero Road to the west of the existing WWTP and proposed lift station, traveling south and then east along Pacific Street, and meeting with the currently proposed raw wastewater pipeline at Butte Street. This segment under Alternative 2 would result in construction near two different and known cultural resources sites, may result in geotechnical challenges along the waterfront, and would result in a significant increase of construction impacts related to traffic, air quality and noise due to the location of construction within higher traffic

corridors (residential and commercial), and the location of construction equipment relative to sensitive receptors (residences). Further, this segment of pipeline under Alternative 2 would require additional rights of way through residential property. While there would be an increase in the severity of impacts related to the additional linear feet of construction, all impacts would be reduced to less than significant using the same mitigation measures presented for the proposed project. However, impacts to cultural resources, while reduced in number of impacted sites, would remain significant and unavoidable under Alternative 2, even with mitigation. Additionally, Alternative 2 would result in higher cost due to the additional length of construction and rights of way compensation.

Alternative 3: WRF Design Alternative

During preparation of the draft Facility Master Plan and Master Water Reclamation Plan (MWRP), alternative treatment technologies and associated site plan configurations were considered. Under Alternative 3, the proposed level of treatment would be changed to either remove advanced treatment or implement full secondary treatment only. Removing advanced treatment would reduce the proposed WRF footprint by approximately 7,000 square feet (0.16 acres). Implementing full secondary treatment would be achieved by either proceeding with the sequencing batch reactor (SBR) treatment train, but removing the filters or changing to the treatment process to a more traditional secondary treatment process, such as an activated sludge or oxidation ditch process. Proceeding with the SBR treatment train and removing the filters would have a small incremental reduction to the proposed WRF footprint in addition to removing advanced treatment. The footprint associated with a traditional secondary treatment process would be greater than that currently planned for the proposed WRF.

The current preliminary design at the preferred South Bay Boulevard WRF site is intended to minimize the proposed WRF footprint, while still providing the facilities required to provide the level of treatment that would meet the proposed project goals. As documented in this Draft EIR, the preliminary design for the proposed project would not have significant effects to:

- **scenic resources** due to architectural treatments to be included in the design and the restricted line of sight from Highway 1 and public vantage points to the low- lying WRF site which is partially screened by the hillside topography.
- **agriculture** due to the small percentage of rangeland within the 396-acre parcel that would be occupied by the facilities.
- **neighboring land use** due to the small percentage of rangeland within the 396-acre parcel that would be occupied by the facilities allowing the majority of the site to continue to be used for grazing.
- **riparian habitat** due to the distance of the proposed WRF from jurisdictional features.
- **water quality** in downstream drainages due to compliance with the requirements of the City's Storm Water Management Plan and NPDES General Construction Permit that require retention and control of storm water onsite during both construction and operation

As documented in this Draft EIR, the preferred WRF site would have benefits to:

- **coastal hazards** and flooding due to the removal of the WWTP from the flood hazard zone and location of the WRF in an area that is not a flood hazard zone.

Implementation of alternative treatment technologies at the preferred WRF site would have similar impacts and benefits as the proposed project. For example, removing advanced treatment would lessen the WRF footprint by 7,000 square feet or 0.16 acres, which is roughly 1% of the 10- to 15-acre area of disturbance for the proposed project. Although a smaller footprint would have relative fewer impacts to agricultural lands, scenic resources, neighboring land use, and water quality, no impacts would be eliminated or avoided and the same mitigation measures and regulatory requirements would apply. Implementation of a traditional full secondary treatment process at the preferred WRF site may require a larger footprint; as such, relatively greater impacts to agricultural lands, scenic resources, neighboring land use, and water quality would occur. A greater footprint would have potential to encroach on riparian habitat, and could result in potentially significant impacts that would be greater than the proposed project. Otherwise, however, with application of the same mitigation measures and regulatory requirements as the proposed project, there would likely be no other significant impacts.

With regard to energy use, removing advanced treatment and the filters would lessen the amount of energy required during the treatment process; standard full secondary treatment also would use less energy relative to the proposed project. However, the proposed project would not result in significant impacts to energy or GHGs as a result of operational energy use.

Alternative 3 would preclude the City from meeting key project objectives, including production of tertiary treated recycled water and augmenting the City's water supply. Removing advanced treatment would still produce recycled water that could be used for municipal and agricultural irrigation; however, the MWRP found that such urban and agricultural demands are not great enough to substantially offset potable water supply end uses, which limits the benefits of Alternative 3.

Alternatives Rejected from Further Consideration

CEQA requires this Draft EIR briefly describe the rationale for selection and rejection of alternatives. The City may make an initial determination as to which alternatives are potentially feasible and, therefore, merit in-depth consideration, and which are clearly infeasible. Alternatives that are remote and speculative, or the effects of which cannot be reasonably predicted, need not be considered (*CEQA Guidelines*, section 15126.6(f)(3)).

In Chapter 6, Alternatives Analysis, the Draft EIR describes the various and extensive alternative screening processes that have been conducted for the WRF location and the lift station location, including criteria upon which the preferred locations were based and alternative locations rejected. In addition, the reasons for rejection of joint ventures with the CSD and Los Osos are described. The City Council's decision to remove the Corporation Yard from the proposed WRF site is explained, and an explanation of the assessment for recycled water reuse alternatives is also

provided, including criteria upon which the decision to implement IPR was based and other beneficial uses (e.g., agricultural irrigation) were rejected.

Summary of Alternative Analysis

The analysis of alternatives taken together with the analysis of the proposed project provide a basis to identify the environmentally superior alternative under CEQA (*CEQA Guidelines* section 15126.6). The environmentally superior alternative is the alternative identified as meeting most of the basic project objectives and resulting in the fewest or least severe combination of significant environmental impacts. *CEQA Guidelines* section 15126.6 provides, if the No Project Alternative is the environmentally superior alternative, then the EIR shall also identify an environmentally superior alternative among the other alternatives. Here, the No Project Alternative may in some respects qualify as the environmentally superior alternative because it would avoid the significant and unavoidable impacts to historic and archaeological resources, and human remains. However, it would not meet any of the basic project objectives; it would have considerable economic and regulatory consequences in the future (e.g., mounting number of fines from the SWRCB/RWQCB or infeasibility due to CDP denial), and could result in different or more severe impacts than the proposed project or other possible alternatives given the failure of the No Project Alternative to meet water quality discharge criteria, to produce recycled water to augment the City's supply, and to move critical public infrastructure out of the coastal hazard zone. For that reason, the discussion below focuses on selecting another environmentally superior alternative from among Alternative 2, Alternative 3 and the proposed project presented in this Draft EIR.

It is important to recognize the selection of the environmentally superior alternative is not always a straightforward and formulaic exercise. In some cases, including here, no alternative can eliminate all significant and unavoidable, long-term environmental effects. There are environmental tradeoffs among the alternatives and even within resource issue areas or topics, making it difficult to summarize the net effect of the alternatives. As such, considerable weighing among the severity of impacts of the alternatives and professional judgment as to the relative importance of topical impact areas is necessary. Such judgment, while based on reasoning grounded in the scientific study that comprises this Draft EIR, can be subjective. Comparison of Alternative 2 impacts to the proposed project impacts, above, indicate Alternative 2 would meet the proposed project's objectives, and would result in a reduction in impacts on number of cultural resources sites. However, Alternative 2 would increase the costs to the City related to construction and would result in more severe impacts on air quality, noise, and traffic. Alternative 3 overall would result in similar impacts to the proposed project, and would not avoid any potentially significant impacts. Depending on the alternate treatment process chosen, the relative impacts would be incrementally smaller or greater, and require similar mitigation measures. Under Alternative 3, many of the City's key project objectives would not be met. Therefore, this Draft EIR identifies the proposed project as the environmentally superior alternative.

ES.7 Areas of Controversy

Pursuant to Section 15123(b)(2) of the *CEQA Guidelines,* a lead agency is required to include areas of controversies raised by agencies and the public during the public scoping process for this Draft EIR. Areas of controversy have been identified for the proposed project, based on comments made during the 30-day public review period in response to information published in the NOP. Forty-seven comment letters were received during the NOP scoping period. Those comments are included in Appendix A to this Draft EIR. Commenting parties have requested the EIR evaluate impacts related to traffic at major freeway ramps and on surface roadways during the pipeline and lift station construction. Additional comments were received on impacts related to a sewage spill risk downstream of the facility, odor, and the compatibility of industrial facilities on agricultural land. The greatest area of known controversy from an environmental perspective are perceived land use compatibility issues with the WRF, including visual, noise, and odor concerns. Those concerns are the reason why great efforts have been made to evaluate and screen alternative locations as described above and in Section 1.2. While project cost is also an area of known controversy, that is not an issue appropriately addressed in an EIR based on CEQA requirements.

ES.8 Significant Unavoidable Environmental Effects and Irreversible Environmental Changes

The environmental review process under CEQA requires a brief discussion of the irreversible impacts or irretrievable commitment of resources associated with the proposed project. Specifically, *CEQA Guidelines* section 15126.2 (b) and (c) require that the significant and unavoidable impacts of a proposed project, as well as any significant irreversible environmental changes that would result from project implementation be addressed in an EIR.

Significant Unavoidable Impacts

As required by *CEQA Guidelines* section 15126.2(b), an EIR must describe any significant impacts that cannot be avoided, including those impacts that can be mitigated but not reduced to a less than significant level. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons the project is being proposed, notwithstanding their effect, should be described.

Chapter 3 of this Draft EIR describes the potential environmental impacts of the proposed project and recommends mitigation measures to reduce impacts, where feasible. As discussed in this Draft EIR, implementation of the proposed project, particularly construction of conveyance pipelines and IPR injection and monitoring wells, would result in significant and unavoidable impacts to historic and archaeological resources and human remains that would not be reduced to less than significant levels even with mitigation. The alternatives analysis considers a Pipeline Alignment Alternative that may reduce the number of cultural resources affected but would not completely avoid such resources, and as such would also result in significant and unavoidable impacts.

Significant Irreversible Environmental Changes

Section 21100(b)(2)(b) of the Public Resources Code and Section 15126.2(c) of the CEQA Guidelines require that an EIR analyze the extent to which the project's primary and secondary effects would affect the environment and commit nonrenewable resources to uses that future generations would not be able to reverse. "Significant irreversible environmental changes" include the use of nonrenewable natural resources during the initial and continued phases of the project, should this use result in the unavailability of these resources in the future. Primary impacts and, secondary impacts generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of these resources are required to be evaluated in an EIR to ensure that such consumption is justified (*CEQA Guidelines* §15126.2(c)).

Per Section 15126.2(c) of the *CEQA Guidelines*, a project would result in an irreversible and irretrievable commitment of resources if it:

- Involved a large commitment of nonrenewable resources;
- Created primary and secondary impacts that would generally commit future generations to similar uses;
- Involved uses in which irreversible damage would result from any potential environmental accidents associated with the project; or
- Proposed consumption of resources that were not justified (e.g., the project involves the wasteful use of energy).

Construction and operation of the proposed project requires the use of energy derived from nonrenewable resources. Energy consumption during project construction and operations would be relatively negligible and not excessive or wasteful. The proposed projects energy requirements are within PG&E's existing and planned electricity capacity and supplies would be sufficient to support the project's demand. Transportation fuels (gasoline and diesel) are produced from crude oil which is imported from various regions around the world. Based on current proven reserves, crude oil production would be sufficient to meet over 50 years of consumption (BP, 2017). The proposed project would also comply with CAFE fuel economy standards, which would result in more efficient use of transportation fuels (lower consumption). Project-related vehicle trips would also comply with Low Carbon Fuel Standards which are designed to reduce vehicle GHG emissions but would also result in fuel savings in addition to CAFÉ standards. Therefore, proposed project construction and operation activities would have a negligible effect on the transportation fuel supply. As the proposed project would not lead to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction or operation.

Operation of the proposed project would implement the beneficial reuse of a renewable resource – recycled water. This renewable resource would provide a benefit to the City of Morro Bay in the form of a new water supply, improving reliability of the City's water supply portfolio through the use of a local resource and decreasing the degree of dependency on imported water through the State Water Project.

ES.9 Organization of this EIR

This Draft EIR is organized into the following chapters and appendices:

Executive Summary: This chapter summarizes the contents of this Draft EIR.

Chapter 1, Introduction and Project Background: This chapter provides an overview of the proposed project, the purpose of the EIR, and provides the background information for the proposed project.

Chapter 2, Project Description: This chapter provides an overview of the proposed project, described the need for and objectives of the proposed project, and provides detail on the characteristics of the proposed project.

Chapter 3, Environmental Setting, Impacts and Mitigation Measures: This chapter describes the environmental setting and identifies direct and indirect impacts of the proposed project for each of the following environmental resources areas, for which the project was determined to have potentially significant impacts: Aesthetics; Agriculture and Forestry Resources; Air Quality; Biological Resources; Cultural Resources; Geology, Soils, and Seismicity; Greenhouse Gas Emissions and Energy; Hazards and Hazardous Materials; Hydrology and Water Quality; Land Use and Planning; Noise and Vibration; Environmental Justice; Public Services; Traffic and Transportation; Tribal Cultural Resources; and Utilities and Services Systems. If necessary, then measures to mitigate significant impacts of the proposed project are presented for each resource area.

Chapter 4, Cumulative Impacts: This chapter describes the cumulative impacts of the proposed project together with past, current, and probable future projects within the region.

Chapter 5, Growth Inducement: This chapter describes the potential for the proposed project to induce growth.

Chapter 6, Alternatives: This chapter presents an overview of the alternatives development process, describes the alternatives to the proposed project that were considered, and describes the potential impacts of feasible alternatives relative to those of the proposed project.

Chapter 7, CEQA-Plus Considerations: This chapter summarizes the proposed project's compliance with the SWRCB CEQA-Plus requirements.

Chapter 8, Report Preparers: This chapter identifies those involved in preparing this Draft EIR, including persons and organizations consulted.

Appendices: The Appendices contain important information used to support the analyses and conclusions made in this Draft EIR.

References

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TABLE ES-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures
Class I. Significant and Unavoidable	
Cultural Resources	
3.5-1: The proposed project could cause a substantial adverse change in the significance of a historical or archaeological resource, as defined in CEQA Guidelines Section 15064.5.	**CUL-1: Retention of a Qualified Archaeologist.** Within 30 days after the City's approval of the final design plans and prior to start of any ground-disturbing activities (*i.e.*, demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil), the City shall retain a Qualified Archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (U.S. Department of the Interior, 1983) to carry out all mitigation related to archaeological resources. **CUL-2: Pre-Construction Phase I Cultural Resources Survey.** Within 30 days after the City's approval of the final design plans and prior to the start of any ground-disturbing activity (i.e., demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil), the Qualified Archaeologist shall conduct pre-construction Phase I Cultural Resources Survey of all areas that have not been previously surveyed within the last 5 years. The survey shall document resources potentially qualifying as historical resources or unique archaeological under CEQA. The Qualified Archaeologist shall document the results of the survey in a Phase I Cultural Resources Survey Report that follows *Archaeological Resource Management Reports (ARMR): Recommended Contents and Format* (OHP, 1990). The Qualified Archaeologist shall also prepare Department of Parks and Recreation 523 forms for resources encountered during the survey, which shall be appended to the report. If historic architectural resources are encountered that could potentially be impacted by the project, the Qualified Archaeologist shall consult with a Qualified Architectural Historian meeting the Secretary of the Interior's Professional Qualifications Standards for architectural history (U.S. Department of the Interior, 1983). The Qualified Archaeologist shall submit the draft Phase I Cultural Resources Survey Report to the City within 30 days after completion of the survey. The final Phase I Cultural Resources Survey Report shall be submitted to the City within 10 days after receipt of City's comments. The Qualified Archaeologist shall also submit the final Phase I Cultural Resources Survey Report to the Central Coast Information Center. In the event resources potentially qualifying as historical resources or unique archaeological resources under CEQA are identified during the survey, avoidance and preservation in place shall be the preferred

Environmental Impact	Mitigation Measures
Class I. Significant and Unavoidable	
	manner of mitigating impacts to the resources in accordance with **CUL-3**. If avoidance of the identified resources is determined by the City to be infeasible in light of factors such as the nature of the find, proposed project design, costs, and other considerations, then the portion of the resource within the Area of Direct Impact (ADI) shall be subject to presence/absence testing and if potentially significant deposits are identified, the resource shall be evaluated for significance under all four National Register/California Register Criteria (A/1-D/4). If a resource is found to be significant (i.e., meets the definition for historical resource in *CEQA Guidelines* subdivision 15064.5(a) or unique archaeological resource in PRC subdivision 21083.2(g)), then is shall be incorporated into the Archaeological Resources Data Recovery and Treatment Plan outlined in **CUL-4**. **CUL-3: Avoidance and Preservation in Place of Archaeological Resources.** The City shall avoid and preserve in place resources CA-SLO-16, -43, -165, -239, -2222, and -2845, and any other resources that are identified as potentially qualifying as historical resources or unique archaeological resources under CEQA, through proposed project re-design. Avoidance and preservation in place is the preferred manner of mitigating impacts to archaeological resources. Preservation in place maintains the important relationship between artifacts and their archaeological context and also serves to avoid conflict with traditional and religious values of groups who may ascribe meaning to the resource. Preservation in place may be accomplished by, but is not limited to, avoidance, incorporating the resource into open space, capping, or deeding the site into a permanent conservation easement. In the event that avoidance and preservation in place of a resource is determined by the City to be infeasible in light of factors such as project design, costs, and other considerations, then **CUL-4** shall be implemented for that resource. If avoidance and preservation in place of a resource is determined by the City to be feasible, then **CUL-5** shall be implemented for that resource. **CUL-4: Development of an Archaeological Resources Data Recovery and Treatment Plan.** The Qualified Archaeologist shall prepare an Archaeological Resources Data Recovery and Treatment Plan for all significant resources that will be impacted by the proposed project. The plan shall be submitted to the City for review and approval prior to the start of field work for data recovery efforts for resources that are eligible under Criterion D/4 (data potential). Data recovery field work shall be completed prior to the start of any project-related ground-disturbing activity. Treatment for resources that are eligible under Criteria A/1 (events), B/2 (persons), and/or C/3 design/workmanship) shall be completed within 3 years of completion of the project. The Archaeological Resources Data Recovery and Treatment Plan shall include:

Environmental Impact	Mitigation Measures
Class I. Significant and Unavoidable	
	• *Research Design.* The plan shall outline the applicable cultural context(s) for the region, identify research goals and questions that are applicable to each resource or class of resources, and list the data needs (types, quantities, quality) required to answer each research question. The research design shall address all four National Register/California Register Criteria (A/1-D/4) and identify the methods that will be required to inform treatment, such as subsurface investigation, documentary/archival research, and/or oral history, depending on the nature of the resource. • *Data Recovery for Resources Eligible under Criterion D/4*. The plan shall outline the field and laboratory methods to be employed, and any specialized studies that will be conducted, as part of the data recovery effort for resources that are eligible under National Register/California Register Criterion D/4 (data potential). If a resource is eligible under additional criteria, treatment beyond data recovery shall be implemented (see CUL-4c). • *Treatment for Resources Eligible under Criteria A/1, B/2, and/or C/3*. In the event a resource is eligible under National Register/California Register Criteria A/1 (events), B/2 (persons), or C/3 (design/workmanship), then resource-specific treatment shall be developed to mitigate project-related impacts to the degree feasible. That could include forms of documentation, interpretation, public outreach, ethnographic and language studies, publications, and educational programs, depending on the nature of the resource, and may require the retention of additional technical specialists. Treatment measures shall be generally outlined in the plan based on existing information on the resource. Once data recovery is completed and the results are available to better inform resource-specific treatment, the treatment measures shall be formalized and implemented. Treatment shall be developed by the Qualified Archaeologist in consultation with the City and Native American Tribal representatives for resources that are Native American in origin. • *Security Measures.* The plan shall include recommended security measures to protect archaeological resources from vandalism, looting, and non-intentionally damaging activities during field work. • *Procedures for Discovery of Human Remains and Associated Funerary Objects*. The plan shall outline the protocols and procedures to be followed in the event that human remains and associated funerary objects are encountered during field work. These shall include stop-work and protective measures, notification protocols, and compliance with California Health and Safety Code section 7050.5 and PRC section 5097.98. See also CUL-14.

Environmental Impact	Mitigation Measures
Class I. Significant and Unavoidable	
	• *Reporting Requirements*. Upon completion of data recovery for resources eligible under Criterion D/4, the Qualified Archaeologist shall document the findings in an Archaeological Data Recovery Report. The draft Archaeological Data Recovery Report shall be submitted to the City within 360 days after completion of data recovery, and the final Archaeological Data Recovery Report shall be submitted to the City within 60 days after the receipt of City comments. The Qualified Archaeologist shall also submit the final Archaeological Data Recovery Report to the Central Coast Information Center. Upon completion of all other treatment for resources eligible under Criteria A/1, B/2, and C/3, the Qualified Archaeologist shall document the resource-specific treatment that was implemented for each resource and verification that treatment has been completed in a technical document (report or memorandum). The document shall be provided to the City within 30 days after completion of treatment. • *Curation Requirements*. Disposition of Native American archaeological materials shall be determined through consultation between Native American representatives, the Qualified Archaeologist, and the City. Disposition of human remains and associated funerary objects shall be determined by the landowner in consultation with the City and Most Likely Descendant (see **CUL-14**). Any historic-period archaeological materials that are not Native American in origin shall be curated at a repository accredited by the American Association of Museums that meets the standards outlined in 36 Code of Federal Regulations (CFR) 79.9. If no accredited repository accepts the collection, then it may be curated at a non-accredited repository as long as it meets the minimum standards set forth by 36 CFR 79.9. If neither an accredited nor a non-accredited repository accepts the collection, then it may be offered to a public, non-profit institution with a research interest in the materials, or donated to a local school or historical society in the area for educational purposes, to be determined by the Qualified Archaeologist in consultation with the City. • *Protocols for Native American Monitoring and Input.* The plan shall outline the role and responsibilities of Native American Tribal representatives. It shall include communication protocols and an opportunity and timelines for review of cultural resources documents. The plan shall include provisions for full-time Native American monitoring during field work (see **CUL-8**). **CUL-5: Development of a Cultural Resources Monitoring and Mitigation Program (CRMMP).** Within 60 days of the award of the contractor's bid and prior to the start of any ground-disturbing activity

Environmental Impact	Mitigation Measures
Class I. Significant and Unavoidable	
	(*i.e.*, demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil), the Qualified Archaeologist shall prepare a Cultural Resources Mitigation and Monitoring Program (CRMMP) based on the final City-approved project design plans. The CRMMP shall include: • *Establishment of Environmentally Sensitive Areas.* The CRMMP shall outline areas that will be designated Environmentally Sensitive Areas (including maps). Significant or unevaluated cultural resources that are being avoided and are within 50 feet of the construction zone shall be delineated with exclusion markers to ensure avoidance. These areas will not be marked as archaeological resources, but will be designated as "exclusion zones" on project plans and protective fencing in order to discourage unauthorized disturbance or collection of artifacts. • *Provisions for Archaeological Monitoring.* Full-time archaeological monitoring shall be required for all ground disturbance. The CRMMP shall outline the archaeological monitor(s) responsibilities and requirements (see **CUL-7)**. • *Procedures for Discovery of Archaeological Resources.* Procedures to be implemented in the event of an archaeological discovery shall be fully defined in the CRMMP, and shall include stop-work and protective measures, notification protocols, procedures for significance assessments, and appropriate treatment measures. The CRMMP shall state avoidance or preservation in place is the preferred manner of mitigating impacts to historical resources and unique archaeological resources, but shall provide procedures to follow should avoidance be infeasible in light of factors such as the nature of the find, project design, costs, and other considerations. See also **CUL-9**. If, based on the recommendation of the Qualified Archaeologist, it is determined a discovered archaeological resource constitutes a historical resource or unique archaeological resource pursuant to CEQA, then avoidance and preservation in place shall be the preferred manner of mitigating impacts to such a resource in accordance with **CUL-3**. In the event that preservation in place is determined to be infeasible and data recovery through excavation is the only feasible mitigation available, an Archaeological Resources Data Recovery and Treatment Plan shall be prepared and implemented following the procedures outlined in **CUL-4**. The City shall consult with appropriate Native American representatives in determining treatment of resources that are Native American in origin to ensure cultural values ascribed to the resource, beyond those that are scientifically important, are considered.

Environmental Impact	Mitigation Measures
Class I. Significant and Unavoidable	
	• *Procedures for Discovery of Human Remains and Associated Funerary Objects.* The CRMMP shall outline the protocols and procedures to be followed in the event that human remains and associated funerary objects are encountered during construction. These shall include stop-work and protective measures, notification protocols, and compliance with California Health and Safety Code section 7050.5 and PRC section 5097.98 (see **CUL-14**). • *Reporting Requirements.* The CRMMP shall outline provisions for weekly, monthly, and final reporting. The Qualified Archaeologist shall prepare weekly status reports detailing activities and locations observed (including maps) and summarizing any discoveries for the duration of monitoring to be submitted to the City via email for each week in which monitoring activities occur. Monthly progress reports summarizing monitoring efforts shall be prepared and submitted to the City for the duration of ground disturbance. The Qualified Archaeologist shall prepare a draft Archaeological Resources Monitoring Report and submit it to the City within 180 days after completion of the monitoring program or treatment for significant discoveries should treatment extend beyond the cessation of monitoring. The final Archaeological Resources Monitoring Report shall be submitted to the City within 60 days after receipt of City comments. The Qualified Archaeologist shall also submit the final Archaeological Resources Monitoring Report to the Central Coast Information Center. If human remains are encountered, a confidential report documenting all activities shall be submitted to the California Native American Heritage Commission within 90 days after completion of any treatment (see **CUL-14**). • *Curation Requirements.* Disposition of Native American archaeological materials shall be determined through consultation between Native American representatives, the Qualified Archaeologist, and the City. Disposition of human remains and associated funerary objects shall be determined by the landowner in consultation with the City and Most Likely Descendant (see **CUL-14**). Any historic-period archaeological materials that are not Native American in origin shall be curated at a repository accredited by the American Association of Museums that meets the standards outlined in 36 CFR 79.9. If no accredited repository accepts the collection, then it may be curated at a non-accredited repository as long as it meets the minimum standards set forth by 36 CFR 79.9. If neither an accredited nor a non-accredited repository accepts the collection, then it may be offered to a public, non-profit institution with a research interest in the materials, or donated to a local school or historical society in the area for educational

Environmental Impact	Mitigation Measures
Class I. Significant and Unavoidable	
	purposes, to be determined by the Qualified Archaeologist in consultation with the City. • *Protocols for Native American Monitoring and Input.* The CRMMP shall outline the role and responsibilities of Native American Tribal representatives. It shall include communication protocols, an opportunity and timelines for review of cultural resources documents related to discoveries that are Native American in origin, and provisions for Native American monitoring. The CRMMP shall include provisions for full-time Native American monitoring of all project-related ground disturbance, as well as during any subsurface investigation and data recovery for discovered resources that are Native American in origin (see **CUL-8**). **CUL-6: Construction Worker Cultural Resources Sensitivity Training.** Prior to start of any ground-disturbing activities (*i.e.*, demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil), the Qualified Archaeologist, or his/her designee, and a Native American representative shall conduct cultural resources sensitivity training for all construction personnel. In the event construction crews are phased, additional trainings shall be conducted for new construction personnel. Construction personnel shall be informed of the types of archaeological resources that may be encountered, the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources or human remains, confidentiality of discoveries, and safety precautions to be taken when working with cultural resources monitors. The City shall ensure construction personnel are made available for and attend the training and retain documentation demonstrating attendance. That training may be conducted in coordination with paleontological sensitivity training required by **CUL-11**. **CUL-7: Archaeological Resources Monitoring.** All project-related ground disturbance (*i.e.*, demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil) shall be monitored by an archaeological monitor(s) familiar with the types of resources that could be encountered and shall work under the direct supervisor of the Qualified Archaeologist. The number of archaeological monitors required to be on-site during ground disturbing activities is dependent on the construction scenario, specifically the number of pieces of equipment operating at the same time, the distance between these pieces of equipment, and the pace at which equipment is working, with the goal of monitors being able to effectively observe soils as they are exposed. Generally, work areas more than 500 feet from one another

Environmental Impact	Mitigation Measures
Class I. Significant and Unavoidable	
	will require additional monitors. The archaeological monitor(s) shall keep daily logs detailing the types of activities and soils observed, and any discoveries. Archaeological monitor(s) shall have the authority to halt and re-direct ground disturbing activities in the event of a discovery until it has been assessed for significance and treatment implemented, if necessary, based on the recommendations of the Qualified Archaeologist in coordination with the City, and the Native American representatives in the event the resource is Native American in origin, and in accordance with the protocols and procedures outlined in the CRMMP (see **CUL-5**). **CUL-8: Native American Monitoring.** The City shall retain a Native American monitor(s) from a Tribe that is culturally and geographically affiliated with the project site (according to the California Native American Heritage Commission). The Native American monitor shall monitor all project-related ground disturbance (*i.e.*, demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil) and all ground disturbance related to subsurface investigation and data recovery efforts for discovered resources that are Native American in origin. The number of Native American monitors required to be on-site during ground disturbing activities is dependent on the construction scenario, specifically the number of pieces of equipment operating at the same time, the distance between these pieces of equipment, and the pace at which equipment is working, with the goal of monitors being able to effectively observe soils as they are exposed. Generally, work areas more than 500 feet from one another require additional monitors. Native American monitors shall have the authority to halt and re-direct ground disturbing activities in the event of a discovery until it has been assessed for significance. **CUL-9: Inadvertent Discovery.** In the event archaeological resources are encountered during construction of the proposed project, all activity in the vicinity of the find shall cease (within 100 feet), and the protocols and procedures for discoveries outlined in the CRMMP (see **CUL-5**) shall be implemented. The discovery shall be evaluated for potential significance by the Qualified Archaeologist. If the Qualified Archaeologist determines that the resource may be significant (i.e., meets the definition for historical resource in *CEQA Guidelines* subdivision 15064.5(a) or unique archaeological resource in PRC subdivision 21083.2(g)), the Qualified Archaeologist shall develop an Archaeological Resources Data Recovery and Treatment Plan for the resource in accordance with the CRMMP (see **CUL-5**) and following the procedures outlined in **CUL-4**. When assessing significance and developing treatment for resources that are Native American in origin, the Qualified Archaeologist and the City shall consult with the appropriate Native American representatives. The Qualified

Environmental Impact	Mitigation Measures
Class I. Significant and Unavoidable	
	Archaeologist shall also determine if work may proceed in other parts of the project site while data recovery and treatment is being carried out.
3.5-3: The proposed project could disturb human remains during construction, including those interred outside of formal cemeteries.	Implement **CUL-1** through **CUL-9.** **CUL-14. Inadvertent Discovery of Human Remains:** If human remains are encountered, then the City shall halt work in the vicinity (within 100 feet) of the discovery and contact the County Coroner in accordance with PRC section 5097.98 and Health and Safety Code section 7050.5. If the County Coroner determines the remains are Native American, then the Coroner will notify the California Native American Heritage Commission in accordance with Health and Safety Code subdivision 7050.5(c), and PRC section 5097.98. The California Native American Heritage Commission will designate a Most Likely Descendent for the remains per PRC section 5097.98. Until the landowner has conferred with the Most Likely Descendent, the contractor shall ensure the immediate vicinity where the discovery occurred is not disturbed by further activity, is adequately protected according to generally accepted cultural or archaeological standards or practices, and that further activities take into account the possibility of multiple burials. If human remains are encountered, the Qualified Archaeologist, in consultation with the Most Likely Descendant shall prepare a confidential report documenting all activities and it shall be submitted to the California Native American Heritage Commission within 90 days after completion of any treatment.
4-5: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative long-term impacts to cultural resources.	Implement Mitigation Measures **CUL-1** through **CUL-14**.

Environmental Impact	Mitigation Measures
Class II. Significant but Mitigable	
Aesthetics	
3.1-4: Construction of the proposed injection wells would require nighttime lighting during 24-hour drilling activities. Measures that require lighting to be shielded and directed away from neighboring light sensitive land uses would reduce impacts associated with light and glare	**AES-1: Nighttime Construction Lighting.** Lighting used during nighttime construction, including any associated 24-hour well drilling, shall be shielded and pointed away from surrounding light-sensitive land uses.
Air Quality	
3.3-2: Proposed project construction would cause temporary increases in localized air pollutant emissions of ROG, NOx and DPM in excess of SLOAPCD construction thresholds which could lead to a violation of an air quality standard. Implementation of fugitive dust control measures and other standard control measures for construction equipment would reduce emissions.	**AQ-1a: Fugitive Dust Control Measures.** Construction projects shall implement the following dust control measures so as to reduce PM10 emissions in accordance with SLOAPCD requirements. • Reduce the amount of the disturbed area where possible; • Water trucks or sprinkler systems shall be used during construction in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency shall be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water shall be used whenever possible; • All dirt stock pile areas shall be sprayed daily as needed; • Permanent dust control measures identified in the approved project revegetation and landscape plans shall be implemented as soon as possible following completion of any soil disturbing activities; • Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading shall be sown with a fast germinating, non-invasive grass seed and watered until vegetation is established; • All disturbed soil areas not subject to revegetation shall be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by SLOAPCD; • All roadways, driveways, sidewalks, etc. to be paved shall be completed as soon as possible after grading unless seeding or soil binders are used; • Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site; • All trucks hauling dirt, sand, soil, or other loose materials are to be covered or shall maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with California Vehicle Code section 23114; • Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site;

Environmental Impact	Mitigation Measures
Class II. Significant but Mitigable	
	• Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water shall be used where feasible; • All of these fugitive dust mitigation measures shall be shown on grading and building plans; and • The construction contractor shall designate a person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures as necessary to minimize dust complaints, reduce visible emissions below 20 percent opacity, and to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to SLOAPCD Compliance Division prior to the start of any grading, earthwork or demolition. **AQ-1b: Standard Control Measures for Construction Equipment.** Standard mitigation measures for reducing NOx, ROG, and DPM emissions from construction equipment are listed below: • Maintain all construction equipment in proper tune according to manufacturer's specifications; • Fuel all off-road and portable diesel powered equipment with ARB certified motor vehicle diesel fuel (non-taxed version suitable for use off-road); • Use diesel construction equipment meeting ARB's Tier 2 certified engines or cleaner off-road heavy-duty diesel engines, and comply with the State Off-Road Regulation; • Use on-road heavy-duty trucks that meet the ARB's 2007 or cleaner certification standard for on-road heavy-duty diesel engines, and comply with the State On-Road Regulation; • Construction or trucking companies with fleets that that do not have engines in their fleet that meet the engine standards identified in the above two measures (e.g. captive or NOx exempt area fleets) may be eligible by proving alternative compliance; • All on- and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated queuing areas and or job sites to remind drivers and operators of the 5-minute idling limit; • Diesel idling within 1,000 feet of sensitive receptors is not permitted; • Staging and queuing areas shall not be located within 1,000 feet of sensitive receptors; • Electrify equipment when feasible;

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	• Substitute gasoline-powered in place of diesel-powered equipment, where feasible; and, • Use alternatively fueled construction equipment on-site where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel. **AQ-1c: BACT for Construction Equipment.** The following BACT for diesel-fueled construction equipment shall be implemented during construction activities at the project site, where feasible: • Further reducing emissions by expanding use of Tier 3 and Tier 4 off-road and 2010 on-road compliant engines where feasible; • Repowering equipment with the cleanest engines available; and • Installing California Verified Diesel Emission Control Strategies, such as level 2 diesel particulate filters. These strategies are listed at: http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm **AQ-1d: Architectural Coatings**. To reduce ROG and NOx emissions during the architectural coating phase, low or no VOC emission paints and finishes shall be used with levels of 50 g/L or less.
Biological Resources	
3.4-1: Ground disturbing activities during construction of the proposed project could have impacts to special status plant and wildlife species, including Morro shoulderband snail, American badger, and nesting birds, as well as indirect impacts to special status plant species such as San Luis Obispo owl's clover. Pre-construction surveys will be conducted to determine presence or absence of species prior to initiation of construction activities. If species are present, measures to avoid or relocate individuals or avoid nests would be implemented to mitigate potential adverse impacts.	**BIO-1: Construction Worker Environmental Awareness Training and Education Program.** Prior to the commencement, and for the duration of proposed construction activities, all construction workers shall attend an Environmental Awareness Training and Education Program, developed and presented by the Lead Biologist. The Training and Education shall include: • The program shall include information on San Luis Obispo owl's clover and the life history of steelhead, CRLF, MSS, and other raptors; nesting birds; as well as other wildlife and plant species that may be encountered during construction activities. The program will also include descriptions of sensitive habitats (drainages, riparian habitat, and wetlands) and The program shall also discuss the legal protection status of each species and sensitive habitat, the definition of "take" under the Federal Endangered Species Act and California Endangered Species Act, measures the project proponent is implementing to protect each species and sensitive habitat, reporting requirements, specific measures that each worker shall employ to avoid take of wildlife species and sensitive habitats, and penalties for violation of the Federal Endangered Species Act or California Endangered Species Act. • An acknowledgement form signed by each worker indicating that Environmental Awareness Training and Education Program has been completed would be kept on record;

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	• A sticker shall be placed on hard hats indicating that the worker has completed the Environmental Awareness Training and Education Program. Construction workers shall not be permitted to operate equipment within the construction areas unless they have attended the Environmental Awareness Training and Education Program and are wearing hard hats with the required sticker; • A copy of the training transcript, training video or informational binder for specific procedures shall be kept available for all personnel to review and be familiar with as necessary. • The construction crews and contractor(s) shall be responsible for unauthorized impacts from construction activities to sensitive biological resources that are outside the areas defined as subject to impacts by project permits. **BIO-2: Avoidance and Protection of Biological Resources.** During proposed construction, operations and maintenance, and decommissioning the City and/or contractor shall implement the following general avoidance and protective measures: • All proposed impact areas, including staging areas, access routes, and disposal or temporary placement of spoils, shall be delineated with stakes and/or flagging prior to construction to avoid natural resources where possible. Construction-related activities outside of the impact zone shall be avoided. • The project proponent shall limit the areas of disturbance to the maximum extent that is practicable. Parking areas, new roads, staging, storage, excavation, and disposal site locations shall be confined to the smallest areas possible. These areas shall be flagged and disturbance activities, vehicles, and equipment shall be confined to these flagged areas. • Riparian habitat, drainages, and wetlands will be flagged and signed to restrict project access into these areas. • Spoils shall be stockpiled in disturbed areas that lack native vegetation. Best Management Practices shall be employed to prevent erosion in accordance with the project's approved Stormwater Pollution Prevention Plan (SWPPP; as described in Chapter 3.9). • To prevent inadvertent entrapment of American badgers or other wildlife during construction, all excavated, steep-walled holes or trenches shall be covered with plywood or similar materials at the close of each working day, or provided with one or more escape ramps constructed of earth fill or wooden planks. If trapped animals are observed, the appropriate agency shall be consulted and escape ramps or structures shall be installed immediately to allow escape. If a listed species is trapped, the U.S. Fish and

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	Wildlife Service and/or California Department of Fish and Wildlife shall be contacted immediately. • Vehicular traffic to and from the project site shall use existing routes of travel. Cross country vehicle and equipment use outside designated work areas shall be prohibited. • Workers shall be prohibited from bringing pets and firearms to the project site and from feeding wildlife. • Intentional killing or collection of any plant or wildlife species shall be prohibited. **BIO-3: Morro Shoulderband Snail.** The following mitigation measures shall be implemented to avoid or minimize impacts to Morro shoulderband snail (MSS): • During project design, if project components would be located in areas determined to have soils and vegetation that could support MSS (e.g., see Figure 3.4-7), then a qualified biologist shall conduct a survey to delineate the extent of potential habitat. The survey information shall be incorporated into the project design such that facilities are located to avoid potential MSS habitat. The following project components have either been mapped as Baywood fine sands or dunes, or are in areas adjacent to known populations (see Figure 3.4.7): o Option 5A lift station adjacent to Atascadero Road; o the western pipeline alignment adjacent to the southeast corner of the WWTP; o a portion of the eastern pipeline alignment at Drainage 1A; and o the northwest corner of the IPR-West wellfield. • For pipeline alignments or other project components that are sited in areas adjacent to vegetated areas that have capacity to support MSS, silt fencing shall be installed, under the direction of a qualified biologist, to restrict project activities into these areas and to deter MSS movement into the project area. • If avoidance of MSS habitat is not feasible, then protocol levels surveys for MSS shall be conducted to determine presence/absence and distribution of MSS. Surveys shall be conducted by a biologist in possession of a valid recovery permit for the species. If the survey results are negative, the City shall request a concurrence determination for the project based on absence of the species. Coordination with USFWS during project design may facilitate receipt of a concurrence determination. • If survey results are negative and a concurrence authorization is granted, then vegetation shall be removed under supervision of the permitted biologist, and the site(s) shall be graded/grubbed

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	down to bare mineral soil, and bordered with silt fence to preclude MSS from subsequently entering the area(s). • If live MSS are found within areas proposed for impact, then consultation with USFWS will be necessary and the issuance of a Biological Opinion (B.O.) may be required to allow individuals to be moved out of project areas prior to construction. A permitted biologist must be retained to move MSS per the B.O. requirements, and to monitor vegetation clearing activities occurring within the MSS habitat area(s). • If equipment use, materials stockpiling, lift station construction, or any other uses are proposed on the north side of Atascadero Road opposite the existing WWTP, then all such areas shall be delineated by installation of silt fencing to create a barrier between potential MSS habitat and project activities. If fenced areas are utilized during or immediately following rain events or dense fog conditions, then a permitted biologist will survey and clear the work areas each morning prior to start of work to ensure that no MSS have entered the site. • Work crews will undergo an environmental training session conducted by a qualified biologist prior to start of construction activities in or adjacent to MSS habitat areas. Environmental training would inform project personnel of the constraints associated with working within and adjacent to MSS habitat, and the appropriate protocol should MSS be encountered during construction activities. **BIO-4: American Badger.** A pre-construction survey for active badger dens will be conducted within the proposed construction impact footprint and surrounding accessible areas of the mapped annual grassland portions of the eastern pipeline alignment (between the WRF and Downing Street on the west; see Figures 3.4-3 through 3.4-5) and the WRF site at least two weeks prior to any ground disturbing activities. The survey will be conducted by a qualified biologist. In order to avoid potential direct impacts to adults and nursing young, no grading should occur within 50 feet of an active badger den as determined by the project biologist. Construction activities between July 1 and February 28 shall comply with the following measures to avoid direct take of adult and weaned juvenile badgers through the forced abandonment of dens: • A qualified biologist will conduct a focused survey at least two (2) weeks prior to the start of construction; • If a potential den is located that is too long to see the end, then a fiber optic scope (or other acceptable method such as using tracking medium for a three-night period) will be used to determine if the den is being actively used by a badger;

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	• Inactive dens will be excavated by hand with a shovel or using a small excavator to prevent badgers from re-using them during construction. • Badgers will be discouraged from using currently active dens prior to the grading of the site by partially blocking the entrance of the den with sticks, debris and soil for three to five days. Access to the den shall be incrementally blocked to a greater degree over this period. This should cause the badger to abandon the den and move elsewhere. After badgers have stopped using any den(s) within the project boundary, the den(s) will be hand-excavated with a shovel or carefully excavated with the use of an excavator to prevent re-use. • The qualified biologist will be present during the initial clearing and grading activity. If additional badger dens are found, all work within the area will cease until the biologist can complete measures described above for inactive and active dens. Once the badger dens have been excavated, work in the area may resume. **BIO-5: Nesting Birds.** The following mitigation measures are recommended to avoid or minimize impacts to nesting bird species, including special-status species and species protected by the Migratory Bird Treaty Act. • Any removal of trees and disturbance of annual grassland habitat will be limited to the time period between September 1 and February 14 if feasible. If tree removal and grassland impacts cannot be conducted during this time period, a qualified biologist shall conduct pre-construction surveys for active bird nests within the limits of the project. • If active nest sites of bird species protected under the Migratory Bird Treaty Act and/or FGC section 3503 are observed within or adjacent to the study area, then the project shall be modified and/or delayed as necessary to avoid direct take of the identified nests, eggs, and/or young. Potential project modifications may include establishing appropriate “no activity” buffers around the nest site. The buffer will be 500 feet for raptors and 250 feet for other bird species, or as otherwise determined and documented by a qualified biologist. Construction activities shall not occur in the buffer until the project biologist has determined that the nesting activity has ceased. • Active nests shall be documented and monitored by the project biologist, and a letter report will be submitted to the USFWS and CDFW, documenting project compliance with the MBTA and applicable project mitigation measures.

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3.4-2: Construction of proposed conveyance pipelines could result in direct and indirect impacts to riparian habitat. Construction of proposed wells could impact riparian habitat associated with Morro Creek and Little Morro Creek. The proposed project would use trenchless construction methods to install pipelines across Morro Creek to avoid direct impacts, and wells would be sited in upland areas to avoid riparian habitat. Implementation of best management practices during construction would minimize indirect impacts to adjacent riparian areas.	**BIO-6: Riparian Habitat Avoidance.** During proposed project design, a qualified biologist shall identify the project boundaries adjacent to Morro Creek and the allowable limits of construction activities to avoid direct and indirect impacts to riparian habitat. Those limits shall be used during proposed project design to identify a pipeline alignment that avoids impacts to riparian habitat as well as areas to be avoided for siting injection and monitoring wells. During construction, the riparian boundaries and limits shall be clearly flagged or fenced so that contractors are aware of the limits of allowable site access and disturbance. Areas to be preserved should be clearly flagged as off-limits to avoid unnecessary damage and potential erosion. **BIO-7: Trenching Buffer for Jurisdictional Features.** During construction of proposed project pipelines, trenching shall stop at least 50 feet away from jurisdictional features, such as the top of stream banks, riparian habitat and wetlands, and the remaining distance shall be installed using trenchless construction methods, such as horizontal directional drilling.
3.4-3: Construction of proposed conveyance pipelines could result in temporary impacts to wetlands associated with ephemeral drainages; construction of the proposed wells could impact adjacent wetlands associated with Morro Creek and Little Morro Creek. The proposed project would use trenchless construction methods to install pipelines across wetlands and avoid direct impacts. Siting of the wells in upland areas would avoid direct impacts to wetlands. Implementation of best management practices during construction would minimize indirect impacts to adjacent wetland areas.	**BIO-8: Construction BMPs to Protect Jurisdictional Features and Aquatic Habitat.** The following mitigation measures should be implemented prior to and during construction near Morro Creek and Little Morro Creek, as well as Drainages 1, 1A, 1B, 2, 2A, 2B, 3, 3A, and 3B, and wetlands: 1. Prior to start of construction activities, the applicant should retain a qualified biological monitor to ensure compliance with all permit requirements and avoidance and minimization measures (i.e.: pre-construction surveys, worker environmental training, and construction monitoring) during work within and adjacent to drainage features. 2. The qualified biological monitor will conduct pre-construction surveys to identify any new wetland areas and the expansion of existing wetland to determine their limits. The results will be used in the implementation of Mitigation Measure BIO-7. 3. Prior to issuance of construction permits, an Erosion Control Plan incorporating up to date Best Management Practices should be prepared by the project engineer to minimize impacts to jurisdictional features and aquatic habitats. The plan should address installation and maintenance of both temporary and permanent measures to control erosion and dust, contain spills, protect stockpiles, and generally maintain good housekeeping practices within the worksite. All project plans should show that erosion, sediment, and dust control measures must be installed prior to start of any ground disturbing work. 4. All applicable plans should clearly show project stockpile and materials staging areas. These areas would be at least 50 feet

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	from drainage features, wetlands, and active storm drain inlets, and must conform to BMPs applicable for storm drain protection. 5. Prior to start of work, the contractor should prepare and implement a Spill Prevention Plan to ensure prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur. All project-related hazardous materials spills within the project site should be cleaned up immediately. Spill prevention and cleanup materials should be on-site at all times during the course of the project. 6. All refueling, maintenance, and washing of equipment and vehicles should occur on paved areas in a location where a spill would not travel onto bare ground or to a storm drain inlet. This fueling/staging area will conform to BMPs applicable to attaining zero discharge of stormwater runoff. At a minimum, all equipment and vehicles must be checked and maintained on a daily basis to ensure proper operation and avoid potential leaks or spills. Washing of equipment should occur only in a location where polluted water and materials can be contained for subsequent removal from the site. 7. A designated concrete washout location should be established onsite, in an area at least 50 feet from any drainage or storm drain inlet. The washout should be maintained and inspected weekly, and will be covered prior to and during any rain event. Concrete debris should be removed whenever the washout container reaches the 1/2 full mark. 8. BMP's for dust abatement shall be a component of the project's construction documents. Dust control requirements should be carefully implemented to prevent water used for dust abatement from transporting pollutants to storm drains leading to the creek channel. 9. During project activities, all trash that may attract predators shall be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris shall be removed from work areas. **BIO-9: Preparation of a Frac-Out Contingency Plan.** A Frac-Out Contingency Plan shall be prepared prior to initiation of construction activities that involve horizontal direction drilling activities**.** The Frac-Out Plan shall be implemented during HDD construction activities. At a minimum, the Frac-Out Plan will include the following: 10. Minimize the potential for a frac-out associated with horizontal directional drilling activities 11. Provide for the timely detection of frac-outs

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	12. Protect areas that are considered environmentally sensitive (streams, wetlands, other biological resources, cultural resources) 13. Ensure an organized, timely, and "minimum-impact" response in the event a frac-out and release of drilling mud occurs 14. Ensure that all appropriate notifications are made to the appropriate environmental specialists immediately (e.g., qualified biological monitor), and to appropriate regulatory agencies in 24 hours and that documentation is completed.
3.4-4: Construction of the proposed project could affect southern steelhead, a migratory fish species, in Morro Creek and its critical habitat, as well as native wildlife nursery sites in Morro Bay. Implementation of trenchless construction methods to install conveyance pipelines across Morro Creek would avoid direct impacts to steelhead and its habitat. Implementation of a Storm Water Pollution Prevent Plan and best management practices to protect water quality in ephemeral drainages that flow to Morro Creek, Chorro Creek, and Morro Bay would minimize indirect impacts to steelhead and its habitat.	Implementation of **BIO-1, BIO-2, BIO-7, BIO-8,** and **BIO-9.**
3.4-5: Construction of the proposed project could affect streams, which are designated as Environmentally Sensitive Habitat Areas. The proposed project would use trenchless construction methods to install pipelines across streams and avoid direct impacts. Implementation of best management practices during construction would minimize indirect impacts to streams. While no trees are expected to be removed, construction of the proposed project could impact protected trees within the City limits. Protection measures would be put in place to avoid impacts from construction activities.	**BIO-10: Tree Protection.** For public trees, protection will be established at a minimum distance of 1.5 times the dripline (*i.e.*, the distance from the trunk to the outermost limits of leaves and branches). During development, orange construction fencing or sufficient staking to identify the protection area will surround each tree or clusters of trees.
Cultural Resources	
3.5-2: Construction-related excavation for the proposed project could affect a unique paleontological resource. Implementation of worker training and monitoring during construction would reduce the potential for adverse effects to paleontological resources.	**CUL-10: Retention of a Qualified Paleontologist**. Within 60 days prior to the start of any ground-disturbing activity (*i.e.*, demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil), the City shall retain a paleontologist who meets the (SVP) Standards (SVP, 2010) (Qualified Paleontologist) to carry out all mitigation measures related to paleontological resources. **CUL-11: Paleontological Resources Sensitivity Training.** The Qualified Paleontologist, or his/her designee, shall conduct construction worker paleontological resources sensitivity training prior to the start of ground disturbing activities. In the event construction crews are phased, additional trainings shall be conducted for new construction personnel. The training session shall focus on the recognition of the types of paleontological resources that could be encountered within the project site and the procedures to be followed if they are found. The City shall ensure construction personnel are made available for and attend the training and retain documentation demonstrating attendance. That

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	training may be conducted in coordination with construction worker cultural resources sensitivity training required by CUL-6. **CUL-12: Paleontological Resources Monitoring.** All ground disturbance in excess of 5 feet within areas that are mapped as younger alluvial gravel (Qa) and beach and dune sands (Qs) shall be monitored on a full-time basis during initial ground disturbance. The Qualified Paleontologist shall spot check the excavation on an intermittent basis and recommend whether the depth of required monitoring should be revised based on his/her observations. If the Qualified Paleontologist determines full-time monitoring is no longer warranted, based on the specific geologic conditions at the surface or at depth, then the Qualified Paleontologist may recommend that monitoring be reduced to periodic spot-checking or cease entirely. Paleontological resources monitoring shall be performed by a qualified paleontological monitor (meeting the standards of the SVP, 2010) under the direction of the Qualified Paleontologist. Monitors shall have the authority to temporarily halt or divert work away from exposed fossils in order to recover the fossil specimens. Any significant fossils collected during project-related excavations shall be prepared to the point of identification and curated into an accredited repository with retrievable storage. Monitors shall prepare daily logs detailing the types of activities and soils observed, and any discoveries. The Qualified Paleontologist shall prepare a Paleontological Resources Monitoring Report detailing the locations of monitoring and any discoveries. The report shall be submitted to the City within 60 days after completion of the monitoring program, or treatment for significant discoveries should treatment extend beyond the cessation of monitoring. **CUL-13: Inadvertent Discovery of Fossils.** If construction or other proposed project personnel discover any potential fossils during construction, regardless of the depth of work or location, then work at the discovery location shall cease in a 50-foot radius of the discovery until the Qualified Paleontologist has assessed the discovery and made recommendations as to the appropriate treatment. If the find is deemed significant, it shall be salvaged following the standards of the SVP (2010) and curated with a certified repository.
Geology, Soils and Seismicity	
3.6-1: The geologic conditions at the proposed project sites include potential for seismic-induced ground shaking, liquefaction, and landslides that could damage structures or cause injury to employees at manned facilities. However, implementation of engineering design criteria as specified by required geotechnical investigations would reduce the risk of loss, injury, or death.	**GEO-1 Geotechnical Investigation:** A geotechnical investigation shall be prepared by a certified engineer for all facilities involving substantial ground disturbance or excavation. The investigation shall assess geologic and seismic hazards, including but not limited to, subsidence, liquefaction, landslide, expansive soil potential and collapsible soil potential of each facility site. Structural mitigation recommendations provided in the geotechnical investigation shall be incorporated into the design of the facility prior to construction. The contents of the

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	geotechnical investigation shall vary depending on the jurisdiction and risks associated with each facility's location.
3.6-2: Construction of proposed project facilities would result in ground disturbance and exposure of soils to erosion. Implementation of best management practices during construction and site restoration post-construction would minimize the potential for soil erosion or loss of top soil.	**GEO-2: Post-Construction Site Restoration.** After construction of project pipelines, disturbed areas shall be managed to control erosion, including without limitation: repaving areas within roadways, restoring vegetated areas, and regrading surfaces to minimize changes in drainage patterns.
3.6-3: The geologic conditions at various proposed project sites include potential for liquefaction, landslides, lateral spreading, and collapsible soils. However, implementation of engineering design criteria as specified by required geotechnical investigations would reduce the potential for the proposed project to result in unstable soils.	Implementation of **GEO-1** is required.
3.6-4: The proposed project facilities could be located on expansive soils, which could create risks to life or structures. However, implementation of engineering design criteria as specified by required geotechnical investigations would reduce the risk of loss or injury.	Implementation of **GEO-1** is required.
Hazards and Hazardous Materials	
3.8-6: Construction of proposed project components within public rights-of-way could result in partial or full lane closures and/or blocked access to roadways, which could physically interfere with an emergency response or evacuation plan. However, implementation of a Traffic Control Plan would require construction contractors to notify emergency responders including the City's Fire Department, Police Department and ambulances of planned road closures and roadway blockages.	Implementation of **TRAF-1** is required (See below: Class II Transportation and Traffic Mitigation Measures).
Hydrology and Water Quality	
3.9-4: Installation of the proposed project components would alter topography and drainage patterns at each site; however, compliance with the City's Storm Water Management Plan and other NPDES regulatory requirements would minimize erosion, siltation, and flooding onsite and offsite. Implementation of mitigation requiring post-construction restoration of conveyance pipeline alignments would also ensure long-term impacts associated with erosion, siltation or flooding during storm events would be minimized.	Implementation of **GEO-2** is required.
Noise	
3.11-1: Construction of the proposed injection and monitoring wells would require continuous drilling for 24-hour periods, at noise levels in excess of standards established in the Morro Bay Municipal Code. Implementation of a Construction Noise Reduction Plan approved by the City's building official would reduce noise levels to acceptable levels.	**NOISE-1: Construction Noise Reduction Measures.** The City shall develop and submit a Construction Noise Reduction Plan to the building official prior to initiating construction activities during hours that are not included in the exemption under the Morro Bay Municipal Code. The City or its contractor shall implement the Construction Noise Reduction Plan. A disturbance coordinator shall be designated for the project to implement the provisions of the Plan. At a minimum, the Construction Noise Reduction Plan shall implement the following measures:

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	• Distribute to the potentially affected residences and other sensitive receptors within 150 feet of project construction boundary a "hotline" telephone number, which shall be attended during active construction working hours, for use by the public to register complaints. The distribution shall identify a noise disturbance coordinator who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaints and institute feasible actions warranted to correct the problem. All complaints shall be logged noting date, time, complainant's name, nature of complaint, and any corrective action taken. The distribution shall also notify residents adjacent to the project site of the construction schedule. • All construction equipment shall have intake and exhaust mufflers recommended by the manufacturers thereof, to meet relevant noise limitations. • Maintain maximum physical separation, as far as practicable, between noise sources (construction equipment) and sensitive noise receptors. Separation may be achieved by locating stationary equipment to minimize noise impacts on the community. • Impact tools (e.g., jack hammers, pavement breakers) used during construction activities will be hydraulically or electrically powered where feasible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used. • Use construction noise barriers such as paneled noise shields, blankets, or enclosures adjacent to noisy stationary equipment. Noise control shields, blankets or enclosures shall be made featuring a solid panel and a weather-protected, sound-absorptive material on the construction-activity side of the noise shield.
3.11-2: Operation of the proposed injection wells in close proximity to sensitive receptors could generate noise in excess of standards established in the Morro Bay Municipal Code. A qualified noise consultant will determine the noise reduction measures to be incorporated into project design to ensure noise levels would not exceed the City's daytime and nighttime noise standards.	**NOISE-2: Operational Noise Reduction Measures.** Prior to final design of the proposed injection wells, the City shall prepare an Operational Noise Reduction Plan demonstrating that the proposed injection wells will not expose the nearest sensitive receptor to noise levels that would exceed the City's daytime and nighttime noise standards (see Table 3.11-4). The operational noise reduction plan shall be prepared by a qualified noise consultant. Once all noise reduction measures outlined in the Operational Noise Reduction Plan are implemented, the City shall measure noise at the nearest sensitive receptor property line to validate the effectiveness of the measures and to demonstrate that operational noise levels are below the City's noise standards.

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3.11-4: Operation of the proposed injection wells in close proximity to sensitive receptors could result in a substantial permanent increase in ambient noise levels. A qualified noise consultant will determine the noise reduction measures to be incorporated into project design to ensure operational noise levels do not exceed the City's daytime and nighttime noise standards.	Implement Mitigation Measure NOISE-2.
3.11-5: Construction of the proposed injection and monitoring wells would require continuous drilling for 24-hour periods, which would result in temporary increases in ambient noise levels. Implementation of a Construction Noise Reduction Plan approved by the City's building official would reduce noise levels to acceptable levels.	Implement Mitigation Measure NOISE-1.
Transportation and Traffic	
3.14-1: Construction of the proposed project would result in partial lane closures, which could significantly impact the operations of the local and regional circulation systems. However, implementation of a Traffic Control Plan would reduce impacts to a less than significant level.	**TRAF-1: Traffic Control Plan.** Prior to the start of construction of project components that would occur within a roadway right-of-way, the City shall require the construction contractor to prepare a Traffic Control Plan. The Traffic Control Plan will show all signage, striping, delineated detours, flagging operations and any other devices that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the City's Public Works Director and Fire and Police Chiefs. When construction activities disrupt travel on major collectors or arterials, electronic signing shall be used to provide the public, on all transportation modes, with current construction information and the availability of alternate travel routes. The Traffic Control Plan will be prepared in accordance with the City's traffic control guidelines and will be prepared to ensure that access will be maintained to individual properties, and that emergency access will not be restricted. Additionally, the Traffic Control Plan shall also include a scheduling plan showing the hours of operation to minimize congestion during the peak hours and special events. The scheduling plan will ensure that congestion and traffic delay are not substantially increased as a result of the construction activities. Further, the Traffic Control Plan will include detours or alternative routes for bicyclists using on-street bicycle lanes as well as for pedestrians using adjacent sidewalks. In addition, the City shall provide written notice at least two weeks prior to the start of construction to owners/occupants along streets to be affected during construction. During construction, the City will maintain continuous vehicular and pedestrian access to any affected residential driveways from the public street to the private property line, except where necessary construction precludes such continuous access for reasonable periods of time. Access will be reestablished at the end of the workday. If a driveway needs to be closed or interfered with as described above, the City shall notify the owner or occupant of the closure of the driveway at least five working days prior to the closure.

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	The Traffic Control Plan shall include provisions to ensure that the construction of the lift station, conveyance pipelines, and the IPR injection and monitoring wells do not interfere unnecessarily with the work of other agencies such as mail delivery, school buses, and municipal waste services. The City shall also notify local emergency responders of any planned partial or full lane closures or blocked access to roadways or driveways required for construction of the proposed project facilities. Emergency responders include fire departments, police departments, and ambulances that have jurisdiction within the proposed project area. Written notification and disclosure of lane closure location must be provided at least 30 days prior to the planned closure to allow for emergency response providers adequate time to prepare for lane closures.
3.14-3: Construction of the proposed project would require temporary partial lane closures, which could affect roadway safety or create a hazardous design feature. However, implementation of the Traffic Control Plan would minimize the effects of the partial lane closures on roadway safety to a less than significant level.	Implementation of **TRAF-1.**
3.14-4: Construction of the proposed project would include temporary partial lane closures, which could significantly impact emergency access in proximity to the project components. However, implementation of the Traffic Control Plan would require coordination with emergency responders, which include the fire department, police department, and ambulances to ensure adequate emergency access is provided.	Implementation of **TRAF-1.**
3.14-5: Construction of the proposed project would include temporary partial lane closures, which could significantly impact alternative transportation routes around the project components. However, implementation of the Traffic Control Plan would require include detours or alternative routes for transit, bicyclists using on-street bicycle lanes, and for pedestrians using adjacent sidewalks.	Implementation of **TRAF-1.**

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Class III. Not Significant	
Aesthetics	
3.1-1: The proposed project would not have an adverse effect on scenic vistas. The proposed project would not have sufficient scale or height to significantly affect scenic vistas. The WRF would be briefly visible from Highway 1, but would resemble rural agricultural buildings similar to others along the Highway 1 corridor.	None required.
3.1-2: The proposed project would be visible from Highway 1 and State Route 41 corridors, a State Scenic Highway and Eligible Scenic Highway, respectively. However, implementation of specific design criteria for development would ensure that scenic resources would not be adversely effected by implementation of proposed facilities.	None required.
3.1-3: The proposed WRF would not degrade the visual character of the site due to implementation of specific design criteria for architectural treatments that blend with the surrounding rural and agricultural area. The remaining project components would also be similar in size and scale as surrounding development and would not degrade visual character.	None required.
Aesthetics	
4-1: Concurrent construction and operation of the proposed project and related projects in the vicinity of the WRF, lift station, and wells would not result in cumulatively considerable impacts to aesthetics.	None required.
Agriculture and Forestry Resources	
3.2-1: The proposed IPR East groundwater wells could potentially convert Prime Farmland to non-agricultural use. However, based on the results of the LESA model, the conversion of farmland to non-agricultural use would be considered less than significant.	None required.
3.2-2: The proposed project would not conflict with a Williamson Act contract. Project components located on lands zoned for agricultural use would be consistent with applicable Land Use and zoning requirements through implementation of City and County policies and permit procedures.	None Required.

Environmental Impact	Mitigation Measures
Class III. Not Significant	
3.2-5: The proposed WRF would be located on a parcel that is currently rangeland and used for grazing. The majority of the parcel would continue to be used for grazing after implementation of the proposed project. The proposed WRF would implement City and County policies related to public services with agricultural lands, and would not substantially reduce the area available for grazing and rangeland, so impacts to this area are less than significant. In addition, agricultural impacts related to the location of IPR wells are considered Class III, Less than Significant.	None required.
4-2: Concurrent implementation of the proposed project and related projects in the geographic scope would not result in cumulatively considerable impacts to agriculture.	None required.
Air Quality	
3.3-1: The project would not conflict with the population and vehicle travel projections for the project area nor would it conflict with the transportation control measures contained in the applicable air quality plan.	None required.
3.3-3: Proposed project operation would generate air pollutant emissions of ROG, NO_x and PM, but the increase would be less than the applicable SLOAPCD significance thresholds for operation and would therefore not lead to a violation of an air quality standard or contribute substantially to an existing or projected air quality violation.	None required
3.3-4: The proposed project would not expose sensitive receptors to substantial pollutant concentrations that would lead to adverse health risks.	None required
3.3-5: Operation of the proposed WRF would generate odor, but the proposed project design includes odor control facilities to capture and treat air produced during the wastewater treatment process. A substantial number of people would not be affected by objectionable odor.	None required.
4-3: Concurrent construction of the mitigated proposed project and related projects in the South Central Coast Air Basin would not result in cumulatively considerable impacts to air quality.	None required.
Biological Resources	
4-4: Concurrent construction and operation of the mitigated proposed project and related projects in the geographic scope would not result in cumulatively considerable impacts to biological resources.	None required.
Geology, Soils, and Seismicity	
4-6: Concurrent construction and operation of the proposed project and related projects in the geographic scope would result in site-specific impacts related to geology, soils, and seismicity, however, when considered together, would not combine to create cumulatively considerable impacts.	None required.

Environmental Impact	Mitigation Measures
Class III. Not Significant	
Greenhouse Gas Emissions and Energy	
3.7-1: The proposed project would generate GHG emissions, either directly or indirectly, that would not have a significant impact on the environment.	None required.
3.7-2: The proposed project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.	None required.
3.7-3: The proposed project would not lead to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction or operation, which would conflict with applicable energy efficiency policies or standards.	None required.
4-7: Concurrent construction and operation of the proposed project and related projects would not result in global cumulative impacts to greenhouse gas emissions and energy.	None required.
Hazards and Hazardous Materials	
3.8-1: Construction and operation of the proposed project would include the routine transport, use, and disposal of hazardous materials. However, the proposed project would be required to comply with all applicable federal, state, and local regulations regarding the use and disposal of hazardous materials and wastes which would reduce the potential for impacts to human health, public safety, and the environment.	None required.
3.8-2: Although portions of the proposed project are located adjacent to Morro Bay High School, adherence to the applicable hazardous materials regulations would reduce potential impacts regarding hazardous materials emissions within 0.25 mile of a school.	None required.
3.8-3: The proposed project components would not be located on sites that are included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would not create a significant hazard to the public or the environment.	None required.
3.8-7: The proposed project would not be located in a very high fire hazard severity zone and as such, the potential for wildfires is considered low. All project components would be designed to comply with all applicable fire codes and fire protection requirements established by the CCR and the City's building codes, would not be constructed of highly flammable materials, and would contain water thereby reducing flammability.	None required.
4-8: Concurrent construction and operation of the mitigated proposed project and related projects in the geographic scope would not result in cumulatively considerable impacts to emergency response plans.	None required.

Environmental Impact	Mitigation Measures
Class III. Not Significant	
Hydrology and Water Quality	
3.9-1: As a Groundwater Recharge Reuse Project, the proposed project would inject advanced treated recycled water into the Morro Valley Groundwater Basin for subsequent withdrawal as potable water supply. The proposed project would not result in violating water quality standards or waste discharge requirements or otherwise substantially degrade water quality.	None required.
3.9-2: The proposed project could degrade surface water or groundwater quality in the event of pipeline rupture or accidental spill. Implementation of regulatory requirements, including a leak detection system and preventative maintenance program for new proposed project pipelines would ensure water quality in the project area is not adversely affected.	None required.
3.9-3: As a Groundwater Recharge Reuse Project, the proposed project would inject advanced treated recycled water into the Morro Valley Groundwater Basin for subsequent withdrawal as potable water supply. The project would not result in a net deficit in aquifer volume or lowering of the local groundwater table.	None required.
3.9-5: Installation of the proposed project components would add impervious surfaces that could increase stormwater runoff from proposed project sites. Compliance with the City's Storm Water Management Plan, Stormwater Ordinance, and other NPDES regulatory requirements would require drainage control features and LID features to be incorporated into proposed project design to control and prevent increases in stormwater runoff and minimize impacts to the existing capacity of the storm drain system.	None required.
3.9-7: The proposed project would remove the existing WWTP from the tsunami hazard zone, but construct a new lift station within the tsunami hazard zone. Floodproof design features and compliance with the City's Tsunami Emergency Response Plan would minimize service disruptions to the wastewater system due to the potential effects of tsunami inundation of the lift station.	None required.
4-9: Concurrent construction and operation of the proposed project and related projects in the Morro Creek and Morro Bay watersheds and Morro Valley Groundwater Basin would not result in cumulatively considerable impacts.	None required.
Land Use and Planning	
4-10: Concurrent construction and operation of the proposed project and related projects in the geographic scope would not result in cumulatively considerable impacts to land use and planning.	None required.
Noise	
3.11-3: The proposed project would not expose people to excessive groundborne vibration either during construction or operation.	None required.

Environmental Impact	Mitigation Measures
Class III. Not Significant	
4-11: Concurrent construction and operation of the mitigated proposed project and adjacent related projects would not combine to create cumulatively considerable impacts to noise and vibration.	None required.
Environmental Justice	
3.12-1: The aboveground facilities of the proposed project would not be located near communities that are disproportionately comprised of low income or minority populations.	None required.
Public Services	
3.13-1a: The number of workers required to construct and operate the proposed project would not be large enough to significantly affect the demand for housing. Thus, the proposed project would not affect service ratios or other performance objectives for fire and police protection	None required.
4-13: Concurrent construction and operation of the proposed project and related projects in the geographic scope would not result in cumulatively considerable impacts to public services.	None required.
Traffic and Transportation	
4-14: Concurrent construction of the mitigated proposed project and related projects in the geographic scope would not result in cumulatively considerable impacts to traffic and transportation.	None required.
Utilities and Service Systems	
3.16-2: The proposed project includes the construction of a new wastewater treatment facility, which has been evaluated throughout the Draft EIR. No additional water or wastewater treatment facilities would be required to operate the proposed project.	None required.
3.16-3: Proposed project construction and operation would not generate excessive stormwater runoff such that new or expanded stormwater drainage facilities are required.	None required.
3.16-6: The proposed project would generate solid waste that could require disposal at a landfill, including construction debris and biosolids during WRF operation. Existing landfills have sufficient remaining capacity to accommodate construction-related solid waste; biosolids would be reused by a biosolids management firm rather than disposed at a landfill. The proposed project would comply with all federal, state, and local statutes and regulations related to solid waste.	None required.
4-16: Concurrent construction and operation of the proposed project and related projects in the geographic scope would not result in cumulatively considerable impacts to utilities and service systems.	None required.

Environmental Impact	Mitigation Measures
Class IV. Beneficial	
Hydrology and Water Quality	
3.9-6: The proposed lift station and IPR wells would be located within a 100-year flood hazard area; however, the relatively small footprint would be negligible and would not impede or redirect flood flows. This would be a Class III impact, Less than Significant. In addition, decommissioning of the WWTP would remove treatment facilities from the same 100-year flood hazard area, which is beneficial because it would remove a substantial impediment within the flood plain. Overall, the introduction of IPR wells combined with the removal of the existing WWTP would result less impervious surface than the current condition, which is a net beneficial impact	None required.
Utilities and Service Systems	
3.16-1: Once operational, the proposed WRF would provide tertiary treatment and advanced treatment of wastewater, thereby exceeding the secondary treatment requirements mandated by the Central Coast Regional Water Quality Control Board.	None required.
3.16-4: Operation of the proposed project would allow for the development of 650 to 825 AFY of advanced treated recycled water for indirect potable reuse, thereby enhancing water supplies in the project area and providing water supply reliability with a new local renewable water supply.	
3.16-5: The proposed WRF will be designed to accommodate the City's projected wastewater treatment capacity needs in the future based on buildout projections under the General Plan Update. The proposed WRF infrastructure would be more reliable than the existing WWTP, thereby reducing potential service interruptions.	None required.

Environmental Impact	Mitigation Measures
No Impact	
Agriculture and Forestry Resources	
3.2-3: The project is not located within forest land or timberland. Thus, the project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland or timberland zoned Timberland Production	None required.
3.2-4: The project is not located within forest land so it would not result in the loss of forest land or conversion of forest land to non-forest use.	None required.
Biological Resources	
3.4-6: The proposed project is not located within the boundaries of a habitat conservation plan or natural community conservation plan.	None required.
Geology, Soils and Seismicity	
3.6-5: The proposed project would not include septic tanks and would not result in impacts regarding soils incapable of supporting those alternative systems. There would be no impact.	None required.
Hazards and Hazardous Materials	
3.8-4: The proposed project area is not within the boundaries of an airport land use plan. Construction and operation of the proposed project would not result in a safety hazard at a public airport.	None required.
3.8-5: The City does not include a private airstrip within its boundaries. Construction and operation of the proposed project would not affect a private airstrip or create a safety hazard.	None required.
Land Use and Planning	
3.10-1: The proposed project would not physically divide an established community. Project components are located in areas that are not established residential communities and would not disconnect any established communities.	None required
3.10-2: The project would not conflict with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect, including the City or County General Plan, Local Coastal Plan, Coastal Zone Land Use Ordinance, or Zoning Ordinance.	None required.
3.10-3: The project would not be not located in or adjacent to a habitat conservation plan or a natural community conservation plan and therefore would not conflict with a habitat conservation plan or natural community conservation plan.	None required.
Noise	
3.11-6: The proposed project would not be located within an airport land use plan area or in the vicinity of a private airport.	None required.

Environmental Impact	Mitigation Measures
No Impact	
Public Services	
3.13-1b: The proposed project would not induce population growth and would not require the construction of new schools.	None required.
3.13-1c: The proposed project would not induce population growth and would not require the construction of new parks or other public facilities.	None required.
Transportation and Traffic	
3.14-2: Since there are no public or private airports within the City limits, implementation of the proposed project would not result in a change in air traffic patterns, including either an increase in air traffic levels or a change in location that results in substantial safety risks.	None required.
Tribal Cultural Resources	
3.15-1: The proposed project would not cause a substantial adverse change in the significance of a tribal cultural resource listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources.	None required.
3.15-2: The proposed project would not cause a substantial adverse change to a tribal cultural resource.	None required.
4-15: The proposed project would not affect a Tribal Cultural Resource and when considered together with related projects, would not result in a cumulatively considerable impact to Tribal Cultural Resources.	None required.

CHAPTER 1
Introduction and Project Background

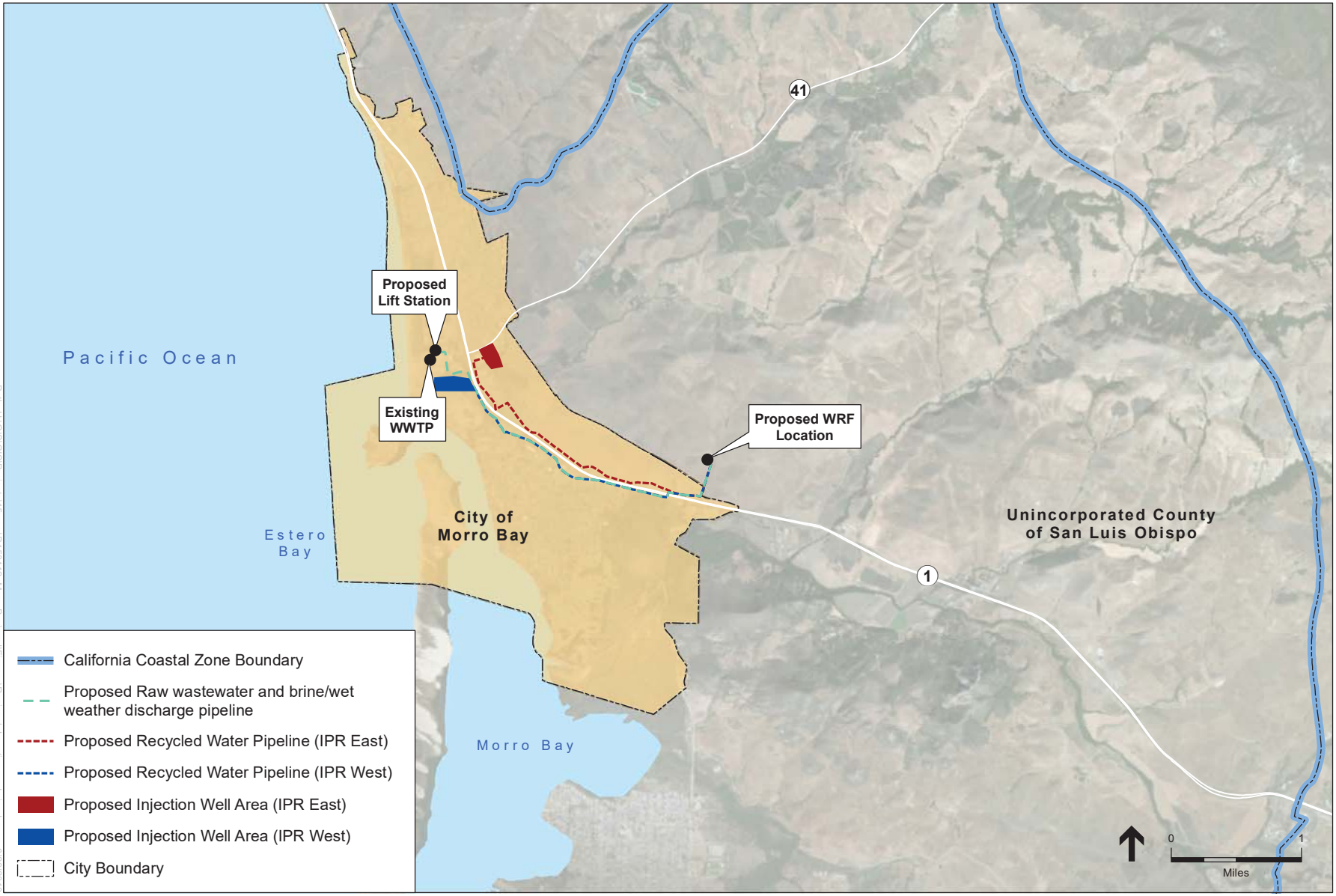
1.1 Purpose of the EIR

The City of Morro Bay (City), as the Lead Agency pursuant to the California Environmental Quality Act (*CEQA*) and State CEQA Guidelines (*CEQA Guidelines*), has prepared this Draft Environmental Impact Report (Draft EIR) to provide the public and pertinent agencies with information about the potential effects on the local and regional environment associated with the proposed Morro Bay Water Reclamation Facility (WRF) Project (proposed project). The proposed project would provide wastewater treatment services for the City and potentially additional surrounding communities or customers. The existing wastewater treatment facility, the Morro Bay-Cayucos Wastewater Treatment Plant (WWTP), would be replaced by the proposed project and the new treatment facility planned by the Cayucos Sanitary District. The proposed project is intended to provide opportunities for the City to produce and beneficially reuse advanced treated recycled water and to meet or exceed all wastewater treatment requirements of the California State Water Resources Control Board (SWRCB). The potential beneficial end use for the advanced treated recycled water is indirect potable reuse (IPR) through groundwater replenishment. The project components are shown in **Figure 1-1**.

As described in Section 15121(a) of the *CEQA Guidelines*, this Draft EIR is intended to serve as an informational document for pertinent public agency decision makers. Accordingly, this Draft EIR has been prepared to identify the significant environmental effects of the proposed project, identify mitigation measures to minimize significant effects, and consider reasonable project alternatives. The environmental impact analyses in this Draft EIR are based on a variety of sources, including agency consultation, technical studies, and field surveys.

1.2 Project Background

The U.S. Environmental Protection Agency (USEPA) or the SWRCB regulate municipal wastewater discharges into the Pacific Ocean through National Pollutant Discharge Elimination System (NPDES) Permits in accordance with Section 402 of the federal Clean Water Act. USEPA or the California Regional Water Quality Control Boards issue (or reissue) NPDES permits to wastewater dischargers every five years. The existing Morro Bay-Cayucos Wastewater Treatment Plant (WWTP) serves the City and the community of Cayucos, and is owned and operated jointly by the City and the Cayucos Sanitary District (CSD). Prior to the current 2017 NPDES Permit No. CA0047881 and Waste Discharge Requirements (WDR) Order No R3-2017-0050, the WWTP discharged to the Pacific Ocean under NPDES Permit No.



SOURCE: ESRI 2015

Morro Bay Water Reclamation Facility Project. 150412

Figure 1-1

Regional Location

CA0047881 and WDR Order No. R3-2008-0065, which was a Clean Water Act Section 301(h) modified NPDES permit that waived full secondary treatment requirements for biochemical oxygen demand (BOD) and total suspended solids (TSS). The existing WWTP has operated under that modified permit since its last upgrade in 1984. On July 7, 2003, the City submitted an application for renewal of NPDES permit to USEPA and Central Coast Regional Water Quality Control Board (RWQCB) which expired in March 2014. The final renewed discharge permit was adopted by the RWQCB on December 7, 2017. The 301(h) modifications were no longer included in the 2017 renewal. A time schedule order will be provided by RWQCB for compliance with full secondary treatment requirements.

Based on an agreement with the RWQCB, the City and CSD had previously pursued bringing the existing facility to full secondary treatment in place of continued requests for a 301(h) modified discharge permit. The agreement allowed the City and CSD to pursue secondary treatment on a schedule that was mutually agreed upon by both agencies and the RWQCB. In February 2015, the RWQCB stated the new facility was expected to be fully operational by 2021 in order to meet its goals.

The existing WWTP is located in the Coastal Zone; as such, in order to upgrade the existing WWTP at its existing location, a Coastal Development Permit (CDP) is required from the California Coastal Commission (CCC). However, in January 2013, the CCC denied the City and CSD's project application for the CDP to demolish the existing WWTP and construct a new treatment facility on the same site. The basis for that denial included the CCC's assessment the new facilities would be inconsistent with the City's Local Coastal Plan (LCP) zoning provisions, failed to avoid coastal hazards, failed to include a sizeable reclaimed water component, and that the project location was within an LCP-designated sensitive view area.

Following this denial, the City began planning a new WRF and pursuing alternative locations for a new upgraded wastewater treatment plant. The City realized that presented an opportunity to design and construct a WRF to enhance the City's water supply portfolio through the production of recycled water. From 2013 to the beginning of 2014, the community defined goals to guide the planning and design process for the new WRF. Public outreach was conducted through stakeholder meetings, stakeholder interviews, and public workshops which gathered input related to cost, environmental concerns, engineering and design issues, site-related issues, and logistics and process issues. Through that public outreach program, criteria were determined for the siting process, and various studies were conducted to examine the suitability of each site. Some of the criteria included, but were not limited to, compliance with NPDES Permit requirements, distance to the City sewer collection system, avoidance of coastal hazards, minimal visual impacts, and sustainable use of public resources. In order to ensure public involvement during this process, a Citizens Advisory Committee (WRFCAC) was created in July 2014 to help oversee and evaluate the siting process.

Five comparative siting studies were performed between 2013 and 2017. Starting with the results of the Rough Screening Evaluation, 17 study sites were first examined for the potential location of the WRF. By December 2013, it was narrowed down to seven study sites (Chevron, Morro Valley, Chorro Valley, California Men's colony (CMC) Wastewater Treatment Plant site, Power

plant – southern portion, Panorama, and Giannini), which ranged in size and number of properties included in each. Finally, the City Council narrowed the sites down to focus on the Morro Valley, Chorro Valley, and Giannini Property in May 2014. Within those three general areas, there were four specific locations: Rancho Colina and Righetti (both in Morro Valley), Tri-W (now called the "South Bay Boulevard" site, in Chorro Valley) and Giannini. It should be noted there was also a feasibility analysis performed for a regional facility at the CMC site that could serve the needs of the City and partner agencies; however, it concluded not to be feasible. In April 2016, after direction to investigate other potential sites, the list of potential sites was revised to include Rancho Colina, Righetti, Tri-W, Chevron/Toro Creek, and Madonna. After the 2016 comparative study was completed, the Tri-W site, which became known as the South Bay Boulevard site, was found to be the final site preference, and preliminary planning efforts began at that location based on City Council direction at that time. The CCC supports the proposed new treatment plant location and has been supportive in the concept of working with the City and, as needed, San Luis Obispo County (County), on a CDP for a WRF at that location.

In April 2015, the CSD decided to pursue an independent path from the City to build its own new wastewater facility, and unilaterally adopted a resolution to that effect on April 30, 2015. From that point forward, the City's efforts have been focused on finding a suitable site to build a WRF to serve only its customers, exclusive of CSD customers. Thus, current plans are for the City and CSD to build separate treatment facilities and, once operational, decommission the jointly-owned WWTP. The City has welcomed CSD to continue to participate in a joint venture since that time. CSD has consistently indicated it has no further interest in that approach, and, in fact, has found a site and made plans for a facility at a different location that would address its long-range wastewater disposal needs.

1.3 Intended Use of the EIR

The purpose of this Draft EIR is to evaluate the proposed project in accordance with CEQA and *CEQA Guidelines*. The proposed project is a multi-jurisdictional project that would be implemented by the City, as the CEQA Lead Agency. The decision-making body of a lead agency and those of responsible agencies are required to consider a certified EIR prior to acting upon or approving the proposed project (*CEQA Guidelines* §15050(b)). After the Final EIR is certified by the City, the City, and to the extent needed the responsible agencies, may proceed with approving and implementing the proposed project. The CEQA process is further described below in Section 1.5.

1.4 CEQA-Plus Requirements

The USEPA sponsors the State Revolving Fund (SRF) Loan Program to provide funding for construction of publicly-owned treatment facilities and water reclamation projects. This funding for capital improvements to wastewater treatment and water recycling facilities is authorized under the federal Clean Water Act. The proposed project is eligible for SRF funding. In order to comply with requirements of the SRF Loan Program, which is administered by SWRCB in California, an EIR must fulfill additional requirements known as CEQA-Plus. The CEQA-Plus requirements have been established by the USEPA and are intended to supplement CEQA and the

CEQA Guidelines with specific requirements for environmental documents acceptable to the SWRCB when reviewing applications for wastewater treatment facility loans. They are not intended to supersede or replace *CEQA Guidelines*. (See Section 1.5 below for an explanation of the CEQA process.)

The USEPA's CEQA-Plus requirements have been incorporated into the SWRCB's *Environmental Review Process Guidelines for SRF Loan Applicants* (*SRF Guidelines*) (SWRCB, 2004). The SWRCB's *SRF Guideline*s include the following requirements for compliance with CEQA-Plus. Eight copies of the Final EIR must be sent to the SWRCB, which then forwards the copies directly to federally designated agencies. The federal agencies must have at least fifty-one calendar days to review the Final EIR from the date it was mailed to the reviewing agency. Federal consultation must be completed before an SRF funding agreement can be approved by the SWRCB. The proposed project must be in compliance with Section 7 of the federal Endangered Species Act (FESA), undergo a Clean Air Act conformity analysis (if in a nonattainment area or an attainment area subject to a maintenance plan), and be in compliance with Section 106 of the National Historic Preservation Act. The CEQA document must also disclose all project-specific information listed in the outline provided by the SWRCB and demonstrate compliance with federal laws and regulations, including the Clean Water Act, Farmland Protection Policy Act, Migratory Bird Treaty Act, Flood Plain Management Act, Wild and Scenic Rivers Act, and Coastal Zone Management Act. This Draft EIR has been prepared to comply with CEQA-Plus requirements and can be used to support the required federal consultations as described below. In addition, Chapter 7 of this Draft EIR addresses all federal laws and regulations required by *SRF Guidelines*.

Federal Endangered Species Act

The SWRCB Division of Financial Assistance (Division) is the designated non-federal representative under the Federal Endangered Species Act (FESA) for water reclamation projects that involve a SRF loan. To ensure compliance with Section 7 of the FESA, the Division reviews all SRF projects to determine the potential effects to federally listed species. This EIR includes the documentation required by the Division to disclose the proposed project's effects on sensitive species (see Chapter 3.4). The Division staff will use this information to confer informally (and formally if necessary) with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service, as appropriate.

Federal Clean Air Act

The federal Clean Air Act (CAA) requires the USEPA to identify National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. NAAQS have been established for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, PM_{10}, $PM_{2.5}$, and lead. Pursuant to the 1990 FCAA Amendments, the USEPA classifies air basins (or portions thereof) as "attainment" or "nonattainment" for these criteria air pollutants, based on whether or not the NAAQS have been achieved. The CAA requires each state to prepare a State Implementation Plan (SIP), which is an air quality control plan that includes pollution control measures for states that violate the NAAQS. For SRF-funded projects, CEQA-Plus requirements include a CAA general conformity analysis for projects in a federal nonattainment area or an attainment area subject to a SIP. The

proposed project is not in a federal nonattainment area as explained in Chapter 3.3. If a CAA general conformity analysis is required, the information provided in this EIR would be used to support the analysis.

National Historic Preservation Act

CEQA-Plus requires SRF-funded projects to comply with Section 106 of the National Historic Preservation Act. Consultation with the State Historic Preservation Officer (SHPO) is required to demonstrate/confirm that Section 106 compliance has been achieved. The SWRCB Division's Cultural Resources Officer (CRO) is responsible for the consultation with the SHPO. This EIR and the administrative record includes the information and documentation that the Division CRO is required to provide to the SHPO to initiate the Section 106 consultation, including, (1) identification of the proposed project's Area of Potential Effects (APE), (2) cultural records searches for the APE at the appropriate Information Centers, (3) documentation of Native American consultation, (4) cultural resources field surveys of the APE, (4) evaluations of elements of the built environment in and around the APE that are eligible for the National Register of Historic Places, and (5) Determination of Eligibility for any cultural resources that cannot be avoided during project construction.

1.5 CEQA Environmental Review Process

1.5.1 CEQA Process Overview

The basic purposes of CEQA are to (1) inform decision makers and the public about the potential, significant adverse environmental effects of proposed governmental decisions and activities, (2) identify the ways those environmental effects can be avoided or significantly reduced, (3) prevent significant, avoidable and adverse environmental effects by requiring changes in projects through the use of alternatives or mitigation measures when feasible, and (4) disclose to the public the reasons why an implementing agency may approve a project even if significant unavoidable environmental effects are involved.

An EIR uses a multidisciplinary approach, applying social and natural sciences to make a qualitative and quantitative analysis of all the foreseeable environmental impacts that a proposed project would exert on the surrounding area. As stated in *CEQA Guidelines* section 15151:

> *An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible.*

This Draft EIR has been prepared to comply with CEQA and the *CEQA Guidelines* and is to be used by local regulators and the public in their review of the potential significant adverse environmental impacts of the proposed project and alternatives, and mitigation measures that would minimize or avoid those potential environmental effects. The City will consider the information presented in this Draft EIR, along with other factors, prior to considering and making any final decisions regarding the proposed project.

1.5.2 Notice of Preparation and Public Scoping

Pursuant to Section 15082 of *CEQA Guidelines*, the lead agency is required to send a Notice of Preparation (NOP) stating that an EIR will be prepared to the State Office of Planning and Research (OPR), Responsible and Trustee agencies, and federal agencies involved in funding or approving the project. The NOP must provide sufficient information in order for responsible agencies to make a meaningful response. At a minimum, the NOP must include a description of the project, location of the project, and probable environmental effects of the project (*CEQA Guidelines* section 15082(a)(1)). Within 30 days after receiving the NOP, responsible and trustee agencies and OPR shall provide the lead agency with specific detail about the scope and content of the environmental information related to that agency's area of statutory responsibility that must be included in this Draft EIR (*CEQA Guidelines* section 15082(b)).

On August 8, 2016, an NOP for the proposed project was submitted to the California OPR, and distributed to Responsible and Trustee agencies and other interested parties for a 30-day review period that ended September 7, 2016. The NOP was mailed to local, state, and federal agencies and groups or individuals who had expressed interest in the project. Copies of the NOP were made available for public review on the Morro Bay WRF website (http://morrobaywrf.com) and at the City offices located at 595 Harbor Street, Morro Bay, CA 93442. Comments on the NOP were received from several individuals and the following public and local agencies: U.S. Fish and Wildlife Service (USFWS), U.S. Bureau of Reclamation, California Department of Fish and Wildlife (CDFW), California Department of Transportation (Caltrans), California Native American Heritage Commission (NAHC), Local Agency Formation Commission (LAFCO), Morro Bay National Estuary Program, Bay Pines Travel Trailer Park, and WRF Citizens Advisory Committee.

Pursuant to *CEQA Guidelines* section 15083, a lead agency may initiate public consultation regarding potential adverse environmental impacts associated with the proposed project. If a project is determined to have statewide, regional, or areawide significance, the lead agency is required to conduct at least one scoping meeting to gauge the range of actions to be analyzed in this Draft EIR pursuant to *CEQA Guidelines* section 15206. One public scoping meeting was held during the 30-day NOP public review period. The meeting was held on August 8, 2016, at the Veterans Memorial Building at 209 Surf Street Morro Bay, CA 93442. The City mailed postcards to all City addresses and property owners on record announcing that public meeting and inviting broad public comments on the scope and content of the analysis to be included in this Draft EIR.

Appendix A includes a copy of the NOP and includes a report containing summaries of the comments received during the scoping meeting, as well as written comments submitted on the NOP. **Table 1-1** presents a summary of comments made relevant to the environmental analyses to be included in this Draft EIR.

TABLE 1-1
SUMMARY OF SCOPING COMMENTS

Environmental Topic	Comment
Alternatives	• Consider alternative WRF sites, including Righetti, Rancho Colina, Giannini, and other Morro Valley sites, and existing WWTP site • Opposition to alternative sites also expressed, in conjunction with support for South Bay Boulevard site. • Consider locating a desalination plant at the power plant to produce potable water. • Consider alternatives that include different site sizes and different assemblages of potential municipal use
Aesthetics	• Evaluate the visibility of the WRF from northbound Highway 1. • Evaluate visual compatibility of the WRF with agricultural surroundings. • Evaluate the potential for the project to increase nighttime light pollution.
Agriculture	• Evaluate impacts of converting agricultural land to municipal uses. • Evaluate compatibility of WRF facilities with neighboring agricultural land uses.
Air Quality	• Evaluate potential for odor to affect neighboring sensitive receptors including the adjacent nursing home and mobile home parks.
Biological Resources	• Evaluate the flow in Chorro Creek • Evaluate the potential for spills to pollute the estuary. • Evaluate the potential for project effects to federally listed species and their critical habitat within the designated critical habitat unit SLO-3. Species that may be in the vicinity of the project include California red-legged frog, Chorro Creek bog thistle, Chorro shoulderband snail.
Cultural Resources	• Consult with all California Native American tribes within the geographic area of the proposed project, incompliance with AB 52 and SB 19. • Evaluate the potential for the project to affect paleontological resources and Tribal resources.
Greenhouse Gas Emissions	• Evaluate increases in carbon emissions associated with pumping wastewater to WRF site and pumping recycled water to injection wells.
Geology, Soils, and Seismicity	• Evaluate the potential for an earthquake to cause a sewage spill and affect downstream habitat, species, residents, water quality in the estuary, and emergency response.
Hydrology & Water Quality	• Evaluate impacts of increasing impervious surfaces at the WRF site and associated runoff. • Evaluate impacts to water quality in the Morro Bay Watershed.
Land Use	• Evaluate consistency with the Comprehensive Conservation and Management Plan
Traffic	• Evaluate potential for the project to increase traffic along Highway 1 and South Bay Boulevard. • Evaluate the potential to increase traffic due to solid waste deliveries • Evaluate the potential for increased traffic at the Highway 1 on/off ramps at South Bay Boulevard. • Evaluate the impacts related to construction traffic at the WRF site, along pipeline alignments, and at the lift station. • Complete an intersection and ramp analysis for the State Route 1 and South Bay Blvd interchange using Highway Capacity Manual (HCM) methodology, including construction and operational impacts to the interchange.

1.5.3 Draft EIR

This Draft EIR has been prepared pursuant to the requirements of *CEQA Guidelines* section 15126. The environmental issues addressed in this Draft EIR were established through review of environmental documentation developed for the project, environmental documentation for nearby projects, and public and agency responses to the NOP. This Draft EIR provides an analysis of reasonably foreseeable impacts associated with the construction and operation of the proposed project. The environmental baseline for determining potential impacts is the date of publication of the NOP for the proposed project, unless otherwise indicated (*CEQA Guidelines* section 15125(a)). The baseline environmental setting for each resource assessed in this Draft EIR describes the existing conditions as of January 2018. The impact analysis is based on changes to existing conditions that result due to implementation of the proposed project.

In accordance with the *CEQA Guidelines* section 15126, this Draft EIR describes the proposed project and the baseline environmental setting, identifies short-term, long-term, and cumulative adverse environmental impacts associated with all phases of project implementation, identifies mitigation measures for significant adverse impacts, analyzes potential growth-inducing impacts, and provides an analysis of alternatives. Significance criteria have been developed for each environmental resource analyzed in this Draft EIR. The significance criteria are defined at the beginning of each impact analysis section.

Environmental Impact Analysis

This Draft EIR provides analysis of impacts for those environmental topics where it was determined in the NOP, or through subsequent analysis that the proposed project would result in "potentially significant impacts." Sections 3.1 through 3.16 discuss the environmental impacts that may result with approval and implementation of the proposed project.

"Significant effect" is defined by the *CEQA Guidelines* §15382 as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant."

Determining the severity of project impacts is fundamental to achieving the objectives of CEQA. The level of significance for each impact examined in this Draft EIR was determined by considering the predicted magnitude of the impact to baseline environmental conditions against the applicable threshold. Thresholds were developed using criteria from the *CEQA Guidelines* and checklist; state, federal, and local schemes; local/regional plans and ordinances; accepted practice; consultation with recognized experts; and other professional opinions.

The assessment of each issue area begins with any relevant baseline setting information that is needed to provide context for the impact analysis that follows. Extraneous setting information that does not shed light on the impact analysis is not included in this Draft EIR.

The impact analysis includes any necessary description of methodologies used and the "significance thresholds," which are those criteria adopted by the State, County, City, or other agencies, universally recognized, or developed specifically for this analysis to determine whether potential effects are significant. Each effect under consideration for an issue area is separately listed with the discussion of the effect and its significance following. Each potentially significant impact includes a numbered impact statement with and significance determination for the environmental impact as follows:

- Class I. Significant and Unavoidable: An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per §15093 of the State *CEQA Guidelines.*
- Class II. Significant but Mitigable: An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings to be made under §15091 of the State *CEQA Guidelines.*
- Class III. Not Significant: An impact that may be adverse, but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.
- Class IV. Beneficial: An effect that would reduce existing environmental problems or hazards.

Following each environmental effect discussion is a list of mitigation measures (if required) and the residual effects or level of significance remaining after the implementation of the measures. In those cases, where the mitigation measure for an impact could have a significant environmental impact in another issue area, this impact is discussed as a residual effect.

Please refer to the Executive Summary of this Draft EIR, which clearly summarizes all impacts and mitigation measures that apply to the proposed project.

Known Areas of Controversy and Issues of Concern

Pursuant to Section 15123(b)(2) of the *CEQA Guidelines,* a lead agency is required to include areas of controversies raised by agencies and the public during the public scoping process for this Draft EIR. Areas of controversy have been identified for the proposed project, based on comments made during the 30-day public review period in response to information published in the NOP. Forty-seven comment letters were received during the NOP scoping period. Those comments are included in Appendix A. Commenting parties have requested the EIR evaluate impacts related to traffic at major freeway ramps and on surface roadways during the pipeline and lift station construction. Additional comments were received on impacts related to a sewage spill risk downstream of the facility, odor, and the compatibility of industrial facilities on agricultural land. The greatest area of known controversy from an environmental perspective are perceived land use compatibility issues with the WRF, including visual, noise, and odor concerns. Those concerns are the reason why great efforts have been made to evaluate and screen alternative locations as described above and in Section 1.2. While project cost is also an area of known controversy, that is not an issue appropriately addressed in an EIR based on CEQA requirements.

1.5.4 Public Review

In accordance with *CEQA Guidelines* section 15105, this Draft EIR has been submitted to the OPR State Clearinghouse for review by state agencies and, as such, is available for public review and comment for a 45-day review period. This Draft EIR or a Notice of Availability has been circulated to federal, state, and local agencies and interested parties, who may wish to review and issue comments on its contents. All comments should be directed to:

Rob Livick, P.E.
Public Works Director
City of Morro Bay
955 Shasta Avenue
Morro Bay, CA 93442
rlivick@morrobayca.gov

During the 45-day public review period, the City will conduct one public meeting open to the general public to answer questions and receive oral comments on this Draft EIR. The time and location of such a meeting will be publicly noticed consistent with the City's adopted noticing procedures.

All oral and written comments received on this Draft EIR will be responded to and included in the Final EIR. Comments on this Draft EIR must be received by 5:00 p.m. on the last day of the 45-day review period unless the City of Morro Bay grants an extension.

1.5.5 Final EIR Publication and Certification

Once this Draft EIR public review period has ended, the City will prepare written responses to all comments. The Final EIR will be comprised of this Draft EIR, responses to comments received on this Draft EIR, and any changes or corrections to this Draft EIR that are made as part of the responses to comments. As the Lead Agency, the City will make the Final EIR available for public review prior to it considering any final decision regarding approval of the proposed project (*CEQA Guidelines* §15089(b)). The Final EIR must be available to commenting agencies at least 10 days prior to certification (*CEQA Guidelines* §15088(b)).

Prior to considering the proposed project for approval, the City will review and consider the information presented in the Final EIR and will certify that the Final EIR has been adequately prepared in accordance with CEQA. Once the Final EIR is certified, the City's City Council may proceed to consider any final decisions regarding the proposed project (*CEQA Guidelines* §15090, §15096(f)). Prior to approving the proposed project, the City must make written Findings in accordance with Section 15091 of the *CEQA Guidelines*. In addition, the City must adopt a Statement of Overriding Considerations (SOC) concerning each significant environmental effect identified in the Final EIR (if any) that cannot be fully mitigated to a less than significant level (see Class I impacts described above). If one is needed, then the SOC will be included in the record of the proposed project's approval and mentioned in the Notice of Determination (NOD) following *CEQA Guidelines* section 15093(c). Pursuant to Section 15094 of the *CEQA*

Guidelines, the City will file an NOD with the State Clearinghouse and County Clerk within five working days, if the proposed project is approved.

1.5.6 Mitigation Monitoring and Reporting Program

CEQA requires lead agencies to "adopt a reporting and mitigation monitoring program for the changes to the project which it has adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment" (*CEQA Guidelines* §15097.) The mitigation measures, if any, adopted as part of the Final EIR will be included in a Mitigation Monitoring and Reporting Program (MMRP) and implemented by the City of Morro Bay.

1.6 Organization of this Draft EIR

This Draft EIR is organized into the following chapters and appendices:

- **ES. Executive Summary:** This chapter summarizes the contents of this Draft EIR.
- **Chapter 1, Introduction and Project Background:** This chapter provides an overview of the proposed project, the purpose of the EIR, and provides the background information for the proposed project.
- **Chapter 2, Project Description:** This chapter provides an overview of the proposed project, described the need for and objectives of the proposed project, and provides detail on the characteristics of the proposed project.
- **Chapter 3, Environmental Setting, Impacts and Mitigation Measures:** This chapter describes the environmental setting and identifies direct and indirect impacts of the proposed project for each of the following environmental resources areas, for which the project was determined to have potentially significant impacts: Aesthetics; Agriculture and Forestry Resources; Air Quality; Biological Resources; Cultural Resources; Geology, Soils, and Seismicity; Greenhouse Gas Emissions and Energy; Hazards and Hazardous Materials; Hydrology and Water Quality; Land Use and Planning; Noise and Vibration; Environmental Justice; Public Services; Traffic and Transportation; Tribal Cultural Resources; and Utilities and Services Systems. If necessary, then measures to mitigate significant impacts of the proposed project are presented for each resource area.
- **Chapter 4, Cumulative Impacts:** This chapter describes the cumulative impacts of the proposed project together with past, current, and probable future projects within the region.
- **Chapter 5, Growth Inducement:** This chapter describes the potential for the proposed project to induce growth.
- **Chapter 6, Alternatives:** This chapter presents an overview of the alternatives development process, describes the alternatives to the proposed project that were considered, and describes the potential impacts of feasible alternatives relative to those of the proposed project.
- **Chapter 7, CEQA-Plus Considerations:** This chapter summarizes the proposed project's compliance with the SWRCB CEQA-Plus requirements.
- **Chapter 8, Report Preparers:** This chapter identifies those involved in preparing this Draft EIR, including persons and organizations consulted.
- **Appendices:** The Appendices contain important information used to support the analyses and conclusions made in this Draft EIR.

CHAPTER 2
Project Description

2.1 Introduction

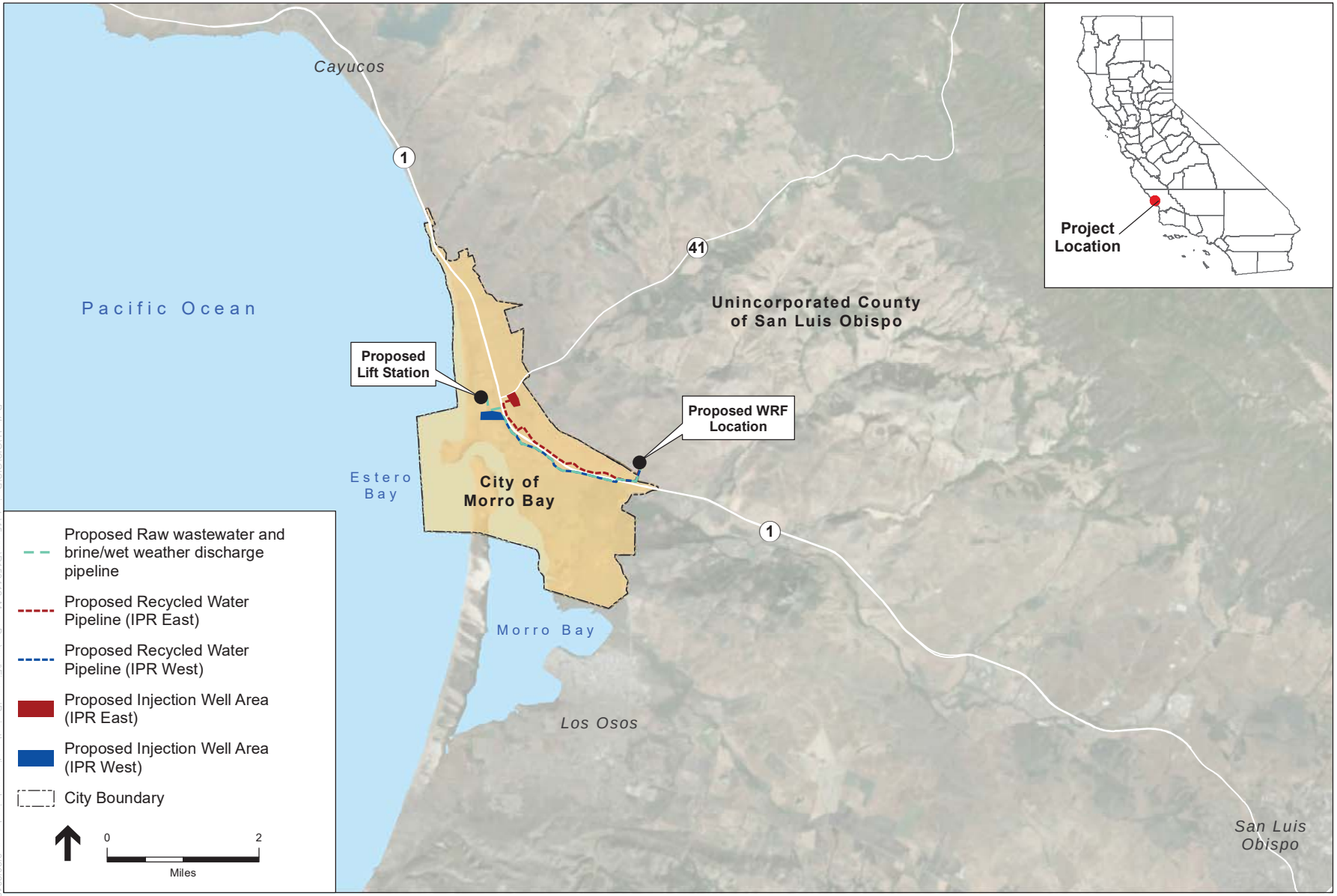
The City of Morro Bay, as the Lead Agency pursuant to CEQA, is proposing to construct the Morro Bay Water Reclamation Facility (WRF) Project (proposed project). The proposed project would provide wastewater treatment services for the City and potentially additional surrounding communities or customers. The existing wastewater treatment facility, the Morro Bay-Cayucos Wastewater Treatment Plant (WWTP), would be replaced by the proposed project and the new treatment facility planned by the CSD. In addition to a new WRF, the proposed project would include (i) administration, operations and maintenance (O&M) buildings, (ii) a new collection system including a lift station and pipelines to convey raw/treated wastewater flows to/from the new WRF and (iii) a new distribution system to convey recycled water from the WRF to new injection wells in the Morro Valley.

The proposed project is intended to provide opportunities for the City to produce and beneficially reuse advanced treated recycled water and to meet or exceed all wastewater treatment requirements of the State Water Resources Control Board. The potential beneficial end use for the advanced treated recycled water is indirect potable reuse (IPR).

2.2 Project Location

The proposed project is located within the City and in unincorporated area of the County of San Luis Obispo adjacent to the City boundaries (sees **Figure 2-1**). The preferred WRF site is currently located in an unincorporated portion of the County adjacent to the City, while the remaining proposed infrastructure is located in the City itself. The WRF would be constructed on an approximately 10- to 15-acre area within a 396-acre parcel that is located along Highway 1, north of the northern terminus of South Bay Boulevard. The proposed Operations and Maintenance buildings would also be located within the WRF site.

The existing WWTP that will be decommissioned is located at 160 Atascadero Road in the City. Note the timing of the decommissioning process will depend in part on the completion of the CSD's proposed wastewater facility, because full decommissioning cannot occur until both new facilities are online. The collection system would include a lift station adjacent to the existing WWTP and multiple pipelines running along an alignment between the lift station and WRF site. The alignment shown in **Figure 2-2** would include: (i) a force main pipeline to convey raw wastewater from the lift station to the WRF site and (ii) a waste discharge pipeline to convey brine or extreme wet weather flows to the ocean outfall.

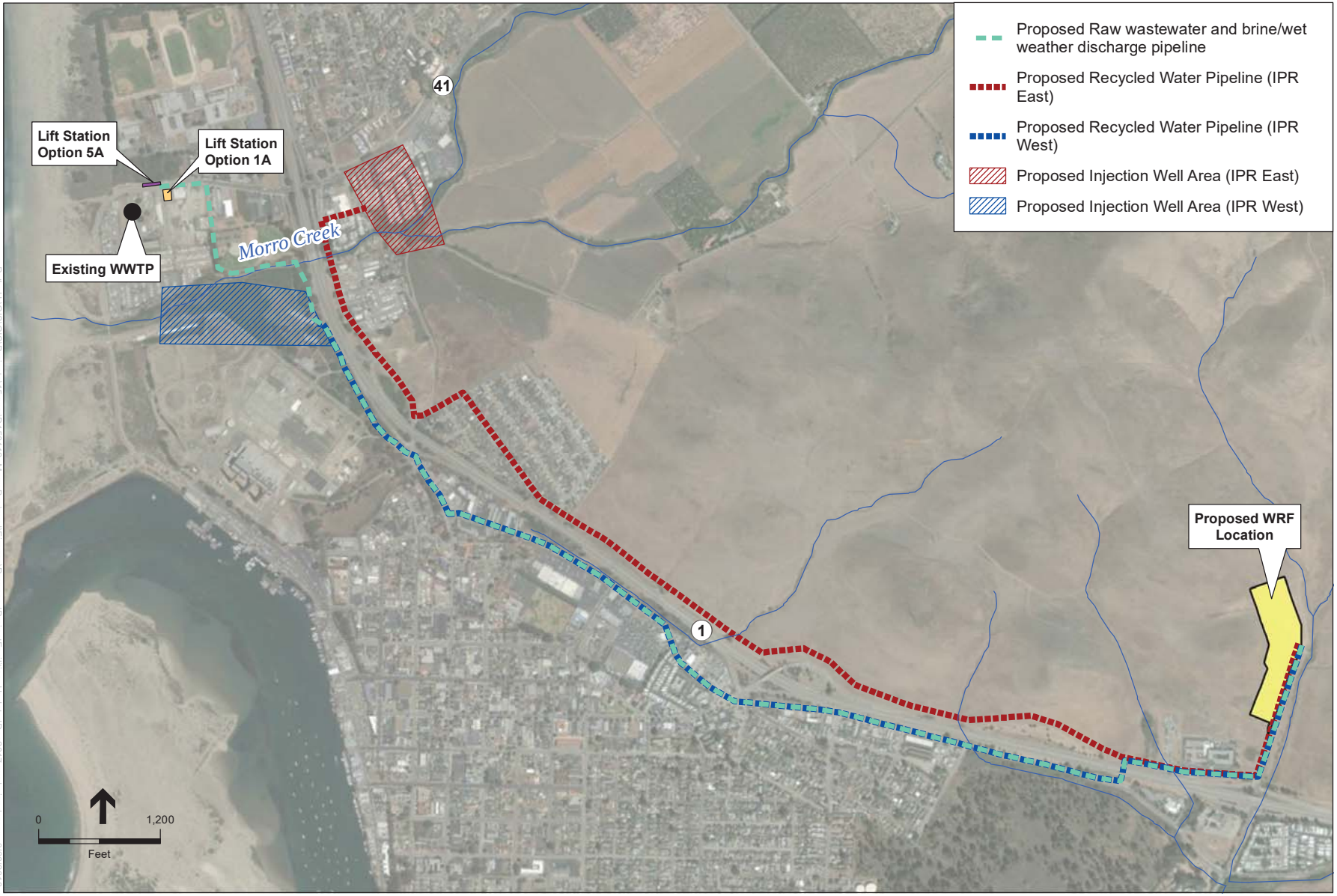


SOURCE: ESRI 2015

Morro Bay Water Reclamation Facility Project. 150412

Figure 2-1

Project Location



SOURCE: ESRI 2016

Morro Bay Water Reclamation Facility Project. 150412

Figure 2-2

Proposed Project

Specifically, the proposed pipeline alignment would travel westward from the WRF generally in the vicinity of Highway 1 (though not in the right-of-way itself, except where it crosses the highway), then along Quintana Road to the proposed lift station. The proposed lift station would be located within the City's existing Corporation Yard on Atascadero Road (Option 1A) or adjacent to Atascadero Road along a public right-of-way (Option 5A). **Figure 2-3** shows the two potential lift station locations, Option 1A and Option 5A. Please refer to Chapter 6 Alternatives Analysis for a summary of the site selection process for the lift station.

The WRF would produce recycled water for reuse. A recycled water pipeline would run from the WRF, either along the same alignment described above (IPR-West) or along a parallel alignment running east and north of Highway 1 (IPR-East) (see Figure 2-2). The pipelines would lead to new groundwater injection wells at one of the two proposed wellfield areas associated with the IPR-West and IPR-East pipelines.

2.3 Project Objectives

The Morro Bay City Council refined and adopted the project objectives for the proposed project on October 24, 2017. The primary goals of the proposed project have not changed. The following refined objectives reflect the input of the community and stakeholders since issuance of the NOP in 2016, demonstrating the purpose and value of the CEQA scoping process:

- All aspects of the WRF project shall be completed ensuring economic value with a special emphasis on minimizing rate payer and City expense
- Communicate WRF project progress including general project status, milestones, and budget/cost information to our community members regularly
- Produce tertiary disinfected wastewater in accordance with 22 California Code of Regulations (CCR) 60001, *et seq.* requirements for unrestricted urban irrigation
- Design to produce reclaimed wastewater to augment the City's water supply, by either direct or indirect means, as described in a master water reclamation plan and to maximize funding opportunities
- Include features in the WRF project to maximize the City's opportunities to secure funding and maximize efficiencies, including energy generation and recovery.
- Design to minimize the impacts from contaminants of emerging concern in the future
- Ensure compatibility with neighboring land uses

SOURCE: ESRI 2015

Morro Bay Water Reclamation Facility Project. 150412

Figure 2-3

Proposed Lift Station Alternatives

2.4 Project Description

The proposed project would include new wastewater treatment facilities at the WRF site that would produce advanced treated recycled water that meets or exceeds 22 CCR 60001 *et seq.* (Title 22) requirements for indirect potable reuse. The proposed project would allow the City to meet the State Water Resources Control Board (SWRCB) requirements and timeline for upgrading to at least full secondary treatment, and would exceed this minimal requirement through development of an advanced water treatment facility (AWTF). Implementation of the proposed project would allow for the decommissioning of the existing WWTP, once CSD's new and independent wastewater facility is completed and operational. During operation, advanced treated recycled water produced at the WRF would be used for groundwater recharge. Brine produced by the treatment process will be discharged through the existing ocean outfall.

The proposed project facilities are described in detail in the draft Water Reclamation Facility Master Plan (Black & Veatch, November 2016) and Master Water Reclamation Plan (MKN & Associates, March 2017). The pertinent details about the project as they pertain to the analysis of environmental impacts are presented in this chapter. For additional detail, the Water Reclamation Facility Master Plan and Master Water Reclamation Plan can be found on the project web site: http://morrobaywrf.com/.

2.4.1 WRF

Treatment Facility

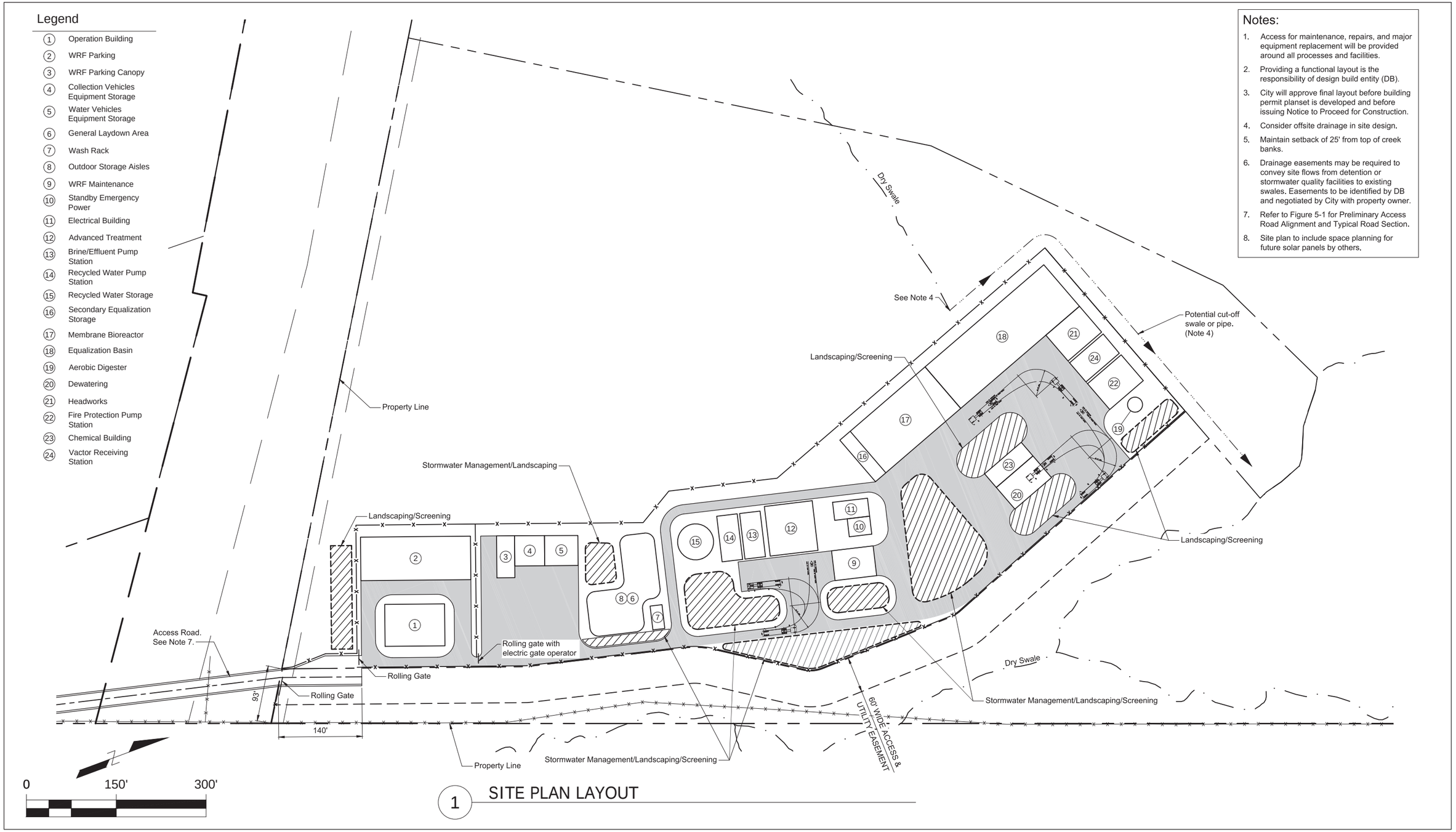
The WRF would provide tertiary treatment to wastewater generated within the City's service area. The WRF would treat a maximum peak daily flow of 2.75 million gallons per day (MGD) and maximum average annual daily flow rate of 0.97 MGD. The resulting tertiary-treated recycled water would be in compliance with 22 CCR 60001 *et seq.* recycled water quality requirements for unrestricted use, and the majority of that water would be further treated and injected for indirect potable reuse. The facility design includes primary treatment; biological and tertiary treatment via or membrane bioreactor (MBR) or process that produces a similar level of water quality; advanced water treatment including membrane filtration (if needed), reverse osmosis, ultraviolet (UV) radiation disinfection, and reverse osmosis; and solids dewatering with off-site solids disposal or on-site reuse. The City is proceeding with a design-build procurement process for the WRF that could allow construction of an alternative treatment technology that would meet the same water quality requirements as an MBR system. Regardless of the secondary and treatment process selected, advanced water treatment consistent with groundwater recharge requirements will be provided. All treatment processes would be covered or housed in one of the proposed WRF buildings. **Table 2-1** lists all of the proposed WRF facilities while **Figure 2-4** shows the conceptual site plan for the WRF site.

Legend

1. Operation Building
2. WRF Parking
3. WRF Parking Canopy
4. Collection Vehicles Equipment Storage
5. Water Vehicles Equipment Storage
6. General Laydown Area
7. Wash Rack
8. Outdoor Storage Aisles
9. WRF Maintenance
10. Standby Emergency Power
11. Electrical Building
12. Advanced Treatment
13. Brine/Effluent Pump Station
14. Recycled Water Pump Station
15. Recycled Water Storage
16. Secondary Equalization Storage
17. Membrane Bioreactor
18. Equalization Basin
19. Aerobic Digester
20. Dewatering
21. Headworks
22. Fire Protection Pump Station
23. Chemical Building
24. Vactor Receiving Station

Notes:

1. Access for maintenance, repairs, and major equipment replacement will be provided around all processes and facilities.
2. Providing a functional layout is the responsibility of design build entity (DB).
3. City will approve final layout before building permit planset is developed and before issuing Notice to Proceed for Construction.
4. Consider offsite drainage in site design.
5. Maintain setback of 25' from top of creek banks.
6. Drainage easements may be required to convey site flows from detention or stormwater quality facilities to existing swales. Easements to be identified by DB and negotiated by City with property owner.
7. Refer to Figure 5-1 for Preliminary Access Road Alignment and Typical Road Section.
8. Site plan to include space planning for future solar panels by others.



1 SITE PLAN LAYOUT

SOURCE: City of Morro Bay, 2017

Morro Bay Water Reclamation Facility Project . 150412

Figure 2-4

Conceptual Layout of WRF Site

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TABLE 2-1
WRF FACILITIES

WRF Facility	Approx. Square Feet (SF)
Headworks	3,500
Odor Control	1,750
Equalization Basin	20,910
Sequencing Batch Reactor or Membrane Bioreactor Basin	13,280
Dewatering Basin	3,850
Sludge Storage Tank	530
Standby/Emergency Power	1,140
Electric Building	1,860
Secondary Equalization Tank	1,260
Microfiltration, Reverse Osmosis, UV Building	6,720
Effluent Pump Station	2,630
Waste Discharge Pump Station	1,800
Chemical/Clean in Place Chemical Storage	4,800
Storm Basin	1,230
Total	**65,260 SF**

The proposed treatment facility components are described in detail in the following sections.

Tertiary Disinfection

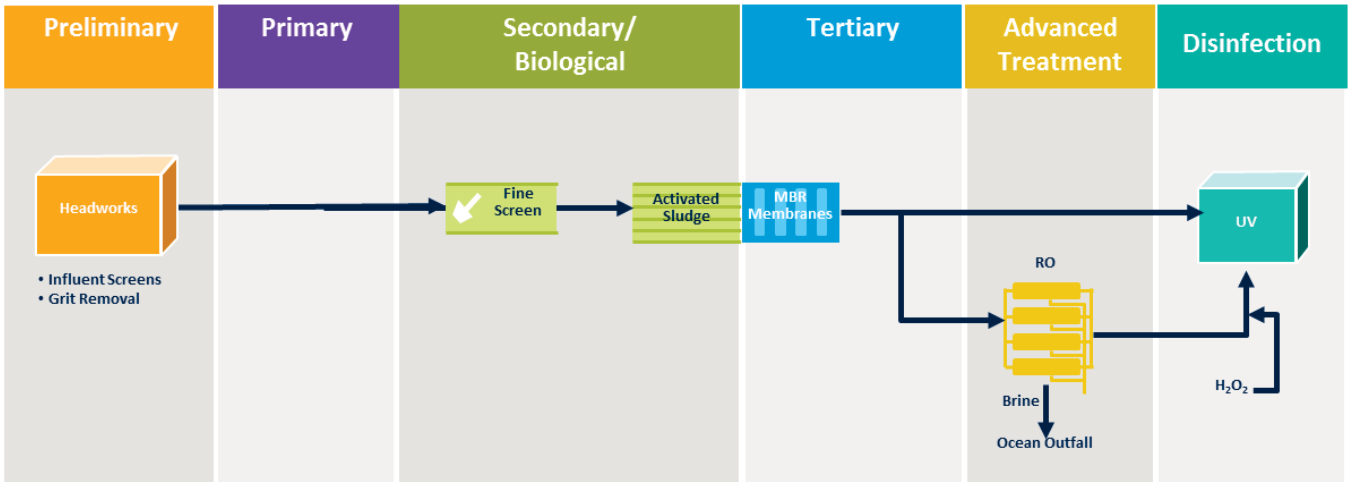
Tertiary disinfection would be achieved via a Combined Secondary/Tertiary Treatment process, or a functional equivalent that is introduced through the design-build procurement process. **Figure 2-5** illustrates the basic process flow for Combined Secondary/Tertiary Treatment.

Combined Secondary/Tertiary Treatment

The combined secondary and tertiary treatment process train consists of several stages including preliminary treatment, biological (secondary) treatment, tertiary treatment, and disinfection. Primary treatment was determined to not be cost effective to include. Biological and tertiary treatment would be accomplished through a membrane bioreactor (MBR) process, described below. It should be noted that a functional process equivalent could be provided later in the design-build stage.

Headworks (Preliminary Treatment)

The headworks or preliminary treatment includes influent screening and grit removal. Influent screening would occur via two mechanically-cleaned screens, one on stand-by and one on duty. Grit removal would be achieved via horizontal flow grit chambers, aerated grit chambers, or vortex grit chambers. One chamber would be used while the other is on standby. Two screening washers and compactors (of which one would be on standby) and one grit washer would also be included in the headworks. The influent flow would then be sent to a concrete equalization basin. The preliminary estimate of size for the basin is 3.3 MG and 20,910 square feet.



Combined Secondary/Tertiary Treatment

SOURCE: Black & Veatch, 2016

Figure 2-5

Process flow for Combined Secondary/Tertiary Treatment

Membrane Bioreactor Process (MBR) (Secondary and Tertiary Treatment)

Secondary or biological treatment aims to remove biodegradable organic material and nutrients using an aerobic process where microorganisms oxidize organic matter into simpler products (City of Morro Bay draft FMP, 2015). Subsequent filtration and disinfection processes are required to provide tertiary treatment. The MBR process includes both a biological treatment process and a filtration process. The biological treatment involves activated sludge and membranes accomplish solids separation. When used with domestic wastewater, MBR processes can produce high quality effluent that can be recycled and is approved for unrestricted irrigation uses per 22 CCR 60001 *et seq*.

Odor Treatment Facilities and Technology

The WRF would be equipped with odor control facilities to capture and treat foul smelling gases produced by raw wastewater before it is exhausted from channels and tanks. Influent untreated wastewater and waste activated solids release a variety of gases as they decompose, including hydrogen sulfide and ammonia. The headworks and preliminary treatment operations tend to release high concentrations of hydrogen sulfide while negligent hydrogen sulfide concentrations and slightly higher concentrations of ammonia are typically produced in the dewatering of anaerobically digested sludge. The odor treatment facilities for the WRF include the Influent Scrubber Complex. The Influent Scrubber Complex would be located near the head of the WRF and would serve to process exhaust air from the headworks.

The Influent Scrubber Complex would use biological scrubbers and/or carbon scrubbers for odor removal. Exhaust air with higher concentrations of hydrogen sulfide gas collected from influent channels, bar screens, the grit removal system, and the regularly utilized portion of the equalization basin would be channeled to the Influent Scrubber Complex to be treated through these biological and/or carbon scrubbers before being released to the atmosphere.

Odor control for the solids dewatering facility will be provided by enclosing the dewatering system in a building with provisions for a future passive or active filtration system. Neither of the two solids dewatering technologies proposed typically produce substantial obnoxious odors.

Solids Management

The process to treat and reuse or dispose of biosolid products would be sludge dewatering and offsite hauling by a regional composting operation. One 1,500 SF (maximum size) sludge storage tank (up to 500,000 gallons) would be used. Sludge dewatering would occur within Dewatering Basin building via a belt press, screw press, or centrifuge.

After biosolids are dewatered, they would be reused by a contracted biosolids management firm. The City would contract with a third-party to haul the WRF biosolids to offsite facilities for composting. Land application would involve applying the biosolids to nonpublic contact sites (e.g. agricultural land, forests) or public parks, plant nurseries or roadsides for the purpose of conditioning the soil or fertilizing crops.

Clean in Place Chemical Storage Facility

A Clean in Place (CIP) chemical storage facility would be constructed for hazardous materials containment and handling. The CIP facility would include a metal canopy to cover chemical tanks, bins, and/or totes in a concrete containment area. Hazardous materials associated with the treatment process include MF/RO membrane cleaning chemicals, disinfection chemicals, and other treatment-related chemicals. Chemicals such as sodium hypochlorite, citric acid, sodium bisulfite, and sulfuric acid would be stored in the CIP. All bulk chemical storage would be located in chemical containment areas fitted to contain spills. Spills would be conveyed to blind sumps for manual pumping and disposal by truck.

Storm Water Management

The WRF would include pavement, roofs, and other impervious areas that would drain to a new onsite storm water basin. A detention pond or multiple ponds are a requirement for City facilities and the County's Coastal Development Permit (CDP). Unlined ponds would be located around the site to retain stormwater and percolate.

Site Access

Access to the WRF site would be provided via South Bay Boulevard off State Highway 1. Although the City is currently in the process of developing easement areas at the WRF site for access, the main access road that would run along the east edge of the property is currently designed to be a 60-foot wide easement with two 12-foot wide lanes and unpaved shoulders. All other access roads would be 16 to 22 feet wide.

Security

The 10- to 15-acre WRF site would be secured by a fence. An electrical gate would be located near the front of the property and be controlled by a key from the O&M buildings and would be monitored by a video surveillance camera.

Lighting

The WRF would be equipped with nighttime lighting sufficient to enable operations. The lighting would be controlled to prevent nighttime glare or direct light shining offsite.

Advanced Treatment Facility

Implementation of the proposed project would include construction and operation of an AWTF at the WRF and associated infrastructure to convey advanced-treated recycled water to the ultimate end uses. Such facilities are described in the Master Reclamation Plan (MKN & Associates, April, 2017). This includes recycled water pipelines to deliver advanced treated water to new groundwater injection wells for groundwater replenishment then utilizing existing City wells to extract groundwater for treatment at the City's water treatment plant.

Reverse Osmosis (RO)

In order to meet 22 CCR 60001 *et* seq. requirements for groundwater recharge for IPR, advanced treatment is required. Advanced treatment is used to remove dissolved salts, small pathogens like viruses, total organic carbon (TOC), specific organic and inorganic chemicals, and emerging contaminants. Reverse osmosis (RO) is the preferred technology to remove dissolved salts. The

RO would likely be located in the same building where UV is located. The RO system applies water under pressure to semi-permeable membranes so that product water passes through and the contaminants are retained. The brine stream would be discharged to the ocean through the existing ocean outfall.

Advanced Oxidation Process (AOP)

In order to achieve the required pathogen and chemical contaminant removal needed to meet 22 CCR 60001 *et seq.* requirements, AOP would be used. AOP involves the generation of highly reactive free radical intermediates that are applied for the destruction of various contaminants (City of Morro Bay, draft FMP, 2015). The UV disinfection process would be coupled with hydrogen peroxide treatment to provide an AOP.

Recycled Water Storage and Pumps

A 500,000-gallon coated steel recycled water storage tank would provide operation storage for equipment maintenance or rain events that may inhibit the ability to add water to the aquifer. Two 15 or 30 HP recycled water pumps (one on standby) would convey water to offsite injection wells.

Operations and Maintenance Buildings

WRF Operation Building

As one of the primary onsite support facilities, the Operations Building would be an approximately 7,000 SF single-story building located in the southernmost portion of the WRF site. The Operations Building would consist of WRF employee offices, a reception area, a conference room, a break room, copy room, janitorial room, sample storage room, operations center, restrooms, uniform storage and wash room, map room, server/electrical room, and an outside boot wash.

Maintenance Building

The proposed Maintenance Building would be approximately 5,600 SF. The Maintenance Building would be constructed as a single-story building with a single occupancy restroom, Operations Room, and an electronics workshop. The building would have two 14-foot wide rolling doors and the remaining area would be an open shop and storage area.

Buildings and Vehicle Storage

Table 2-2 lists the types of facilities and vehicle storage facilities to be located within the WRF site.

Site Solar Farm

In order to offset energy usage and greenhouse gases produced by the WRF, an 800 kW ground-mounted fixed track solar farm that would require up to two-acres may be installed onsite. A roof-mounted solar panel arrangement setup would also be considered. The placement of the solar farm onsite at the WRF would be developed during the design phase of the project.

TABLE 2-2
BUILDINGS AND VEHICLE STORAGE FACILITIES

Building and Vehicle Storage Facility	Type	Approximate Area (SF)
Parking & Circulation Driveways	Asphalt	TBD
Collections Pump and Fitting Storage	Building	760
Water Pump and Fitting Storage	Building	760
Water Vehicle Equipment Storage	Covered parking	2,790
Collection Vehicle Equipment Storage	Covered parking	2,500
Wash Rack	Uncovered	800
Outdoor Storage Aisles	Outdoor materials storage bins, partially covered	7,500
General laydown area	Uncovered	2,500

Architectural Treatments

The proposed WRF building forms and exterior materials reflect community input from the Visual Preference Survey conducted at public workshops in 2016 to 2017. The WRF architectural character would also be informed by other development along the Highway 1 corridor. The overall impression of the architecture of the WRF complex would be intended resemble a dairy farm or ranch. Generally, the proposed building forms would be recognizably agricultural, using simple rectangular floor plates and gable roofs at varying slopes that reflect the use of the enclosed volumes. These building shapes would be articulated where appropriate with clerestories and roof vents. The orientation of and relationship between roofs would be chosen to maximize solar exposure for the potential application of photovoltaics for power generation.

While the individual buildings would borrow their configuration from the agricultural model, exterior materials would be applied in response to functional requirements for durability and maintainability, and would produce a slightly more contemporary, less literal version of this building type. Roofs would be standing-seam metal, and walls would be a combination of exposed concrete masonry, metal siding, cement board siding, and plaster.

Colors would be selected for compatibility with the prevalent pattern along the neighboring stretch of Highway 1, such as red roofs and white or light brown walls to blend well with the surrounding environment, as seen at Cuesta College, Camp San Luis, and a number of the barns on farm properties. Tree plantings will further reinforce the historical settlement pattern of the area and provide some visual screening of structures, using drought tolerant species such as deodor cedar.

2.4.2 Collection System

The proposed project would not require modification of the existing sewer collection system. All wastewater would continue to flow to a collection point near the existing WWTP site, where new offsite conveyance facilities would be built to connect the existing wastewater infrastructure to the proposed WRF site. As part of the proposed project, a new lift station and new conveyance pipelines would be installed.

Lift Station

A new lift station designed to convey up to 7.05 MGD would be constructed near the existing WWTP site to convey raw wastewater uphill through the proposed force main to the new WRF site. **Figure 2-6** shows a general conceptual rendering of the proposed lift station. There are two potential sites for the proposed lift station; in addition, the existing influent pump station will be reused as much as possible:

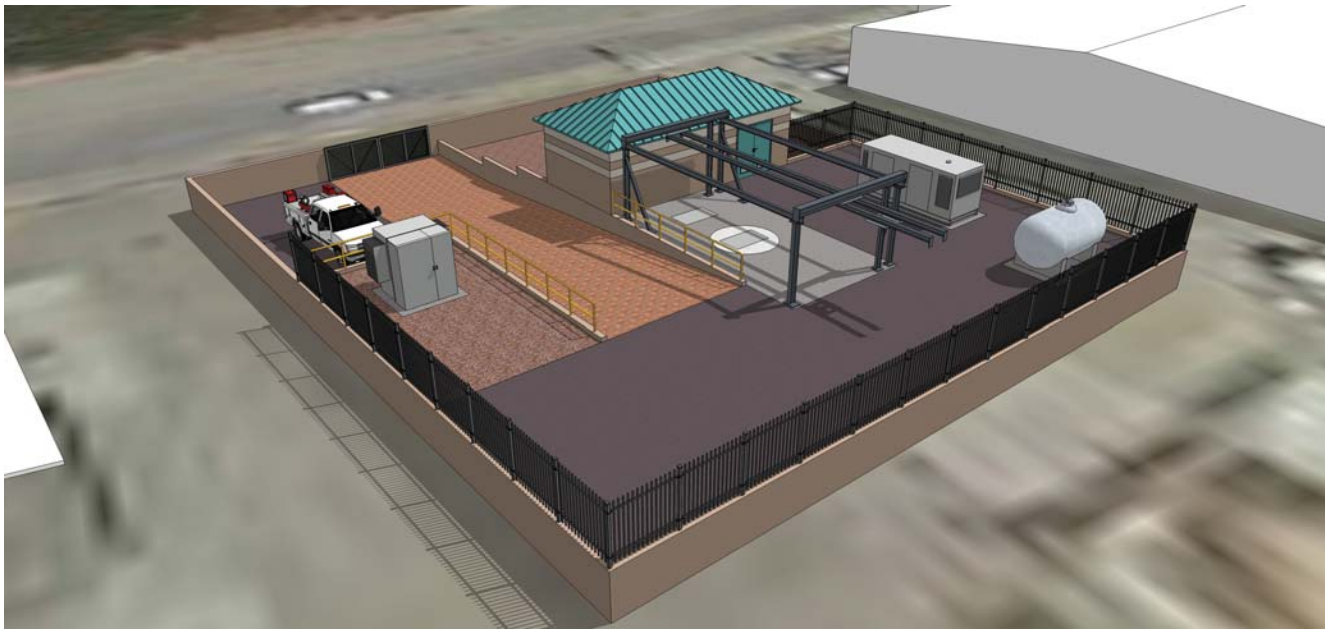
- Option 1A: The site is located directly adjacent to Atascadero Road, on the south side, partially within public right of way. It is located adjacent to the City's existing water treatment plant.
- Option 5A: The site is located directly adjacent to Atascadero Road, on the north side, partially within public right of way. It is located across from the City's existing water treatment plant.

Figure 2-7a and **Figure 2-7b** show the specific site layouts for Option 1A and Option 5A. The lift station would house a solids handling wastewater pump in a concrete, rectangular shaped wet well. A separate control building would house electrical equipment, a motor control center, switchgear, and controls for the submersible pump facilities. Odor control measures such as the addition of calcium ammonium nitrate, use of an onsite odor scrubbing system and installation of sealed hatches to reduce the release of odors may also be applied.

Conveyance Pipelines

The offsite conveyance pipelines are comprised of a new force main to convey raw wastewater from the existing collection system and proposed lift station to the WRF site, a recycled water pipeline to convey treated water from the WRF to injection wells, and a waste discharge pipeline to convey brine or treated wet weather flows (compliant with California Ocean Plan discharge requirements) to the ocean outfall.

The proposed route of the raw wastewater and waste discharge conveyance pipelines is shown in **Figure 2-8**. The two options for the recycled water conveyance pipeline alignments are described further below and shown in **Figure 2-9**. Raw wastewater and brine/wet weather discharge pipelines would run along the proposed alignment that starts from the proposed lift station and travels east along Atascadero Road. The pipeline alignment then travels south along J Street and east around the perimeter of Lila Keiser Park, before following an existing parkway/bike path across Morro Creek. It continues southeast along the Main Street right-of-way until it joins and follows Quintana Road. It should be noted that the alignment route runs through some City streets that already support numerous existing utilities. Continuing in a southeast direction on Quintana Road, the pipeline passes through street crossings of Kennedy Way, Morro Bay Boulevard then Kings Avenue, Bella Vista Drive, and La Loma Avenue. The proposed alignment crosses under Highway 1 west of the South Bay Boulevard interchange and continues along Teresa Road to South Bay Boulevard, where it heads north towards the proposed WRF site. Both the 16-inch force main and 16-inch waste discharge pipeline would require casing for the Highway 1 crossing.



Morro Bay Water Reclamation Facility Project . 150412

SOURCE: MKN, 2017

Figure 2-6

Proposed Lift Station: Conceptual Layout for Option 1A

SOURCE: ESRI 2015

Morro Bay Water Reclamation Facility Project. 150412

Figure 2-7a

Proposed Lift Station: Option 1A

SOURCE: ESRI 2015

Morro Bay Water Reclamation Facility Project. 150412

Figure 2-7b

Proposed Lift Station: Option 5A

SOURCE: ESRI 2015

Morro Bay Water Reclamation Facility Project. 150412

Figure 2-8

Proposed Raw Wastewater and Brine/Wet Weather Discharge Pipeline Alignment

SOURCE: ESRI 2016

Morro Bay Water Reclamation Facility Project. 150412

Figure 2-9

Proposed Indirect Potable Reuse Overview

Treated wet weather flows and/or brine from the WRF would be discharged through the existing ocean outfall, similar to existing conditions. The size and capacity of the outfall is sufficient to accommodate the proposed project. Thus, a pipeline would be built to convey treated wet weather flows and/or brine from the WRF site back to the ocean outfall in the vicinity of the existing WWTP; a new connection to the ocean outfall would be required. Flow through the pipeline would be pumped from the WRF site to the high point along the Quintana Road alignment, then likely be gravity driven to the outfall based on topography. The pipeline would be designed to handle full capacity flow from the WRF, although discharges through the pipeline and outfall are intended to be minimized as advanced-treated recycled water is diverted elsewhere for beneficial reuse.

2.4.3 Recycled Water Distribution System and Injection Wells

One of the ultimate goals of the proposed project is to enhance the City's water supply portfolio. The proposed end use for recycled water produced at the WRF is IPR, which would involve groundwater replenishment in the Morro Valley using subsurface application like injection wells. A recycled water distribution system would be built to convey water to one of two injection well areas. Project facilities may include, but not be limited to, the AWTF, recycled water conveyance pipeline, a pump station, injection wells and monitoring wells.

The wells would be located within proposed wellfield areas either at the Narrows, which is the area east of the City near Highway 41 where Morro Creek and Little Morro Creek converge (IPR-East), or an area west of Highway 1 near the bike path (IPR-West) (see Figure 2-9). Wells would be located on vacant lands owned by the City or within rights-of-way, and sited to avoid environmentally sensitive habitat and riparian/wetlands areas. The injection well casing would be belowground with some aboveground surface piping to connect the wells to the distribution systems. The injection wells would have some valves, a flow meter, and a small control panel with an antenna housed in a small shed or a weatherproof electrical enclosure. The injection well sites would be enclosed with fencing and have relatively small footprints of approximately 200 square feet. Each injection well may have up to two associated monitoring wells, one upgradient and one downgradient of the injection well. If the injection wells are located in close proximity, then it is possible fewer monitoring wells will be required. The monitoring wells will consist of an underground well casing and a lockable well cap. No permanent electrical or mechanical equipment would be associated. Regular access would be required to perform the required groundwater monitoring.

A blend of the injected water and groundwater would be extracted from the existing City wells to be treated at the City's Brackish Water Reverse Osmosis (BWRO) treatment facility at the existing desalination plant adjacent to the existing WWTP (160 Atascadero Road) then distributed for potable use. That end use will require use of the City's existing storage, distribution, pumping, turnouts, and delivery facilities.

Figure 2-9 shows the proposed location of the IPR-East and IPR-West recycled water pipelines and wellfields, one of which would be selected during subsequent design phases of the proposed project. The IPR-East and IPR-West are described below.

IPR - East

The potential end use of IPR-East involves the conveyance of recycled water from the WRF to three to five injection wells near the Narrows. The 12-inch, 15,100 linear-foot PVC recycled water pipeline would travel along the eastern side of Highway 1 to Bolton Drive, then east on Radcliff Avenue. It would continue north on Main Street, and west down Errol Street. Two 30-HP recycled water pumps would be installed at the WRF to help convey the recycled water to the injection wells. One of the pumps would be on stand-by.

IPR – West

Similar to IPR- East, recycled water would be conveyed to three to five separate injection wells located near the bike path north of the power plant from the WRF. The 12-inch, 15,200 linear-foot recycled water pipeline would travel the western side of Highway 1 along Quintana Road to Main Street until the bike path to the injection wells. Up to two monitoring well per each injection well would be installed, upstream and downstream of the injection well locations. Two 15-HP recycled water pumps would be installed at the WRF with one being a standby pump.

2.4.4 Decommissioning of Current WWTP

The existing WWTP would continue in operation until the new WRF is in full operation and the system is no longer delivering flow to the existing WWTP. The timing of decommissioning would also depend on when CSD's new wastewater facility is online and operational, since that agency also uses the current WWTP to treat wastewater. The decommissioning of the current WWTP would include the shutdown, demolition, and complete removal of all WWTP facilities and infrastructure such as the piping located four to five feet below grade. **Table 2-3** lists all of the structures to be demolished and removed from the existing WWTP site. All materials would either be discarded and hauled to a nearby landfill or salvaged.

TABLE 2-3
EXISTING WWTP STRUCTURES TO BE DEMOLISHED

Structures	
Administration Building	Chlorine Building
Primary Sedimentation Tanks	Chlorine Contact Tank
Biofilter Pump Station and Motor Control Center (MCC) Building	Digesters
Biofilters	Maintenance Building
Secondary Sedimentation Tank	Hydropneumatic Tank
Secondary MCC Building	Waste Gas Burner
Sludge Drying Beds	Collection Shed

The existing WWTP is located on a 5.7-acre site that includes the WWTP and a self-contained household hazardous waste and electronic waste collection facility. It is assumed the WWTP infrastructure would be removed as part of the demolition project. After demolition and removal of facilities, backfilling, compaction, and grading would occur to leave the site cleared, cleaned and available for other uses in the future.

2.5 Construction

2.5.1 Construction Schedule

The WRF is scheduled to begin construction in June 2019. The proposed project would take approximately 3 years for construction, commissioning, startup, and verification testing and would be completed by Spring of 2022. **Table 2-4** summarizes the proposed construction and estimated duration for those activities. Construction of the proposed project facilities would occur during the weekdays, Monday through Friday, consistent with the City's Noise Ordinance requirements and Morro Bay Municipal Code Subdivisions 9.28.030. I., unless otherwise noted.

TABLE 2-4
ESTIMATED CONSTRUCTION DETAILS

Project Component	Activities	Duration	Construction Equipment
WRF	Vegetation removal, grubbing, excavation, stockpiling, truck loading/transport, backfilling, paving	30 Months	Backhoes, excavators, cranes, dump trucks, front end loader, water trucks, paver, rollers, flatbed delivery trucks, concrete trucks, pickup trucks, compressors, and jackhammers
Conveyance Pipelines	Pavement removal, pavement replacement, excavation, trenching	12 Months	Backhoes, excavators, crane, dump trucks, front end loader, water trucks, paver, roller, flatbed delivery trucks, concrete trucks, trenchless construction equipment (horizontal directional drilling rig, pilot tube guided boring machine, auger bore and jack equipment, etc.), pickup truck, compressors, jackhammer
Lift Station	Grading, excavation,	10 Months	Pile driving and/or ground improvement grouting equipment, auger truck, backhoe, boom lift truck, excavator, plate compactor, scaffolding dump trucks, front end loader, pickup truck, water trucks, paver, rollers, flatbed delivery trucks, and concrete trucks
Injection Wells	Drill rig for well completion and equipping of wells	2 Months	Dump trucks, flatbed delivery trucks, pickup truck

2.5.2 Construction Equipment

Construction of the new facilities would involve the use of a variety of heavy construction machinery onsite. The majority of equipment and vehicles would be associated with the intensive earthwork and the structural and paving phases of construction. Large construction equipment such as backhoes, compactors, cranes, excavators, haul trucks, pavers, and rollers would be used during the construction phase of the proposed project. **Table 2-5** below describes the anticipated number of construction equipment required for each component and phase of construction, based on professional knowledge of similar projects.

TABLE 2-5
ESTIMATED CONSTRUCTION EQUIPMENT REQUIRED

	WRF							
Equipment	**Site Preparation**	**Grading/Excavation**	**Construction**	**Paving**	**Pipelines**	**Lift Station**	**Injection Wells**	**Decommission existing plant**
Auger rig							1	
Auger truck						1		
Backhoes	2	2	2	2	2	1	1	1
Boom lift truck						1		
Stationary Cement and Mortar Mixers			3	3				
Compactor		1	1	1	1	1		1
Cranes			2				1	
Drill rig							1	
Dump truck	1	2	1		1			
Excavators		2			1	1		1
Forklift			1				1	
Jackhammers			2	2				2
Loaders	1	2						1
Pavers				1	1	1		
Paving Equipment				1	1	1		
Pickup trucks	1	1	5		1	1	1	1
Rollers				1				1
Shoring Equipment			1		1	1		
Water trucks	1	1	1	1	1	1		1

NOTES:
The types and quantities of equipment are approximate and are intended only for estimating construction related impacts. Actual equipment type and quantity may vary.

2.5.3 Construction Activities

The following describes the construction activities required for each facility type of the proposed project. Staging areas for construction are anticipated to be onsite for project components or within existing City properties or City rights-of-way.

WRF and O&M Facilities

Construction of the WRF and O&M buildings would consist of site clearing and grading, excavation, construction of treatment buildings and installation of equipment, and site completion. Construction equipment would include backhoe, loader, dump trucks, crew trucks, concrete trucks, cranes, personal vehicles, compactor, delivery trucks, and a water truck.

Traffic entering and leaving the site would include construction workers' daily arrival and departure, equipment deliveries, hauling of excavation spoil, concrete deliveries, and other construction related traffic. It is estimated that 20 to 30 construction workers would be at the WRF site daily for 24 months.

Approximately 26,650 cubic yards (CY) of soil is anticipated to be hauled off site. Assuming 10 CY per truck load on average, approximately 2,665 dump truck trips would be required in order to remove the excavated materials. Approximately 15 acre-feet (AF) of water would be used for dust control. **Table 2-6** summarizes estimated construction haul trips for various materials and equipment.

TABLE 2-6
ESTIMATED WRF SITE CONSTRUCTION HAUL TRIPS

Purpose	Number of Truck Trips
Soil Removal	2665
Pavement Deliveries	1,226
Structural Fill Deliveries	934
Concrete Deliveries	1,502
Masonry Deliveries	65
Steel Deliveries	93
Equipment Deliveries	90
Total	**6,574**

Source: Based on Facility Master Plan (Black & Veatch, 2016)

Estimated quantities for paving the site and access roads using asphalt totaled approximately 10,645 cubic yards of paving materials. Assuming an average truck capacity of 34,000 pounds, or approximately 8.68 cubic yards of pavement material per load, pavement deliveries for the proposed project would result in approximately 1,226 truck trips during construction of the WRF.

Structural fill imported for the WRF is estimated to be approximately 7,125 cubic yards. Assuming an average truck capacity of 34,000 pounds, or approximately 7.63 cubic yards of

structural fill per load, structural fill deliveries for the proposed project would result in approximately 934 truck trips during construction of the WRF.

Based on preliminary sizing of the proposed tanks and buildings, it is estimated that approximately 12,016 cubic yards of concrete would be poured. Since it is estimated that concrete mixers carry an average of 8 cubic yards of concrete, the proposed project would result in approximately 1,502 concrete truck trips during construction of the WRF.

Masonry for buildings and retaining walls was estimated to cover approximately 39,312 square feet of building or wall surface area. Assuming 8-inch thick split face block and an average truck capacity of 34,000 pounds or roughly 605 square feet of building or wall surface area, masonry deliveries for the proposed project would total approximately 65 truck trips during construction of the WRF.

Steel for structural support and roofing of proposed structures is estimated to total approximately 1,559 tons of material. Assuming an average truck capacity of 34,000 pounds, or 17 tons of steel, per load, steel deliveries for the proposed project would result in approximately 93 truck trips during construction of the WRF.

In addition to soil removal, structural fill delivery, and concrete delivery, there would also be other materials and equipment delivered to the site including piping, building materials, concrete forms, roofing materials, HVAC equipment, pumps, diffusers, screens, belt presses, and screw presses. These additional deliveries are estimated to occur with a frequency of every three days and would account for an additional 90, 40-foot flatbed truck trips.

Lift Station

The lift station facility would consist of a rectangular shaped wet well made of concrete, submersible pumps, and a separate control building. The separate control building would house electrical equipment, a motor control center, switchgear, controls for the submersible pump facilities, a standby diesel engine-generator, and odor control facilities/measures. The dimensions for the wetwell would be approximately 16 feet wide, 30 feet long, and 26 feet deep. Construction of the lift station would involve installation of piping and electrical equipment, excavation and structural foundation installation, pump house construction, pump and motor installation, and final site completion.

The construction equipment needed for lift station installation generally includes: auger truck, backhoe, boom lift truck, excavator, plate compactor, and scaffolding. It is estimated 7 to 15 construction workers would be required daily for 6 to 8 months for lift station construction. Excavated soils would be reused onsite to the extent feasible and otherwise disposed offsite. Concrete would be required for construction of lift station foundations and pads.

Approximately 537 cubic yards of soil is anticipated to be hauled off site. Assuming 10 cubic yards per truck load on average, approximately 54 dump truck trips would be required in order to remove the excavated materials. Approximately 4.2 AF of water would be required for the

construction of the lift station. **Table 2-7** summarizes construction haul trips for various materials.

TABLE 2-7
ESTIMATED LIFT STATION CONSTRUCTION HAUL TRIPS

Purpose	Number of Truck Trips
Soil Removal	54
Structural Fill Deliveries	5
Concrete Deliveries	51
Masonry Deliveries	6
Steel Deliveries	6
Equipment Deliveries	5
Total	127

Source: Based on Facility Master Plan (Black & Veatch, 2016)

Structural fill imported for the lift station is estimated to be approximately 36 cubic yards. Assuming an average truck capacity of 34,000 pounds, or approximately 7.6 cubic yards of structural fill, per load, structural fill deliveries for the proposed project would result in approximately 5 truck trips during construction of the lift station.

Based on preliminary sizing of the lift station, it is estimated that approximately 408 CY of concrete would be poured. Since it is estimated that concrete mixers carry an average of 8 CY of concrete, the proposed project would result in approximately 51 concrete truck trips during construction of the lift station.

Masonry, was estimated to cover approximately 3,424 square feet of wall surface area. Assuming 8” thick split face block and an average truck capacity of 34,000 pounds or roughly 605 square feet of building or wall surface area, masonry deliveries for the proposed project would total approximately 6 truck trips during construction of the lift station.

Steel deliveries are estimated to total approximately 48 tons of material. Steel materials include concrete reinforcement, roofing material, and structural members. Assuming an average truck capacity of 34,000 pounds, or 17 tons of steel, per load and that different materials would be delivered separately (for example, rebar would not be delivered on the same truck as steel roofing decks), steel deliveries for the proposed project would result in approximately 6 truck trips during construction of the WRF.

In addition to soil removal, structural fill delivery, and concrete delivery, there would also be other materials and equipment delivered to the site including piping, building materials, concrete forms, roofing materials, HVAC equipment, pumps, diffusers, screens, belt presses, and screw presses. These additional deliveries are estimated to occur with a frequency of every three days and would account for an additional five, 40-foot flatbed truck trips.

Conveyance Pipelines and Force Main

Construction of proposed conveyance pipelines would involve trenching using a conventional cut and cover technique or trenchless techniques where necessary, such as under Highway 1 and to avoid sensitive drainages and roadway intersections if utilities at a particular location under a street right-of-way are congested. Pipeline would be installed within existing roadway rights-of-ways to the extent feasible.

The trenching technique would include saw cutting of the pavement, trench excavation, pipe installation, backfill operations, and re-surfacing to the original condition. Construction areas in roadways would be approximately 20 feet wide across one traffic lane. Open trenches would be approximately 10 to 15 feet wide. The construction corridor would be wide enough to accommodate the trench, staging areas, and vehicle access. Offsite construction staging areas would be identified by contractors for pipe lay-down, soil stockpiling, and equipment storage. On average 150 feet of pipeline would be installed per day.

Trenches would be backfilled at the end of each work day or temporarily closed by covering with steel trench plates. The construction equipment needed for pipeline installations generally includes: backhoes, excavators, dump trucks, shoring equipment, steam roller, and plate compactor. Typically, 15 to 20 workers would be required for pipeline installations. Excavated suitable soils would be reused as backfill and other disposed offsite.

Trenchless construction methods would be employed to install pipelines under sensitive drainages (e.g., Morro Creek) and highways (e.g., Highway 1) and major roadway intersections if necessary (e.g., Quintana roundabout). Trenchless installation could include either suspension of pipelines on existing bridges or directional drilling or jack and bore methods. Directional drilling or jack and bore methods would require an approximately 50-foot x 100-foot temporary construction area on each side of the crossing for installation shafts (pits), materials, and equipment. Trenchless crossings would be designed to avoid physical impacts to the flood control levee.

Approximately 12,274 cubic yards of soil is anticipated to be hauled off during pipeline construction. Assuming 10 cubic yards per truck load on average, approximately 1,228 dump truck trips would be required in order to remove the excavated materials. Approximately 4.2 AF of water would be needed during construction of the pipelines. **Table 2-8** summarizes construction haul trips for various materials.

Estimated quantities for repaving roads using asphalt totaled approximately 8,200 cubic yards of paving materials. Assuming an average truck capacity of 34,000 pounds, or approximately 8.68 cubic yards of pavement material, per load, pavement deliveries for the proposed project would result in approximately 945 truck trips during installation of the pipelines.

Structural fill imported road repair is estimated to be approximately 2,627 cubic yards. Assuming an average truck capacity of 34,000 pounds, or approximately 7.6 cubic yards of structural fill, per load, structural fill deliveries for the proposed project would result in approximately 345 truck trips during installation of the pipelines.

TABLE 2-8
ESTIMATED PIPELINE CONSTRUCTION HAUL TRIPS

Purpose	Number of Truck Trips
Soil Removal	1,228
Pavement Deliveries	945
Structural Fill Deliveries	345
Concrete Deliveries	13
Pipe	40
Total	**2,571**

Source: Based on Facility Master Plan (Black & Veatch, 2016)

Concrete deliveries were estimated to be approximately 98 cubic yards. Assuming a typical concrete mixer carries an average of 8 cubic yards of concrete, approximately 13 truck trips would take place during installation of the pipelines.

Pipe deliveries were estimated to be approximately 17,225 linear feet of 16-inch ductile iron pipe for the influent force main and recycled water pipeline, 14,974 linear feet of 18-inch HDPE pipe for the brine line, and 1,176 linear feet of 24-inch casing for jack and bore locations. Assuming flatbed trucks can deliver 50, 16-inch ductile iron pipes, 40, 18-inch HDPE pipes, or 24, 24-inch casings, approximately 40 truck trips would occur during installation of the pipelines.

Wells

Construction of injection wells would include site preparation, mobilization of equipment to the well site, well drilling, water quality testing, installation of the well casing, gravel packing and finishing with a cement seal. Water discharged during well drilling would be conveyed to onsite temporary settling basins and discharged to the storm drain after drilling is complete under a permit from the Regional Water Quality Control Board. Construction equipment typically would include an auger rig, drill rig, small crane, welder, all-wheel drive forklift, pipe trailer, generator, Baker tanks, circulation pits and a backhoe. The duration of the well drilling/testing operation is estimated at approximately two to four months. It is estimated that 4 to 8 workers would be required during construction of each well. Approximately 2.6 AF of water would be required for construction of the wells.

For approximately one month, daily 24-hour drilling would be required. To drill the well, the drill rig must run 24 hours-a-day; otherwise, the walls of the borehole can collapse. Temporary overhead nighttime lighting would be installed during the well drilling period.

Existing City wells would be used to extract all groundwater. Water would be conveyed to the existing BWRO treatment facility and treated for potable use.

Decommissioning of Existing WWTP

Following construction and verified operation of the proposed project, the existing WWTP facility would be decommissioned. The decommissioning is expected to occur over three months. The WWTP is jointly owned and operated by the City and CSD. CSD is currently pursuing a new wastewater treatment facility of its own. The existing WWTP cannot be decommissioned until both the City and CSD complete and commission their new facilities.

Decommissioning the existing facility will involve the following:

- Once flow to the existing plant has ceased, the liquid treatment train will be taken out of service. Basins and process units will be pumped down and cleaned before demolition begins. Liquid from the cleaning process can be pumped or transported to the new WRF.
- Digesters and sludge drying beds stay in service until the remaining sludge is processed and disposed of. Once emptied of sludge, they can be cleaned before demolition. Liquid from the cleaning process can be pumped or transported to the new WRF.
- Complete demolition and removal of all structures from the site, except for the outfall air release structure and potentially the headworks/influent lift station. Facilities to remain are expected to be upgraded and used as a part of the proposed project. Facilities associated with the household hazardous waste program, operated by San Luis Obispo Integrated Waste Management Association (IWMA), will be relocated by IWMA.
- Structures and equipment will be completely removed (above and below grade). Buried pipe deeper than 6 feet will be filled with a cement slurry and abandoned in place. Trenches and excavation will be backfilled and compacted with clean structural fill and brought up to grade. Equipment will be disposed of or salvaged per the recommendations in the draft FMP.
- Disposal of demolition rubble will be to a nearby Class 3 landfill, such as Cold Canyon Landfill. Hazardous waste will be transported to a Class 1 or Class 2 landfill, such as Kettleman Hills Landfill.
- Upon completion of demolition work and upgrades to facilities which are to remain, the site will be graded to fit the basic drainage pattern of the surrounding facility and be surfaced with a thin layer of gravel.
- Diverting flow to the new lift station and WRF, allowing long-term process equipment such as digesters and sludge drying beds to run their course, and disposing of treated sludge from the long-term process equipment

Based on preliminary estimates for material haul-off and backfill import, approximately 6,519 cubic yards of material would need to be hauled off and 5,726 cubic yards of import would need to be brought on site for backfilling. Assuming an average truck capacity of 10 cubic yards, approximately 652 truck trips would be required for hauling demolished materials offsite and approximately 573 truck trips would be needed to import material for backfilling the site.

2.6 Project Operation and Maintenance

The proposed project would be operational by Spring 2022, when full commissioning of the tertiary treatment and advanced treatment facilities is expected to be completed.

2.6.1 WRF

After construction is completed and the facility is commissioned and operating, there would be operational traffic associated with worker commute, chemical deliveries, screenings removal, and biosolids removal. Approximately 4 workers could be working at one time at the facility, resulting in an estimated 8 employee commutes per day, and assuming 2 workers utilize maintenance vehicles for offsite work, 4 maintenance vehicle trips per day. Employee commutes and maintenance vehicle trips are anticipated to result in approximately 320 vehicle trips per month.

While the proposed treatment processes are not chemical intensive, regular deliveries of various chemicals would be required. It is estimated there would be an average of five chemical truck deliveries per month. As shown in **Table 2-9** below, it is anticipated one truck trip per week would be required for screenings and grit removal, for a total of four truck trips per month. Dewatered biosolids would also be hauled offsite, and it is estimated there would be one truck trip per week, for a total of four truck trips per month. Those operational tasks would contribute approximately 13 truck trips per month.

TABLE 2-9
ESTIMATED OPERATIONAL VEHICLE TRIPS

Purpose	Number of Trips per Month
WRF	
Chemical Deliveries	5
Screenings and Grit Disposal	4
Biosolids Removal	4
Employee Commutes	160
Maintenance Vehicles	160

Source: Based on Facility Master Plan (Black & Veatch, 2016)

2.6.2 O&M Buildings

The WRF Operations and Maintenance buildings would include WRF, water and wastewater staff offices, control room, restrooms, laboratory, department offices, vehicle and equipment storage space, and parking. There would also be vehicle and building storage facilities located within the WRF site. All of those facilities would be maintained by City staff. WRF employee commutes and maintenance vehicle trips are included above in Table 2-9. Water and wastewater staff are anticipated to contribute approximately 6 employee commute trips per day (120 per month) and 12 maintenance vehicle trips per day (240 per month).

2.6.3 Reclamation and Reuse

As aforementioned above in Section 2.4.1, the end use for recycled water would be IPR. The tertiary treated water would meet all the requirements for unrestricted irrigation described in the 22 CCR 60001 *et seq*. recycled water regulations. The advanced treatment will provide the additional levels of treatment required for a groundwater replenishment reuse project (GRRP), also described in 22 CCR 60001 *et seq*. recycled water regulations. It is anticipated that 100% of the flow at the WRF will receive tertiary treatment and advanced treatment for indirect potable reuse through groundwater injection wells and downstream extraction. A brine discharge line will be installed, connected to the existing ocean outfall, to discharge brine waste streams from the filtration and reverse osmosis facilities. If the full level of treatment required for GRRP is not achieved for any reason, then treated effluent would be directed to the ocean outfall through the brine discharge line, which will be sized to handle the full WRF flow rate.

The water would be extracted from the existing City wells (see Figure 2-9) to be treated at the City's BWRO treatment facility and distributed through the existing potable water system. The existing wells to be used for extraction would be determined once the injection well locations are determined, based on GRRP requirements for groundwater travel time between injection wells and extraction wells. 22 CCR 60001 *et seq*. requires recycled water applied by a GRRP to be retained underground for a minimum of two months (22 CCR 60320.224).

2.6.4 Energy Use

The energy requirements for the WRF would be 8,000 kilowatt hours per day (kWh/day). In order to operate the WRF, an 1,860 SF electrical feed facility and a 1,140 SF standby/emergency power facility would provide the 12 kW power supply needed. A standby power facility would include a pad-mounted natural gas or diesel-powered generator, the Pacific Gas & Electric electrical switchgear, and metering equipment all enclosed in a 1,140 SF building. If a natural gas generator is used, a new natural gas pipeline would be required. Operation of the lift station would require 600 kWh/day. A 1,000 kW standby diesel engine-generator to provide backup power.

2.7 Discretionary Approvals Required for the Project

Table 2-10 presents a preliminary list of the agencies and entities that would use this Draft EIR in their consideration of specific permits and other discretionary approvals that may apply to the project. This Draft EIR is intended to provide those agencies with information to support their decision-making processes.

TABLE 2-10
DISCRETIONARY PERMITS POTENTIALLY REQUIRED

Agency	Permits and Authorizations Potentially Required
Regional Water Quality Control Board (RWQCB)	National Pollutant Discharge Elimination System (NPDES) permit for discharge to Pacific Ocean
	Waste Discharge Requirements (WDR) for groundwater recharge under CCR Title 22
State Water Resources Control Board (SWRCB)	WDR
	Water Quality Order No. 2004-0012-DWQ
SWRCB Division of Drinking Water	Existing water supply permit; GRRP Title 22 Engineering Report
California Coastal Commission	Coastal Development Permit
Local Agency Formation Commission (LAFCO) San Luis Obispo	Resolution of Determination for City annexation
County of San Luis Obispo	Coastal Development Permit; Development Plan
City of Morro Bay	General Plan/LCP Amendment; Coastal Development Permit; Conditional Use Permit
Air Quality Management District	Permit to Construct; Permit to Operate

References

Black & Veatch, *Draft Water Reclamation Facility Master Plan*. Prepared for the City of Morro Bay, November 2016.

MKN & Associates, *Master Water Reclamation Plan*. Prepared for the City of Morro Bay, March 2017.

CHAPTER 3
Environmental Setting, Impacts, and Mitigation Measures

In compliance with Section 15126 of the *CEQA Guidelines*, Chapter 3 provides an analysis of the environmental effects of the proposed project with respect to existing baseline conditions. Chapter 1, Introduction and Project Background, provides an overview of the framework for the environmental impact analysis. The following environmental resources are assessed in this chapter in accordance with Appendix F and Appendix G of the CEQA Guidelines:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology, Soils, and Seismicity
- Greenhouse Gas Emissions and Energy
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise and Vibration
- Environmental Justice
- Public Services
- Traffic and Transportation
- Tribal Cultural Resources
- Utilities and Service Systems

Each environmental resource section includes the following subsections:

- Environmental Setting
- Regulatory Framework
- Impact Assessment

The proposed project would have no impact on the following environmental resources, for the reasons described below, and therefore further evaluation was determined to be unnecessary within this Draft EIR:

- **Mineral Resources**: The project area does not include mineral resources that would be valuable to the City's region or residents of the state. There are no locally-important mineral resource recovery sites in the project area. As a result, the proposed project has no impact to mineral resources.
- **Population and Housing**: The proposed project would not directly induce population growth in the City because the project does not include the construction of new homes or businesses. The proposed project would not displace any existing houses or people and as such would not require construction of replacement housing. The proposed project would not increase the overall treatment capacity of the WRF relative to the current WWTP; however, the use of recycled water for groundwater replenishment provides a new water supply for the City. The potential for the proposed project to indirectly induce population growth due to removal of an obstacle to growth such as future water supply is discussed in the Chapter 5, Growth Inducement.
- **Recreation**: The proposed project would not include the construction or expansion of recreational facilities, nor would it directly or indirectly cause an increase in the use of existing recreational facilities. Therefore, there is no impact related to the use of existing recreational facilities or the need to create more.

3.1 Aesthetics

This section addresses the aesthetic and visual impacts associated with implementation of the proposed project. This section includes a description of existing visual resources and aesthetic conditions in the project area, specifically the physical environment in the vicinity of proposed project facilities. This section also evaluates potential effects to scenic vistas, scenic resources, the visual character of the project area where aboveground facilities are proposed, and potential effects associated with light and glare.

3.1.1 Environmental Setting

Regional Setting

Visual resources consist of natural landscapes and scenic views, including landforms, vegetation, and water features, as well as unique elements of the built environment. The proposed project is located in San Luis Obispo County (County), which is located along the Pacific Ocean south of Monterey County, north of Santa Barbara County and west of Kern County. Diverse open space resources are a defining characteristic of the County. Some of those resources include the 1,000,000-year-old landmark volcanic peaks known as the Morros, stretching from Morro Rock to Islay Hill in San Luis Obispo, significant coastal wetlands and rare coastal dune ecosystems, the oak woodlands of the Adelaida area and the Carrizo Plains (County of San Luis Obispo, 2015).

The project area is located in the Coastal Zone of the County, as defined by the California Coastal Act (see Figure1-1 in Chapter 1). The Coastal Zone landscape is defined by two mountain ranges, forming watersheds aligned on a predominantly northwest to southeast axis. The ranges are the Santa Lucia Range and Irish Hills. While neither of the ranges are particularly high, they are visual and climatic barriers between the Coastal Zone and the inland portion of the County. Most urban and intensive agricultural uses in the County occur in the valleys and coastal terraces of the western ranges (County of San Luis Obispo, 2011).

The County's visual resources consist of open areas (agricultural and natural, undeveloped land), scenic corridors and the built environment. The County's natural features, such as mountains, ridgelines, geological forms, bays, and coastal views are considered scenic resources. The County also includes many other visual resources such as open meadows, riparian corridors, wetland areas, forested areas, and open spaces. Agricultural areas also contribute to the County's visual quality. Scenic views of these resources are visible on rural roads and highways (County of San Luis Obispo, 2015).

Local Setting

The proposed project is located in both the unincorporated area of the County and the City. The proposed project is located within the County while the remainder of the project components are located within the City.

The aesthetic and visual character of the project area is defined by the Pacific Ocean located west of the project area and the nearby communities of Cayucos to the north and Los Osos to the south, along with rolling hills of unincorporated areas of the County to the east.

The proposed project site would be located in the Estero Planning Area in the County, which occupies a narrow strip along the coast north of the City and south of the unincorporated community of Los Osos. The Estero Planning Area is characterized by its natural setting including volcanic peaks, green valleys, coastal terraces, and hillsides (County of San Luis Obispo, 2009).

All other components of the proposed project would be located in the City, which lies on the narrow coastal shelf between the Pacific Ocean and the coastal hills. It is within the north coastal area of the County and is approximately 12 miles northwest of the City of San Luis Obispo (City of Morro Bay, 1988; City of Morro Bay, 2004a). The City's development pattern is largely defined by Morro Harbor, which is a waterfront that historically served and continues to serve commercial fishing operations but also now provides recreational and tourist opportunities to visitors. Residential and commercial land uses are located south of Morro Rock around Morro Bay, inland from the sandspit located in the middle of the harbor. Moving outward and eastward from the Harbor, the City is surrounded by agricultural land uses that serve to maintain a buffer around the town, isolating it from other development, and defining the community's semi-rural character (City of Morro Bay, 2004b). Primary scenic resources within the City are Morro Rock, the Morro Bay Harbor, Morro Bay State Park, Atascadero/Morro Rock Beach, Highway 1, the Embarcadero area, Black Mountain, Morro Bay Golf Course, Morro Heights, the Downtown area, the electrical power plant, and Coleman Park (City of Morro Bay, 1988; City of Morro Bay, 2004a).

The visual character of areas surrounding the components of the proposed project is described below.

WRF

The proposed project would be constructed on a 10- to 15-acre area within a 396-acre parcel that is located along Highway 1, north of the northern terminus of South Bay Boulevard. Figure 2-4 shows a general conceptual site plan of the proposed project (see Chapter 2). The WRF site is currently an undeveloped hillside adjacent to a natural drainage. The site is located just north of the Bayside Care Center, which is a nursing home. Passing northbound motorists on Highway 1 and South Bay Boulevard can briefly see views of the WRF site and surrounding area. Views are partially obstructed by existing topography and vegetation.

Lift Station and Existing WWTP

The proposed lift station would be located adjacent to the existing WWTP, generally northeast of Morro Rock, one of the defining geologic and topographic characteristics of Morro Bay. The decommissioning of the current WWTP would include the shutdown, demolition, and complete removal of all WWTP facilities and infrastructure. The proposed lift station would be located within the City's existing Corporation Yard on Atascadero Road or adjacent to Atascadero Road

along a public right of way (ROW). Figure 2-6 shows a general conceptual rendering of the proposed lift station and Figure 2-3 shows the potential lift station locations (see Chapter 2).

There are two potential sites:

- **Option 1A:** The site is on an existing park maintenance shed within the City's existing Corporation Yard located on Atascadero Road.
- **Option 5A:** The site is located directly adjacent to Atascadero Road within public right of way. It is located across from the City's existing WWTP.

Figure 2-7a and Figure 2-7b in Chapter 2 show the specific site layouts for Option 1A and Option 5A. Both locations are bound by the Morro Strand RV Park and Morro Bay High School to the north, Motel 6 and Lila Keiser Park to the east, the Morro Bay/Atascadero Beach strand and Pacific Ocean to the west, and a vegetated area and the closed electrical power plant to the south. The lift station sites are located on land that currently contains aboveground facilities for the existing WWTP and/or park maintenance facilities.

The proposed lift station sites would be visible to motorists or pedestrians traveling northbound on Highway 1, but would not be visually prominent in relation to other existing urban and commercial development adjacent to these sites. A view of the lift station sites would also be provided to motorists and pedestrians traveling westbound along Atascadero Road. Further, recreational users of the Morro Strand RV Park may have partial views of the proposed lift station locations, but those would be partially obstructed by existing facilities on the WWTP site. Views from Lila Keiser Park are mostly obstructed by large trees; views from Morro Bay High School would be almost fully obstructed by vegetation located just south of the school.

Pipelines

The collection system would include a lift station discussed above and multiple pipelines running along a common alignment between the lift station and the proposed WRF site. The alignment shown in Figure 2-2 (see Chapter 2) would include: (1) a force main pipeline; (2) a waste discharge pipeline; and (3) a recycled water pipeline. Specifically, the proposed pipeline alignment would travel westward from the proposed WRF along Highway 1 then through residential areas along Quintana Road to the proposed lift station. The pipelines would primarily be constructed within public ROWs. The proposed alignments would generally run parallel to Highway 1 and would not be visible to nearby land uses or motorists, once constructed.

- **Conveyance Pipelines**: The proposed route of the raw wastewater and waste discharge conveyance pipelines is shown in Figure 2-8. Raw wastewater and brine/wet weather discharge pipelines would run along the proposed alignment that starts from the proposed lift station and travels east along the north side of Atascadero Road. The pipeline alignment travels south to the backside property lots then travels along an existing parkway/bike path. It continues east within a residential area along Main Street ROW until Quintana Road.
- **Distribution System Pipelines**: The recycled water conveyance pipeline alignments are shown in Figure 2-9 in Chapter 2. The proposed recycled water pipeline would lead to new groundwater injection wells east of Highway 1 and south of Highway 41, near the Narrows (which is the area east of the City near Highway 41 where Morro Creek and Little Morro

Creek converge) for groundwater replenishment (IPR East), or west of the Highway 1 and south of Highway 41 near the bike path adjacent to Lila Keiser Park (IPR West).

Injection Wells

As part of indirect potable reuse (IPR), the proposed recycled water pipeline would lead to new groundwater injection wells east of Highway 1 and south of Highway 41, near the Narrows, for groundwater replenishment (IPR East). The other potential injection wells location would be west of the Highway 1 and south of Highway 41 near the bike path adjacent to Lila Keiser Park (IPR West). Figure 2-9 shows the existing and proposed well sites (see Chapter 2).

- IPR – East: This well location area is bound by natural drainage features of Morro Creek and trees to the south, State Route 41 to the north, Main Street to the west, and commercial properties and agricultural land to the east. The site is currently a mobile home park and commercial area. Views of the wells could be visible to motorists traveling northbound on State Route 41 and residential users of the Mobile Park.
- IPR – West: This well location area is bound by Motel 6 to the north, Lila Keiser Park to the east, the existing WWTP to the west, and an open, vegetated area adjacent to Morro Creek to the south. Views of the wells could be visible to recreational users of Lila Keiser Park and motorists traveling southbound on Atascadero Road.

Scenic Highways and Routes

The California Scenic Highway Mapping System shows Highway 1 is an Officially Designated State Scenic Highway and All American Road (Caltrans, 2018). There are no other Officially Designated Scenic Highways within the project area (Caltrans, 2018). However, State Route 41, an Eligible State Scenic Highway, intersects with Highway 1, and is located just adjacent to the proposed groundwater well locations. The *County of San Luis Obispo General Plan* does not designate any additional scenic routes within the project area (County of San Luis Obispo, 2015). According to the *City of Morro Bay General Plan*, the Embarcadero and Coleman Drive are City-designated Scenic Highways near the project area (City of Morro Bay, 1988). Figure 2-2 in Chapter 2 shows the proposed project facilities in relation to Scenic Highways.

Light and Glare

There are two primary anthropogenic sources of light: light emanating from building interiors through windows, and light originating from exterior sources (e.g., street lighting, building illumination, security lighting, parking lot lighting, landscape lighting, and signage). Anthropogenic sources of light can be a nuisance to adjacent residential areas, diminish the view of the clear night sky, and if uncontrolled, can cause disturbances for motorists traveling in the area. Land uses such as residences and hotels are considered light sensitive, since occupants have expectations of privacy during evening hours and may be subject to disturbances by bright light sources. Light spill is typically defined as the presence of unwanted light on properties adjacent to the property being illuminated.

Glare is caused by the reflection of sunlight or artificial light by highly polished surfaces such as window glass or reflective materials and, to a lesser degree, from broad expanses of light-colored surfaces or vehicle headlights. Perceived glare is the unwanted and potentially objectionable

sensation as observed by a person as they look directly into the light source of a luminaire. Daytime glare generation in urban areas is typically associated with buildings with exterior facades largely or entirely comprised of highly reflective glass. Glare can also be produced during evening and nighttime hours by the reflection of artificial light sources, such as automobile headlights. Glare generation is typically related to either moving vehicles or sun angles, although glare resulting from reflected sunlight can occur regularly at certain times of the year. Glare-sensitive uses include residences, and transportation corridors. Potentially affected viewers in the local viewshed include motorists, residents, and recreational visitors.

3.1.2 Regulatory Framework

Federal

National Scenic Byways Program

The National Scenic Byways Program is part of the U.S. Department of Transportation, Federal Highway Administration. The program was established under the Intermodal Surface Transportation Efficiency Act of 1991, and was reauthorized in 1998 under the Transportation Equity Act for the 21st Century. Under the program, the U.S. Secretary of Transportation recognizes certain roads as National Scenic Byways or All-American Roads based on their archaeological, cultural, historic, natural, recreational, and scenic qualities. Within the project area, Highway 1 – San Luis Obispo North Coast, is designated as a National Scenic Byway.

State

State Scenic Highway Program

In 1963, the California legislature created the Scenic Highway Program to protect scenic highway corridors from changes that could diminish the aesthetic value of lands adjacent to the highways. The state regulations and guidelines governing the Scenic Highway Program are found in the Streets and Highways Code, section 260 *et seq*. A highway is designated under this program when a local jurisdiction adopts a scenic corridor protection program, applies to the California Department of Transportation (Caltrans) for scenic highway approval, and receives notification from Caltrans that the highway has been designated as a Scenic Highway. When a city or county nominates an eligible scenic highway for official designation, it defines the scenic corridor, which typically includes land adjacent to and visible to a motorist on the highway. Within the project area, Highway 1 is designated as a State Scenic Highway and All-American Road. Further, State Route 41 is a Designated State Scenic Highway, but not officially designated.

California Coastal Act

The California Coastal Act defines the coastal zone and establishes land use control for the coastal zone. The California Coastal Act (1) sets specific uses, including restoration, for wetlands located in the coastal zone, (2) requires additional review and approvals for proposed actions located within designated sensitive coastal areas and (3) requires cities or counties located within the coastal zone to prepare a Local Coastal Program. The California Coastal Act also identifies and requires the protection of important scenic and visual qualities of the coastal areas (California Coastal Act, 2017). All proposed project facilities are located within the Coastal Zone.

Local

County of San Luis Obispo General Plan and Local Coastal Plan

The *County of San Luis Obispo General Plan* is integrated with its Local Coastal Program and was first adopted by the County and certified by the California Coastal Commission in 1988. The General Plan Land Use - Coastal Element, and Chapter 9 of the Conservation and Open Space Element provides a framework for planning within the Coastal Zone in accordance with the County Local Coastal Program (LCP). In addition to a framework and coastal plan policies, the Land Use Plan includes Area Plans and the Conservation and Open Space Element (Chapter 9) specifies goals and policies specific to protect and preserve scenic and visual resources within the County. The Land Use Plan together with the Coastal Zone Land Use Ordinance [see below]) and related maps comprise the Local Coastal Program (County of San Luis Obispo, 2011).

County of San Luis Obispo Conservation and Open Space Element (2010)

Scenic Resources

Policy VR 2.1 Develop in a manner compatible with Historical and Visual Resources

Through the review of proposed development, encourage designs that are compatible with the natural landscape and with recognized historical character, and discourage designs that are clearly out of place within rural areas.

Policy VR 2.2 Site Development and Landscaping Sensitively

Through the review of proposed development, encourage designs that emphasize native vegetation and conform grading to existing natural forms. Encourage abundant native and/or drought-tolerant landscaping that screens buildings and parking lots and blends development with the natural landscape. Consider fire safety in the selection and placement of plant material, consistent with Biological Resources Policy BR 2.7 regarding fire suppression and sensitive plants and habitats.

Policy VR 4.2 Balanced Protection

Balance the protection of scenic resources with the protection of biological and agricultural resources that may co-exist within the scenic corridor.

Policy VR 7.1 Nighttime Light Pollution

Protect the clarity and visibility of the night sky within communities and rural areas, by ensuring that exterior lighting, including streetlight projects, is designed to minimize nighttime light pollution.

County of San Luis Obispo Agriculture Element (1998)

Agriculture Policies (AGP)

AGP30 Scenic Resources

A. In designated scenic corridors, new development requiring a discretionary permit and land divisions shall address the protection of scenic vistas as follows:

   1. Balance the protection of the scenic resources with the protection of agricultural resources and facilities. When selecting locations for structures, access roads, or grading, the preferred locations will minimize visibility from the scenic corridor and be compatible with agricultural operations.

   2. Use natural landforms and vegetation to screen development whenever possible.

3. In prominent locations, encourage structures that blend with the natural landscape or are traditional for agriculture.

Local Coastal Plan: Coastal Plan Policy Document

Chapter 10. Visual and Scenic Resources

Policy 1: Protection of Visual and Scenic Resources

Unique and attractive features of the landscape, including but not limited to unusual landforms, scenic vistas and sensitive habitats are to be preserved protected, and in visually degraded areas restored where feasible.

Policy 2: Site Selection for New Development

Permitted development shall be sited so as to protect views to and along the ocean and scenic coastal areas. Wherever possible, site selection for new development is to emphasize locations not visible from major public view corridors. In particular, new development should utilize slope created "pockets" to shield development and minimize visual intrusion.

Policy 6: Visual Compatibility

Within the urbanized areas defined as small-scale neighborhoods or special communities, new development shall be designed and sited to complement and be visually compatible with existing characteristics of the community.

Policy 8: Utility Lines within View Corridors

Where feasible, utility lines within public view corridors should be placed underground whenever their aboveground placement would inhibit or detract from ocean views. In all other cases, where feasible, they shall be placed in such a manner as to minimize their visibility from the road.

Coastal Zone Framework for Planning

Several portions of the Coastal Zone Framework for Planning apply to visual resources.

Chapter 5: Circulation Element

C. Goals and Objectives for Circulation

Developing and enhancing a system of scenic roads and highways through areas of scenic beauty without imposing undue restrictions on private property, or unnecessarily restricting the placement of agricultural support facilities.

G. Scenic Highways

1. Identify scenic areas and features within view of state highways, city streets, and county roads in the open space plan and incorporate them into the applicable Land Use Element Area plan, designating them within sensitive resource areas.
2. Adopt programs and standards in the Land Use Element Area Plans to protect scenic quality of identified areas and to maintain views from designated scenic roads and highways. Provide special attention to the location, siting, and design of visible structures, access roads, and outdoor advertising, while ensuring that there will not be undue restriction on private property or agricultural operations. Encourage area native plants in landscaping. Promote placing utilities underground where feasible.

3. Ensure that the location, design, and construction of each scenic road or highway blends into and complements the scenic corridor, by coordinating among involved agencies for the integrated design of the project.
4. Promote special scenic treatment and design within scenic road and highway rights-of-way, to include highway directional signs, guardrails and fences, lighting, provisions of scenic outlooks, frontage roads, grading vegetation and highway structures.

County of San Luis Obispo Coastal Zone Land Use Ordinance (CZLUO)

The CZLUO was adopted in 1988 and most recently revised in December 2014. Development within the Coastal Zone as defined by the Coastal Act of 1976 is subject to the CZLUO.

Pursuant to Section 23.08.288 of the CZLUO, any new Public Use Facility or modification of an existing public use facility in the Agriculture, Rural Lands, Residential, Office and Professional, and Commercial land use categories requires approval of a Development Plan consistent with the requirements of Section 23.02.034 (Development Plan) and additional application requirements of Section 23.08.288 (b). In addition, pursuant to Section 23.08.288(c), the following development standards apply in addition to any that may be established as conditions of approval:

- Clearing and revegetation. The land area exposed and the vegetation removed during construction shall be the minimum necessary to install and operate the facility. Topsoil will be stripped and stored separately. Disturbed areas no longer required for operation will be regarded, covered with topsoil and replanted during the next appropriate season.
- Fencing and screening. Public Utility Facilities shall be screened on all sides. An effective visual barrier will be established through the use of a solid wall, fencing and/or landscaping. The adequacy of the proposed screening will be determined during the land use permitting process.

Applicable sections include the following: 23.03.186-Landscape plans, 23.04.021-Parcel size standards, 23.05.034-Grading standards, and 23.05.064-Tree Removal standards.

County of San Luis Obispo Municipal Code

Chapter 22 of the County of San Luis Obispo Municipal Code includes various general lighting standards for the County (County of San Luis Obispo, 2018). Applicable lighting standards include:

22.10.060 - Exterior Lighting.

The standards of this Section are applicable to all outdoor night-lighting sources installed after the effective date of this Title, except for street lights located within public rights-of-way and all uses established in the Agriculture land use category. No land use permit is required for lighting facilities, though an electrical permit may be required by Title 19 of this code (the Building and Construction Ordinance).

> **Illumination only.** Outdoor lighting shall be used for the purpose of illumination only, and shall not be designed for or used as an advertising display, except as provided by Chapter 22.20 (Signs).

Light directed onto lot. Light sources shall be designed and adjusted to direct light away from any road or street, and away from any dwelling outside the ownership of the applicant.

Minimization of light intensity. No light or glare shall be transmitted or reflected in a concentration or intensity that is detrimental or harmful to persons, or that interferes with the use of surrounding properties or streets.

Light sources to be shielded**.**

Ground illuminating lights. Any light source used for ground area illumination except incandescent lamps of 150 watts or less and light produced directly by the combustion of natural gas or other fuels, shall be shielded from above in such a manner that the edge of the shield is level with or below the lowest edge of the light source. Where any light source intended for ground illumination is located at a height greater than eight feet, the required shielding shall extend below the lowest edge of the light source a distance sufficient to block the light source from the view of any residential use within 1,000 feet of the light fixture.

Elevated feature illumination. Where lights are used for the purpose of illuminating or accenting building walls, signs, flags, architectural features, or landscaping, the light source shall be shielded so as not to be directly visible from off-site.

Height of light fixtures. Free-standing outdoor lighting fixtures shall not exceed the height of the tallest building on the site.

Street lighting. Street lighting shall be designed to minimize light pollution by preventing the light from going beyond the horizontal plane at which the fixture is directed.

City of Morro Bay Coastal Land Use Plan

Chapter XIII: Visual Resources

Chapter XIII of the City of Morro Bay Coastal Land Use Plan describes the City's physical setting and identifies the scenic and visual resources within the area. The Coastal Land Use Plan contains various policies related to the visual resources that are applicable to the proposed project such as:

Policy 12.01: The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sites and designed to protect views to and along the ocean and scenic and 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 the visual quality in visually degraded area.

City of Morro Bay General Plan

Visual Resources and Scenic Highway Element

The Visual Resources and Scenic Highway Element of the General Plan and Local Coastal Plan (described above) establish criteria for the protection, preservation and enhancement of the scenic resources within the City. It also identifies the scenic qualities along major roadways in Morro Bay (City of Morro Bay, 1988).

City of Morro Bay Municipal Code

Chapter 17 of the City of Morro Bay Municipal Code includes various general lighting standards for the City (City of Morro Bay, 2018). Applicable lighting standards include:

17.52.080 - Lighting, illuminated signs and glare.

A. Other sections of this title notwithstanding, no illumination may be directed toward the adjacent residential uses and onto streets. Lighting glare shall be screened from the residences, hotels, streets, and other glare sensitive uses.

B. No direct or reflected glare, whether produced by floodlight, high temperature processes such as combustion or welding, or other processes, so as to be visible from any boundary line of property on which the same is produced shall be permitted. Sky-reflected glare from buildings or portions thereof shall be so controlled by such reasonable means as are practical to the end that the said sky reflected glare will not inconvenience or annoy persons or interfere with the use and enjoyment of property in and about the area where it occurs.

17.68.050 - Miscellaneous specifications.

G. **Glare Prohibited.** No sign shall be permitted to emit undue reflection or glare on I. surrounding property. No sign shall emit or reflect light exceeding ten foot-candle power at ten feet from the face of the sign.

I. **Lighting**. Light sources shall be steady and stationary. Lighting shall not be distracting to pedestrians, motorists and neighboring property. No sign shall emit or reflect light exceeding ten foot-candle power at ten feet from the face of the sign.

3.1.3 Impacts and Mitigation Measure

Significance Criteria

Appendix G of the *CEQA Guidelines* recommends significance criteria for the evaluation of impacts related to aesthetics in the project area. Those same criteria are provided below. This Draft EIR assumes implementation of the proposed project would have a significant impact related to aesthetics if it would:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- Substantially degrade the existing visual character or quality of the site and its surroundings; or
- Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area.

Methodology

The significance determination is based on several evaluation criteria, including (i) the extent of project visibility from sensitive viewing areas such as designated scenic routes, public open space, or residential areas, (ii) the degree to which the various project elements would contrast

with or be integrated into the existing landscape, (iii) the extent of change in the landscape's composition and character and (iv) the number and sensitivity of viewers.

That impact analysis considers view obstruction, negative aesthetic effects, and light and glare effects. That visual assessment is based on field observations of the project site and surrounding areas, in addition to a review of technical data and aerial and ground-level photographs.

Impact Analysis

Scenic Vistas

Impact 3.1-1: The proposed project would not have an adverse effect on scenic vistas. The proposed project would not have sufficient scale or height to significantly affect scenic vistas. The WRF would be briefly visible from Highway 1, but would resemble rural agricultural buildings similar to others along the Highway 1 corridor. That impact would be Class III, Less than Significant.

Under Public Resources Code § 30251, scenic and visual qualities of coastal areas, including natural landforms along bluffs and cliffs, are to be considered and protected as an important public resource (California Coastal Act, 2017). As stated in the County and City Local Coastal Plans, the City's Coastal Zone includes visual resources, facilities and assets that contribute to both the positive and negative aesthetic character of the Coastal Zone. Primary assets that define the coastal visual resources within the project area include the Pacific Ocean, Morro Rock, Morro Creek, and undeveloped hillsides. Scenic vistas of those coastal resources in the vicinity of the existing WWTP and proposed facilities can be viewed from Highway 1, State Route 41, Atascadero Road, Quintana Road, and residential areas in the City and surrounding cities (County of San Luis Obispo, 2015; City of Morro Bay, 2004a). Following are evaluations of potential visual impacts from construction activities and operation of proposed project facilities.

Construction

All Facilities

The construction of all proposed facilities would require temporary ground disturbance within the project area. The presence of construction equipment and materials would be visible from public vantage points such as open space areas, sidewalks, and streets, but would not permanently affect designated scenic views or vistas. Given the short-term and temporary presence of construction equipment and materials, impacts to scenic vistas due to construction of proposed project components would be less than significant.

Operation

WRF

After the completion of construction activities associated with the proposed WRF facilities, the structures and buildings would be permanent at the WRF site. The proposed WRF would be implemented within an unincorporated and undeveloped hillside area of the County (see Figure 2-2). Undeveloped hillsides are considered scenic resources by both the City and County LCP. The WRF site would appear substantially different than the existing open space/grazing land use in the immediate vicinity (refer to Figure 2-4 in Chapter 2 for a conceptual layout of the WRF site). The WRF and associated facilities would include up to approximately 65,000 square feet of

structures along with outdoor areas for materials, equipment and operation and maintenance buildings.

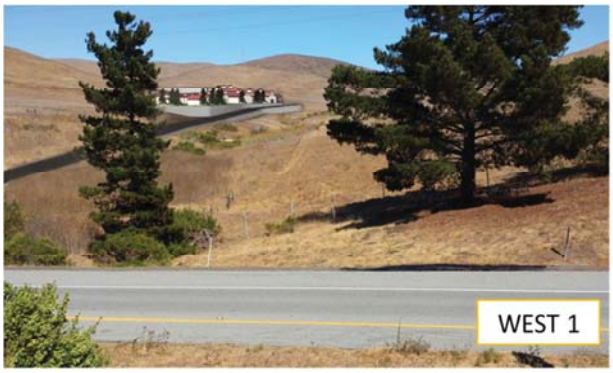
The developed portion of the project site would be located approximately 500 feet from public vantage points along the front of Bayside Care Center on Teresa Road and over 700 feet from motorists on Highway 1. The proposed WRF would be constructed within the Coastal Zone and north of scenic Highway 1; therefore, the site would be subject to special design standards. Aboveground buildings/structures adjacent to or within the viewshed of a County-designated or City-designated Scenic Highway or Route would need to abide by specific design standards to preserve view corridors as required by Chapter 22.10.095 of the San Luis Obispo County Municipal Code and Chapter IV of the City of Morro Bay General Plan, respectively. Design standards would include height limits, limits for exterior lighting, maintenance of roadside landscaping, limits on grading activities, and probation of overhead utility ROWs. Aboveground buildings/structures located in unincorporated County area also would need to be designed in compliance with the San Luis Obispo County Local Coastal Plan, as required by *Title 23, Coastal Zone Land Use* of the San Luis Obispo County Municipal Code.

As described in Chapter 2, Project Description, the proposed WRF building forms and architecture would be informed by development along the Highway 1 corridor, with an overall impression of the WRF complex as a dairy farm or ranch. Generally, the proposed building forms would be recognizably agricultural, using simple rectangular floor plates and gable roofs at varying slopes that reflect the use of the enclosed volumes. Those building shapes would be articulated where appropriate with clerestories and roof vents. The orientation of and relationship between roofs would be chosen to maximize solar exposure for the potential application of photovoltaics for power generation.

While the individual buildings would borrow their configuration from the agricultural model, exterior materials would be applied in response to functional requirements for durability and maintainability, and would produce a slightly more contemporary, less literal version of that building type. Roofs would be standing-seam metal, and walls would be a combination of exposed concrete masonry, metal siding, cement board siding, and plaster.

Colors would be selected for compatibility with the prevalent pattern along the neighboring stretch of Highway1, such as red roofs and white or light brown walls to blend well with the surrounding environment, as seen at Cuesta College, Camp San Luis, and a number of the barns on farm properties. Tree plantings will further reinforce the historical settlement pattern of the area and provide some visual screening of structures, using drought tolerant species such as deodor cedar.

Visual simulations from views along Highway 1 of the proposed WRF site are included in **Figure 3.1-1**. The architectural treatments were taken into consideration in the visual simulations. As shown on Figure 3.1-1, most views of the WRF project area from motorists traveling northbound and southbound would be blocked by existing topography, where hillsides extend higher than the project area and proposed WRF facilities would not be visible. Further, the Bayside Care Center would block views of the WRF area from motorists traveling southbound on Highway 1.



SOURCE: Black & Veatch, 2016

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Figure 3.1-1
WRF Visual Simulations

Four viewpoints displayed in Figure 3.1-1 show that motorists traveling along Highway 1 near South Bay Boulevard would have temporary views of the proposed WRF site:

- East 1: Viewpoint East 1 is located 650 feet south of the WRF site along Highway 1. The proposed WRF would be visible by motorists briefly. The WRF site would be partially blocked by the Bayside Care Center and existing topography.
- East 2: Viewpoint East 2 is located 580 feet south of the WRF site along Highway 1. The proposed WRF would be visible by motorists briefly. The WRF site would almost be fully obstructed by existing trees.
- West 1: Viewpoint West 1 is located 460 feet south of the WRF site along Highway 1. The proposed WRF would be visible by motorists briefly. Scattered trees partially screen the WRF site.
- **West 2:** Viewpoint West 2 is located 515 feet south of the WRF site along Highway 1/ South Bay Boulevard. The proposed WRF would be visible by motorists briefly.

As shown at those viewpoints, the proposed WRF facilities would not obstruct scenic views of the distant mountains because the proposed facilities would not have the scale or massing as to block or adversely affect these views. Although the WRF facilities would be briefly visible by motorists traveling along public roadways (Highway 1, South Bay Boulevard, and Teresa Road), their architecture would resemble a dairy farm or ranch buildings and would blend in with the scenic character of the hillside areas along the Highway 1 corridor. The impact to scenic vistas due to visibility of the WRF facility would be less than significant.

Lift Station

After the completion of construction activities associated with the proposed lift station, the structure and ancillary facilities would be permanent (see Figure 2-6 for a general conceptual rendering of the proposed lift station). The proposed lift station would be located adjacent to the existing WWTP and within the City's existing Corporation Yard on Atascadero Road (Option 1A) or adjacent to Atascadero Road along a public ROW (Option 5A). The proposed lift station would be constructed within the Coastal Zone; therefore, the site would be subject to special design standards. The proposed lift station sites would not be prominently visible to motorists or pedestrians traveling northbound on scenic Highway 1 because it would be similar in height and massing as neighboring structures in the Corporation Yard and WWTP. The beach and ocean is not visible from motorists traveling along Atascadero Road in the vicinity of the proposed lift station. Morro Rock is visible from Atascadero Road; however, the lift station would not be taller than other neighboring existing building, and as such, would not have the scale or massing to obstruct views of Morro Rock when looking west, or the distant hillsides and mountains when looking east. Therefore, operation of the proposed lift station would result in less than significant impacts to scenic vistas.

Conveyance Pipelines

The proposed pipelines would be located underground within or along public right-of-ways. Construction of conveyance and distribution pipelines would require temporary ground-disturbance, but would be located underground and not visible once construction is complete. Pipelines would, therefore, not affect views from publically-accessible vantage points. Impacts to

scenic vistas as a result of the operation of pipelines would be less than significant and no mitigation measures would be required.

Injection and Monitoring Wells

The proposed groundwater wells would be enclosed with fencing no taller than 8 feet and have relatively small footprints of approximately 200 square feet. The proposed wells would either be located within the IPR East wellfield area, which is the area east of the City near Highway 41 where Morro Creek and Little Morro Creek converge, or the IPR West wellfield area, located west of the Highway 1 and south of Highway 41 near the bike path south of Lila Keiser Park and Morro Creek (Figure 2-2).

The IPR East site includes a mobile home park and commercial area. Views of the wells could be visible to motorists traveling northbound on State Route 41. However, the wells would be low-lying (less than 8 feet tall), surrounded by fencing, and would blend in with the commercial and residential development of the area. Views of the IPR West wells could be visible to recreational users of the bike path adjacent to the wells' location. However, views of the IPR West wells would likely be obstructed by surrounding trees and topography. While these wells could be visible briefly from public vantage points, the wells would be located in areas that generally are flat, or proximate to land already developed. The well facilities would not have the scale or massing to obstruct scenic vistas or views of Morro Rock, distant hillsides and mountains, or coastal areas within the project area. Therefore, the proposed injection and monitoring wells would result in less than significant impacts to scenic vistas.

Decommissioning of Current WWTP

The existing WWTP would continue in operation until the new WRF is in full operation (and the CSD's new treatment facility as well) and the collection system is no longer delivering flow to the existing WWTP. The decommissioning of the current WWTP would include the shutdown, demolition, and complete removal of all WWTP facilities and infrastructure including the piping located four to five feet below grade. After demolition and removal of facilities, backfilling, compaction, and grading would occur to create a site that is cleared, cleaned and available for other uses in the future. Therefore, no structures or existing facilities would obstruct scenic views or vistas within the project area. Impacts would be less than significant.

Mitigation Measures

None required.

Significance Determination

Less than Significant

State Scenic Highways

Impact 3.1-2: The proposed project would be visible from Highway 1 and State Route 41 corridors, a State Scenic Highway and Eligible Scenic Highway, respectively. However, implementation of specific design criteria for development would ensure that scenic resources would not be adversely effected by implementation of proposed facilities. This impact would be Class III, Less than Significant.

The California Scenic Highway Mapping System shows that Highway 1 is an Officially Designated State Scenic Highway and All American Road (Caltrans, 2018). There are no other Officially Designated Scenic Highways within the project area (Caltrans, 2018). However, State Route 41, an Eligible State Scenic Highway, intersects with Highway 1, and is located adjacent to the proposed IPR East wellfield area. The *County of San Luis Obispo General Plan* and City of Morro Bay General Plan do not designate any additional scenic routes within the project area (County of San Luis Obispo, 2015).

Construction

All Facilities

Pipeline installation would occur within existing ROWs with Highway 1 crossings, but not within scenic Highway 1 or State Route 41. Further, the proposed lift station locations and IPR West well locations would not be visible from either of these routes. However, various proposed aboveground facilities associated with the proposed WRF and IPR East wells would be constructed near Highway 1 and State Route 41, respectively. Existing views surrounding these scenic highways could be interrupted during construction due to equipment staging and fencing. However, construction activities would be temporary and would not damage or alter scenic resources within a scenic highway or corridor for a permanent amount of time. Therefore, construction impacts would be less than significant.

Operation

WRF

After construction, the proposed WRF would include permanent above-ground facilities along a scenic hillside. The proposed WRF facilities would not have the scale or massing as to substantially adversely affect the scenic quality of the hillsides. However, the proposed WRF facilities would appear substantially different than the existing undeveloped, rolling hillsides, which are considered scenic resources by both the City and County LCP. As described above under Impact 3.1-1, the proposed WRF facilities would be visible briefly by motorists traveling along Highway 1 (see Figure 3.1-1). However, the design of the WRF to resemble a dairy farm or ranch would be consistent with the rural aesthetic of scenic views along the Highway 1 corridor. As such, impacts to scenic resources from Highway 1 due to the introduction of new facilities at the WRF site would be less than significant.

Lift Station

The proposed lift station locations are located far enough away from Highway 1 and State Route 41, that the facility would not be visible or substantially alter scenic views within those scenic corridors. Further, existing facilities and vegetation would screen new facilities from both those

routes. Therefore, the proposed lift station would not impact scenic resources within a State Scenic Highway corridor.

Conveyance Pipelines

Pipeline installation would occur within existing ROWs with Highway 1 and State Route 41 crossings; however, once constructed and repaved or revegetated, the proposed conveyance and distribution systems would not detract from the visual quality along Highway 1 or State Route 41 because pipelines would be buried underground. Therefore, there would be no long-term impacts to these scenic corridors. The impact to locally-defined scenic corridors or routes would be less than significant.

Injection and Monitoring Wells

The wells that would be located within the IPR West area would not be visible from Highway 1 or State Route 41. Existing vegetation blocks potential views and the well fencing would be located far enough away from these routes that scenic views would not be obstructed or degraded. However, proposed wells located in the IPR East area could potentially be visible from motorists traveling along scenic State Route 41. As described above under Impact 3.1-1, the wells would be low-lying (less than 8 feet tall), surrounded by fencing, and would blend in with the commercial and residential development of the area. Impacts to scenic resources from scenic highways would be less than significant.

Decommissioning of Current WWTP

The decommissioning of the current WWTP would include the shutdown, demolition, and complete removal of all WWTP facilities and infrastructure. After demolition and removal of facilities, backfilling, compaction, and grading would occur to leave the site cleared, cleaned and available for other uses in the future. Therefore, no new structures or existing facilities would alter or degrade scenic resources within a scenic corridor. No impacts would occur.

Mitigation Measures

None required

Significance Determination

Less than Significant

Visual Character

Impact 3.1-3: The proposed WRF would not degrade the visual character of the site due to implementation of specific design criteria for architectural treatments that blend with the surrounding rural and agricultural area. The remaining project components would also be similar in size and scale as surrounding development and would not degrade visual character. This impact would be Class III, Less than Significant.

Construction

All Facilities

Construction activities associated with all proposed facilities would result in short-term impacts to the visual character of the proposed project areas. Construction activities would require the use of construction equipment and storage of materials within the project sites for project components. Excavated areas, stockpiled soils and other materials generated during construction could present negative aesthetic elements to the existing visual landscape. However, those effects would be temporary and would not permanently affect the existing visual character of the surrounding area. All impacts from construction-related activities would result in less than significant impacts, and no mitigation measures would be required.

Operation

WRF

The proposed WRF site would be implemented within an undeveloped hillside area in the County (see Figure 2-2). As described above, the proposed WRF would be constructed within the Coastal Zone and north of scenic Highway 1; and therefore, would be subject to special design standards. The WRF would introduce aboveground, wastewater facilities and paved areas into a landscape that is currently undeveloped. However, those proposed facilities would not contrast with the existing visual character in the immediate area because as stated in Chapter 2, Project Description, the proposed WRF building forms and architecture would be informed by development along the Highway 1 corridor, with an overall impression of the WRF complex as a dairy farm or ranch. Generally, the proposed building forms would be recognizably agricultural, using simple rectangular floor plates and gable roofs at varying slopes that reflect the use of the enclosed volumes. Those building shapes would be articulated where appropriate with clerestories and roof vents. The orientation of and relationship between roofs would be chosen to maximize solar exposure for the potential application of photovoltaics for power generation.

While the individual buildings would borrow their configuration from the agricultural model, exterior materials would be applied in response to functional requirements for durability and maintainability, and would produce a slightly more contemporary, less literal version of this building type. Roofs would be standing-seam metal, and walls would be a combination of exposed concrete masonry, metal siding, cement board siding, and plaster.

Colors would be selected for compatibility with the prevalent pattern along the neighboring stretch of Highway1, such as red roofs and white or light brown walls to blend well with the surrounding environment, as seen at Cuesta College, Camp San Luis, and a number of the barns on farm properties. Tree plantings will further reinforce the historical settlement pattern of the

area and provide some visual screening of structures, using drought tolerant species such as deodar cedar.

With application of these architectural treatments as part of the proposed project design criteria, the WRF would blend in with the scenic character of the hillside areas along the Highway 1 corridor. The impact to visual characters would be less than significant.

Lift Station

The proposed lift station would be a single-story building with a height of approximately 10 feet. The new lift station would be slightly elevated for flood proofing as it would be located near the coast; however, the structure would be designed similar to other industrial and commercial development within the immediate area along Atascadero Road. Further, the potential two locations for the lift station would be within an area already developed with WWTP facilities. Therefore, introduction of the new lift station would not contrast with the existing visual character of the area. Impacts to visual character would be less than significant.

Conveyance Pipelines

Following construction, the proposed conveyance and distribution pipelines would be located underground. After the pipelines are buried, the project area would be restored to pre-construction conditions; thus, no permanent impacts to the existing visual character or quality of the project or surrounding area would occur.

Injection and Monitoring Wells

The proposed groundwater wells would generally be low-lying and surrounded by fencing (less than 8 feet tall). In the IPR East wellfield area, the proposed wells would blend in with the commercial and residential development of the area. In the IPR West wellfield area, proposed wells would be built on vacant land adjacent to the bike bath. Views of the wells by recreational users of the bike path would likely be obscured by vegetation and topography or the fencing would be briefly visible. In both wellfield areas, small fenced areas would not have the scale or massing to be considered contrasting features that would substantially alter the visual character of the area. Impacts to visual character would be less than significant.

Decommissioning of Current WWTP

The decommissioning of the current WWTP would include the shutdown, demolition, and complete removal of all WWTP facilities and infrastructure. After demolition and removal of facilities, backfilling, compaction, and grading would occur to leave the site cleared, cleaned and available for other uses in the future. Therefore, no structures or existing facilities would contribute to, alter or substantially degrade the visual character of the project area. No impact would occur.

Mitigation Measures

None required.

Significance Determination

Less than Significant

Light or Glare

Impact 3.1-4: Construction of the proposed injection wells would require nighttime lighting during 24-hour drilling activities. Measures that require lighting to be shielded and directed away from neighboring light sensitive land uses would reduce impacts associated with light and glare. This impact would be Class II, Less than Significant with Mitigation.

Construction

WRF, Lift Station, Conveyance Pipelines, and Decommissioning of Current WWTP

Construction of the proposed WRF, lift station and pipelines would not require overnight lighting. As such, the presence of construction equipment would not introduce new lighting or glare to the project area. Therefore, construction impacts would be less than significant.

Injection and Monitoring Wells

Construction of the proposed injection wells would require daily 24-hour drilling for up to approximately one month. As such, temporary overhead nighttime lighting would be installed during the well drilling period. The IPR West wellfield area is largely surrounded by existing trees and vegetation surrounding the creek; therefore, the use of nighttime lighting would not substantially impact nearby uses. However, the IPR East wellfield area is located adjacent to light sensitive uses including the mobile home park. Therefore, implementation of overnight lighting within the IPR East wellfield area could result in potentially significant impacts.

During nighttime construction, lighting would be shielded and pointed away from surrounding light-sensitive land uses, as required by **Mitigation Measure AES-1**. By doing so, light would not spill over to light-sensitive land uses. As a result, impacts associated with light and glare during construction activities would be reduced to a less than significant level with implementation of mitigation measures.

Operation

WRF, Lift Station, Injection and Monitoring Wells

The proposed WRF would be located on an undeveloped hillside of the County; the lift station and groundwater wells would be located on land between residential and commercial areas in the City. Some of those facilities would be located adjacent to existing uses that contain lighting. The proposed WRF would be located approximately 360 feet away from the closest sensitive receptors (residential), and intervening topography would block direct line-of-sight between those land uses, which would also block lighting that may be included at the WRF. Proposed wells in the IPR East wellfield area may be located adjacent to mobile home park residential users. Development of the proposed facilities may require new exterior nighttime lighting for operational and security purposes. The increase in lighting could result in spill over lighting onto neighboring parcels. Due to flat topography of the project area surrounding the lift station and wells and close proximity to light sensitive uses, these facilities may introduce lighting that could be visible by the nearest residences. Further, the proposed WRF site would be implemented within a largely undeveloped area; the closest lighting source would be the neighboring Bayside

Care Center. The WRF facilities would introduce new lighting that could be visible by the nearest residences.

The proposed project would be required to comply with the County of San Luis Obispo Local Coastal Plan and City of Morro Bay Municipal Code, which both contain exterior nighttime lighting ordinances to manage and preserve the natural darkness of night skies for residents within the project area. Adherence to those lighting and glare requirements would ensure any future development associated with the proposed project complies with existing and future lighting ordinances. Impacts would be less than significant.

Conveyance Pipelines

The proposed pipelines would not require nighttime lighting for operation as pipelines would be placed underground and therefore would not be visible. As a result, there would be no new sources of lighting to the project area. No impacts related to light and glare would occur.

Decommissioning of Current WWTP

The decommissioning of the current WWTP would include the shutdown, demolition, and complete removal of all WWTP facilities and infrastructure such as the piping located four to five feet below grade. After demolition and removal of facilities, backfilling, compaction, and grading would occur to leave the site cleared, cleaned and available for other uses in the future. Therefore, no structures or existing facilities would have surfaces or lighting that would contribute to light or glare in the project area. No impact would occur.

Mitigation Measures

AES-1: Nighttime Construction Lighting. Lighting used during nighttime construction, including any associated 24-hour well drilling, shall be shielded and pointed away from surrounding light-sensitive land uses.

Significance Determination

Less than Significant with Mitigation

References

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3.2 Agriculture and Forestry Resources

This section includes a description of existing land use conditions in relation to farmland designations, Williamson Act contracts, forest and timberland zoning, and related uses. It also provides a discussion of applicable state, regional, and local plans and programs, and an evaluation of potential impacts associated with construction, operation, and maintenance of the proposed project. See Chapter 3.10, Land Use and Planning, for a full discussion of issues pertaining to land use.

3.2.1 Environmental Setting

Regional Setting

The fertile soils, moderate climate, and groundwater resources of the County allow it to have unique, diverse, and valuable agricultural resources. From dry land farming in the north county, cattle grazing lands in the coastal hills and interior valleys, wines made from the vineyards in Edna Valley and Paso Robles, to rich irrigated croplands of the Arroyo Grande and Cienega Valleys, agriculture is a significant part of the County's economy (County of San Luis Obispo, 2010). The gross value of agricultural production in the County for 2016 totaled $914,724,000, an increase of ten percent from the previous year (San Luis Obispo County DAWM, 2016). That ten percent increase from 2015 is primarily due to the significant value increase in the fruit and nut category driven by wine grapes, strawberries, and avocados.

Project Area Setting

The Morro and Chorro Valleys located within and adjacent to the City have been or are presently supporting some agricultural activity. The Morro Valley consists of gentle rolling hillsides north of Highway 41 where most of that area consists of rangeland with some farmland supporting avocado orchards. South of Highway 41, much the of the flatland near Morro Creek is farmland where irrigated row crop production occurs (JFR Consulting, 2013). A small portion of the IPR East wellfield area overlaps with active farmland near Morro Creek. The Chorro Valley contains substantial areas of agricultural use, however most of the area is grazing land. In fact, the Chorro Valley features gentle rolling hillsides north of Highway 1 where most of the area is rangeland.

The proposed WRF site is underlain by Cropley clay soils, which consist of clay overlying silty clay loam that is typically found at a depth of 36 to 60 inches (JFR Consulting, 2016). Those soils are designated by the Natural Resources Conservation Science (NRCS) as prime farmland if irrigated. Historically, that portion of the project area and its adjacent land has been used for rangeland and has not been irrigated (JFR Consulting, 2013). Currently, the WRF site is not irrigated. As a result, the property in which the proposed WRF is located on does not support Prime Farmland (JFR Consulting, 2016). Thus, from a practical perspective, implementation of the proposed project would not remove important areas of prime agricultural potential.

According to the County's Estero Area Plan and County General Plan, the proposed WRF site is located within land designated as Agriculture. The rest of the proposed project is located within the City of Morro Bay. According to the City's General Plan, for the proposed lift station, Option

1A and Option 5A, are both located on land designated as General (Light) Industrial; the proposed raw wastewater conveyance pipeline would traverse Low Density Residential and Moderate Density Residential, Open Space/Recreation, General (Light) Industrial, District Commercial, Service Commercial, Coastal Dependent Industrial, and Environmentally Sensitive Habitat (near Morro Creek). The proposed injection well area for IPR West would be located in General (Light) Industrial, Visitor Serving, Coastal Development Industrial, and Environmentally Sensitive Habitat land uses (near Morro Creek) while the proposed recycled water pipeline for IPR West would traverse the same route as the proposed raw wastewater pipeline and overlay the aforementioned land uses. The proposed injection wells site for IPR East would be located in General (Light) Industrial, Visitor Serving, Environmentally Sensitive Habitat, Agriculture, Moderate Residential Density, and Low Residential Density land while the IPR East pipeline would traverse lands designated as Agriculture, Low Density Residential, Moderate Density Residential, District Commercial, Open Space/Recreation, and General (Light) Industrial. Therefore, out of all project components, only the proposed WRF, a portion of the proposed IPR East recycled water conveyance pipeline, and a small portion of the proposed IPR East wellfield area would be located on land designated as Agriculture in the City and County general plans.

Based on Important Farmland maps compiled by the California Department of Conservation (DOC), Farmland Mapping and Monitoring Program (FMMP), **Figure 3.2-1** shows the lands designated under the FMMP for agricultural uses in the project area, including Prime, Unique, or Farmland of Statewide Importance. A small portion of the IPR East wellfield area includes Prime Farmland. The proposed WRF site is located on land classified as Farmland of Local Potential and Grazing Land. Portions of the southern end of the proposed raw wastewater and brine/wet weather discharge pipeline and proposed recycled water pipeline for IPR East alignment also traverse through Farmland of Local Potential and Grazing Land. The rest of the proposed conveyance pipelines, the proposed lift station Option 1A and 5A sites, and the proposed injection wells sites (IPR East and IPR West) are located in Urban and Built-Up land. Further description of these FMMP categories are described below in Section 3.2.2.

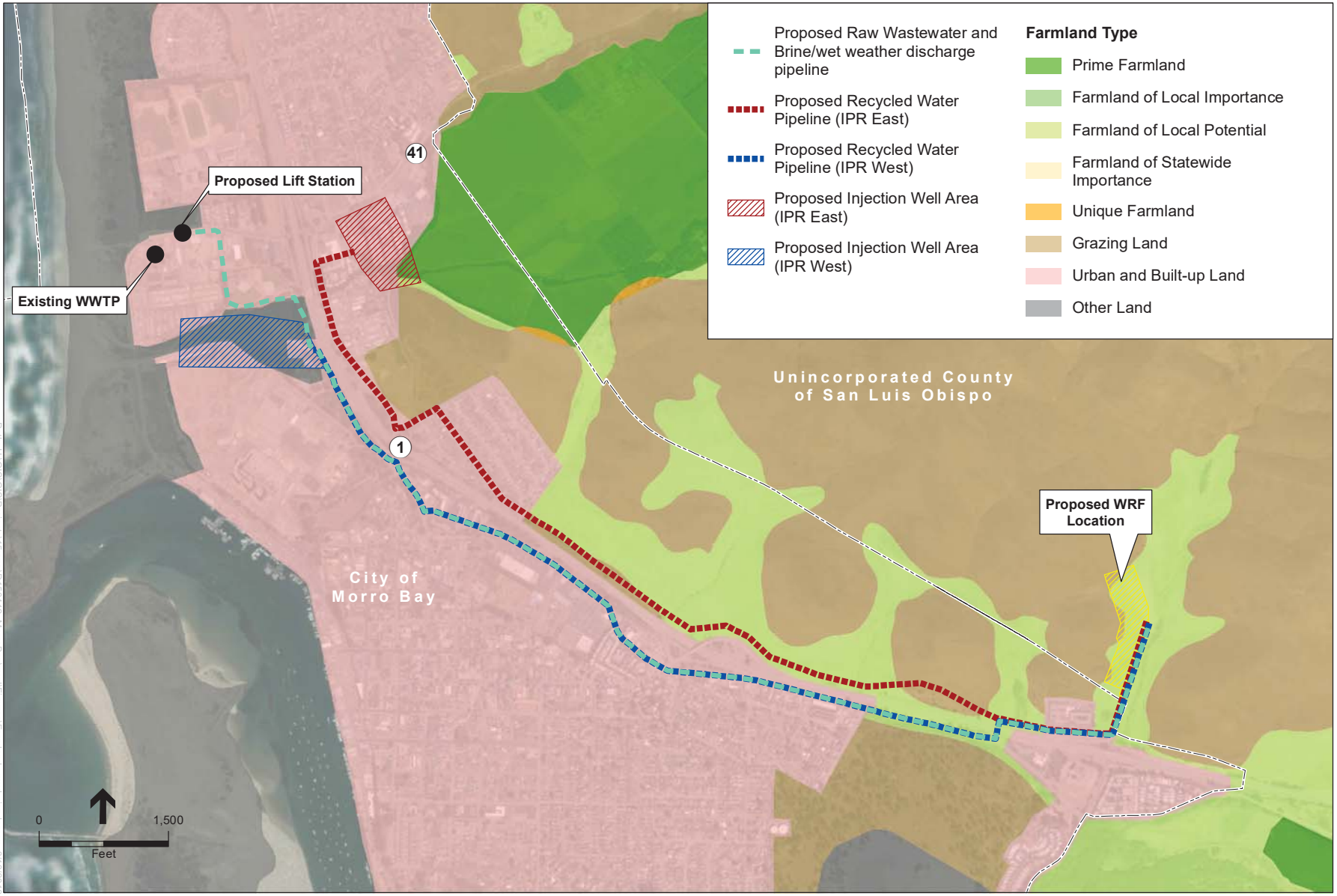
Figure 3.2-2 shows the Williamson Act contracted land present in the project area. There are Williamson Act contracted lands located east and north of the proposed WRF site, however none coincide with the location of proposed project components. Additionally, none of the project facilities would be located on land designated as Timber Production Zones or Forest land.

3.2.2 Regulatory Framework

Federal

Farmland Protection Policy Act

The Farmland Protection Policy Act (FPPA) of 1981 is intended to minimize the unnecessary conversion of farmland to nonagricultural uses. The FPPA established the Farmland Protection Program (FPP) and a Land Evaluation and Site Assessment (LESA) system. The NRCS administers the FPP, which is a voluntary program that provides funds to help purchase development rights to keep productive farmland in agricultural use.



SOURCE: ESRI; FMMP 2014

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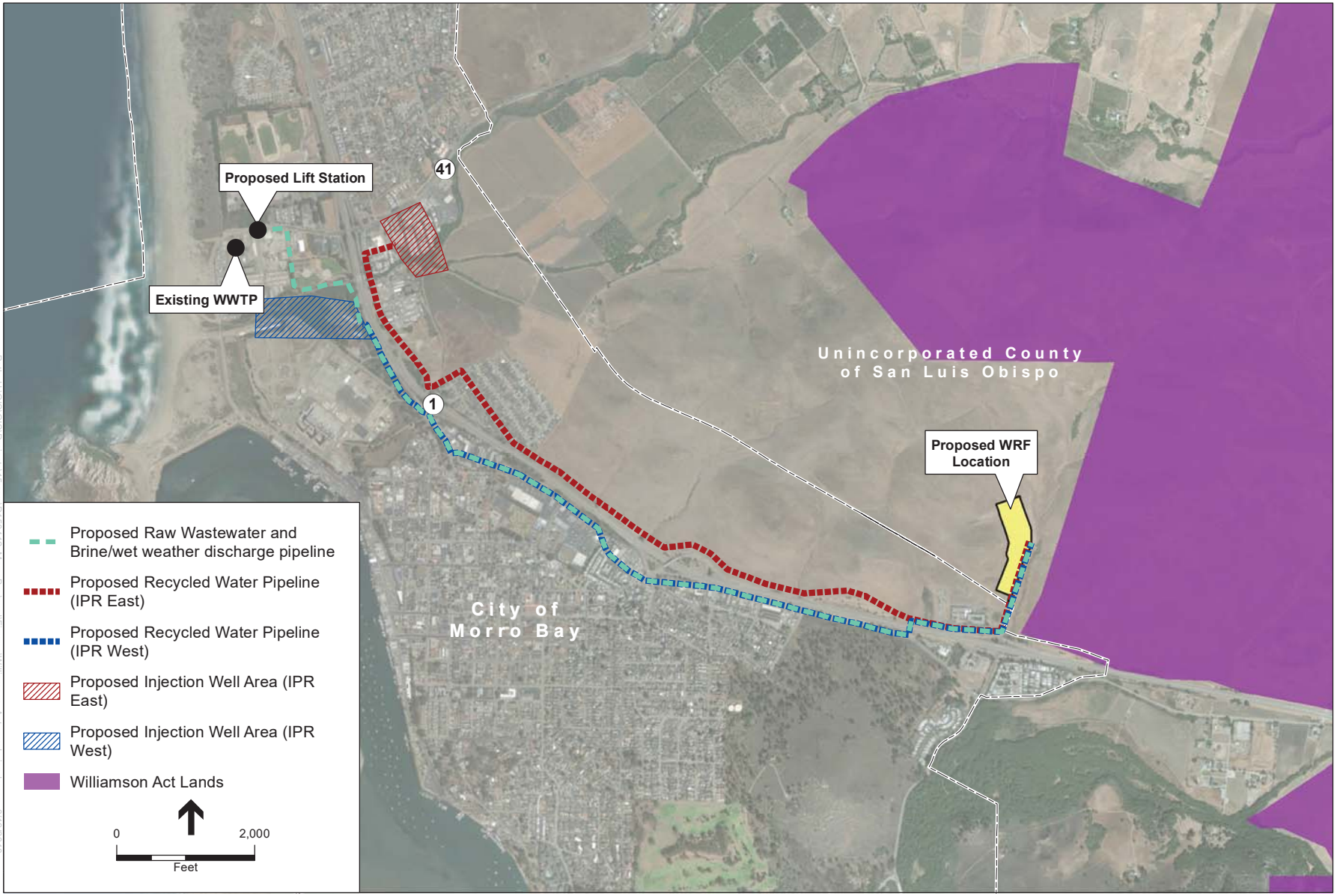
Figure 3.2-1

FMMP designated Farmland in the Project Area



SOURCE: ESRI; California Department of Conservation, 2009

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Figure 3.2-2

Williamson Act Land in Project Area

The program provides matching funds to state, local, and tribal government entities and nongovernmental organizations with existing farmland protection programs to purchase conservation easements. Participating landowners agree not to convert the land to nonagricultural uses and to retain all property rights for future agriculture. A minimum 30-year term is required for conservation easements, and priority is given to applications with perpetual easements. The Natural Resources Conservation Service provides up to 50 percent of the fair market value of the easements. The requirements of this Act would apply if the proposed project would result in the conversion of farmland. A LESA model was prepared for the proposed project. The results are explained below and found in **Appendix B** of this Draft EIR.

State

Farmland Mapping and Monitoring Program

The DOC FMMP identifies lands that have agricultural value and maintains a statewide map of agricultural lands in its Important Farmlands Inventory (IFI). IFI classifies land based upon its productive capabilities, which is based on many characteristics, including fertility, slope, texture, drainage, depth, salt content and availability of water for irrigation. The state employs a variety of classification systems to determine the suitability of soils for agricultural use. The two most widely used systems are the Capability Classification System and the Storie Index.

The Capability Classification System classifies soils from Class I to Class VIII based on their ability to support agriculture with Class I being the highest quality soil. The Storie Index considers other factors such as slope and texture to arrive at a rating.

The DOC maintains the FMMP and monitors the conversion of farmland to and from agricultural use through its Important Farmland Inventory System. Farmlands are divided into the following categories based on their suitability for agriculture:

- **Prime Farmland**. This land has the best combination of physical and chemical characteristics for crop production. When treated and managed, its soil quality, growing season, and irrigation supply produce sustained high crop yields.
- **Unique Farmland**. This land does not meet the criteria for Prime Farmland or Farmland of Statewide Importance, but has produced specific crops with high economic value.
- **Farmland of Statewide Importance**. This is land that does not qualify as Prime Farmland but has a good combination of irrigation and physical and chemical characteristics for crop production.
- **Farmland of Local Importance**. This land is either currently producing crops or has the capability to produce crops, but does not meet the criteria of the categories above.
- **Grazing Land**. This is land with vegetation that is suitable for grazing livestock.
- **Other Lands**. This land does not meet the criteria of any of the other categories.

According to the DOC, Prime Farmland is land that has the best combination of physical and chemical features able to sustain long-term agricultural production. It has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Prime Farmland must have been used for irrigated agricultural production at some time during the four years prior to the

mapping date (DOC, 2017c). Farmland of Statewide Importance is similar to Prime Farmland, but with minor shortcomings such as greater slopes or less ability to store soil moisture (DOC, 2017a). Unique Farmland consists of lesser quality soils used for the production of the state's leading agricultural crops. Farmland of Local Importance is land of importance to the local economy, as defined by each county's local advisory committee and adopted by its Board of Supervisors. For the County, there are two categories: Farmland of Local Importance and Farmland of Local Potential. Farmland of Local Importance includes areas of soils that meet all the characteristics of Prime or Statewide, with the exception of irrigation while Farmland of Local Potential is lands having the potential for farmland which have Prime or Statewide characteristics and are not cultivated (DOC, 2017b).

California Public Resources Code

The California Public Resources Code governs forestry, forests, and forest resources, as well as range and forage lands, within the state. "Forest land" is defined by Public Resources Code subdivision 12220(g) as "land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits." "Timberland" is defined by Public Resources Code section 4526 as "land, other than land owned by the federal government..., which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees."

California Government Code - Timberland

Chapter 6.7 of the Government Code (§§51100-51155) regulates timberlands within the state. "Timberland production zone" is defined in Subdivision 51104(g) as an area that has been zoned pursuant to Government Code section 51112 or 51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses. In this context, "compatible uses" include any use that "does not significantly detract from the use of the property for, or inhibit, growing and harvesting timber" (Government Code §51104(h)). Watershed management, grazing, and the erection, construction, alteration, or maintenance of electric transmission facilities are examples of compatible uses. The general plans of cities and counties may use the term "timberland preserve zone," which Government Code subdivision 51104(g) defines as equivalent to "timberland production zone."

Williamson Act

The Williamson Act (California Land Conservation Act of 1965, section 51200) (Act) was adopted in order to encourage the preservation of the state's agricultural lands and to discourage its conversion to urban uses. The Act established an agricultural preserve contract procedure through which any county or city within the state taxes landowners of Agricultural Preserve contract land at a lower rate using a scale based on the actual use of the land for agricultural purposes, as opposed to its unrestricted market value. In return, the owners guarantee that these properties will remain under agricultural production for a 10-year period. That contract is renewed automatically, unless a Notice of Non-Renewal is filed by the owner. In that manner, each agricultural preserve contract (at any given date) is always operable at least 9 years into the future.

Williamson Act contracts can be cancelled earlier than the 10-year period upon approval of the appropriate local jurisdiction, which must make findings cancellation is in the public interest or is consistent with the purposes of the California Land Conservation Act. Generally, the landowner must also pay a fee equal to 12½ percent of the property value.

Regional

County of San Luis Obispo General Plan: Agriculture Element

Goal AG 2: Conserve agricultural resources

Goal AG 3: Protect agricultural lands

Policy AGP24: Conversion of Agricultural Land

Discourage the conversion of agricultural lands to non-agricultural uses through the following action:

4. Avoid locating new public facilities outside urban and village reserve lines unless they serve a rural function or there is no feasible alternative location within the urban and village reserve lines.

County of San Luis Obispo Local Coastal Program, Coastal Plan Policies

Generally, decisions and policies regarding agricultural lands outside the City limits but within coastal zone would be addressed by the County of San Luis Obispo's Local Coastal Program. In addition, a Coastal Development Permit would be obtained for the implementation of the proposed WRF.

Policy 1: Maintaining Agricultural Lands

Permitted Uses on Non-Prime Agricultural Lands. Principal permitted and allowable uses on non-prime agricultural lands are designated on Coastal Table O. These uses may be permitted where it can be demonstrated that no alternative building site exists except on non-agricultural soils, that the least amount on non-prime land possible is converted and that the use will not conflict with surrounding agricultural lands and uses.

County of San Luis Obispo Land Use Element of the General Plan

The Land Use Element of the San Luis Obispo County General Plan *Framework for Planning Coastal Zone* defines public utility facilities as:

Fixed-base structures and facilities serving as junction points for transferring utility services from one transmission voltage to another or to local distribution and service voltages. These uses include any of the following facilities: electrical substations and switching stations; telephone switching facilities; natural gas regulating and distribution facilities; public water system wells, treatment plants and storage; and community wastewater treatment plants, settling ponds and disposal fields. Nothing in this definition is intended to require a land use permit where Government Code Section 53091 would exempt local agencies from permit requirements, except in the coastal zone where permitting requirements are as set forth in the Local Coastal Plan. These uses do not include those uses that are not directly and immediately used for the production, generation, storage, or transmission of water, wastewater or electrical power such as office or customer service centers (classified in

"Offices"), or equipment and material storage yards (classified in Storage Yards and Sales Lots"). [Amended 1995, Ord. 2740]

Coastal Table O lists uses of land that may be established in the land use categories. For land designated as Agriculture – Non-prime soils, the table lists Public Utility Facilities as *S-13* which means it is allowed only when special standards or permit procedures are followed.

County of San Luis Obispo Coastal Zone Land Use Ordinance

23.08.288 Public Utility Facilities: The requirements of this section apply to Public Utility Facilities where designated as S-13 uses by Coastal Table 'O', Part I of the Land Use Element. Public Utility Facilities for other than electric and communications transmission and natural gas regulation and distribution, require Development Plan approval pursuant to Section 23.02.034 (Development Plan).

a. Permit requirements. In addition to the emergency repair and the general permit requirements of section 23.08.286a and b., Development Plan approval is required for any new facility or modification of any existing facility in the Agriculture, Rural Lands, Residential, Office and Professional, and Commercial land use categories. Development Plan approval is required for any new facility or modification to any existing facility which would increase the structure heights above those specified in section 23.04.124 or modify any operational standards causing an increase in any of the categories specified in chapter 23.06 of this title.

c. Development Standards. The following standards apply in addition to any that may be established as conditions of approval:

(1) **Environmental quality assurance.** An environmental quality assurance program covering all aspects of construction and operation shall be submitted prior to construction of any project component. This program will include a schedule and plan for monitoring and demonstrating compliance with all conditions required by the Development Plan. Specific requirements of this environmental quality assurance program will be determined during the environmental review process and Development Plan review and approval process.

(2) **Clearing and revegetation**. The land area exposed and the vegetation removed during construction shall be the minimum necessary to install and operate the facility. Topsoil will be stripped and stored separately. Disturbed areas no longer required for operation will be regraded, covered with topsoil and replanted during the next appropriate season.

(3) **Fencing and screening.** Public Utility Facilities shall be screened on all sides. An effective visual barrier will be established through the use of a solid wall, fencing and/or landscaping. The adequacy of the proposed screening will be determined during the land use permitting process.

23.08.286 Pipelines and Transmission Lines: This section provides standards for pipeline and communications transmission lines and related facilities, where designated as S-13 uses by Coastal Table O, Part I of the Land Use Element. This section applies to emergency repairs, replacement, renewal and upgrading of existing facilities, as well as to new facilities.

a. Emergency repairs. Notwithstanding the other provisions of this section, emergency repairs necessary for public or environmental health and safety reasons do not require prior approval; however, nothing in this title exempts reporting as required by various state and federal regulations. Following the emergency, land use and building permit applications which would otherwise have been required for the type of work performed

shall be submitted within 30 days, documenting what occurred and demonstrating that the required clearing, construction, cleanup, and restoration was accomplished in accordance with this Title, Title 19, and Title 13 of the County Code, as appropriate.

b. General permit requirements.

(1) Determination of permit level. Except as otherwise provided by this section for specific facilities, and except where country land use permit authority is preempted by state law, the land use permit required to authorize a proposed land use of this type is determined by the magnitude of site disturbance. A minor use permit is required for a site disturbance area of 40,000 or more square feet.

(3) Application contents. In addition to the application materials required by chapter 23.02, the application for a proposed new or replacement pipeline, electrical or communications transmission line is to be accompanied by documentation that the applicant:

(i) Is the owner of record of the land involved; or

(ii) Has easements or lease arrangements from the owners of record sufficient to carry-out the actions proposed; or

(iii) Has notified all landowners of record (e.g. a copy of a letter informing landowners of the proposed activities and proposed right-of-way for this project and the mailing list used) potentially involved within the corridor being proposed.

23.04.050 Non-Agricultural Uses in the Agriculture Land Use Category. This section establishes permit requirements and standards for non-agricultural uses in the Agriculture category consistent with Local Coastal Plan Agricultural policies 3, 4, and 5.

b. Supplemental non-agricultural uses.

(1) **Supplemental non-agricultural uses defined**. Uses allowed by Coastal Table "O" in the Agriculture category that are not directly related to the principal agricultural use on the site. (Example: where crop production or grazing are the principal agricultural use of a parcel, petroleum extraction, mining or rural sports and group facilities may be allowed as supplemental non-agricultural uses consistent with this section.)

(2) **Priority supplemental non-agricultural uses**. When continued agricultural use is not feasible without some supplemental use, priority shall be given to commercial recreation and low intensity visitor-serving uses allowed by Coastal Table "O", Part I of the Land Use Element.

(3) **Permit requirement**. Minor use permit approval, unless Development Plan approval is otherwise required by another provision of this title or planning area standard of the Land Use Element.

(4) **Required findings**. Supplemental non-agricultural uses may be established only if the following findings are made by the applicable approval body:

(ii) The least amount of prime soils possible will be converted; and

(iii) The proposed use will not conflict with surrounding agricultural lands and uses.

(7) **Guarantee of continuing agricultural or open space use**. As a condition of approval of a supplemental non-agricultural use, the applicant shall insure that the remainder of the parcel(s) be retained in agriculture, and if appropriate, open space use by the following methods:

(i) **Agricultural Easement**. The applicant shall grant an easement to the county over all agricultural land shown on the site plan. Such easement shall remain in effect for the life of the non-agricultural use and shall limit the use of the land covered by the easement to agriculture, non-residential use customarily accessory to agriculture, farm labor housing, and a single-family dwelling accessory to the agricultural use.

(ii) **Open space easement**. The applicant shall grant an open space easement to the county over all lands shown on the site plan as land unsuitable for agriculture, not a part of the approved development or determined to be undevelopable. The open space easement shall remain in effect for the life of the non-agricultural use and shall limit the use of the land to non-structural, open space uses.

(iii) **Procedures for agricultural or open space easements**. Any easement required by this section shall be reviewed as set forth in Section 23.04.420g (4) of this title.

Local

City of Morro Bay General Plan

Land Use, Open Space, and Conservation Element: Agriculture

8. Agriculture and Urban Reserve and Urban Service Boundaries

Objective: To preserve vital agricultural uses in and adjacent to the City. Until every method for preserving agricultural lands has been attempted and the environmental values of agriculture have been determined these areas shall not be converted to urban areas. Of specific concern is the agricultural use of Morro and Chorro Valleys.

Policy LU-41: The soils in the Morro, Chorro, and Toro Valleys represent the most valuable soils in the Morro Bay area, and thus their use for agriculture should be encouraged.

Policy LU-42: The City and the City/County through cooperative review and permitting arrangements, shall maintain the maximum amount of "prime" agricultural land (as defined in Section 30113 of the Coastal Act and as identified through consultation with the U.S.D.A. Soils Conservation Service) in agricultural production to assure the protection of the areas' agricultural economy. The City shall join with the County in a cooperative planning arrangement to assure that conflicts shall be minimized between the City and County agricultural and urban land uses.

Program LU-42.3: The City and County should permit the conversion of agricultural lands surrounded by urban uses only where the conversion of the land would be consistent with PRC Section 30250.

Program LU-42.5: The City and County shall assure that public service and facility expansions and nonagricultural development do not impair agricultural viability, either through increased assessment costs or degrade air and water quality.

Policy LU-43: The City shall implement the standards, or implement the standards in cooperation with the County in a City-County review process for proper land management.

> **Program LU-43.6:** All non-prime land within the City of Morro Bay suitable for agricultural use shall not be converted to non-agricultural uses unless (1) continued or renewed agricultural uses is not feasible, or (2) such conversion would preserve prime agricultural land or concentrate development consistent with Public Resources Code Section 30250. Any such permitted conversion shall be compatible with continued agricultural use on surrounding lands.

Policy LU-44: All non-agricultural development permitted on non-prime agricultural lands shall preserve the maximum amount of lands in agricultural use. In approving any land division or non-agricultural use, all of the following findings shall be made by the City:

1. Continued or renewed agricultural use is not feasible without the proposed division and/or supplemental non-agricultural use.
2. The proposed division and/or use will allow for and support the continued use of the site as a productive agricultural unit, would contribute to long-term agricultural viability and would preserve all agricultural lands;
3. The proposed division and/or use will result in no adverse effect upon the continuance or establishment of agricultural uses on the undeveloped portion of the property or on surrounding or nearby properties.
4. Buffer areas are provided between agricultural and non-agricultural uses;
5. Adequate water supply, sewage disposal and other public services are available to service the proposed development after provision has been made for the continuance of existing agricultural operations and future operations which may require water needs exceeding the present needs.
6. The proposed division and/or use will not adversely impact environmentally sensitive areas, scenic resources or the rural character of the site, where applicable. Where new non-agricultural developments are permitted on lands in or previously in agricultural production, sensitive habitats shall be protected, restored, and enhanced as a condition of development approval.

City of Morro Bay Local Coastal Program

Chapter 8. Coastal Agriculture

Policy 6.03 All other lands suitable for agriculture use shall not be converted to non-agricultural uses unless (1) continued or renewed agricultural uses is not feasible, or (2) such conversion would preserve prime agricultural land or concentrate development consistent with Public Resource Code 30250. Any such permitted conversion shall be compatible with continued agricultural use on surrounding lands.

Policy 6.04. All non-agricultural development permitted on non-prime agricultural lands shall preserve the maximum amount of lands in agricultural use. In approving any land divisions or non-agricultural uses, all of the following findings shall be made by the City:

1) Continued or renewed agricultural use is not feasible without the proposed division and/or supplemental non-agricultural use;

2) The proposed division and/or use will allow for and support the continued use of the site as productive agricultural unit, would contribute to long term agricultural viability and would preserve all agricultural lands;

3) The proposed division and/or use will result in no adverse effect upon the continuance or establishment of agricultural uses on the undeveloped portion of the property or on surrounding or nearby properties.

4) The proposed division and/or use will not adversely impact environmentally sensitive areas, scenic resources, or the rural character of the site, where applicable. Where new non-agricultural developments are permitted on lands in or previously in agricultural production, sensitive habitats shall be protected, restored, and enhanced as a condition of development approval.

3.2.3 Impacts and Mitigation Measures

Significance Criteria

Appendix G of the *CEQA Guidelines* recommends significance criteria for the evaluation of impacts related to agriculture and forestry resources in the project area. Those same criteria are provided below. This Draft EIR assumes implementation of the proposed project would have a significant impact related to agriculture and forestry resources if it would:

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;
2. Conflict with existing zoning for agricultural use, or a Williamson Act contract;
3. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g));
4. Result in the loss of forest land or conversion of forest land to non-forest use;
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.

Methodology

This analysis uses land use and agricultural designation maps produced by planning and resource agencies, including the DOC and local governments, to determine whether the proposed project would directly or indirectly affect land used for agricultural or forestry uses, and analyzes the significance of such impacts based on the potential for the proposed project to convert such lands to non-agricultural or non-forestry uses, or to cause nuisances that would indirectly affect the ability to continue to use them for agricultural or forestry use.

Impact Analysis

Prime Farmland Conversion

Impact 3.2-1: The proposed IPR East groundwater wells could potentially convert Prime Farmland to non-agricultural use. However, based on the results of the LESA model, the conversion of farmland to non-agricultural use would be considered less than significant. This impact would be Class III, Less than Significant.

WRF

Based on the FMMP designations, the proposed WRF is located on land designated as Farmland of Local Potential and Grazing land (refer to Figure 3.2-1). Furthermore, the WRF site is not irrigated and, as such, is not considered Prime Farmland based on NRCS soils classification. Implementation of the proposed WRF would not convert land designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. There would be no impact.

Lift Station, Injection and Monitoring Wells, Decommissioning of Current WWTP

The proposed lift station sites, the proposed injection well sites for IPR West, the existing WWTP, and the majority of the proposed conveyance pipelines would be located in Urban and Built-up Land, according to the FMMP designations. None of those project facilities would convert Prime Farmland. Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. As shown in Figure 3.2-1, approximately 1.26 acres of the proposed injection well area for IPR East would overlap Prime Farmland and approximately 0.44 acres would overlap with Farmland of Local Potential (1.7 acres total). Because the exact location of the proposed injection wells is still undetermined, there is potential for the proposed project to convert Prime Farmland to non-agricultural use. Depending on where the wells are placed, location of the proposed groundwater injection or monitoring wells for IPR East could construct and operate water infrastructure in Prime Farmland. Three to five wells would be constructed, each with a footprint of approximately 200 square feet, so the conservative total area of conversion of Prime and Farmland of Local Potential would be up to 1,000 square feet, or about 0.02 acres.

A LESA model was completed for the potential conversion of Prime Farmland associated with the installation of the proposed groundwater injection or monitoring wells within the proposed groundwater injection area for IPR East, shown in Figure 3.2-1. The analysis assumed the proposed injection and monitoring wells would impact all 1.26 acres of Prime Farmland, which would be the greatest potential impact. The LESA assumed the agricultural viability of the land and soils to determine the potential impact of constructing the wells. Using the LESA Model, a final score of 43.63 (out of 100) was calculated (see **Appendix B**). According to the Model Scoring Threshold of CEQA, the construction of the proposed injection or monitoring wells that encompass the 1.26 acres of Prime Farmland would be considered to have a not significant impact on the conversion of agricultural lands (See “Instruction Manual” in Appendix B for instructions on making significance determinations). Therefore, the proposed project’s impact related to converting Prime Farmland to non-agricultural use would be considered less than significant.

Conveyance Pipelines

Although the majority of the proposed pipelines would be located in land designated as Urban and Built-up land, the southeastern portion of the proposed recycled water IPR East pipeline would traverse over Farmland of Local Potential and Grazing Land while the southern portions of the proposed raw wastewater and brine/wet weather discharge pipeline and the proposed recycled water IPR West pipeline traverse Farmland of Local Potential. Construction of those pipelines would temporarily impact the farmland. Once constructed, the pipelines would be located underground and would not permanently convert land to non-agricultural use. However, it should be noted pipelines would require occasional maintenance and monitoring; the City would still need periodic access to the pipeline corridor. Nevertheless, implementation of these pipelines would not convert land designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use.

Mitigation Measures

None required.

Significance Determination

Less than Significant

Williamson Act Contract

Impact 3.2-2: The proposed project would not conflict with a Williamson Act contract. Project components located on lands zoned for agricultural use would be consistent with applicable Land Use and zoning requirements through implementation of City and County policies and permit procedures. This impact would be Class III, Less than Significant.

The proposed project would not be located within any land under a Williamson Act contract. As a result, there would be no impacts related to conflicts with the use of Williamson Act contracted lands.

WRF

The proposed WRF would be located on lands designated as Agriculture under the County's General Plan. According to the County's General Plan and Land Use Ordinance, public utility facilities (such as a treatment plant) are allowed within lands zoned for Agricultural – Non-Prime soils, subject to special standards or permit procedures such as approval of a Development Plan (County Coastal Zone Land Use Ordinance 23.08.288). A Development Plan is similar to a Minor Use Permit in that its application includes a preliminary floor plan, architectural elevations, adjacent land uses, landscape plan, grading plan, construction schedule, cross-sections, and public access locations and includes a public hearing. A Development Plan requires the development or project is consistent with the Coastal Zone Land Use Ordinance, which could result in minimizing the proposed project's disturbance at the site and including fencing or visual screening.

As a result, acquisition of appropriate permits would allow the WRF to be constructed and operated on agricultural land. Therefore, impacts related to conflicts with existing zoning for agricultural use would be considered less than significant.

Lift Station, Injection and Monitoring Wells

The proposed lift station Option 1A and Option 5A would be located in land designated as General (Light) Industrial under the Morro Bay General Plan. There are no lands zoned for Agriculture in the proposed IPR West wellfield area. A portion of the proposed IPR East wellfield area is zoned for Agriculture. According to the Morro Bay Municipal Code, public utility facilities include but are not limited to water wells, substations, switching stations, pipelines, transmission lines, and similar utility uses. Public Utility Facilities are considered a special use and are allowed in any of the affected zoning designations, including Agriculture, subject to approval of a conditional use permit processed in accordance with the provisions of Chapter 17.60 and Section 17.30.030 (P)(1)(a). Therefore, the proposed wells in the IPR East wellfield area would not conflict with zoning designations. Therefore, once a condition use permit is obtained, there would be no conflict with existing zoning and impacts would be considered less than significant.

Conveyance Pipelines

Each of the proposed raw wastewater and brine/wet weather discharge pipeline, proposed recycled water pipeline (IPR West), and proposed recycled water pipeline (IPR East) would traverse land zoned as Agriculture under the County jurisdiction as they leave the proposed WRF. Portions of the proposed recycled water pipeline for IPR East also would traverse land zoned for Agriculture under the City jurisdiction as it travels northeast towards the proposed injection well site. All of this piping would be constructed within public ROW.

The portion of the pipeline that would be constructed within County jurisdiction would be allowed within Agricultural land subject to Development Plan approval (County Coastal Zone Land Use Ordinance 23.08.288). A Development Plan is similar to a Minor Use Permit in that its application includes a preliminary floor plan, architectural elevations, adjacent land uses, landscape plan, grading plan, construction schedule, cross-sections, and public access locations and includes a public hearing. A Development Plan requires the development or project is consistent with the Coastal Zone Land Use Ordinance

The portion of the pipeline that would be constructed across lands zoned as Agriculture in the City would be considered a new public utility facility. For the City, Public Utility Facilities include, but are not limited to, water wells, substations, switching stations, pipelines, transmission lines and similar utility uses. Public Utility Facilities are considered a special use and are allowed in any of the affected zoning designations, including Agriculture, subject to approval of a conditional use permit processed in accordance with the provisions of Chapter 17.60 and Section 17.30.030 (P)(1)(a) which provides the following additional finding applicable to new pipelines:

- Routes of All New Lines. The routes of all new lines shall, to the maximum extent feasible, avoid important coastal resources such as recreation and environmentally sensitive areas. Where such resources cannot be avoided, and will be adversely affected, the planning commission/city council shall require appropriate mitigation measures. These measures may

include, but are not limited to precluding construction during peak visitor seasons in recreational areas, precluding construction during nesting or breeding seasons in sensitive habitat areas, the vegetation of graded areas, the undergrounding of utility facilities, the preparation of an oil spill contingency plan for new pipelines, restrictions of the use of herbicides, and various erosion control measures (as appropriate)

Therefore, the proposed pipelines would not conflict with City zoning designations. Impacts related to conflicts with existing zoning for agricultural use would be considered less than significant.

Decommissioning of Current WWTP

The existing WWTP is located within General Industrial land designated under the City's General Plan. Thus, decommissioning of the existing WWTP would not conflict with any land zoned for agricultural use. No impacts would occur.

Mitigation Measures

None required.

Significance Determination

Less than Significant

Forest Land and Timberland

Impact 3.2-3: The project is not located within forest land or timberland. Thus, the project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland or timberland zoned Timberland Production. There would be no impact.

There are no lands zoned as forest land, timberland, or timberland production within the project site boundaries or in the project area. Therefore, no impacts would occur.

Mitigation Measures

None required.

Significance Determination

No Impact

Conversion of Forest Land

Impact 3.2-4: The project is not located within forest land so it would not result in the loss of forest land or conversion of forest land to non-forest use. There would be no impact.

There is no forest land within the project site boundaries or in the project area and there would be no conversion of forest land to non-forest use. Thus, no impacts would occur.

Mitigation Measures

None required.

Significance Determination

No Impact

Conversion to Non-Agricultural Use

Impact 3.2-5: The proposed WRF would be located on a parcel that is currently rangeland and used for grazing. The majority of the parcel would continue to be used for grazing after implementation of the proposed project. The proposed WRF would implement City and County policies related to public services with agricultural lands, and would not substantially reduce the area available for grazing and rangeland, so impacts to this area are less than significant. In addition, agricultural impacts related to the location of IPR wells are considered Class III, Less than Significant.

Current agricultural production in the proposed project area is shown in the aerial photograph of Figure 2-2. The proposed WRF site is rangeland that is currently used for cattle grazing (Yeh & Associates, 2017). For almost a century, land use at this site has not changed (Yeh & Associates, 2017). The proposed WRF would occupy 10 to 15 acres of a 396-acre parcel of rangeland, a land use that is considered agricultural. That is the primary project component that has the potential to permanently convert land that is currently being used for grazing to a non-agricultural use. Per the City's General Plan policies, the proposed project would be in compliance with Policy LU-44, which states that "All non-agricultural development permitted on non-prime agricultural lands shall preserve the maximum amount of lands in agricultural use. The proposed use will result in no adverse effect upon the continuance or establishment of agricultural uses on the undeveloped portion of the property." Implementation of the proposed WRF would convert up to approximately 4% of the 396-acre parcel to non-agricultural use. The remainder of the parcel would still be available for grazing or to be placed into an agricultural or open space easement in compliance with County Land Use Ordinance policy 23.04.050. Also, the proposed WRF is being designed to minimize its footprint as much as possible to minimize such effects to agriculture, and would maintain the remainder of the rangeland area in one contiguous and useable parcel. The impact of building the proposed WRF relative to the continued use of agricultural lands is less than significant.

The other project component that has a similar potential to convert agricultural land to non-agricultural use is the proposed IPR East groundwater wells. A small portion of the IPR East wellfield area overlaps with active agricultural lands at the Narrows (see Figure 2-2). Those lands are also FMMP-designated Prime Farmland. However, the results from the LESA model indicate that the conversion of 1.26 acres of Prime Farmland within the proposed IPR East groundwater well injection area to non-agricultural use would not be considered a significant impact to agricultural resources. Therefore, the potential to convert agricultural land to non-agricultural use would be considered less than significant.

Mitigation Measures

None required.

Significance Determination

Less than Significant

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3.3 Air Quality

This section describes and evaluates issues related to air quality in the context of the proposed project. The section provides (i) an introduction to criteria air pollutants and toxic air contaminants (TACs), (ii) the physical and regulatory setting, including pertinent regulations at the federal, state, and local levels, (iii) the baseline for determining environmental impacts, (iv) the criteria used for determining the significance of the project's environmental impacts and (v) potential impacts and appropriate mitigation measures associated with the construction and operation of the proposed project.

3.3.1 Environmental Setting

Background

Criteria Air Pollutants

The U.S. Environmental Protection Agency (USEPA) has identified criteria air pollutants that are a threat to public health and welfare. These pollutants are called "criteria" air pollutants because standards have been established for each of them to meet specific public health and welfare criteria (see Section 3.3.2, Regulatory Setting, below). The following criteria pollutants are a concern in the project area.

Ozone

Ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and can also cause substantial damage to vegetation and other materials. Ozone is not emitted directly into the atmosphere, but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and nitrogen oxides (NO_X). ROG and NO_X are known as precursor compounds for ozone. Significant ozone production generally requires ozone precursors to be present in a stable atmosphere with strong sunlight for approximately 3 hours.

Ozone is a regional air pollutant because it is not emitted directly by sources, but is formed downwind of sources of ROG and NO_X under the influence of wind and sunlight. Ozone concentrations tend to be higher in the late spring, summer, and fall, when the long sunny days combine with regional subsidence inversions to create conditions conducive to the formation and accumulation of secondary photochemical compounds like ozone.

Nitrogen Dioxide

Nitrogen dioxide (NO_2) is an air quality pollutant of concern because it acts as a respiratory irritant. NO_2 is a major component of the group of gaseous nitrogen compounds commonly referred to as NO_X. A precursor to ozone formation, NO_X is produced by fuel combustion in motor vehicles, industrial stationary sources (such as refineries, power plants, and chemical manufacturing facilities), ships, aircraft, and rail transit. Typically, NO_X emitted from fuel combustion is in the form of nitric oxide (NO) and NO_2, with the vast majority (95 percent) of the NO_X emissions being comprised of NO. NO is converted to NO_2 in the atmosphere when it reacts with ozone or undergoes photochemical reactions.

Carbon Monoxide

Carbon monoxide (CO) is a non-reactive pollutant that is a product of incomplete combustion and is mostly associated with motor vehicle traffic. High CO concentrations develop primarily during winter when periods of light winds combine with the formation of ground-level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia.

Particulate Matter

Particulate matter less than 10 microns in diameter (PM_{10}) and particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) represent fractions of particulate matter that can be inhaled into air passages and the lungs and can cause adverse health effects. Particulate matter in the atmosphere results from many kinds of dust- and fume-producing industrial and agricultural operations, fuel combustion, and atmospheric photochemical reactions. Some sources of particulate matter, such as demolition and construction activities, are more local in nature, while others, such as vehicular traffic, have a more regional effect. Very small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain adsorbed gases (e.g., chlorides or ammonium) that may be injurious to health. According to a study prepared by the California Air Resources Board (CARB), exposure to ambient $PM_{2.5}$, particularly diesel particulate matter (DPM), can be associated with approximately 14,000 to 24,000 premature annual deaths statewide (CARB, 2009). Particulate matter also can damage materials and reduce visibility.

Toxic Air Contaminants

TACs are airborne substances that are capable of causing short-term (acute) and/or long-term (chronic or carcinogenic, i.e., cancer-causing) adverse human health effects (i.e., injury or illness). TACs include both organic and inorganic chemical substances. They may be emitted from a variety of common sources including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations. The current California list of TACs includes approximately 200 compounds, including DPM emissions from diesel-fueled engines which was identified as a TAC by CARB in 1998 (CARB, 2011).

Regional Setting

Regional Topography, Meteorology, and Climate

The potential for high pollutant concentrations developing at a given location depends upon the quantity of pollutants emitted into the atmosphere in the surrounding area or upwind, and the ability of the atmosphere to disperse the contaminated air. The atmospheric pollution potential, as the term is used here, is independent of the location of emission sources and is instead a function of factors such as topography and meteorology.

The proposed WRF site is a 15-acre area located within an unincorporated portion of the County, which is part of the South Central Coast Air Basin. The remaining components of the proposed project are located within the City. The climate of the County can be generally characterized as Mediterranean, with warm, dry summers and cooler, relatively damp winters. Along the coast, such as in the vicinity of Morro Bay, mild temperatures prevail throughout the year due to the moderating influence of the Pacific Ocean. That effect is diminished inland in proportion to distance from the ocean by intervening terrain features, such as the coastal mountain ranges. As a result, inland areas are characterized by a considerably wider range of temperature conditions. Maximum summertime temperatures average about 70 degrees Fahrenheit near the coast, while inland valleys are often in the high 90s. Average minimum, winter temperatures range from the low 30s along the coast to the low 20s inland.

Regional meteorology is largely dominated by a persistent high-pressure area which commonly resides over the eastern Pacific Ocean. Seasonal variations in the strength and position of this pressure cell cause seasonal changes in the weather patterns of the area. The Pacific high remains generally fixed several hundred miles offshore from May through September. As the onshore breezes pass over the cool water of the ocean, fog and low clouds often form in the marine air layer along the coast. Surface heating in the interior valleys dissipates the marine layer as it moves inland.

From November through April the Pacific High tends to migrate southward, allowing northern storms to move across the county. About 90 percent of the total annual rainfall is received during this period. Winter conditions are usually mild, with intermittent periods of precipitation followed by mostly clear days. Rainfall amounts can vary considerably among different regions in the county.

Airflow around the county plays an important role in the movement and dispersion of pollutants. The speed and direction of local winds are controlled by the location and strength of the Pacific High pressure system and other global patterns, by topographical factors, and by circulation patterns resulting from temperature differences between the land and sea. In spring and summer months, when the Pacific High attains its greatest strength, onshore winds from the northwest generally prevail during the day. At night, as the sea breeze dies, weak drainage winds flow down the coastal mountains and valleys to form a light, easterly land breeze.

In the Fall, onshore surface winds decline and the marine layer grows shallow, allowing an occasional reversal to a weak offshore flow. This, along with the diurnal alternation of land-sea breeze circulation, can sometimes produce a "sloshing" effect. Under these conditions, pollutants may accumulate over the ocean for a period of one or more days and are subsequently carried back onshore with the return of the sea breeze. Strong inversions can form at this time, "trapping" pollutants near the surface (SLOAPCD, 2001).

Existing Air Quality

Existing air quality in project area can be inferred from ambient air quality measurements conducted at stations close to the area. Nine air monitoring stations are located at different sites around the County to measure the ambient concentrations of criteria pollutants. The monitoring station that could be considered representative of the air quality in the project area is located at 899 Morro Bay Boulevard in the City. **Table 3.3-1** shows a five-year (2012 through 2016) summary of data monitored at this station. The table also compares the data to the California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS).

As shown in **Table 3.3-1**, there were no exceedances of state and national ozone standards between 2012 and 2016. The Morro Bay station does not monitor particulate matter concentrations, but data from the 3220 South Higuera Street station located approximately 11 miles southeast of the WRF site shows none of the state and national PM_{10} or $PM_{2.5}$ standards were exceeded over the past five years. There were no measured exceedances of the NO_2 standards also. CO was not monitored at either station over the five-year study period; however, CO concentrations have continued to decline all over the County and are expected to be well below standards in the project area.

Sensitive Receptors

For the purposes of air quality analysis, sensitive receptors are defined as facilities and land uses where people spend extended amounts of time or that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of sensitive uses include residences, schools, hospitals, and daycare centers. The reasons for greater than average sensitivity include pre-existing health problems, proximity to emissions sources, and/or duration of exposure to air pollutants. Schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality because children, elderly people, and the infirm are more susceptible to respiratory distress and other air quality-related health problems than the general public. Residential areas are considered sensitive to poor air quality because people usually stay home for extended periods of time, which results in greater exposure to ambient air quality.

Sensitive receptors located in the vicinity of the various project components are discussed in detail under *Section 3.11, Noise and Vibration.* The nearest sensitive receptors to the WRF site are the occupants of the Bayside Care Center located approximately 360 feet from the WRF site's southernmost boundary and approximately 1,000 feet from the nearest onsite facility within the WRF that could produce odorous emissions. Sensitive receptors near the proposed lift station locations include the Morro Strand RV Park (located approximately 260 feet south-east of Option 1A and 330 feet southeast of Option 5A) and the Morro Bay High School (located approximately 380 feet north of the Option 1A and 270 feet north of Option 5A). Construction of the conveyance pipelines and the recycled water distribution system (both alternatives) would take place as close as 50 feet from sensitive receptors at the Morro Dune RV Park, the single-family residences along Main Street and residences at the Bayside Care Center.

TABLE 3.3-1
AIR QUALITY DATA SUMMARY (2012–2016) FOR THE PROJECT AREA

Pollutant	Standard	Monitoring Data by Year				
		2012	2013	2014	2015	2016
Ozone						
Highest 1-Hour Average (ppm) Highest 1-hour average, ppm[c]	0.09 ppm	0.059	0.067	0.070	0.064	0.060
Days over State Standard Exceedances [d]		0	0	0	0	0
Highest 8-Hour Average (ppm) Highest 8-hour average, ppm[c]	0.070 ppm	0.052	0.056	0.066	0.057	0.057
Days over State Standard		0	0	0	0	0
Days over National Standard Exceedances	0.070 ppm [1]	0	0	0	0	0
Respirable Particulate Matter (PM_{10})						
Highest 24-Hour Average - State ($\mu g/m^3$)Highest 24-hour average, $\mu g/m^3$ [c]	50 $\mu g/m^3$	**51.3**	**75.6**	43.2	43.1	43.2
Measured Days over State 24-Hour Standard Exceedances/Samples [e]		--	3	0	0	0
Highest 24-Hour – Average - National ($\mu g/m^3$) Highest 24-hour average, $\mu g/m^3$ [c]	150 $\mu g/m^3$	--	**70.5**	42.2	42.5	42.6
Measured Days over National 24-Hour Standard Exceedances/Samples [e]		--	--	0	0	0
State Annual Average ($\mu g/m^3$) Annual average, $\mu g/m^3$ [c]	20 $\mu g/m^3$	--	18.5	16.7	--	--
Fine Particulate Matter ($PM_{2.5}$)						
Highest 24-Hour Average ($\mu g/m^3$) Highest 24-hour average, $\mu g/m^3$ [c]	35 $\mu g/m^3$	15.4	19.5	15.6	16.4	21.0
Measured Days over National Standard Exceedances/Samples [e]		0	0	0	0	0
State Annual Average ($\mu g/m^3$) Annual average, $\mu g/m^3$ [c]	12 $\mu g/m^3$	--	6.9	6.1	--	--
National Annual Average ($\mu g/m^3$) Annual average, $\mu g/m^3$ [c]	12.0 $\mu g/m^3$	6.2	6.8	6.1	--	--
Nitrogen Dioxide (NO_2)						
Highest Hourly Average (ppm) Highest 24-hour average, $\mu g/m^3$ [c]		0.048	0.037	0.042	0.043	0.036
Measured Days over State Standard Exceedances/Samples [e]	0.18 ppm	0	0	0	0	0
Measured Days over National Standard Exceedances/Samples [e]	0.1 ppm	0	0	0	0	0

1 Final rule signed October 1, 2015, and effective December 28, 2015 changed the national 8-hour ozone standard from 0.075 to 0.070 ppm.
--- indicates that data are not available. Measurements are from the monitoring station at 899, Morro Bay Blvd. in Morro Bay, except for PM10 and PM2.5 which is from 3220 South Higuera Street Station.
ppm = Parts per million
$\mu g/m^3$ = Micrograms per cubic meter

SOURCE: CARB, 2018.

3.3.2 Regulatory Framework

Established federal, state, and regional regulations provide the framework for analyzing and controlling air pollutant emissions and thus general air quality. The USEPA is responsible for implementing the programs established under the federal Clean Air Act (CAA), such as establishing and reviewing the federal ambient air quality standards and reviewing State Implementation Plans (SIPs), described further below. However, the USEPA has delegated the authority to implement many of the federal programs to the states while retaining an oversight role to ensure that the programs continue to be implemented. In California, the California Air Resources Board (CARB) is responsible for establishing and reviewing the state ambient air quality standards, developing and managing the California SIP, securing approval of this plan from the USEPA, and identifying TACs. CARB also regulates mobile emissions sources in California, such as construction equipment, trucks, and automobiles, and oversees the activities of air quality management districts, which are organized at the county or regional level. An air quality management district is primarily responsible for regulating stationary emission sources at facilities within its geographic area and for preparing the air quality plans that are required under the federal CAA and 1988 California CAA. The San Luis Obispo County Air Pollution Control District (SLOAPCD) is the regional agency with regulatory authority over emission sources in the project area.

This section below discusses the regulations that are relevant to the air quality of the project area.

Federal and State Regulations

Regulation of criteria air pollutants is achieved through both national and state ambient air quality standards and emissions limits for individual sources. Regulations implementing the federal CAA and its subsequent amendments established national ambient air quality standards for six criteria pollutants: ozone, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead. California has adopted more stringent state ambient air quality standards for most of the criteria air pollutants to combat the large amounts of air pollutants generated by the activities of 39 million people, the topography of the state that tends to trap these pollutants and a warm, sunny climate that helps ozone and smog formation. In addition, California has established state ambient air quality standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. The state and federal standards are shown in **Table 3.3-2.**

The ambient air quality standards are intended to protect public health and welfare, and they incorporate a margin of safety. They are designed to protect those segments of the public most susceptible to respiratory distress, known as sensitive receptors, including people with asthma, the very young, elderly, people weak from other illness or disease, or persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollution levels somewhat above the ambient air quality standards before adverse health effects are observed.

TABLE 3.3-2
AMBIENT AIR QUALITY STANDARDS AND SAN LUIS OBISPO COUNTY ATTAINMENT STATUS

Pollutant	Averaging Time	State Standard	Attainment Status for California Standard	Federal Primary Standard	Attainment Status for Federal Standard
Ozone	8 Hour	0.070 ppm	Non-Attainment	0.070 ppm	West County Unclassified/East County Non-Attainment
	1 Hour	0.09 ppm		---	
Carbon Monoxide	8 Hour	9.0 ppm	Attainment	9 ppm	Unclassified/Attainment
	1 Hour	20 ppm		35 ppm	
Nitrogen Dioxide	Annual Average	0.030 ppm	Attainment	0.053 ppm	Unclassified/Attainment
	1 Hour	0.18 ppm		0.100 ppm	
Sulfur Dioxide	Annual Average	---	Attainment	0.030 ppm	Unclassified
	24 Hour	0.04 ppm		0.14 ppm	
	1 Hour	0.25 ppm		0.075 ppm	
Respirable Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 $\mu g/m^3$	Non-Attainment	---	Unclassified
	24 Hour	50 $\mu g/m^3$		150 $\mu g/m^3$	
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	12 $\mu g/m^3$	Attainment	12.0 $\mu g/m^3$	Unclassified/Attainment
	24 Hour	---		35 $\mu g/m^3$	
Sulfates	24 Hour	25 $\mu g/m^3$	Attainment	---	---
Lead	Calendar Quarter	---	Attainment	1.5 $\mu g/m^3$	Unclassified/Attainment
	30-Day Average	1.5 $\mu g/m^3$		---	
	3-Month Rolling Average	---		0.15 $\mu g/m^3$	
Hydrogen Sulfide	1 Hour	0.03 ppm	Attainment	No Federal Standard	---
Vinyl Chloride	24 Hour	0.010 ppm	No information available	---	---
Visibility Reducing Particles	8 Hour	Extinction of 0.23/km; visibility of 10 miles or more	Unclassified	No Federal Standard	---

ppm = parts per million
$\mu g/m^3$ = micrograms per cubic meter

SOURCE: CARB, 2017.

Attainment Status

Under amendments to the federal CAA, USEPA has classified air basins or portions thereof as either "attainment" or "non-attainment" for each criteria air pollutant, based on whether or not the national standards have been achieved. The California Clean Air Act (CCAA), which is patterned after the federal CAA, also requires areas to be designated as "attainment" or "non-attainment" for the state standards. Thus, areas in California have two sets of attainment/non-attainment designations: one set with respect to the national standards and one set with respect to the state standards. **Table 3.3-2** shows the attainment status of the County with respect to the national and state ambient air quality standards for different criteria pollutants.

Federal

The USEPA is responsible for implementing programs established by the federal CAA, such as establishing and reviewing the NAAQS for the following air pollutants: CO, ozone, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead. The federal CAA also requires the USEPA to designate areas (counties or air basins) as attainment or non-attainment with respect to each criteria pollutant, depending on whether the area meets the NAAQS. If an area is designated as non-attainment, it does not meet the NAAQS and is required to create and maintain a SIP for achieving compliance with the NAAQS. Conformity to the SIP is defined under the 1990 CAA amendments as conformity with the plan's purpose in eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of these standards. Air quality in the project area, which is western San Luis Obispo County, does not violate the federal standards for ozone.

State

California Air Resources Board

Criteria Air Pollutants

CARB, a department of the California Environmental Protection Agency, oversees air quality planning and control throughout California. CARB is responsible for coordination and oversight of state and local air pollution control programs in California and for implementation of the CCAA. The CCAA, which was adopted in 1988, requires CARB to establish the California Ambient Air Quality Standards (CAAQS). CARB has established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, visibility-reducing particulate matter, and the above-mentioned criteria air pollutants. Applicable CAAQS are shown in Table 3.2-2.

The CCAA requires all local air districts in the state to endeavor to achieve and maintain the CAAQS by the earliest practical date. The CCAA specifies local air districts shall focus particular attention on reducing the emissions from transportation and area-wide emission sources, and provides districts with the authority to regulate indirect sources.

Among CARB's other responsibilities are overseeing compliance by local air districts with California and federal laws; approving local air quality plans; submitting SIPs to USEPA; monitoring air quality; determining and updating area designations and maps; and setting emissions standards for new mobile sources, consumer products, small utility engines, off-road vehicles, and fuels.

Toxic Air Contaminants.

The public's exposure to toxic air contaminants (TACs) is a significant public health issue in California. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health (Assembly Bill [AB] 1807). Diesel-exhaust particulate matter emissions have been established as TACs. Diesel exhaust is a complex mixture of gases, vapors, and fine particles.

In general, for those TACs that may cause cancer, there is no concentration that does not present some risk. In other words, there is no safe level of exposure. This contrasts with the criteria air pollutants, for which acceptable levels of exposure can be determined and for which the ambient standards have been established. Therefore, USEPA and CARB regulate Hazardous Air Pollutants and TACs, respectively, through statutes and regulations that generally require the use of the Maximum Available Control Technology (MACT) or best available control technology (BACT) for toxics and to limit emissions. These statutes and regulations, in conjunction with additional rules set forth by the districts, establish the regulatory framework for TACs.

The California Air Toxics Program establishes the process for the identification and control of TACs and includes provisions to make the public aware of significant toxic exposures and for reducing risk. Additionally, the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) was enacted in 1987 and requires stationary sources to report the types and quantities of certain substances routinely released into the air. The goals of the Air Toxics "Hot Spots" Act are to collect emission data, to identify facilities having localized impacts, to ascertain health risks, to notify nearby residents of significant risks and to reduce those significant risks to acceptable levels. The Children's Environmental Health Protection Act (California Senate Bill 25) focuses on children's exposure to air pollutants. The act requires the CARB to review its air quality standards from a children's health perspective, evaluate the statewide air monitoring network and develop any additional air toxic control measures needed to protect children's health.

Following the identification of diesel particulate matter (DPM) as a TAC in 1998, the CARB has worked on developing strategies and regulations aimed at reducing the risk from DPM. The overall strategy for achieving these reductions is found in the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles* (CARB, 2000). A stated goal of the plan is to reduce the statewide cancer risk arising from exposure to DPM by 85 percent by 2020. In April 2005, the CARB published the *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB 2005). The handbook makes recommendations directed at protecting sensitive land uses from air pollutant emissions while balancing a myriad of other land use issues (e.g., housing, transportation needs, economics, etc.). It notes that the handbook is not regulatory or binding on local agencies and recognizes that application takes a qualitative approach. As reflected in the CARB Handbook, there is currently no adopted standard for the significance of health effects from mobile sources. Therefore, the CARB has provided guidelines for the siting of land uses near heavily traveled roadways. Of pertinence to this study, the CARB guidelines indicate that siting new sensitive land uses within 500 feet of a freeway or urban roads with 100,000 or more vehicles per day should be avoided when possible.

As an ongoing process, the CARB will continue to establish new programs and regulations for the control of diesel particulate and other air-toxics emissions as appropriate. The continued development and implementation of these programs and policies will ensure that the public's exposure to DPM will continue to decline.

Regional

San Luis Obispo Air Pollution Control District (SLOAPCD)

The SLOAPCD shares responsibility with the CARB for ensuring that all state and federal ambient air quality standards are achieved and maintained within the County. State law assigns to local districts the primary responsibility for control of air pollution from stationary sources, while reserving an oversight role for CARB. This is typically accomplished through the adoption and implementation of rules and regulations. Generally, the districts must meet minimum state and EPA program requirements; in most instances, districts can implement more stringent regulations than EPA or the State require. The District is also responsible for the inspection of stationary sources, monitoring of ambient air quality, development and updating of attainment plans, maintenance of the emission inventory, and develop and implement reasonably available transportation control measures.

The California Clean Air Act requires the development of plans to achieve and maintain the state ozone standard by the earliest practicable date. Updates to these plans must be performed every three years until attainment is reached. SLOAPCD is the agency charged with developing and updating the attainment plan for the county. The 2001 Clean Air Plan (CAP or Plan) is the third update to the 1991 CAP adopted by SLOAPCD Board in January 1992 and contains a comprehensive set of control measures designed to reduce ozone precursor emissions from a wide variety of stationary and mobile sources.

In 2009, SLOAPCD adopted guidelines for assessment and mitigation of air quality impacts under CEQA. The CEQA Air Quality Handbook, which was updated in 2012 with further revisions in 2017, is an advisory document that provides lead agencies, consultants, and project applicants with uniform procedures for addressing air quality issues in environmental documents (SLOAPCD, 2012). The CEQA Air Quality Handbook also includes standard construction and operational mitigation measures that may be applied to projects that exceed SLOAPCD thresholds.

San Luis Obispo Council of Governments

The San Luis Obispo Council of Governments (SLOCOG) is a regional agency representing the County and the incorporated cities. SLOCOG participates in the development of numerous regional plans, including housing and hazardous waste management. It also prepares employment and population forecasts, which are used in regional planning programs. As the designated Metropolitan Planning Organization and Regional Transportation Planning Agency for the County, SLOCOG is also responsible for developing and implementing the regional transportation plan, including coordination with SLOAPCD on transportation control measures.

Local

San Luis Obispo County

The San Luis Obispo County General Plan contains the following air quality goals and policies relevant to the project:

Goal AQ-1: Per capita vehicle- miles-traveled countywide will be reduced consistent with statewide targets.

Policy AQ 1.1: Compact development - Encourage compact land development by concentrating new growth within existing communities and ensuring complete services to meet local needs.

Policy AQ 1.2: Reduce vehicle miles traveled - Require projects subject to discretionary review to minimize additional vehicle travel.

Goal AQ-2: The County will be a leader in implementing air quality programs and innovations.

Policy AQ 2.1: County employee trip reduction - Reduce employee commute-related vehicle trips. County departments will take the lead in implementing innovative employer-based trip reduction programs for their employees.

Policy AQ 2.3: Convert County fleet - Replace or convert conventional fuel vehicles in the County fleet with clean, alternative fuel vehicles.

Policy AQ 2.4: Waste collection vehicles - Encourage waste haulers on contract to the County to use clean, alternative fuels for waste collection vehicles.

Policy AQ 2.5: Use of clean fuels - Encourage the use of clean fuels and the development of countywide fueling stations that distribute clean fuels through the County's participation in the Central Coast Clean Cities Coalition (C5).

Policy AQ 2.6: Alternative fuel incentives - Support and seek funding for incentives to residents, fleet operators, school districts, and employers to purchase and use alternative fuel vehicles as local, state, or federal funding sources become available.

Goal AQ-3: State and federal ambient air quality standards will, at a minimum, be attained and maintained.

Policy AQ 3.1: Coordinate with other jurisdictions - Coordinate with neighboring jurisdictions and affected agencies to address cross-jurisdictional and regional transportation and air quality issues.

Policy AQ 3.2: Attain air quality standards - Attain or exceed federal or state ambient air quality standards (the more stringent if not the same) for measured criteria pollutants.

Policy AQ 3.3: Avoid air pollution increases - Avoid a net increase in criteria air pollutant emissions in planning areas certified as Level of Severity II or III for Air Quality by the County's Resource Management System (RMS).

Policy AQ 3.4: Toxic exposure - Minimize public exposure to toxic air contaminants, ozone, particulate matter, sulfur dioxide, carbon monoxide, nitrogen oxides, and lead.

Policy AQ 3.7: Reduce vehicle idling - Encourage the reduction of heavy-vehicle idling throughout the county, particularly near schools, hospitals, senior care facilities, and areas prone to concentrations of people, including residential areas.

Policy AQ 3.8: Reduce dust emissions - Reduce PM10 and PM2.5 emissions from unpaved and paved County roads to the maximum extent feasible.

City of Morro Bay

There are no policies relevant to air quality in the City of Morro Bay's current General Plan. The City is currently in the process of updating its General Plan.

3.3.3 Impacts and Mitigation Measures

Significance Criteria

Appendix G of the *CEQA Guidelines* recommends significance criteria for the evaluation of impacts related to air quality in the project area. Those same criteria are listed below. This EIR assumes implementation of the proposed project to have a significant impact related to air quality if it would:

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors) [discussed in Chapter 4, Cumulative Impacts].
- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.

Construction Emissions Thresholds

The SLOAPCD CEQA Handbook contains specific daily and quarterly numerical thresholds that apply to projects within the SCCAB. Daily thresholds are to be applied to projects that would be completed in less than one quarter (90 days). SLOAPCD's quarterly construction thresholds are applicable to the proposed project because construction would last for more than one quarter. Those include:

ROG and NO_X Emissions

- Quarterly – Tier 1: For construction projects lasting more than one quarter, exceedance of the 2.5 tons per quarter threshold requires Standard Mitigation Measures and BACT for construction equipment. Off-site mitigation may be required if feasible mitigation measures are not implemented, or if no mitigation measures are feasible for the project.
- Quarterly – Tier 2: For construction projects lasting more than one quarter, exceedance of the 6.3 tons per quarter threshold requires Standard Mitigation Measures, BACT, implementation of a Construction Activity Management Plan (CAMP), and off-site mitigation.

Diesel Particulate Matter (DPM) Emissions

- Quarterly - Tier 1: For construction projects lasting more than one quarter, exceedance of the 0.13 tons per quarter threshold requires Standard Mitigation Measures, BACT for construction equipment; and,
- Quarterly - Tier 2: For construction projects lasting more than one quarter, exceedance of the 0.32 ton per quarter threshold requires Standard Mitigation Measures, BACT, implementation of a CAMP, and off-site mitigation.

Fugitive Particulate Matter (PM_{10}), Dust Emissions

- Quarterly: Exceedance of the 2.5 tons per quarter threshold requires Fugitive PM_{10} Mitigation Measures and may require the implementation of a CAMP.

Operational Emissions Thresholds

SLOAPCD has established five separate categories of evaluation for determining the significance of project impacts. Full disclosure of the potential air pollutant and/or toxic air emissions from a project is needed for these evaluations, as required by CEQA:

- Consistency with the most recent Clean Air Plan for San Luis Obispo County;
- Consistency with a plan for the reduction of greenhouse gas emissions that has been adopted by the jurisdiction in which the project is located and that, at a minimum, complies with State CEQA Guidelines Section 15183.5 (addressed in Section 3.7: *Greenhouse Gases and Energy*).
- Comparison of predicted ambient criteria pollutant concentrations resulting from the project to state and federal health standards, when applicable;
- Comparison of calculated project emissions to SLO County APCD emission thresholds; and,
- The evaluation of special conditions which apply to certain projects.

The threshold criteria established by SLOAPCD to determine the significance and appropriate mitigation level for long-term operational emissions from projects are presented in **Table 3.3-3**. SLOAPCD specifies that CalEEMod winter emission outputs be compared to these operational thresholds.

TABLE 3.3-3
SLOAPCD OPERATIONAL SIGNIFICANCE THRESHOLDS

	Threshold	
Pollutant	**Daily (lbs/day)**	**Annual (tons/year)**
Ozone Precursors (ROG + NOx)	25	25
Diesel Particulate Matter (DPM)	1.25	---
Fugitive Particulate Matter (PM_{10}), Dust	25	25
Carbon Monoxide (CO)	550	---

Daily and annual emission thresholds are based on the California Health & Safety Code Division 26, Part 3, Chapter 10, Section 40918 and the CARB Carl Moyer Guidelines for DPM.
SOURCE: SLOAPCD, 2012.

Methodology

The analysis presented below follows procedures and guidance regarding the evaluation of air quality impacts provided by SLOAPCD's CEQA Air Quality Handbook. The California Emissions Estimator Model (CalEEMod) version 2016.3.2 was used to estimate regional air pollutant emissions associated with project construction. Proposed construction would take place between 2019 and 2021 and would include construction of the various components of the project listed below:

- WRF, Operation & Maintenance buildings
- Lift Station
- Pipeline alignments
- Injection wells
- Decommissioning existing WWTP

The construction schedule for the project along with equipment lists and usage data was provided by the City. Estimates of number of vehicle trips associated with workers, material delivery and hauling as well as the various trip lengths were also provided by the City. CalEEMod defaults were used where project specific data was not available. Construction assumptions are detailed in the CalEEMod output files (refer to **Appendix C**). Operational emissions are discussed qualitatively.

Impact Analysis

Impact 3.3-1: The project would not conflict with the population and vehicle travel projections for the project area nor would it conflict with the transportation control measures contained in the applicable air quality plan. This impact would be Class III, Less than Significant.

To assess a project's consistency with the Clean Air Plan, SLOAPCD recommends an evaluation be conducted to see if a proposed project is consistent with the land use and transportation control measures and strategies outlined in the Clean Air Plan. If the project is consistent with those measures, then the project is considered to be consistent with the Clean Air Plan. The 2001 CAP guidance for project consistency analysis states that the following questions should be evaluated:

- Are the population projections used in the plan or project equal to or less than those used in the most recent CAP for the same area?
- Is rate of increase in vehicle trips and miles traveled less than or equal to the rate of population growth for the same area?
- Have all applicable land use and transportation control measures from the CAP been included in the plan or project to the maximum extent feasible?

According to the 2001 CAP, if the answer to all of the above questions is yes, then the project is consistent with the CAP. If the answer to any of the above questions is no, then the project would be inconsistent with the CAP.

Implementation of the proposed project would construct a new wastewater treatment facility that would produce recycled water for reuse by the City. It would be sized to be consistent with projected future population growth under the City's General Plan. As it would replace the existing WWTP, the proposed project itself would not lead to an increase in population or vehicle miles travelled in that the new trips generated by the proposed project would replace trips taking place to the existing WWTP. Therefore, the proposed project would not be considered to conflict with the planning assumptions in the 2001 CAP. In providing a fundamental public service for planned demands, the proposed project would be considered essential and to be consistent with the AQMP growth projections. (For additional information about project consistency with future population projections, please refer to Chapter 3.10, Land Use and Chapter 5, Growth Inducement.) This would be a less than significant impact.

Mitigation Measure: None required.

Significance Determination: Less than Significant

Air Quality Standards

> **Impact 3.3-2: Proposed project construction would cause temporary increases in localized air pollutant emissions of ROG, NOx and DPM in excess of SLOAPCD construction thresholds which could lead to a violation of an air quality standard. Implementation of fugitive dust control measures and other standard control measures for construction equipment would reduce emissions. This impact would be Class II, less than significant with mitigation.**

Construction activities are short term and typically result in emissions of ozone precursors and PM in the form of dust (fugitive dust) and exhaust (e.g., vehicle tailpipe emissions). Emissions of ozone precursors and PM are primarily a result of the combustion of fuel from on-road and off-road vehicles. However, ROGs are also emitted from activities that involve painting, other types of architectural coatings, or asphalt paving. The proposed project consists of construction of the WRF, lift station, conveyance pipelines, injection wells and demolition of the existing WWTP. Pollutant emissions associated with project construction would be generated from the following general construction activities: (1) grading, excavation, and construction, (2) vehicle trips from workers traveling to and from the construction areas, (3) trips associated with delivery and hauling of construction supplies to, and debris from, the construction areas, (4) fuel combustion by on-site construction equipment and (5) paving and architectural coatings. These construction activities would temporarily create emissions of dust, fumes, equipment exhaust, and other air pollutants. The amount of emissions generated on a daily basis would vary, depending on the intensity and types of construction activities occurring simultaneously at the time. Construction of various project components and construction activities would overlap several times during the overall construction period. Overall, the proposed WRF's construction activities would occur

over a 30-month period, while the construction activities associated with the pipelines, lift station and injection wells are projected to take 9, 8 and 3 months respectively. Additionally, decommissioning and demolition of the existing WWTP would be expected to occur over approximately 4 months. Proposed project construction is anticipated to commence in May 2019 and end in December 2021.

Though construction emissions are considered short-term and temporary, they have the potential to represent a significant impact with respect to air quality particularly when construction extends over a long period of time and/or when sensitive receptors are located close by. Particulate matter (i.e., PM_{10} and $PM_{2.5}$) are among the pollutants of greatest localized concern with respect to construction activities. Particulate emissions from construction activities can lead to adverse health effects and nuisance concerns, such as reduced visibility and soiling of exposed surfaces. Particulate emissions can result from a variety of construction activities, including excavation, grading, vehicle travel on paved and unpaved surfaces, and vehicle and equipment exhaust. Construction emissions of PM can vary greatly depending on the level of activity, the specific operations taking place, the number and types of equipment operated, local soil conditions, weather conditions, and the amount of earth disturbance.

Emissions of ozone precursors ROG and NO_X are primarily generated from construction equipment exhaust and mobile sources, and vary as a function of the number of daily vehicle trips, and the types and number of heavy-duty, off-road equipment used and the intensity and frequency of their operation. Additionally, construction-related ROG emissions would also result from the application of asphalt and architectural coating and the amount of these emissions would vary depending on the amount of paving or coating that would occur each day.

Construction emissions were estimated using CalEEMod (version 2016.3.2) and the results are presented in **Table 3.3-4** below. The table shows maximum quarterly emissions in each construction year for comparison with SLOAPCD quarterly significance thresholds that apply to projects lasting more than one quarter. Given that some of the construction activities of the proposed project would overlap over the course of the project's construction period, the worst-case, maximum quarterly construction emissions for each construction year was determined by combining the peak daily emissions associated with each of the overlapping components multiplied by the number of workdays in the quarter. The proposed project's maximum daily construction emissions are shown in Table 3.3-4 (refer to **Appendix C** for a detailed summary of the construction emissions calculations).

As shown in Table 3.3-4, the maximum daily construction emissions of ROG and NOx generated by the proposed project would exceed SLOAPCD's Tier 1 significance thresholds in all three construction years of the proposed project. Quarterly DPM emissions would also exceed the Tier 1 thresholds in 2019 while fugitive PM_{10} emissions would be below the respective significance threshold for all three years. Estimated emissions of all pollutants would be below SLOAPCD's Tier 2 thresholds. It should be noted that the pollutant emissions shown in Table 3.3-4 represent the worst-case, maximum (peak) quarterly emissions that could result from the proposed project over its construction period, and do not represent the average emissions that would occur throughout the year. Emissions during the other quarters within the project's construction period

would be lower and would not exceed the significance thresholds. Nonetheless, as the SLOAPCD CEQA Guidelines require comparison of the maximum quarterly emissions with the thresholds, because the emissions of ROG, NOx DPM could exceed SLOAPCD's significance, this impact would be potentially significant and would require mitigation.

TABLE 3.3-4
UNMITIGATED MAXIMUM QUARTERLY CONSTRUCTION EMISSIONS

	Estimated Maximum Quarterly Construction Emissions (tons/quarter)				
Project Construction Activities	**ROG**	**NO_X**	**ROG+NOx**	**Fugitive PM_{10}**	**DPM (Exhaust $PM_{2.5}$)**
2018 [a]	0.44	4.73	5.17	0.09	0.17
2019 [b]	0.31	3.15	3.46	0.06	0.12
2020 [c]	0.32	3.24	3.55	0.07	0.12
SLOAPCD Quarterly Tier 1 Threshold	--	--	2.5	2.5	0.13
Exceed Threshold?	**--**	**--**	**Yes**	No	**Yes**
SLOAPCD Quarterly Tier 2 Threshold	--	--	6.3	2.5	0.32
Exceed Threshold?	**--**	**--**	No	No	No

NOTE: See Appendix C for CalEEMod model outputs.

[a] Maximum emissions from October to December 2019 and include emissions from grading/excavation and construction of the WRF as well as construction of injection wells.
[b] Maximum emissions from July to September 2020 and include emissions from construction of the WRF, pipelines and lift station.
[c] Maximum emissions from August to October 2021 and include emissions from construction of the WRF, paving and decommissioning of the existing WWTP.

SOURCE: ESA CalEEMod Modeling, January 2018.

SLOAPCD requires construction projects that last more than one quarter and exceed the Tier 1 thresholds to implement Standard Mitigation Measures and BACT for construction equipment. Those measures are detailed in **Mitigation Measure AQ-1b** and **Mitigation Measure AQ-1c**. BACT requires all off-road construction equipment that exceeds 50 horsepower to be either certified as EPA Tier 4 where available to reduce the pollutant emissions from the proposed project's construction equipment. The mitigated construction emissions for the proposed project are shown in **Table 3.3-5**.

As shown in Table 3.3-5, implementation of **Mitigation Measures AQ-1b, AQ-1c and AQ-1d** would reduce all pollutant emissions associated with the proposed project's construction activities to below the Tier 1 significance thresholds. Therefore, with mitigation, air quality impacts associated with the project construction would be less than significant.

TABLE 3.3-5
MITIGATED MAXIMUM QUARTERLY CONSTRUCTION EMISSIONS

	Estimated Maximum Quarterly Construction Emissions (tons/quarter)				
Project Construction Activities	**ROG**	**NO_X**	**ROG+NOx**	**Fugitive PM10**	**DPM ($PM_{2.5}$)**
2018 [a]	0.11	0.84	0.95	0.09	0.01
2019 [b]	0.08	0.54	0.62	0.06	0.01
2020 [c]	0.09	0.74	0.83	0.07	0.01
SLOAPCD Quarterly Tier 1 Threshold	--	--	2.5	2.5	0.13
Exceed Threshold?	--	--	No	No	No
SLOAPCD Quarterly Tier 2 Threshold	--	--	6.3	2.5	0.32
Exceed Threshold?	--	--	No	No	No

NOTE: See Appendix C for CalEEMod model outputs.

[a] Maximum emissions from October to December 2019 and include emissions from grading/excavation and construction of the WRF as well as construction of injection wells.
[b] Maximum emissions from July to September 2020 and include emissions from construction of the WRF, pipelines and lift station.
[c] Maximum emissions from August to October 2021 and include emissions from construction of the WRF, paving and decommissioning of the existing WWTP.

SOURCE: ESA CalEEMod Modeling, January 2018.

Mitigation Measures

The following mitigation measures are required to reduce construction emissions of ROG, NO_X, and DPM. Although the proposed project's fugitive dust emissions would not exceed Tier 1 or 2 thresholds, SLOAPCD requires any project with grading areas greater than 4.0 acres or that are within 1,000 feet of any sensitive receptor to implement standard fugitive dust mitigation measures. Therefore, Mitigation Measure AQ-1a is also required.

> **AQ-1a: Fugitive Dust Control Measures.** Construction projects shall implement the following dust control measures so as to reduce PM10 emissions in accordance with SLOAPCD requirements.
>
> - Reduce the amount of the disturbed area where possible;
> - Water trucks or sprinkler systems shall be used during construction in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency shall be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water shall be used whenever possible;
> - All dirt stock pile areas shall be sprayed daily as needed;
> - Permanent dust control measures identified in the approved project revegetation and landscape plans shall be implemented as soon as possible following completion of any soil disturbing activities;
> - Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading shall be sown with a fast germinating, non-invasive grass seed and watered until vegetation is established;

- All disturbed soil areas not subject to revegetation shall be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by SLOAPCD;
- All roadways, driveways, sidewalks, etc. to be paved shall be completed as soon as possible after grading unless seeding or soil binders are used;
- Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site;
- All trucks hauling dirt, sand, soil, or other loose materials are to be covered or shall maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with California Vehicle Code section 23114;
- Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site;
- Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water shall be used where feasible;
- All of these fugitive dust mitigation measures shall be shown on grading and building plans; and
- The construction contractor shall designate a person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures as necessary to minimize dust complaints, reduce visible emissions below 20 percent opacity, and to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to SLOAPCD Compliance Division prior to the start of any grading, earthwork or demolition.

AQ-1b: Standard Control Measures for Construction Equipment. Standard mitigation measures for reducing NO_x, ROG, and DPM emissions from construction equipment are listed below:

- Maintain all construction equipment in proper tune according to manufacturer's specifications;
- Fuel all off-road and portable diesel powered equipment with ARB certified motor vehicle diesel fuel (non-taxed version suitable for use off-road);
- Use diesel construction equipment meeting ARB's Tier 2 certified engines or cleaner off-road heavy-duty diesel engines, and comply with the State Off-Road Regulation;
- Use on-road heavy-duty trucks that meet the ARB's 2007 or cleaner certification standard for on-road heavy-duty diesel engines, and comply with the State On-Road Regulation;
- Construction or trucking companies with fleets that that do not have engines in their fleet that meet the engine standards identified in the above two measures (e.g. captive or NO_x exempt area fleets) may be eligible by proving alternative compliance;
- All on- and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated queuing areas and or job sites to remind drivers and operators of the 5-minute idling limit;
- Diesel idling within 1,000 feet of sensitive receptors is not permitted;

- Staging and queuing areas shall not be located within 1,000 feet of sensitive receptors;
- Electrify equipment when feasible;
- Substitute gasoline-powered in place of diesel-powered equipment, where feasible; and,
- Use alternatively fueled construction equipment on-site where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel.

AQ-1c: BACT for Construction Equipment. The following BACT for diesel-fueled construction equipment shall be implemented during construction activities at the project site, where feasible:

- Further reducing emissions by expanding use of Tier 3 and Tier 4 off-road and 2010 on-road compliant engines where feasible;
- Repowering equipment with the cleanest engines available; and
- Installing California Verified Diesel Emission Control Strategies, such as level 2 diesel particulate filters. These strategies are listed at: http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm

AQ-1d: Architectural Coatings. To reduce ROG and NOx emissions during the architectural coating phase, low or no VOC emission paints and finishes shall be used with levels of 50 g/L or less.

Significance Determination

Less than Significant with Mitigation

Impact 3.3-3: Proposed project operation would generate air pollutant emissions of ROG, NO_x and PM, but the increase would be less than the applicable SLOAPCD significance thresholds for operation and would therefore not lead to a violation of an air quality standard or contribute substantially to an existing or projected air quality violation. This impact would be Class III, Less than Significant.

After construction is completed and the WRF is commissioned and operating, there would be operational traffic associated with worker commute, chemical deliveries, screenings removal, and biosolids removal. Approximately 4 workers could be working at one time at the facility, resulting in an estimated 8 employee commutes per day in addition to about 4 maintenance vehicle trips per day using maintenance vehicles for off-site work. In addition, it is estimated that there would be an average of 13 truck trips per month associated with chemical deliveries, removal of screenings, grit and dewatered biosolids that would be hauled offsite. Emissions from this small number of vehicle trips are expected to be less than significant and are not expected to exceed SLOAPCD's operational thresholds. Additionally, emissions would be generated from testing and maintenance of the two proposed diesel fueled backup generators – one at the WRF and one at the Lift Station. Project operational daily and annual emissions are shown in **Table 3.3-6** below. As shown in the table operational emissions would less than SLOAPCD thresholds.

TABLE 3.3-6
PROJECT OPERATIONAL EMISSIONS

Source	ROG+NOx	DPM ($PM_{2.5}$)	Fugitive PM10	CO
	Daily Emissions (pounds per day)			
Testing & Maintenance of backup generators	9.5	0.23	0.23	1.07
On road vehicle trips	1.5	0.06	0.09	0.48
Total	11.0	0.29	0.32	1.54
SLOAPCD Daily Threshold	25	1.25	25	550
Exceed Threshold?	No	No	No	No
	Emissions (tons per year)			
Testing & Maintenance of backup generators	1.21	0.03	0.03	0.56
On road vehicle trips	0.27	0.01	0.01	0.09
Total	1.48	0.04	0.04	0.65
SLOAPCD Annual Threshold	25	--	25	--
Exceed Threshold?	No	--	No	--

NOTE: See Appendix C for CalEEMod model outputs.

SOURCE: ESA CalEEMod Modeling, January 2018.

Further, compliance with SLOAPCD Rule 204 would apply to the project's backup generators which would require these sources to be equipped with the current BACT) for all subject air contaminants for which the emission unit's potential to emit is 25 pounds per day or more and with the current Reasonably Available Control Technology (RACT) for all subject air contaminants for which the emission unit's potential to emit is less than 25 pounds per day, except for carbon monoxide for which the potential to emit values above shall be 10 times the amount shown. The proposed project's operational impact would therefore be less than significant.

Mitigation Measures

None required.

Significance Determination

Less than Significant

Sensitive Receptors

Impact 3.3-4: The proposed project would not expose sensitive receptors to substantial pollutant concentrations that would lead to adverse health risks. This impact would be Class III, less than significant.

Construction

Construction of the proposed project would result in the short-term generation of DPM emissions from the use of off-road diesel equipment required to construct the proposed facilities, and from construction material deliveries and debris removal using on-road heavy-duty trucks. DPM is a

complex mixture of chemicals and particulate matter that has been identified by the State of California as a TAC with potential cancer and chronic non-cancer effects. The dose to which receptors are exposed is the primary factor affecting health risk from TACs. Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. According to the Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70-year exposure period when assessing TACs (such as DPM) that have only cancer or chronic non-cancer health effects (OEHHA, 2015). However, assumed exposure in such health risk assessments should be limited to the duration of the emission-producing activities associated with the Proposed Project.

Construction activities associated with the proposed project would take place over a period of 3 years, although the level of activity would vary both temporally and spatially. Based on maximum quarterly estimates shown in Table 3.3-4, the estimated maximum daily unmitigated emissions of exhaust PM_{10} and $PM_{2.5}$ associated with the construction of all project facilities during the quarter with maximum activity is estimated to be less than 6 pounds per day. During other periods of construction, emissions generated would be lower. Temporary exposure to these emission levels is not likely to lead to a significant impact from exposure to TACs. Proposed development at the WRF site would take place at least 360 feet from and downwind of the nearest sensitive receptors at Bayside Care Center with an intervening hill in between. Given the distance, intervening topography and wind direction, temporary exposure to emission levels of less than 6 pounds per day is not likely to lead to a significant impact from exposure to TACs. Construction activities associated with other project components would take place closer to receptors but would also be shorter in duration lasting only a few months. Demolition activities associated with decommissioning of the existing WWTP would take place approximately 200 feet from the nearest sensitive receptors at the Morro Strand RV Park. Construction of the pipeline alignment for raw wastewater and brine/wet weather discharge would take place as close as 50 feet from the residents at the Morro Dune RV Park, the single-family residences along Main Street and residences at the Bayside Care Center. As pipeline construction would advance at the rate of 150 linear feet per day, the same set of receptors would not be continually exposed to diesel exhaust from pipeline construction equipment for an extended period. Given that the construction of the other facilities would be limited to a few months at most, exposure of receptors to DPM emissions would not lead to a significant health risk impact. Because the total emissions and duration of exposure at any one sensitive receptor location would be relatively minor compared to the 70-year exposure used in health risk assessments, the health risk from exposure to short-term DPM emissions associated with construction of the project facilities would be negligible, and this impact would be less than significant. Mitigation Measures AQ-1b and AQ-1c required to mitigate other air quality impacts would also help reduce diesel particulate matter from construction equipment and further reduce health risks from exposure. Implementation of these measures would serve to further reduce this less than significant impact.

Naturally occurring asbestos (NOA) has been identified by CARB as a toxic air contaminant. Serpentine and ultramafic rocks are common in San Luis Obispo County and may contain naturally occurring asbestos. According to SLOAPCD NOA Map for San Luis Obispo County, the project site is located in an area that is known to contain naturally occurring asbestos

(SLOAPCD 2016). Therefore, excavation and grading activities during project construction may encounter naturally occurring asbestos. Under CARB's Air Toxics Control Measure (NOA ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations, prior to any grading activities at a site within the green "buffer" areas on SLOAPCD's NOA map, the City would be required to comply with the NOA ATCM. The NOA ATCM requires submittal of a geologic evaluation determining whether serpentine rock is present on a project site, and if so, to what extent (less or more than one acre). Depending on the results of the geologic evaluation, the project would be required to file an exemption request form (if no serpentine is present), a Mini Dust Control Measure Plan (if less than one acre of serpentine is present), or an Asbestos Dust Control Measure Plan (if more than one acre of serpentine is present). With required compliance with ARB's NOA ATCM, impacts associated with naturally occurring asbestos would be less than significant.

Operation

As discussed earlier, once operational, there would be no major sources of TACs. At the WRF, truck trips associated with chemical deliveries, screening, grit and dry sludge removal would be less than 15 truck trips a month. The two emergency backup generators anticipated for the proposed project would be subject to permit requirements of SLOAPCD, which requires new or modified emission units be equipped with the current BACT for all subject air contaminants for which the emission unit's potential to emit is 25 pounds per day or more and with the current RACT for all subject air contaminants for which the emission unit's potential to emit is less than 25 pounds per day. Further, emergency generators would be operated only for testing and maintenance purposes for a maximum of 100 hours per year. Therefore, diesel particulate emissions from project operational emissions is not expected to increase health risk at the nearest receptors; and, therefore, would be less than significant.

Mitigation Measures

None required.

Significance Determination

Less than Significant.

Objectionable Odors

Impact 3.3-5: Operation of the proposed WRF would generate odor, but the proposed project design includes odor control facilities to capture and treat air produced during the wastewater treatment process. A substantial number of people would not be affected by objectionable odor. This impact would be Class III, Less than Significant.

Construction

No significant odors are associated with construction activities. When construction takes place in close proximity to sensitive receptors, the odor from construction equipment diesel exhaust could be noticeable. However, sensitive receptors would be located close to construction activities only

during pipeline construction, which would progress along the pipeline alignment at a rate of 150 linear feet per day and, therefore, would not affect the same receptors for extended periods of time. This impact would be considered less than significant.

Decommissioning the existing WWTP is also not expected to cause any odor issues. Once flow to the existing plant has ceased, the liquid treatment train will be taken out of service. Basins and process units will be pumped down and cleaned before demolition begins. Liquid from the cleaning process would be pumped or transported to the new WRF. Digesters and sludge drying beds will stay in service until the remaining sludge is processed and disposed of. Once emptied of sludge, they would be cleaned before demolition. Therefore, decommissioning of the existing facility would take place only after the plant completely stops generating any odor and, therefore, not result in any odor impacts or any significant impacts.

Operation

The proposed WRF would include an odor control facility to capture and treat foul air produced by raw wastewater before it is exhausted from channels and tanks. Influent untreated wastewater and waste activated solids release a variety of gases including hydrogen sulfide and ammonia. The headworks and preliminary treatment operations release higher concentrations of hydrogen sulfide while negligent hydrogen sulfide concentrations and slightly higher concentrations of ammonia are typically produced in the dewatering of anaerobically digested sludge.

The odor treatment facilities for the WRF include the Influent Scrubber Complex, which would be located near the head of the WRF and would serve to process exhaust air from the headworks. The Influent Scrubber Complex would use biological scrubbers and/or carbon scrubbers for odor removal. Exhaust air with higher concentrations of hydrogen sulfide gas collected from influent channels, bar screens, the grit removal system, and the regularly utilized portion of the equalization basin would be channeled to the Influent Scrubber Complex to be treated through these biological and/or carbon scrubbers before being released to the atmosphere. The use of activated carbon scrubbers easily reduces the levels of hydrogen sulfide to a point where it is not detectable by human senses and well below Air Pollution Control District requirements. Over time the activated carbon gradually becomes spent and will need to be replaced. That degradation is gradual which is easily detected through regular testing of the exhaust air leaving the scrubbers. The system would be designed with multiple treatment vessels to allow full treatment while simultaneously treating the exhaust stream. With the treatment system in operation wind speed and topography will not cause nuisance odors from migrating off the WRF property.

In addition, actual odors produced from a facility the size of the WRF tend to dissipate within a few hundred yards of the equipment. As such, at a distance of approximately 1,200 feet from the edge of the Bayside Case Center to the proposed WRF headworks, it would be reasonable to expect odorous emissions to dissipate and not cause nuisance, particularly when intervening topography would also act as a barrier to odor.

Odor treatment for the solids dewatering facility would not be provided as part of the proposed project. Neither of the two solids dewatering technologies proposed tend to produce large quantities of obnoxious odors. The current facility plan is to have the dewatering system fully

enclosed and mechanically exhausted. This exhausting would provide additional dilution of any odors produced. The area immediately surrounding the site is not currently developed. The proposed project would include provisions to connect the facility to an odor treatment system for the dewatering building if determined to be needed. These provisions will allow for an easier installation of odor treatment if the City determines it is warranted.

The sewer lift station proposed to be installed at the inlet to the WRF will be fully enclosed. The plant influent will not be exposed to atmosphere. In addition, at the proposed lift station, odor control measures such as the addition of calcium ammonium nitrate, use of an onsite odor scrubbing system and installation of sealed hatches to reduce the release of odors may also be applied.

Therefore, with the robust odor control technology proposed for the project, project operations are not expected to generate significant odors. This would be a less than significant impact.

Mitigation Measures

None required.

Significance Determination

Less than Significant

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3.4 Biological Resources

This section describes and evaluates potential impacts to biological resources that could result from implementation of the proposed project. The "study area" covered the areas for the preferred site for the proposed WRF, the new distribution system (eastern pipeline alignment or western pipeline alignment) to convey recycled water from the WRF to new injection wells in the Morro Valley (exact sites to be determined); the new collection system, including a lift station (Lift Station Option 1A or 5A) and pipelines (within the western pipeline alignment) to convey raw wastewater and brine/wet weather flows to/from the proposed WRF and, the decommissioning of the existing WWTP. This section is based on the following sources: *Biological Resources Assessment South Bay Boulevard – City of Morro Bay Water Reclamation Facility Project Site* (Kevin Merk Associates (KMA), 2017; see **Appendix D**) and *Preliminary Wetland Delineation Map* (KMA, 2018)).

Literature Review and Field Reconnaissance

A review of available background information was conducted that included a review of the Draft Facility Master Plan, U.S. Department of Agriculture's (USDA) Web Soil Survey (Natural Resources Conservation Service, 2017), historic aerial photographs obtained using Google Earth (2017), and previous biological and environmental studies conducted in the region. The U. S. Fish and Wildlife Service's (USFWS) online National Wetland Inventory and Critical Habitat Mapper web site was also reviewed to evaluate the extent of potential wetlands and designated critical habitat identified in the region.

A query of the California Natural Diversity Database (CNDDB) (CDFW, 2017) was conducted to identify special-status resources that have been documented within a five-mile radius around the limits of the proposed WRF and associated pipeline alignments. The results of the query identified special-status species and natural communities or habitat types that have been recorded in the area and which could occur onsite based on the presence of suitable habitat conditions. Given the proximity to the Pacific Ocean and geographic setting adjacent to the Santa Lucia Mountains and Estero Bay, the focus of the database query was the coastal and adjacent inland areas of the U.S. Geological Survey (USGS) *Cayucos*, *Morro Bay North*, *Morro Bay South*, *Atascadero*, and *San Luis Obispo* 7.5-minute topographic quadrangles. The search area was deemed sufficient to identify special-status species and plant communities that could occur in the immediate area, and to exclude numerous species found at higher elevation ranges, different geographies, or in habitat types not present in the study area.

The CNDDB was used to identify nearby documented occurrences of special-status plant and wildlife to develop a "target list" of species and habitats that could occur within the study area. Focused surveys of the study area helped refine these determinations. Since the entire study area is located within the Coastal Zone (see **Figure 1-1** in Chapter 1), the investigation also assessed the presence of environmentally sensitive habitat area (ESHA) as defined by the California Coastal Act, the City of Morro Bay (City) Local Coastal Program (LCP), and the County (County) of San Luis Obispo LCP. Those include special marine and land habitat areas, wetlands, lagoons, and estuaries.

Biological surveys were conducted by Kevin Merk Associates in April, May, June and March of 2016, March of 2017, and February of 2018. The study area was surveyed on foot, with exception of the Quintana Road section of the western pipeline alignment, which was surveyed by vehicle. Special attention was given to drainage features, topographic depressions, changes or transitions in vegetative cover, rock outcrops, native plant communities, and other natural habitat features. Existing plant communities were mapped on an aerial photograph obtained from Google Earth. A Trimble GeoXH 6000 GPS unit capable of decimeter accuracy was also used during the surveys to assist with mapping vegetation types, habitat features, special-status plant occurrences, and drainage features. All drainage features within the study area were evaluated to determine potential regulatory status, and assess the presence of special-status resources (*i.e.*, habitats, plants and wildlife). The studies did not include definitive surveys to determine presence or absence of special-status wildlife, such as the California red-legged frog (*Rana draytonii*), because the lower reach of Morro Creek and the ephemeral drainages in the study area do not appear to provide suitable aquatic habitat for the species.

Vegetation classification generally followed the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland, 1986) and was cross-referenced with *A Manual of California Vegetation, Second Edition* (Sawyer et al., 2009) for consistency. Plant species observed during the site visits were recorded, and are included as an appendix to this report. Plant taxonomy followed the *Jepson Manual, Second Edition* (Baldwin et al., 2012).

Based on the review of background documents and studies from the region, as well as the CNDDB records, conclusions were made as to whether a particular species could be expected to occur within the study area and ultimately be affected by the proposed project. Appendix D provides a list of all special-status species and plant communities documented within the search area, and a determination as to their potential to occur onsite.

3.4.1 Environmental Setting

Regional Setting

The Central Coast is traversed by a series of low northwest-southeast trending mountain ranges, with the Santa Lucia Range located nearest to the coast. The City generally lies on the narrow coastal shelf between the Pacific Ocean and the coastal hills. The climate in both the City and Cayucos is characterized as coastal with mild to moderate temperatures year-round and little diurnal variation. Alva Paul Creek, San Bernardo Creek, Little Morro Creek, and Morro Creek all flow to the Pacific Ocean, either directly or via the Morro Bay estuary.

Project Area Setting

The study area for the proposed project includes varied topography with rolling hills and coastal plains. In general, drainage flows westerly towards the Pacific Ocean. As proposed project components, the existing WWTP and proposed Lift Station Option 1A or 5A, are within areas that have already been developed and do not support any substantial biological resources. The majority of the proposed western pipeline alignment is within existing public rights-of-way, paved and unpaved, south of Highway 1 and the majority of the proposed eastern pipeline alignment is within grasslands north of the highway.

Both proposed alignments would cross Morro Creek and several seasonal drainage features before terminating at the new WRF facility (see **Figure 3.4-1**). The preferred WRF site is dominated by actively grazed annual grassland on relatively gentle to moderately sloping hillsides with generally a north to east slope aspect (see **Figure 3.4-5**). It also contains large occurrences of non-native weeds as a result of historic grazing activities. The western limit of the study area is separated from nearby beach, dune, and dune scrub habitats by Embarcadero Road and the Morro Dunes RV Park.

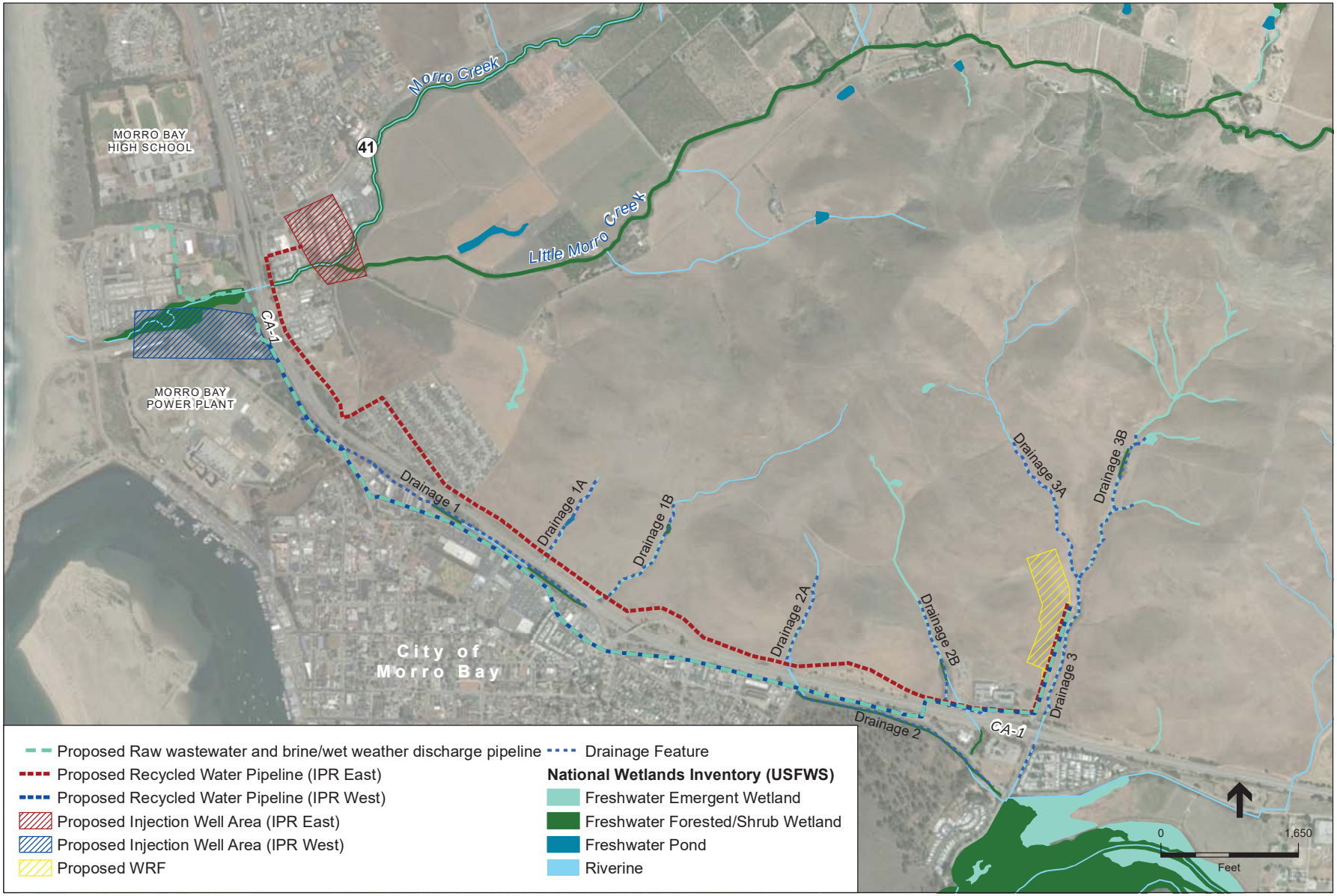
The proposed wells would be located within wellfield areas either at the Narrows, which is the area east of the City near Highway 41 where Morro Creek and Little Morro Creek converge (IPR-East), or an area west of Highway 1 near the bike path (IPR-West). The proposed wells would be located on vacant lands owned by the City or within public rights-of-way, and sited to avoid environmentally sensitive habitat and riparian/wetlands areas and cultural resources, to the extent reasonably feasible. The majority of the proposed IPR East wellfield would be located north of Morro Creek in an area that is developed with some maintained vacant lots. The buildable portion of the proposed IPR East wellfield south of Morro Creek consists of an agricultural field and pullouts along Little Morro Creek Road. The majority of the proposed IPR West wellfield is south of Morro Creek within an undeveloped area and on vacant portions of the inoperative Morro Bay Power Plant.

Habitats – Land Cover and Vegetation Communities

Five primary habitats (land cover and vegetation communities) were observed within the study area during surveys conducted in 2016 and 2017: 1) ruderal/disturbed, 2) annual grassland, 3) coastal scrub, 4) riparian scrub, and 5) wetland. Existing concrete and dirt roads were included as ruderal/disturbed habitat, as were landscaped areas in the urban areas; however, two landscape types (ornamental tree and iceplant) were defined as separate habitats and mapped separately when the vegetation formed large continuous areas due to the increased potential to support sensitive wildlife species. Three additional habitats (riverine, native bunchgrass grassland, and rock outcrops) were mapped, because of the potential for certain plant and wildlife species to occur in those areas. Habitats observed onsite during field surveys are presented on **Figures 3.4-2** through **3.4-5**, and are discussed below.

Ruderal/Disturbed

Ruderal/disturbed land cover areas are common along roadsides, in unmaintained urban areas, and other areas that have been significantly altered by construction, agriculture, ornamental landscaping, or other types of regular activities that affect plant composition and growth. If vegetated, then those areas are typically dominated by non-native annual grasses and herbaceous plants adapted to the regular cycle of disturbance from traffic, grading and weed reduction practices such as mowing and herbicide application. That is not a native plant community, and is not described in Sawyer et al. (2009) or in Holland's (1986) vegetation classification.



SOURCE: ESRI; National Wetland Inventory(USFWS)

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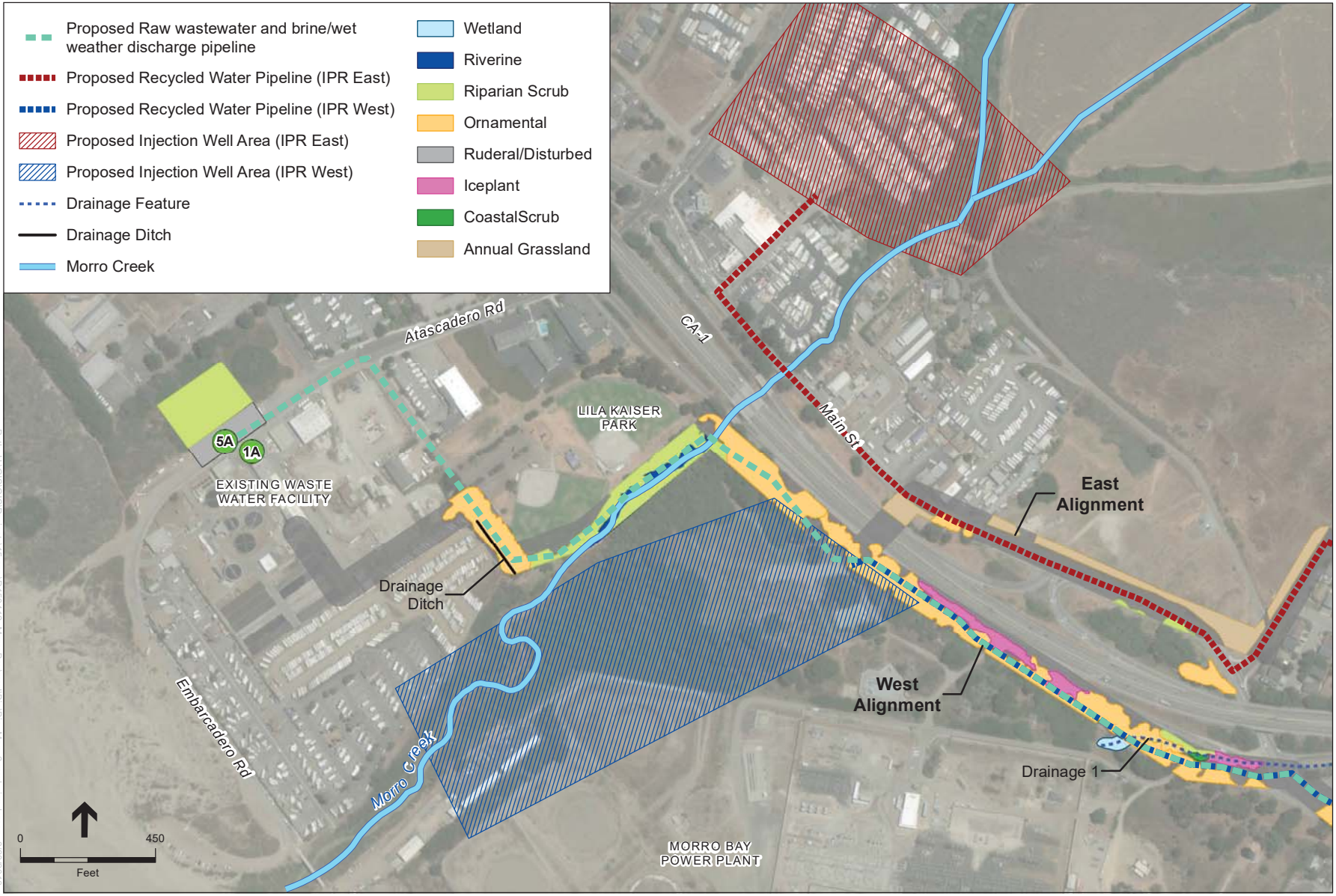
Figure 3.4-1
Aerial Overview

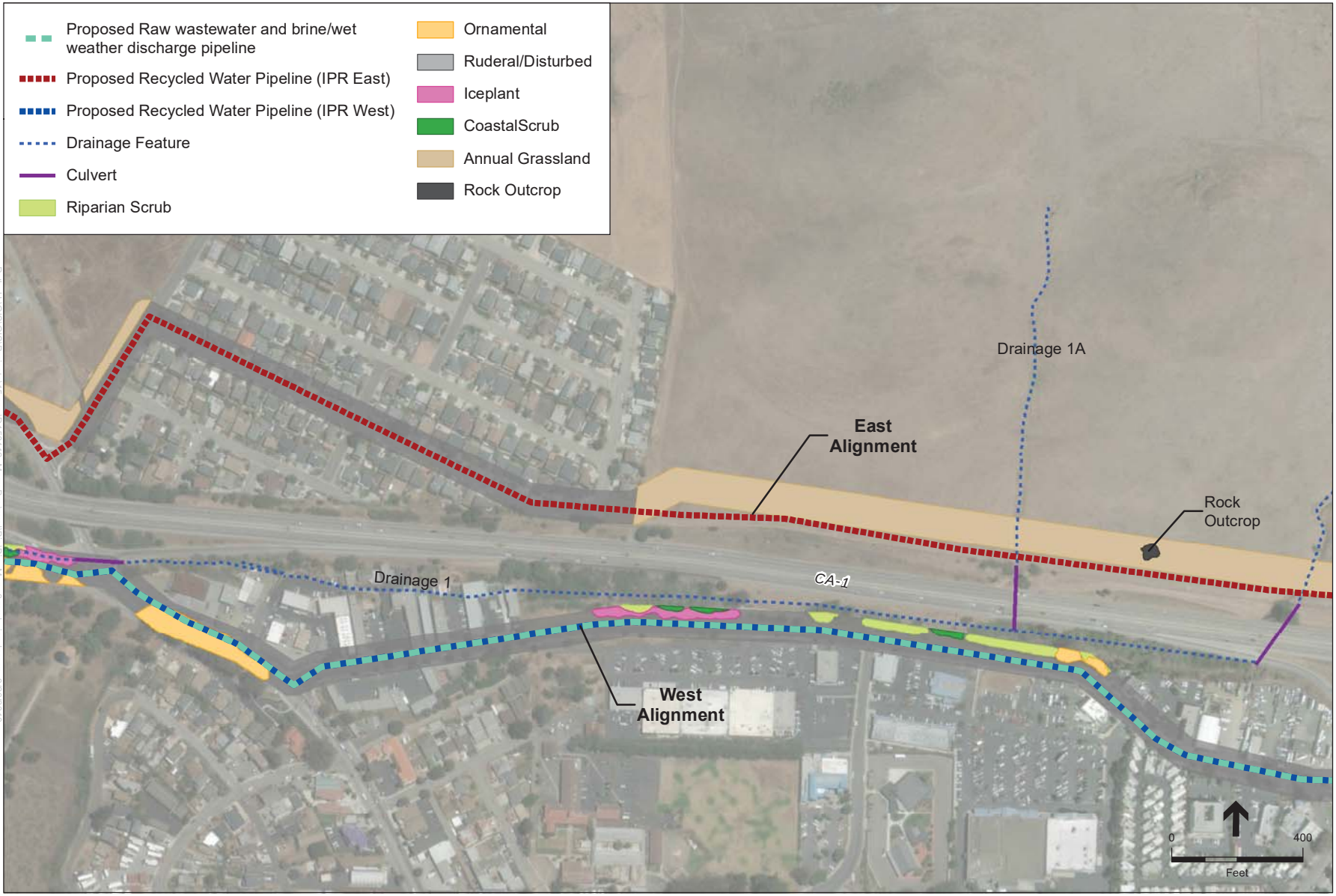


SOURCE: ESRI 2016

Morro Bay Water Reclamation Facility Project. 150412

Figure 3.4-2

Habitat Map

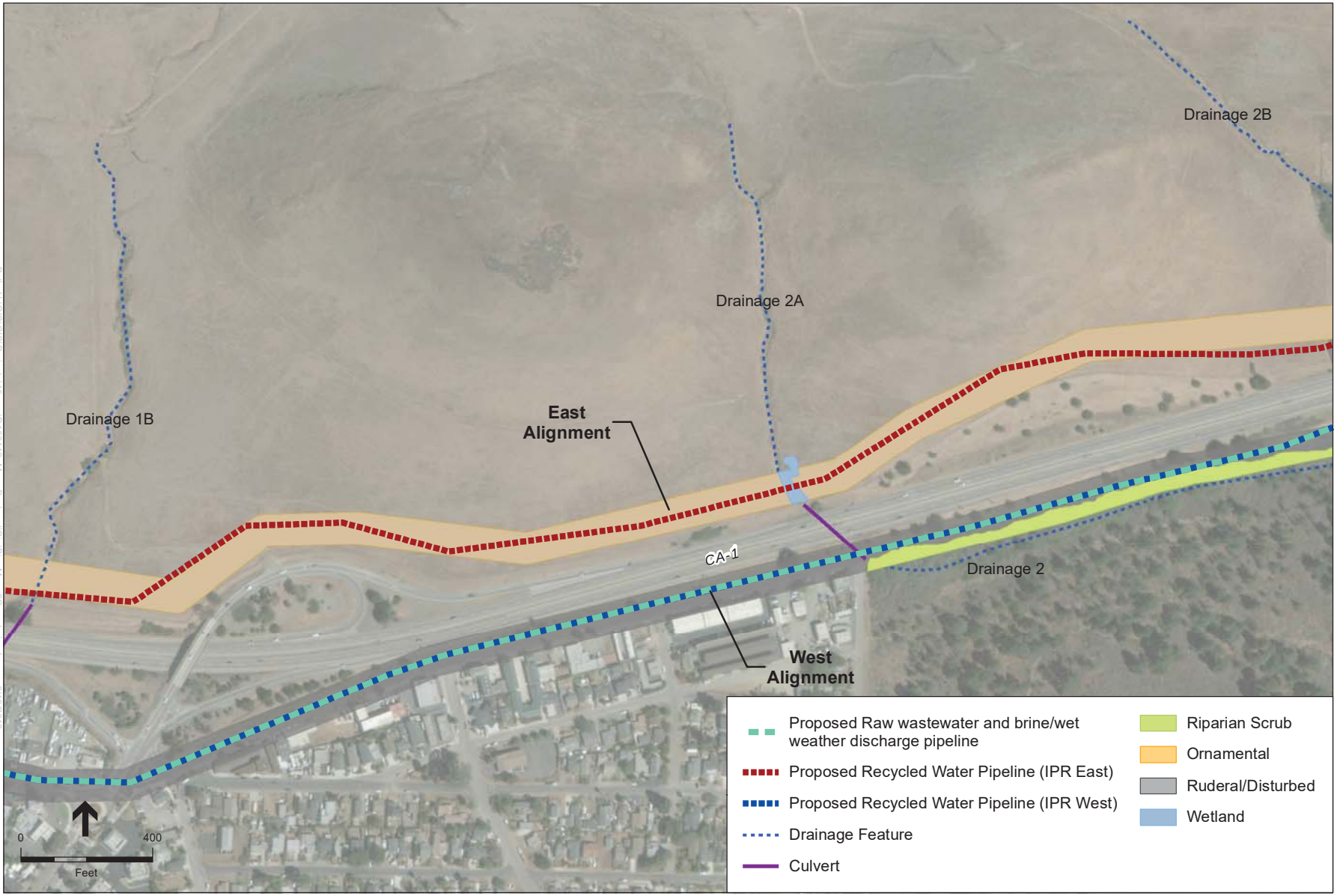


SOURCE: ESRI 2016

Morro Bay Water Reclamation Facility Project. 150412

Figure 3.4-3

Habitat Map



SOURCE: ESRI 2016

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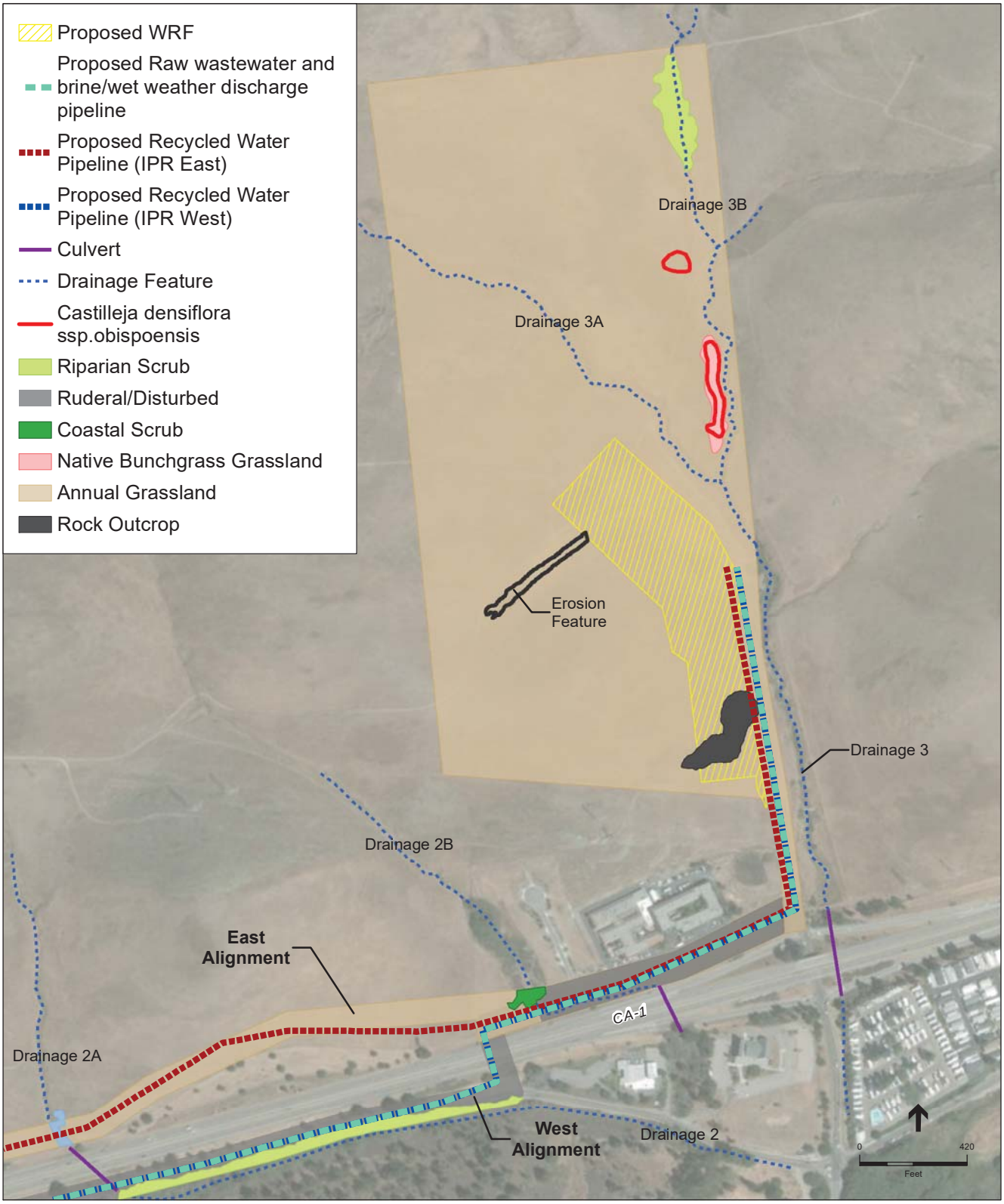
Figure 3.4-4

Habitat Map



SOURCE: ESRI

Morro Bay Water Reclamation Facility Project. 150412

Figure 3.4-5
Habitat Map

Ruderal or disturbed land cover areas within the preferred WRF site were present along the dirt access road, well-used cattle trails, and around the water trough. The proposed pipeline alignment routes contained ruderal/disturbed conditions along the paved bike trail, roads, parking lots, dirt roads, storage yards, and sports fields. The developed areas, agricultural lands, and vacant lots within the IPR East wellfield, and a portion of the IPR West wellfield, just west of Highway 1, and the developed portions of the Morro Bay Power Plant property, consist of areas that have ruderal/disturbed conditions due to the removal of the naturally occurring vegetation communities. Areas with ruderal/disturbed conditions typically exhibited compacted soils, and were either unvegetated, bare soils, or contained patchy occurrences of non-native weedy plants. Plant species observed within ruderal/disturbed areas included ripgut brome (*Bromus diandrus*), slender oats (*Avena barbata*), bur clover (*Medicago polymorpha*), sweet fennel (*Foeniculum vulgare*), Italian thistle (*Carduus pycnocephalus*), purple star thistle (*Centaurea calcitrapa*), sour clover (*Melilotus indica*), bristly ox-tongue (*Helminthotheca echioides*), summer mustard (*Hirschfeldia incana*), and a variety of escaped ornamental species. The ruderal/disturbed areas would typically attract common wildlife species adapted to human disturbance, and are not expected to provide high quality habitat values for native species.

Annual Grassland

The preferred WRF site and the proposed pipeline alignments are dominated by annual grassland corresponding to the Wild Oats Grassland and Annual Brome Grasslands described in Sawyer et al. (2009), and the Non-native Grassland described by Holland (1986). The annual grassland habitat was composed of wild oats, ripgut brome, soft chess (*Bromus hordeaceus*), Italian rye grass (*Festuca perennis*), red-stemmed filaree (*Erodium cicutarium*), cat's ear (*Hypochaeris glabra*), mallow (*Malva nicaeensis*), common plantain (*Plantago lanceolata*), bindweed (*Convolvulus arvensis*), summer mustard, and prickly sow thistle (*Sonchus asper*) also present. Large areas of black mustard (*Brassica nigra*) were present in grassland areas in the eastern pipeline alignment and the WRF site. Occurrences of the invasive weed hoary cress (*Lepidium draba*) were also observed in eastern pipeline alignment grassland areas.

Even with intensive grazing regimes, California coastal grasslands can provide foraging, breeding habitat and movement opportunities for many wildlife species. Several small mammals, such as the California ground squirrel (*Otospermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), and deer mice (*Peromyscus* spp.) are known to occur within this habitat type, and serve as a prey base for larger predator animals, including snakes, raptors, and coyote (*Canis latrans*). Numerous invertebrate species (such as insects), many of which provide a food source for larger animals such as lizards, birds and some small mammals can also be found within grassland communities. A variety of birds rely on open expanses of grasslands for foraging habitat. Grasslands that are bordered by habitats containing trees are particularly important for raptors because the birds can use the large trees as nesting, roosting, and as observation points to locate potential prey within nearby grassland habitats.

Coastal Scrub

The coastal scrub habitat present within the study area was observed in very patchy occurrences. It was generally disturbed and did not represent a pure native stand of this habitat with a diverse shrub palette. Still, it is generally consistent with Central (Lucian) Coastal Scrub described by

Holland (1986) and Coyote Brush Scrub described in Sawyer et al. (2009). The majority of this habitat in the study area consisted of nearly pure stands of coyote brush (*Baccharis pilularis*), but did have occasional occurrences of other shrubs such as black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*), and poison oak (*Toxicodendron diversilobum*).

Mammals expected to occur in or frequent the areas of coastal scrub habitat present, based on either direct observations or the presence of "sign", included brush rabbit (*Sylvilagus bachmani*), California mouse (*Peromyscus californicus*), and California ground squirrel. Bird species expected to occur include American crow (*Corvus brachyrhynchos*), mourning dove (*Zenaida macroura*), California thrasher (*Toxostoma redivivum*), and scrub jay (*Aphelocoma coerulescens*). Common lizards such as western fence lizard (*Sceloporus occidentalis*) were also observed within coastal scrub habitats in the study area.

Riparian Scrub

The upper portion of Drainage 3B near the preferred WRF site, Morro Creek, Little Morro Creek, and several areas along the proposed western pipeline alignment contained a predominance of arroyo willows (*Salix lasiolepis*) creating a low canopy, riparian scrub habitat type (Figures 3.4-2 through 3.4-5). Those small patches of arroyo willow are more consistent with the Central Coast Riparian Scrub plant community described by Holland (1986) and the Arroyo Willow Thickets described by Sawyer et al. (2009). This habitat is a scrubby streamside thicket, varying from open to impenetrable, dominated by willows. It is an early seral community that may succeed to any of several riparian woodland or forest types absent severe flooding or human disturbance. Gaps in the willow canopy were composed of California blackberry (*Rubus ursinus*), poison oak, Italian thistle, and the invasive weedy species poison hemlock (*Conium maculatum*). The riparian scrub areas may contain areas of moist soils and pockets of seasonally ponded water, and on the WRF site were disturbed by cattle grazing.

Common inhabitants of riparian scrub habitats include amphibians and reptiles such as the Pacific chorus frog (*Pseudacris regilla*), western fence lizard, and mammals such as raccoon (*Procyon lotor*), opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), and shrews (*Sorex* spp.). Riparian scrub, especially the habitat along Morro Creek and Little Morro Creek, can also support a number of resident and migratory bird species including, house wren (*Troglodytes aedon*), ruby-crowned kinglet (*Regulus calendula*), warbling vireo (*Vireo gilvus*), Wilson's warbler (*Wilsonia pusilla*), common yellowthroat (*Geothlypis trichas*), song sparrow (*Melospiza melodia*), black phoebe (*Sayornis nigricans*), and goldfinches (*Carduelis* spp.). The riparian scrub areas along Drainages 2 and 3 are not expected to support any aquatic or amphibian species or a significant diversity of resident and migratory birds given the proximity to roadways or the small isolated nature, which is the case along Drainage 3B. Still, a number of birds, especially smaller songbirds, could utilize the willows for perching and foraging, and to a lesser degree, nesting.

The project as currently proposed could impact an area of riparian scrub habitat along Morro Creek south of the baseball fields at Lila Kaiser Park during pipeline installation. In addition to the existing willow shrubs and trees, this area also contained restoration plantings consisting of blue elderberry (*Sambucus nigra* ssp. *caerulea*) and coast live oak (*Quercus agrifolia*) where

creek-side vegetation had been cleared to clean up an old homeless encampment. Siting of the wells in both the IPR-West and the IPR-East wellfields is expected to avoid riparian scrub associated with Morro Creek and Little Morro Creek; however, the final locations have yet to be determined.

Wetland

Several small areas of wetland habitat were observed in the study area, and consisted of seasonal freshwater marsh vegetation, including spike rush, (*Eleocharis macrostachya*), soft rush, (*Juncus effusus*), brown-headed rush (*Juncus phaeocephalus*), rabbitsfoot grass (*Polypogon monspeliensis*), Italian ryegrass, and grass poly (*Lythrum hyssopifolia*). Locations of wetland habitat observed during field work were mapped (even when it extended outside the study area) to aid in project planning activities. Wetland habitat consistent with the Coastal and Valley Freshwater Marsh and Freshwater Seep described by Holland (1986) was mapped at the terminus of Drainage 1 adjacent to the western pipeline alignment (refer to Figure 3.4-3) and where Drainage 2A crosses the eastern pipeline alignment (refer to Figure 3.4-4).

Wetlands occur in nutrient-rich mineral soils that are saturated through part or all of the year. Seasonal wetland communities are found in locations that contain slow-moving, stagnant or ponded shallow water during the rainy season, or where groundwater "daylights" as seeps along drainages and on slopes. Typically, these areas do not stay wet through the dry season. These seasonal areas do not develop dense perennial wetland vegetation, and in late summer months may not contain any evidence of wetland plants. Seasonally ponded areas within these wetlands may provide enough ponded surface water for aquatic invertebrates such as water striders (family Gerridae) and boatmen (family Carixidae), and more opportunistic amphibians such as the Pacific chorus frog, but are not large enough in size and do not contain prolonged deep surface water to support larger amphibians such as the federal threatened California red-legged frog.

Riverine

The active channel and bed of Morro Creek and Little Morro Creek in the study area were identified as riverine habitat. Due to drought conditions, no flowing water was present when inspected in the summer of 2016. Flowing water was present during the winter and spring of 2017, and the channel was composed of cobble and gravel substrate with remnant sandbars and sediment deposits as a result of high flow events. The banks of the creek were covered with the riparian scrub habitat that was previously described. Non-native weedy species such as Cape ivy (*Delairea odorata*) were also present outside the study area adjacent to the creek channel.

Great blue heron (*Ardea herodias*) and snowy egret (*Egretta thula*) are common predators within local riverine habitats when water is present, and numerous bird species are expected to use the creek and associated riparian scrub habitat for foraging and nesting. Several species of fish are likely to occur within riverine habitat of Morro Creek when water is present, including the federally threatened south-central California coast steelhead (*Oncorhynchus mykiss*), speckled dace (*Rhinichthys osculus*), three-spined stickleback (*Gasterosteus aculeatus*), and Pacific lamprey (*Lampetra tridentata*).

Native Bunchgrass Grassland

Two small patches of purple needlegrass (*Stipa pulchra*) were present in the eastern portion of the preferred WRF site beyond the top of bank of Drainage 3B (please refer to Figure 3.4-5). The native bunchgrass occurrence, although relatively small, corresponds to the Valley Needlegrass Grassland described by Holland (1986) and the Purple Needlegrass Grassland described by Sawyer et al. (2009). Other native species observed in association with native bunchgrass included morning glory (*Calystegia macrostegia*), blue-eyed grass (*Sisyrinchium bellum*), and western vervain (*Verbena lasiostachys*). This native grassland occurrence is outside the proposed development area and will not be disturbed by construction of the proposed project.

Rock Outcrop

Two areas of rock outcropping were observed in the study area, one in the eastern pipeline alignment and the other in the southern part of the WRF site (see Figure 3.4-4 and 3.4-6). The rock outcroppings were located in annual grassland habitat, but did support a combination of species more characteristic of coastal scrub and purple needlegrass habitats. While California coffeeberry shrubs were present in the rock outcrop in the eastern pipeline alignment, only sporadic occurrences of purple needlegrass were present on the WRF site, and did not warrant classification of the area as native bunchgrass grassland.

Ornamental

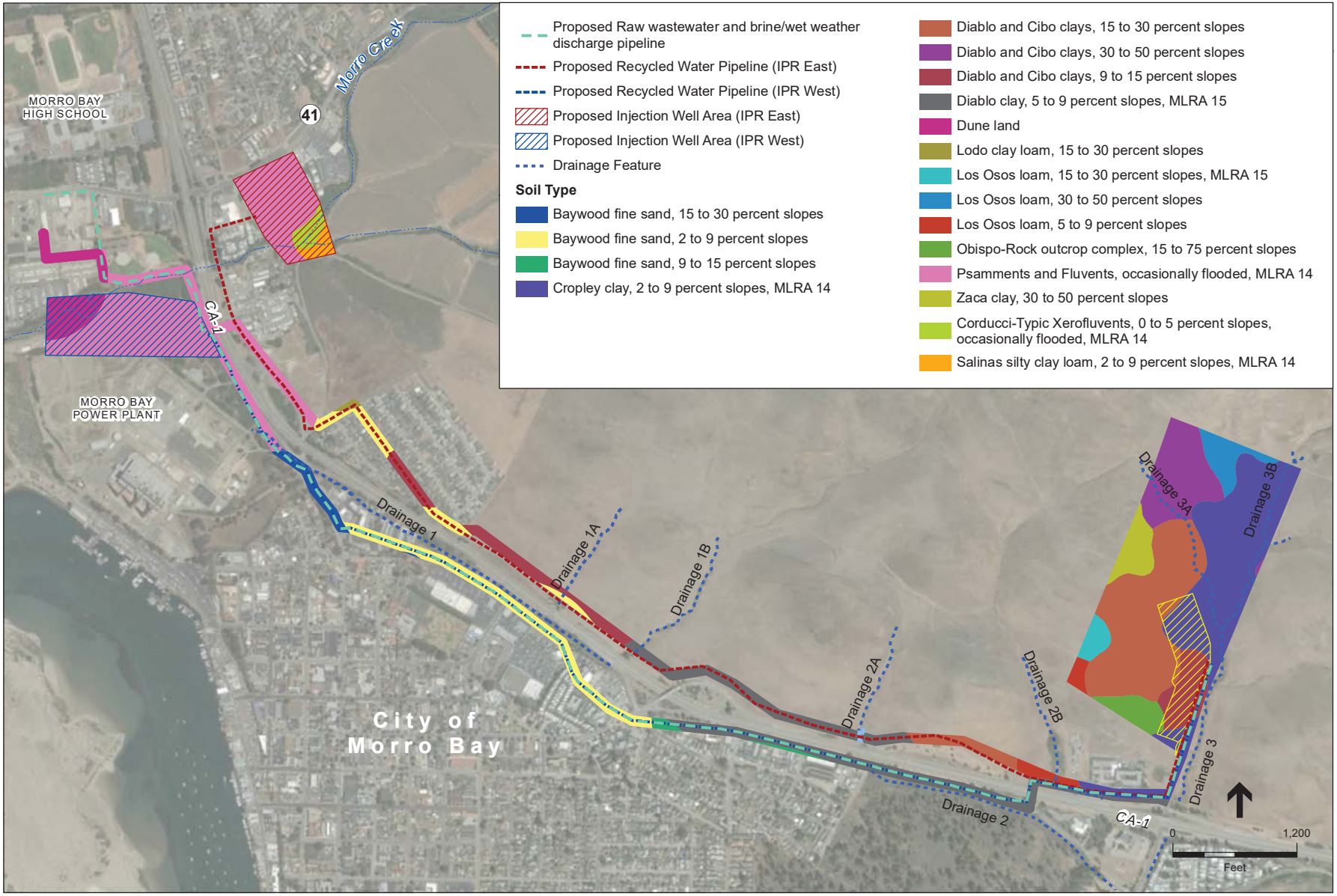
Large occurrences of planted trees along the western pipeline alignment, including Monterey cypress (*Hesperocyparis macrocarpa*) and Monterey pine (*Pinus radiata*), which are native to California, just not naturally-occurring within the study area, were mapped as ornamental habitat. These areas provide better nesting opportunities for avian species accustomed to living in urban environments than the other areas described as ruderal/disturbed, because of the continuous stand of trees.

Iceplant

Large patches of iceplant (*Carpobrotus edulis*) were mapped on the proposed western pipeline alignment along Quintana Road and adjacent to the paved bike trail west of Main Street. Iceplant occurs on sandy soils in coastal habitats and was extensively planted historically along highways and for dune stabilization. Iceplant forms dense, prostrate mats that dominate the landscape and allows little to no herbaceous plant species in the understory. The federally-listed Morro shoulderband snail (*Helminthoglypta walkeriana*) has been known to occur within iceplant growing on dune sands within the project region.

Soils

The Web Soil Survey (National Resources Conservation Service 2015) identified ten soil types as present within the study area. Those soil types are typical to coastal San Luis Obispo County, and include: Baywood fine sand, Cropley clay, Diablo clay, Diablo and Cibo clays, Dune land, Lodo clay loam, Los Osos loam, Obispo Rock Outcrop complex, Psamments and Fluvents, and Zaca clay (see **Figure 3.4-6**).



SOURCE: ESRI; USDA

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Figure 3.4-6

Soils

Special-status Biological Resources

This section identifies special-status plant and animal species that are known or presumed to occur in the region where the proposed project would be located and considers whether these species could potentially occur in the study area. Special status species are those plants and animals that are recognized as sensitive or imperiled by federal, state, or other agencies, because of their rarity or vulnerability to various causes of habitat loss or population decline. Some of those species receive specific protection that is defined by federal or state endangered species legislation. Others have been designated as "sensitive" on the basis of adopted policies and expertise of state resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities, and special districts to meet local conservation objectives. Those species are referred to collectively as "special-status species", following a convention that has developed in practice, but has no official sanction. More specifically, special-status species include:

- Plants or animals listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (ESA) (50 Code of Federal regulations [CFR] 17.12 [listed plants], 17.11 [listed animals] and various notices in the Federal Register [FR] [proposed species]).
- Plants or animals that are candidates for possible future listing as threatened or endangered under the federal ESA (61 FR 40, February 28, 1996);
- Plants or animals listed or proposed for listing by the State of California as threatened or endangered under the California ESA (14 California Code of Regulations [CCR] 670.5);
- Plants listed as rare or endangered under the California Native Plant Protection Act (California Fish and Game Code, section 1900 *et seq*.);
- Plants that meet the definitions of rare and endangered under CEQA (*CEQA Guidelines*, section 15380);
- Plants considered by California Department of Fish and Wildlife (CDFW) and/or the California Native Plant Society (CNPS) to be "rare, threatened or endangered in California" (Rare Plant Ranks 1A, 1B, and 2 in CNPS 2008) and plants noted by CDFW and/or CNPS as plants about which more information is needed to determine their status, and plants of limited distribution (Rare Plant Ranks 3 and 4), or which may be included as special-status species on the basis of local significance or recent biological information; and
- Animals fully protected in California (California Fish and Game Code, sections 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]); and
- Plants or animals covered by a locally or state adopted species conservation plan, including sensitive plants and animals and narrow endemic plants that have reasonable potential to occur on-site.

The Estero Bay region supports numerous special-status, or rare, plant communities and species of plants and animals. Lands adjacent to the study area have been well studied for biological resources in the past, and special-status species have been identified in close proximity to the study area. As stated in the methodology section, the evaluation of special-status plant occurrence within the study area was based on a series of surveys conducted in spring and summer of 2016, spring 2017, and winter/spring 2018, and a habitat suitability analysis using a five-mile search radius to identify special-status resources that could potentially occur onsite. The studies did not

include definitive surveys to determine presence or absence of special-status wildlife such as the California red-legged frog (*Rana draytonii*) because the lower reach of Morro Creek and the ephemeral drainages in the study area do not appear to provide suitable aquatic habitat for the species. By reviewing background documents and studies from the region, as well as the CNDDB records, a conclusion was made as to whether a particular species could be expected to occur within the study area, and ultimately be affected by the proposed project. **Table 3.4-1** includes a list of all special-status species and plant communities documented within the search area, and a determination as to their potential to occur onsite within the study area.

TABLE 3.4-1
SPECIAL-STATUS SPECIES AND VEGETATION COMMUNITIES RECORDED IN THE REGION

Species	Status* Fed/CA/CNPS	Habitat Requirements	Project Site Suitability/Observations
Lichens/Bryophytes			
Popcorn lichen *Cladonia firma*	--/--/2B.1	Known in CA only from coast dunes in the Morro Bay and Los Osos area. Often forms biological soil crust and mosses.	No suitable habitat present. Not observed during surveys, not expected to occur within study area or be affected by the project.
Splitting yarn lichen *Sulcaria isidiifera*	--/--/1B.1	Known from the Los Osos area growing on branches of coast live oak and maritime chaparral plants in sandy areas.	No suitable habitat present. Not observed during surveys, not expected to occur within study area or be affected by the project.
Twisted horsehair lichen *Bryoria spiralifera*	--/--/1B.1	Largest known population is on the Samoa Peninsula in Humboldt Co. Possibly threatened by coastal development, air pollution, and climate change. Usually on *Picea sitchensis*, *Pinus contorta* var. *contorta*, *Pseudotsuga menziesii*, *Abies grandis*, and *Tsuga heterophylla*.	No suitable habitat present. Not observed during surveys, not expected to occur within study area or be affected by the project.
Plants			
Arroyo de la Cruz manzanita *Arctostaphylos cruzensis*	--/--/1B.2	Perennial shrub; blooms from December to March; occurs between 60 and 310 meters in sandy soils; found in broadleaved upland forest, coastal bluff scrub, closed-cone coniferous forest, chaparral, coastal scrub and valley and foothill grassland. It is only known to occur in Monterey and San Luis Obispo Counties.	Conspicuous, perennial shrub not observed during surveys, not expected to occur within study area or be affected by the project.
Beach spectaclepod *Dithyrea maritima*	--/T/1B.1	Rhizomatous, perennial herb; blooms March through May; found in sandy soils, usually near shore, in coastal dunes and coastal scrub habitats; ranges from 3 to 50 meters in elevation.	No sand dunes present within the study area. Could be present in beach habitat west of the WWTP. Not observed during surveys. Not present in the study area.

Species	Status* Fed/CA/CNPS	Habitat Requirements	Project Site Suitability/Observations
Betty's dudleya *Dudleya abramsii* ssp. *bettinae*	--/--/1B.2	Perennial succulent; blooms May through July and is endemic to coastal San Luis Obispo County west of Cerro Romualdo; found in chaparral, coastal scrub, and valley and foothill grasslands, usually on serpentine outcrops or shallow rocky soils; ranges in elevation from 20 to 180 meters.	Suitable serpentine rock outcrop habitat is present in portions of the study area. Not observed during surveys, not expected to occur within study area or be affected by the project.
Blochman's dudleya *Dudleya blochmaniae* ssp. *blochmaniae*	--/--/1B.1	Perennial herb; blooms April through June; found on rocky, often clay or serpentine soils in coastal bluff scrub, chaparral, coastal scrub, and valley and foothill grassland; ranges from 5 to 450 meters in elevation.	Marginal suitable habitat present in bunchgrass grassland on clay soils. Not observed during surveys, and not expected to occur within study area or be affected by the project.
Blochman's leafy daisy *Erigeron blochmaniae*	--/--/1B.2	Rhizomatous perennial herb; blooms July through August; ranges from 3 to 45 meters in elevation and occurs in coastal dunes and coastal scrub.	This species is restricted to coastal dunes typically along the immediate coastline. Could be present in beach habitat west of the WWTP. Not observed during surveys. Not present in the study area.
Brewer's spineflower *Chorizanthe breweri*	--/--/1B.3	Occurs in closed-cone coniferous forest, chaparral, cismontane woodland, and coastal scrub habitats on serpentine derived soils and rock outcrops, mostly in rocky and gravelly areas; ranges in elevation from 45 to 800 meters; annual herb; blooms May through August.	Suitable serpentine rock outcrop habitat is present in portions of the study area. Not observed during surveys, not expected to occur within study area or be affected by the project.
California seablite *Suaeda californica*	E/--/1B.1	Perennial succulent shrub that grows along the margins of coastal salt marshes in a narrow elevational range from 0 to 5 meters; known to occur in the Morro Bay area	No coastal salt marsh habitat present. Not observed during surveys, not expected to occur within study area or be affected by the project.
Cambria (San Luis Obispo County) morning-glory *Calystegia subacaulis* ssp. *episcopalis*	--/--/4.2	Rhizomatous, perennial herb; blooms from April to May; occurs in chaparral, cismontane woodland, and sparse to dense grassland covering sloped or flat areas in clay- rich soils; ranges from 60-500 meters; restricted to outer South Coast ranges in SLO and Santa Barbara Counties.	Species is present within grassland areas of the WRF site and in patchy occurrences along the eastern pipeline alignment.
Coast woolly threads *Nemacaulis denudata* var. *denudata*	--/--/1B.2	Annual herb that grows in coastal sand dunes in open spaces of the coastal strand; known to occur in the Montana de Oro area in sandy soils.	No suitable habitat present. Not observed during surveys, not expected to occur within study area or be affected by the project.
Coastal goosefoot *Chenopodium littoreum*	--/--/1B.2	Annual herb that grows on sandy flats in coastal dunes along wetland and salt marsh habitat. Typically found between 30 and 100 meters, and is known from the Morro Bay estuary.	No coastal dune or salt marsh habitats present. Not observed during surveys, not expected to occur within study area or be affected by the project.

Species	Status* Fed/CA/CNPS	Habitat Requirements	Project Site Suitability/Observations
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	--/--/1B.1	Annual herb that grows in coastal salt marshes, playas, valley and foothill grassland, and vernal pools usually on alkaline soils from 1- 1,400 meters.	Marginal suitable habitat present in bunchgrass grassland on clay soils. Not observed during surveys, and not expected to occur within study area or be affected by the project.
Cuesta Ridge thistle *Cirsium occidentale* var. *lucianum*	--/--/1B.2	Perennial herb known to occur along the Cuesta Ridge in openings on steep rocky serpentinite slopes from 500 to 750 meters.	Study area is outside the known range for this species. Not observed during surveys, not expected to occur within study area or be affected by the project.
Dacite manzanita *Arctostaphylos tomentosa* ssp. *daciticola*	--/--/1B.1	Perennial shrub known to occur in chaparral and cismontane woodland. Only one known occurrence of this species in SLO County on the porphyry buttes (Hollister Peak) east of Morro Bay	No suitable habitat for this species present onsite. Perennial shrub would have been identifiable if encountered onsite during the surveys. Not observed during surveys. Not present in the study area.
Eastwood's larkspur *Delphinium parryi* ssp. *eastwoodiae*	--/--/1B.2	Perennial herb known to occur on serpentine based soils (clays) and outcrops in the general San Luis Obispo area with collections made on Camp San Luis Obispo. Blooms March to May.	Suitable serpentine rock outcrop habitat is present in portions of the study area. Not observed during surveys, not expected to occur within study area or be affected by the project.
Hardhams evening primrose *Camissoniopsis hardhamiae*	--/--/1B.2	Annual herb found in chaparral, cismontane woodland habitats on decomposed carbonate or recently burned soils; 330-500 meter elevation. Typically blooms March to May.	No suitable habitat for this species present onsite. Project location is well below the species elevational range. Not observed during surveys. Not present in the study area.
Indian knob mountainbalm *Eriodictyon altissimum*	E/C/1B.1	Perennial, evergreen shrub found on ridges in open, disturbed areas within chaparral on Pismo sandstone ranges in elevation from 90 to 270 meters	No suitable habitat for this species present onsite. Perennial shrub would have been identifiable if encountered onsite during the surveys. Not observed during surveys. Not present in the study area.
Jones' layia *Layia jonesii*	--/--/1B.2	Annual herb; blooms March through May; occurs on clay soils in close association to serpentine outcrops in chaparral and valley and foothill grassland; ranges in elevation from 5 to 400 meters.	Suitable serpentine rock outcrop habitat is present in portions of the study area. Not observed during surveys, not expected to occur within study area or be affected by the project.
Marsh sandwort *Arenaria paludicola*	E/E/1B.1	Stoloniferous, perennial herb; blooms May to August; occurs in freshwater marshes and swamps, bogs and fens, and some coastal scrub, ranging from 3 to 170 meters in elevation; common associates include Typha, Juncus, and Scirpus.	Marginal freshwater marsh habitat present in drainages along the eastern pipeline alignment. Not observed during surveys, not expected to occur within study area or be affected by the project.
Miles' milk-vetch *Astragalus didymocarpus* var. *milesianus*	--/--/1B.2	Annual herb; blooms March to June; found in coastal scrub habitats, typically occurring on clay soils; ranges in elevation 20 to 90 meters.	Marginal coastal scrub habitat present in study area. Not observed during surveys, not expected to occur within study area or be affected by the project.

Species	Status* Fed/CA/CNPS	Habitat Requirements	Project Site Suitability/Observations
Morro manzanita *Arctostaphylos morroensis*	T/--/1B.1	Evergreen shrub; blooms December through March; ranges in elevation from 5 to 205 meters; typically found on sandy-loam or Baywood sands in chaparral, woodlands, coastal dunes and coastal scrub.	Project site is outside the known range of this species. Not observed during surveys. Not present onsite.
Most beautiful jewel-flower *Streptanthus albidus* ssp. *peramoenus*	--/--/1B.2	Annual herb; blooms April through June; occurs on serpentine soils in chaparral, valley and foothill grassland, and cismontane woodland, ranging from 120 to 1000 meters in elevation.	Suitable serpentine rock outcrop habitat is present in portions of the study area. Not observed during surveys, not expected to occur within study area or be affected by the project.
Oso manzanita *Arctostaphylos osoensis*	--/--/1B.2	Perennial shrub known to occur in chaparral and cismontane woodland on the porphyry buttes east of Morro Bay.	No suitable habitat present. Shrub would have been identifiable if encountered during surveys. Not observed during surveys. Not present in the study area.
Palmer's monardella *Monardella palmeri*	--/--/1B.2	Rhizomatous, perennial herb; blooms June through August; occurs on serpentine soils in chaparral and cismontane woodland habitats at elevations ranging from 200 to 800 meters.	No suitable habitat present due to lack of rocky serpentine soils. Not observed during surveys, not expected to occur within study area or be affected by the project.
Pecho manzanita *Arctostaphylos pechoensis*	--/--/1B.2	Perennial shrub; blooms November to March; occurs on siliceous shale in closed-cone coniferous forest, chaparral, and coastal scrub habitats, ranging from 170 to 1100 meters in elevation.	No suitable habitat present. Shrub would have been identifiable if encountered during surveys. Not observed during surveys. Not present in the study area.
Salt marsh bird's-beak *Chloropyron maritimum* ssp. *maritimum*	E/E/1B.2	Annual herb known to occur along margins of salt marsh habitat and coastal dunes. Limited to the higher zones of the Morro Bay estuary.	No salt marsh habitat present. Not observed during surveys, not expected to occur within study area or be affected by the project.
San Benito fritillary *Fritillaria viridea*	--/--/1B.2	Bulbiferous, perennial herb; blooms March to May; ranges from 200 to 1525 meters in elevation and occurs in chaparral on serpentine soils.	Suitable serpentine rock outcrop habitat is present in portions of the study area. Not observed during surveys, not expected to occur within study area or be affected by the project.
San Joaquin spearscale *Atriplex joaquinana*	--/--/1B.2	Annual herb that grows in seasonal alkali wetlands and alkali sink scrub typically found in the San Joaquin Valley. One recorded occurrence of this species from 1899 in CNDDB was from the vicinity of Morro Bay.	No alkali wetland habitats present, and no other alkali wetland indicator species such as *Frankenia salina were* observed. Not observed during surveys, and unlikely to occur onsite.
San Luis mariposa-lily *Calochortus obispoensis*	--/--/1B.2	Bulbiferous, perennial herb; blooms May to July; ranges from 75 to 730 meters on sandstone, serpentine and/or sandy soils in chaparral, coastal scrub and valley and foothill grassland; endemic to San Luis Obispo County.	Suitable serpentine rock outcrop habitat is present in portions of the study area. Not observed during surveys, not expected to occur within study area or be affected by the project.

Species	Status* Fed/CA/CNPS	Habitat Requirements	Project Site Suitability/Observations
San Luis Obispo fountain thistle (Chorro Creek bog thistle) *Cirsium fontinale* var. *obispoense*	E/E/1B.2	Perennial herb; blooms February to July; ranges from 35 to 365 meters in elevation; occurs in chaparral and cismontane woodland habitats, often in serpentine seeps.	No suitable habitat present due to lack of serpentine seeps. This perennial plant was not observed during surveys. Not expected to occur within study area or be affected by the project.
San Luis Obispo owl's clover *Castilleja densiflora* ssp. *obispoensis*	--/--/1B.2	Annual herb; blooms in April; ranges from 10 to 400 meters in elevation and occurs in meadows, seeps, and valley and foothill grassland.	Species is present within native bunchgrass grassland areas of the WRF site, outside the area proposed for development. Not expected to be affected by the project.
Southern curly-leaved monardella *Monardella undulata*	--/--/4.2	Annual herb; blooms May through September; occurs on dunes and sandy soils in coastal strand, chaparral, northern coastal scrub, coastal sage scrub, at elevations below 300 meters.	No suitable coastal scrub habitat present. Not observed during surveys. Not expected to occur within study area or be affected by the project.
Invertebrates			
Globose dune beetle *Coelus globosus*	--/SA/--	Inhabits coastal sand dune habitat in foredunes and sand hummocks most common beneath dune vegetation.	No suitable habitat present. Not expected to occur within study area or be affected by the project.
Mimic tryonia (=California brackishwater snail) *Tryonia imitator*	--/SA/--	Found only in permanently submerged areas in coastal lagoons.	No suitable habitat present. Not expected to occur within study area or be affected by the project.
Monarch butterfly *Danaus plexippus*	--/SA/--	Wind-protected tree groves of eucalyptus, Monterey pine and cypress with nectar and water sources nearby.	No suitable overwintering habitat present in study area. Species was observed flying and foraging in study area, but no overwintering habitat is present.
Morro Bay blue butterfly *Plebejus icarioides moroensis*	--/SA/--	Inhabits stabilized dunes and adjacent areas of coastal San Luis Obispo and NW Santa Barbara counties.	No suitable habitat present. Not expected to occur within study area or be affected by the project.
Morro shoulderband snail *Helminthoglypta walkeriana*	E/--/--	Known to occur in coastal sage scrub and dune scrub habitats on Baywood fine sands near Morro Bay.	Potentially suitable sandy soils present along Quintana Road and near Morro Bay Power Plant. Potentially present in iceplant and other suitable vegetative cover on sandy soils.
Obscure bumble bee *Bombus caliginosus*	--/ SA / --	The Pacific Coast from Santa Barbara County north to Washington state. Food plant genera include Baccharis, Cirsium, Lupinus, Lotus, Grindelia, and Phacelia.	Marginal vegetative opportunities present in grassland areas. Not expected to occur within study area or be affected by the project.
San Luis Obispo pyrg *Pyrgulopsis taylori*	--/SA/--	Freshwater habitats in San Luis Obispo County.	Suitable habitat present in Morro Creek and Little Morro Creek further upstream outside study area. Small ephemeral drainages within the study area do not provide suitable habitat.
Sandy beach tiger beetle *Cicindela hirticollis gravida*	--/SA/--	Inhabits area adjacent to non-brackish water along the coast of California from San Francisco Bay to Northern Mexico.	No suitable habitat present. Not expected to occur within study area or be affected by the project.

Species	Status* Fed/CA/CNPS	Habitat Requirements	Project Site Suitability/Observations
Fish			
Steelhead – South/Central California ESU *Oncorhynchus mykiss irideus*	T/SSC/--	Fresh water, fast flowing, highly oxygenated, clear, cool stream where riffles tend to predominate pools.	Seasonal habitat present in Morro Creek and Little Morro Creek. Morro Creek is identified by USFWS as critical habitat for the species. Not expected to occur in the small ephemeral drainages within the study area.
Tidewater goby *Eucyclogobius newberryi*	E/SSC/--	Brackish water habitats along the California coast from San Diego county to Del Norte county.	This species is known to occur in tidal portions of Morro Creek. Could potentially be present in study area when surface water is present.
Amphibians/Reptiles			
California red-legged frog *Rana draytonii*	T/SSC/--	Lowland and foothills in or near permanent or semi-permanent sources of deep water (at least 0.5 meter) bordered by emergent wetland and/or riparian vegetation. May use a variety of aquatic and upland habitats during the year for refugia and dispersal.	Suitable habitat present in Morro Creek and Little Morro Creek, but the species has not been found in the study area. Morro Creek is identified by USFWS as critical habitat for the species. Not expected to occur in the small ephemeral drainages within the study area.
Coast horned lizard *Phrynosoma blainvillii*	--/SSC/--	Frequents a wide variety of habitat including sandy washes with scattered shrubs and open areas for sunning. Loose soils for burial.	Portions of the study area that contain loose sandy soils have been disturbed by development thereby reducing the potential for this species to occur. No suitable habitat present in clay soils areas.
Coast Range newt *Taricha torosa*	--/SSC/--	Coastal drainages from Mendocino County to San Diego County. Lives in terrestrial habitats & will migrate over 1 km to breed in ponds, reservoirs & slow moving streams.	Seasonal habitat present in Morro Creek and Little Morro Creek further upstream outside study area. Small ephemeral drainages within the study area do not provide suitable habitat.
Silvery/Black legless lizard *Anniella pulchra*	--/SSC/--	Sandy or loamy soils in valley and foothill woodlands, chaparral, coastal scrub and coastal dunes.	Portions of the study area that contain loose sandy soils have been disturbed by development and thereby reduce potential for this species to occur. No suitable habitat present in clay soils areas.
Southern Pacific (western) pond turtle *Emys marmorata*	--/SSC/--	Basking sites such as partially submerged logs, vegetation mats, or open mud banks.	Suitable habitat present in Morro Creek and Little Morro Creek, but the species has not been found in the study area. Small ephemeral drainages within the study area do not provide suitable habitat.

Species	Status* Fed/CA/CNPS	Habitat Requirements	Project Site Suitability/Observations
Birds			
California black rail *Laterallus jamaicensis coturniculus*	--/T/--	Freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that does not fluctuate and dense vegetation for nesting.	No suitable habitat present. Small ephemeral drainage features are not suitable habitat for this species. Known to occur in the estuarine habitats of Morro Bay. Not expected to occur within study area or be affected by the project.
California clapper rail *Rallus longirostris obsoletus*	E/E/--	Occurs in salt-water and brackish marshes traversed by tidal sloughs with abundant growths of pickleweed.	No suitable habitat present. Species is known to occur further west of the study area and in the estuarine habitats of Morro Bay. Not expected to occur within study area or be affected by the project.
Cooper's hawk *Accipiter cooperii*	--/WL/-- (nesting)	Wooded areas. Nests in tall trees and often hunts around human structures.	Potential roosting and nesting habitat on-site in large trees present along the pipeline alignments. Ornamental trees (cypress and pines) were searched during field work and no nests observed. Could forage in grasslands and occur seasonally in the study area.
Western snowy plover *Charadrius alexandrinus nivosus*	T/SSC/-- (nesting)	Sandy beaches, salt pond levees or shores of large alkali lakes. Sandy, gravelly or friable soils required for nesting. Federal listing refers only to the Pacific coastal population.	No suitable habitat present. Species is known to occur further west of the study area along beach habitats. Not expected to occur within study area or be affected by the project.
Mammals			
American badger *Taxidea taxus*	--/SSC/--	Friable soils and open, uncultivated ground for denning. Preys on burrowing rodents such as ground squirrels.	Suitable habitat is present in grasslands, but no prey base or dens were observed within the study area. Unlikely, but could potentially occur as a transient. Unlikely to be affected by the project.
Big free-tailed bat *Nyctinomops macrotis*	--/SSC/--	Occurs in low lying arid areas of Southern California. Needs high cliffs or rocky outcrops for roosting sites. Feeds primarily on large moths.	No suitable habitat present. Not expected to roost within study area or be affected by the project.
Morro Bay kangaroo rat *Dipodomys heermanii morroensis*	E/E/--	Coastal sage scrub on the south side of Morro Bay. Needs sandy soil on stabilized dunes with vegetation.	No suitable habitat present. Not expected to occur within study area or be affected by the project.
Pallid bat *Antrozous pallidus*	--/SSC/--	Occurs in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts under bridges and in some areas in old structures such as barns.	Potentially suitable roosting habitat present at Highway 1 and bike path bridges over Morro Creek. Suitable foraging habitat present in grassland areas. Could occur, but not expected to be affected by the project.
Townsend's western big-eared bat *Corynorhinus townsendii townsendii*	--/-SSC/--	Requires caves, tunnels, mines, or similar man-made structures for roosting. This bat feeds primarily on moths, but will eat a variety of soft- bodied insects.	Suitable foraging habitat present throughout the study area. Could occur, but unlikely to be affected by the project.

Species	Status* Fed/CA/CNPS	Habitat Requirements	Project Site Suitability/Observations
Plant/Natural Communities			
Central Dune Scrub			Not present in study area
Central Maritime Chaparral			Not present in study area
Coastal Brackish Marsh			Not present in study area
Northern Coastal Salt Marsh			Not present in study area
Bunchgrass Grassland (purple needlegrass)			Not present in study area
Central Coast Arroyo Willow Riparian Forest			Not present in study area

Legend:

Federal Endangered Species Act
E- Endangered
T-Threatened
C- Candidate for Listing

California Endangered Species Act/CDFW
E-Endangered
C- Candidate for Listing
SA-Special Animal (tracked in the CNDDB)
SSC-Species of Special Concern
T-Threatened
WL-Watch List

California Rare Plant Rank Society (CNPS)
1A-Plants presumed extinct in California
1B-Plants rare, threatened, or endangered in California elsewhere
2-Plants rare, threated, or endangered in California but more common elsewhere
3-Plants about which we need more review
4-Plants of limited distribution
Threat Rank
.1 Seriously Endangered
.2 Fairly Endangered
.3 Not Very Endangered

Special-Status Natural Communities

The CNDDB search conducted in March 2016 and again in 2017 identified occurrences of five special-status plant communities within the proposed project vicinity, which included Central Maritime Chaparral, Coastal Brackish Marsh, Northern Coastal Salt Marsh, Coastal and Valley Freshwater Marsh, and Central Dune Scrub. Additional special-status plant communities observed within the study area include Riparian Scrub and Native Bunchgrass Grassland.

Special-Status Plants

As shown in **Table 3.4-1**, the CNDDB identified 30 special-status plant species, and three lichen species known to occur within a five-mile radius of the study area. Although 2016 was a drought year, sufficient rain fell to initiate germination and growth of annual plants in the study area. Surveys in 2016 identified one CRPR 1B plant species, San Luis Obispo owl's clover (*Castilleja densiflora* ssp. *obispoensis*) growing in areas of native bunchgrass grassland habitat on the WRF site. Additional surveys conducted in March and April 2017 confirmed San Luis Obispo owl's clover was in the same general location observed in 2016. Cambria morning glory (*Calystegia subacaulis* ssp. *episcopalis*) was also identified in the study area, but it is a CRPR 4 species (a watch list) and is common throughout coastal habitats in the general area and should not be considered a rare plant. Surveys to date did not detect any additional special-status plants in the study area.

The majority of the special-status plant species identified by the CNDDB have highly specialized habitat requirements (i.e., they occur on serpentine rock outcrops and serpentine derived soils, active and stabilized coastal dunes, in maritime chaparral, or in brackish marsh habitats, etc.) that do not occur within the study area. Although coastal sand dunes, and the Morro Bay estuary are in relatively close proximity to the study area, they are not present onsite. In addition, the rock

outcroppings identified onsite were not strongly influenced by serpentine material, and were carefully searched for any serpentine endemic species. Upslope outside the study area where serpentine rock outcrops were observed were inspected to confirm serpentine endemic species are present in the area, just not within the study area developed for the proposed project.

Species identified in the area by the CNDDB that are known to occur on serpentine based soils such as La Panza mariposa lily (*Calochortus obispoensis*), Jones layia (*Layia jonesii*), Betty's Dudleya (*Dudleya abramsii* ssp. *bettinae*), and most beautiful jewel flower (*Streptanthus albidus* ssp. *peramoenus*) were not observed in the study area. The gently sloping hills with clay soils dominated by weedy non-native annual grasses and forbs do not provide suitable habitat for these serpentine endemic species. Similarly, special-status plants known to occur in coastal salt marsh habitat such as salt marsh bird's beak (*Chloropyron maritimum* ssp. *maritimum*) and California seablite (*Suaeda californica*) are not present due to lack of suitable habitat. In addition, a number of species identified in the database search are known from higher elevations in the Santa Lucia Mountains such as San Benito fritillary (*Fritillaria viridea*) and Cuesta Ridge thistle (*Cirsium occidentale* var. *lucianum*). Due to the lack of suitable habitat and range restrictions, these species are not expected to occur onsite.

Perennial shrubs such as Arroyo de la Cruz manzanita (*Arctostaphylos cruzen*sis), Morro manzanita (*Arctostaphylos morroensis*), dacite manzanita (*Arctostaphylos tomentosa* ssp. *daciticola*), and Indian Knob mountainbalm (*Eriodictyon altissimum*) were not observed during surveys, and would have been identifiable at the times that field surveys were conducted. As such, those species are not expected to occur onsite or be affected by the proposed project. Moreover, black-flowered figwort (*Scrophularia atrata*), an herbaceous perennial species was not observed during field surveys of the study area, and is not expected to occur onsite.

Coastal dune species known from the region such as beach spectaclepod (*Dithyrea* marit*i*ma), Blochman's leafy daisy (*Erigeron blochmaniae*), coast woolly-heads (*Nemacaulis denudata*), and coastal goosefoot (*Chenopodium littoreum*) occur in sand dune habitats not found in the study area. While coastal sands are mapped in the western part of the study area, they are in currently developed or disturbed areas that would not support these species. No impacts to suitable habitat for these species would occur since the preferred and proposed project sites are separated from the immediate coastline and does not contain dune habitat.

The survey efforts identified one special-status plant, San Luis Obispo owl's clover, in native grassland habitat on the WRF site. Two medium-sized occurrences (estimated at approximately 200 plants total on 0.48 acres) were observed in distinct patches where purple needlegrass was dominant and non-native annual grasses were less dense. As previously stated, Cambria (the County) morning glory, a CRPR 4 watch list plant, was observed in scattered occurrences as a common component of the annual grassland along the proposed eastern pipeline alignment and preferred WRF site.

Special-Status Animals

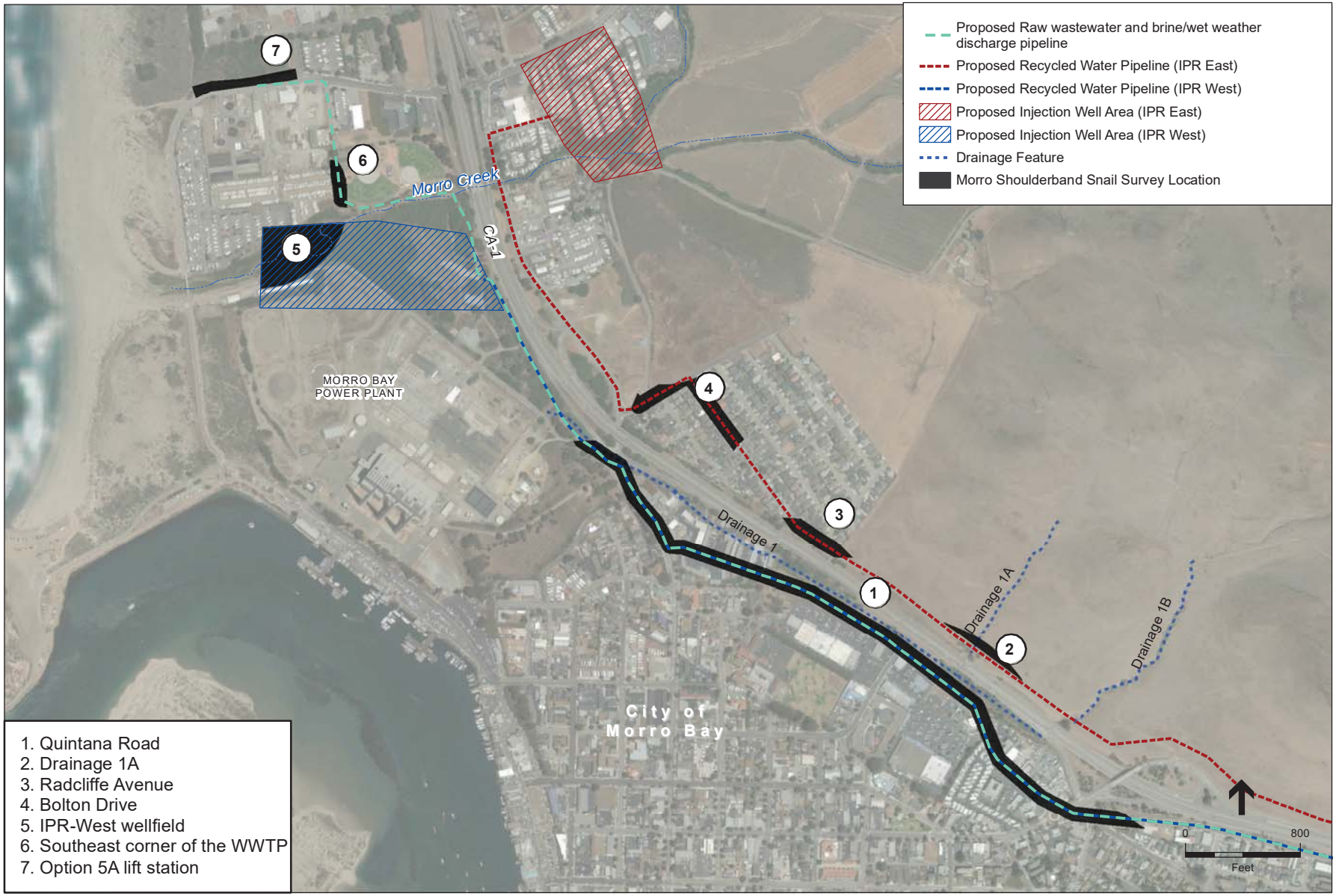
The CNDDB contained occurrence data for 24 special-status animal species known to occur within the general proposed project area. Federally designated critical habitat areas for six species

are also present within the five-mile search radius. Similar to the special-status plant discussion above, the majority of the special-status animals identified in the CNDDB search are not expected to occur in the study area due to the lack of suitable habitat and generally disturbed and urban conditions. The majority of the preferred WRF site and the proposed eastern pipeline alignment are highly disturbed from long-term grazing, and, except for patchy riparian areas, are not expected to provide suitable habitat conditions for special-status animals due to lack of habitat diversity. The proposed western pipeline alignment consists primarily of developed areas and paved roadways, and has very low habitat value for special-status animals.

Dune species, specifically the sandy beach tiger beetle (*Cicindela hirticollis gravida*) and globose dune beetle (*Coelus globosus*), may be present west or south of the study area in coastal dunes, but no true dune habitat is present within the study area even though Dune Land is mapped by the USDA as a soil type within the study area. Similarly, no habitat for shorebirds such as western snowy plover (*Charadrius alexandrinus nivosus*) and California black rail (*Rallus longirostris obsoletus*) is present since the area is separated from the immediate coastline and foredune habitat. Species such as the coast horned lizard (*Phrynosoma blainvillii*), Monarch butterfly (*Danaus plexippus*), and Morro Bay blue butterfly (*Plebejus icarioides morroensis*) also have specific habitat attributes or host plant requirements that are not present in the study area, and therefore, those species are not expected to occur.

The Morro shoulderband snail (*Helminthoglypta walkeriana*, MSS) is a federally endangered mollusk found in coastal scrub habitats on Baywood fine sand soil and Dune Lands in the Los Osos and Morro Bay areas. The species has been observed in, and has adapted to, non-native habitats such as iceplant mats and veldt grass (*Ehrharta calycina*) stands growing on sandy soils. It does not occur on other soil types such as clay. Suitable sandy soil conditions for the species are present along portions of Quintana Road and the southeast corner of the WWTP in the proposed western pipeline alignment, small portions of the proposed eastern pipeline alignment at Bolton Drive, Radcliffe Avenue, and Drainage 1A and the northwest corner of the proposed IPR West wellfield (see **Figure 3.4-7**). Although the study area is mostly developed and disturbed by urban development, areas with low growing vegetation growing on sandy soils could provide low quality habitat for the species.

The California red-legged frog (CRLF), tidewater goby (*Eucyclogobius newberryi*), southern steelhead (*Oncorhynchus mykiss irideus*), and western pond turtle (*Emys marmorata*) could potentially be present, at least on a seasonal basis, in Morro Creek at the proposed pipeline crossing locations. Species presence would be dependent on flowing or ponded water within the channel, and would likely be temporary use within the study area related to migration or foraging instead of permanent occupation since suitable breeding habitat does not appear to be present in this portion of the creek.



SOURCE: ESRI; ESA

Morro Bay Water Reclamation Facility Project . 150412

Figure 3.4-7

Morro Shoulderband Snail Survey Locations

The USFWS has identified critical habitat for steelhead and CRLF in the region, including the upstream of the study area in the Morro Creek watershed, including Little Morro Creek. The evaluation of potential aquatic special-status species occurrence onsite did not include protocol-level surveys for the two species, but did include direct observation of onsite conditions and review of biological reports and the CNDDB records documenting their presence in the Morro Creek watershed. The three ephemeral drainage features within the study area that drain to Morro Creek and Chorro Creek do not provide suitable habitat for any fish species. Since they are highly ephemeral in nature and have prolonged periods of time when no surface water is present, mobile species such as CRLF and western pond turtle would be unlikely to occur in these features within the study area.

A number of bird species are known from the general area and could potentially utilize grasslands, scrub, trees and ornamental habitats in the study area as foraging and nesting habitat, including Cooper's hawk (*Accipiter cooperii*). Other special-status bird species known from the region such as burrowing owl (*Athene cunicularia*), ferruginous hawk (*Buteo regalis*), peregrine falcon (*Falco peregrinus anatum*), golden eagle (*Aquila chrysaetos*), and white-tailed kite (*Elanus leucurus*) could potentially occur in the vicinity of the study area at some point during the year, but would not be expected to nest onsite due to the lack of suitable habitat conditions. These species are more likely to occur in undeveloped areas in the hills to the north and east of the study area, and occur in the vicinity of the study area as uncommon transients during foraging or migration periods.

Bat species such as the pallid bat (*Antrozous pallidus*) and big free-tailed bat (*Nyctinomops macrotis*) usually roost on high cliffs or rocky outcrops. While they may forage over and around the study area, there is no suitable roosting habitat onsite (man-made or natural).

American Badger *(Taxidea taxus)* could also forage on the site based on known occurrence in the general area. American badgers are known to utilize many different habitats and have a large home range. No badger activity or potential den sites were observed during surveys of the study area, and there were no large ground squirrel colonies that would provide a suitable prey base for this mobile carnivore.

As stated above, the evaluation of special-status wildlife species occurrence within the study area was based on a habitat suitability analysis coupled with direct field observations and knowledge of specific species' biology and ecological requirements. It did not include protocol surveys to determine presence or absence. Based on this analysis, it is unlikely that any special-status wildlife species would be present within the preferred WRF site, with the exception of seasonal bird nesting activity that may occur in willow scrub and grasslands.

Based on the lack of suitable habitat, aquatic species, such as CRLF, southern steelhead, tidewater goby, and western pond turtle, are unlikely to be present in or near the preferred WRF site or along the proposed pipeline alignments except at the Morro Creek crossing locations. Morro shoulderband snail could be present in vegetated sandy soil areas along portions of the eastern and western proposed pipeline alignments, but most of the area is highly disturbed and developed and provides low quality habitat. Nonetheless, formal surveys may be

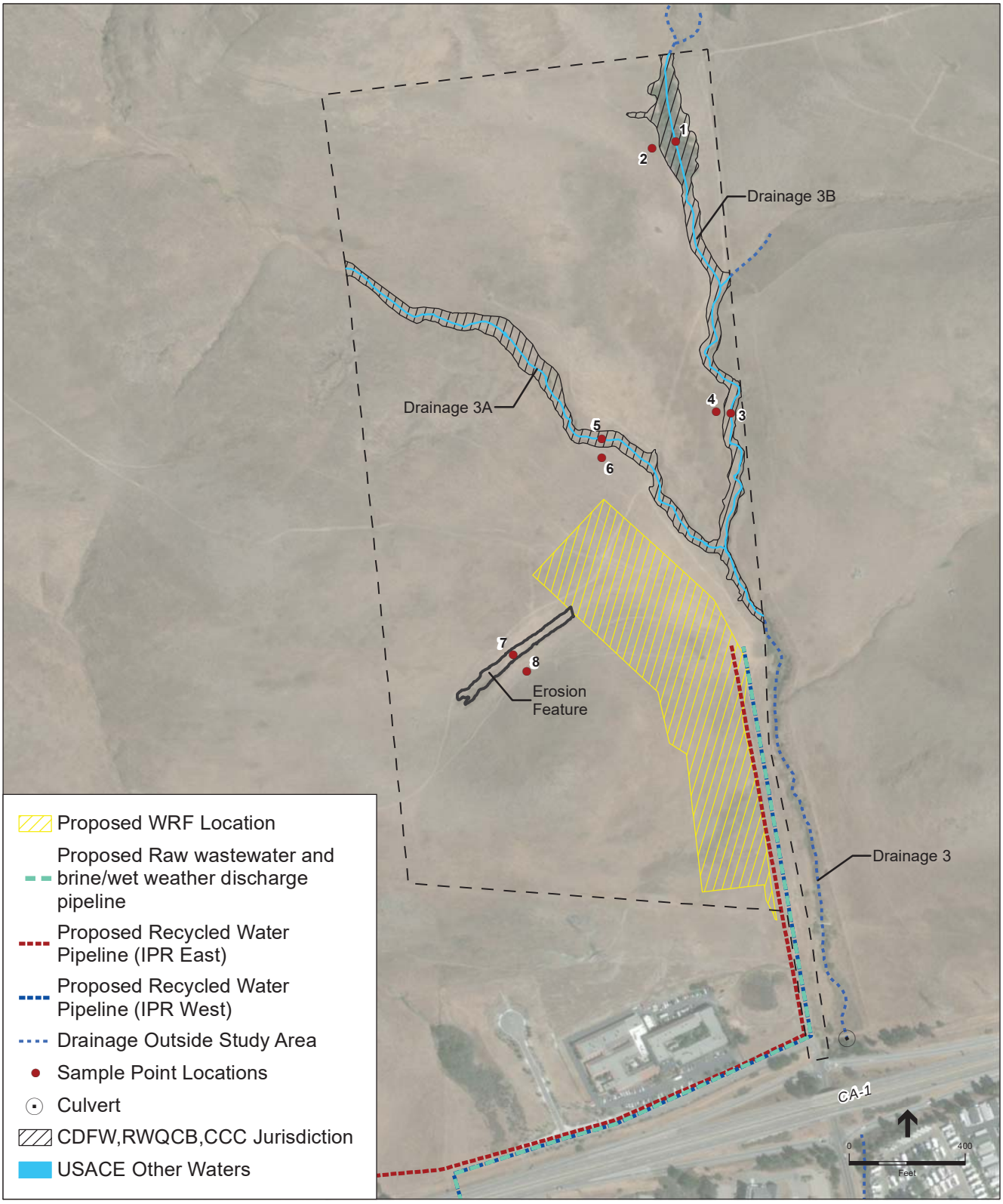
necessary for this species given the presence of iceplant and patchy coastal scrub habitats on Baywood fine sands (Figure 3.4-7).

Jurisdictional Waters

Morro Creek and three primary drainage features (labeled Drainages 1-3) are located within the study area (please refer to Figures 3.4-1 to 3.4-5). Morro Creek is a large seasonal stream that drains a watershed of approximately 15,400 acres directly to the Pacific Ocean. In the study area, riparian scrub habitat forms the primary plant cover along Morro Creek, but the channel did not support a predominance of wetland vegetation at the proposed bike path crossing area. No water was present in the channel during the summer of 2016, but high flows were observed in the winter and spring of 2017.

The National Wetland Inventory (NWI; USFWS, 2017) identifies the small drainage features bisecting or paralleling the study area as containing both riverine and wetland habitats that are tributaries to either Morro or Chorro Creeks (see Figure 3.4-1). Those small drainage features have small watersheds originating in open grasslands to the north of the study area, and drain in a generally southerly direction to culvert crossings under Highway 1. Drainage 1 flows in a northwesterly direction along Quintana Road towards Morro Creek, which then drains directly into the Pacific Ocean. A clear hydrologic connection between Drainage 1 and Morro Creek could not be identified in the field, but is anticipated to be present outside the study area on the Morro Bay Power Plant property. When present, surface water in the eastern drainages (*i.e.*, Drainages 2 and 3) flows in a generally southerly direction to Chorro Creek, which then drains into Morro Bay and ultimately the Pacific Ocean further to the west of the study area. All of the drainages exhibited well-defined bed and bank structure, and scour and deposition features were also present. Although select areas of the drainage features contained some riparian or seasonal wetland vegetation, the majority of the drainage features onsite were dominated by annual grasses, shrubs such as coyote brush, and other non-wetland plant species. Drainages 1, 2, and 3 shown on the habitat maps (Figures 3.4-2 through 3.4-5) and the jurisdictional delineation map for the WRF site (see **Figure 3.4-8**) are expected to be "jurisdictional drainages" subject to Clean Water Act and California Fish and Game Code permitting requirements for any future activities that disturb their beds or banks.

A small, isolated erosional, swale-like feature was present on the WRF site to the west of Drainage 3 (refer to Figure 3.4-8). This feature exhibited weakly defined bank features in its upper portion, and did not have any signs of periodic flowing water such as bare soils, scour, sediment or debris deposits, and shelving. No ordinary high water mark (OHWM) was visible, and the feature vanishes in upland annual grassland habitat with no identifiable hydrologic surface connection to the well-defined channel of Drainage 3 to the east. The feature supported annual grassland habitat consistent with the surrounding upland areas. Based on the lack of hydrologic connection to Drainage 3 and no visible OHWM, this erosional feature was determined to not be subject to Clean Water Act or California Fish and Game Code requirements.



SOURCE: ESRI; USFWS 2018

Morro Bay Water Reclamation Facility Project. 150412

Figure 3.4-8
Jurisdictional Delineation

3.4.2 Regulatory Framework

Federal

Endangered Species Act (USC, Title 16, § 1531 through 1543)

The Federal Endangered Species Act (FESA) and subsequent amendments provide guidance for the conservation of endangered and threatened species and the ecosystems upon which they depend. In addition, the FESA defines species as threatened or endangered and provides regulatory protection for listed species. The FESA also provides a program for the conservation and recovery of threatened and endangered species as well as the conservation of designated critical habitat that USFWS determines is required for the survival and recovery of these listed species.

Section 7 of the FESA requires federal agencies, in consultation with and assistance from the Secretary of the Interior or the Secretary of Commerce, as appropriate, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species. The U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) share responsibilities for administering the FESA. Regulations governing interagency cooperation under Section 7 are found in CCR Title 50, Part 402. The opinion issued at the conclusion of consultation will include a statement authorizing "take" (i.e., to harass, harm, pursue, hunt, wound, kill, etc.) that may occur incidental to an otherwise legal activity.

Section 9 lists those actions that are prohibited under the FESA. Although take of a listed species is prohibited, it is allowed when it is incidental to an otherwise legal activity. Section 9 prohibits take of listed species of fish, wildlife, and plants without special exemption. The definition of "harm" includes significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns related to breeding, feeding, or shelter. "Harass" is defined as actions that create the likelihood of injury to listed species by disrupting normal behavioral patterns related to breeding, feeding, and shelter significantly.

Section 10 provides a means whereby a nonfederal action with the potential to result in take of a listed species can be allowed under an incidental take permit. Application procedures are found at 50 CFR 13 and 17 for species under the jurisdiction of USFWS and 50 CFR 217, 220, and 222 for species under the jurisdiction of NMFS.

Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) establishes national policy to preserve, protect, develop, and, where possible, restore or enhance the resources of the nation's coastal zones. In accordance with Section 307(c) of the CZMA, after approval by the Secretary of Commerce of a state's management program, any applicant for a required Federal license or permit to conduct an activity in or outside of the coastal zone affecting any land or water use or natural resource of the coastal zone of that state shall provide in the application to the licensing or permitting agency a certification that the proposed activity complies with the enforceable policies of the state's approved program and that such activity would be conducted in a manner consistent with the program. The Federal government certified the California Coastal Management Program (CCMP)

in 1977. The enforceable policies of that document are Chapter 3 of the California Coastal Act of 1976. All consistency documents are reviewed for consistency with these policies.

For all of the California Coast, except San Francisco Bay, the state agency responsible for implementing the CZMA is the California Coastal Commission (CCC). The CCC is responsible for reviewing proposed Federal and Federally-licensed or permitted activities to assess their consistency with the approved CCMP. Please refer to Chapter 7, CEQA Plus Considerations, for additional information.

Migratory Bird Treaty Act (16 USC 703 through 711)

The Migratory Bird Treaty Act (MBTA) is the domestic law that affirms, or implements, a commitment by the U.S. to four international conventions (with Canada, Mexico, Japan, and Russia) for the protection of a shared migratory bird resource. The MBTA makes it unlawful at any time, by any means, or in any manner to pursue, hunt, take, capture, or kill migratory birds. The law also applies to the removal of nests occupied by migratory birds during the breeding season. The MBTA makes it unlawful to take, pursue, molest, or disturb these species, their nests, or their eggs anywhere in the United States.

Clean Water Act Section 401

Applicants for a federal license or permit for activities which may discharge to waters of the US must seek Water Quality Certification from the state or Indian tribe with jurisdiction.[1] Such Certification is based on a finding that the discharge would meet water quality standards and other applicable requirements. In California, Regional Water Quality Control Boards (Regional Boards) issue or deny Certification for discharges within their geographical jurisdiction. Water Quality Certification must be based on a finding that the proposed discharge would comply with water quality standards, which are defined as numeric and narrative objectives in each Regional Board's Basin Plan. Where applicable, the State Water Resources Control Board (SWRCB) has this responsibility for projects affecting waters within the jurisdiction of multiple Regional Boards. The Regional Board's jurisdiction extends to all waters of the state and all waters of the US, including wetlands.

Clean Water Act (CWA) section 401 requires that "any applicant for a federal permit for activities that involve a discharge to waters of the State, shall provide the federal permitting agency a certification from the State in which the discharge is proposed that states that the discharge would comply with the applicable provisions under the federal Clean Water Act." Therefore, before the United States Army Corps of Engineers (Corps) would issue a Section 404 Permit, applicants must apply for and receive a Section 401 Water Quality Certification from the Regional Board.

Clean Water Act Section 404

CWA section 404 requires a permit be obtained from the Corps prior to the discharge of dredged or fill materials into any "waters of the United States or wetlands." Waters of the US are broadly

[1] Title 33, United States Code, Section 1341; Clean Water Act Section.

defined in the Corps regulations to include navigable waterways, their tributaries, lakes, ponds, and wetlands.[2] Wetlands are defined as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that normally do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." Wetlands that are not specifically exempt from Section 404 regulations (such as drainage channels excavated on dry land) are considered to be "jurisdictional wetlands." In a recent Supreme Court Case, the Court acted to limit the Corps' regulatory jurisdiction under CWA section 404, as it applies to adjacent waters. Specifically, the Court ruled that waters that are non-navigable, isolated, and intrastate are not subject to the Corps jurisdiction. The Corps are required to consult with the USFWS, Environmental Protection Agency, and Regional Board, among other agencies, in carrying out its discretionary authority under Section 404.

The Corps grants two types of permits, individual and nationwide. Project-specific individual permits are required for certain activities that may have a potential for more than a minimal impact and necessitate a detailed application. The most common type of permit is a nationwide permit. Nationwide permits authorize activities on a nationwide basis unless specifically limited, and are designed to regulate with little delay or paperwork certain activities having minimal impacts. Nationwide permits typically take two to three months to obtain, whereas individual permits can take a year or more. To qualify for a nationwide permit, specific criteria must be met. If the criteria restrictions are met, permittees may proceed with certain activities without notifying the Corps. Some nationwide permits require a pre-construction notification before activities can begin.

State

California Coastal Act §30000 et seq.

California Coastal Act (Coastal Act) Chapter 3 contains policies to: protect water quality and the biological productivity of coastal waters (Public Resources Code [PRC] section 30231); avoid and minimize dredging, diking, and filling sediments (PRC section 30233); and mitigate wetland impacts (PRC section 30607.1). The Coastal Act established the CCC and created a state and local government partnership to ensure that public concerns regarding coastal development are addressed.

In addition, under the Coastal Act "environmentally sensitive area means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments" (PRC section 30107.5).

2 Title 33, United States Code, Section 328; Definition of Waters of the United States.

The Coastal Act requires that jurisdictions protect Environmentally Sensitive Habitat Areas (ESHA). Specifically, PRC section 30240 states:

- Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas.
- Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade such areas, and shall be compatible with the continuance of such habitat areas.

The Coastal Act generally protects ESHAs where they exist and also protects "against any significant disruption of habitat values." Coastal Act section 30007.5 states where there is a conflict between policies that:

> *be resolved in a manner, which on balance is the most protective of significant coastal resources. In this context, the Legislature declares that broader policies which, for example, serve to concentrate development in close proximity to urban and employment centers may be more protective, overall, than specific wildlife habitat and other similar resource policies.*

California Code of Regulations Title 14

The California Department of Fish and Wildlife administers 14 California Code of Regulations (CCR) 14 sections 2050 through 2098 to list California plant and animals declared as rare, threatened, and endangered.

California Endangered Species Act

State-listed threatened and endangered species are protected under provisions of the California Endangered Species Act (CESA). Activities that may result in "take" of individuals (defined in CESA as to "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill") are regulated by the CDFW. Habitat degradation or modification is not included in the definition of "take" under CESA. Nonetheless, CDFW has interpreted "take" to include the destruction of nesting, denning, or foraging habitat necessary to maintain a viable breeding population of protected species.

The State of California considers an endangered species as one whose prospects of survival and reproduction are in immediate jeopardy. A threatened species is considered as one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management. A rare species is one that is considered present in such small numbers throughout its range that it may become endangered if its present environment worsens. State threatened and endangered species are fully protected against take, as defined above.

The CDFW has also produced a Species of Special Concern list to serve as a species watch list. Species on this list are either of limited distribution or their habitats have been reduced substantially, such that a threat to their populations may be imminent. Species of special concern

may receive special attention during environmental review, but they do not have formal statutory protection.

California Environmental Quality Act

CEQA Guidelines section 15380 independently defines "endangered" and "rare" species separately from the CESA definitions. Under CEQA, "endangered" species of plants or animals are defined as those whose survival and reproduction in the wild are in immediate jeopardy, while "rare" species are defined as those who are in such low numbers that they could become endangered if their environment worsens. The California Native Plant Society (CNPS) created six California Rare Plant Ranks (CRPR) in an effort to categorize degrees of concern for rare plant species. Those include taxa, which meet the criteria for listing under CESA, even if not currently included on any list, as described in Section 15380. All CRPR 1 and 2, and some Rank 3 and 4 plants, may fall under Section 15380.

Fish and Game Code Sections 3503, 3503.5, 3511, 3513, 4700, 5050, and 5515

The CDFW administers the California Fish and Game Code (FGC). There are particular FGC sections that are applicable to natural resource management. For example, FGC section 3503 makes it unlawful to destroy the nests or eggs of any birds that are protected under the MBTA. Furthermore, any birds in the orders Falconiformes or Strigiformes (Birds of Prey, such as hawks, eagles, and owls) are protected under Code Section 3503.5, which makes it unlawful to take, possess, or destroy their nest or eggs. A consultation with CDFW would be required prior to the removal of any bird of prey nest that may occur on a survey area. Code Section 3511 lists fully protected bird species, where the CDFW is unable to authorize the issuance of permits or licenses to take these species. Examples of species that are State fully protected include golden eagle (*Aquila chrysaetos*) and white-tailed kite (*Elanus leucurus*). Code Section 3513 makes it unlawful to take or possess any migratory nongame bird as MBTA designated or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under MBTA provisions. Code Section 4700, 5050, and 5515 designate fully-protected species and prohibit any take of their habitat unless for scientific purpose.

Fish and Game Code Section 1602

FGC section 1600 *et seq*. applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the State. FGC section 1602 establishes a fee-based process to ensure that projects conducted in and around lakes, rivers, or streams do not adversely impact fish and wildlife resources, or, when adverse impacts cannot be avoided, ensures that adequate mitigation and/or compensation is provided. Pursuant to FGC section 1602, a notification must be submitted to the CDFW for any activity that would divert or obstruct the natural flow or alter the bed, channel, or bank (which may include associated biological resources) of a river or stream or use material from a streambed. This includes activities taking place within rivers or streams that flow perennially or episodically and that are defined by the area in which surface water currently flows, or has flowed, over a given course during the historic hydrologic regime, and where the width of its course can reasonably be identified by physical and biological indicators.

Fish and Game Code Section 1900 et seq.

The California Native Plant Protection Act of 1977 is incorporated into FGC section 1900 *et seq*. The FGC section 1900 et seq. designates rare, threatened, and endangered plants in the State of California in order to preserve, protect, and enhance these plants. FGC section 1930 *et seq.* designates significant natural areas including refuges, riparian areas, and vernal pools.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act is the principal law governing water quality regulation in California (California Water Code §13000 *et seq*.). 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 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 Regional Water Quality Control Board regulates discharges under the Porter-Cologne Act primarily through issuance of NPDES permits for point source discharges and waste discharge requirements (WDRs) for nonpoint source discharges. Anyone discharging or proposing to discharge materials that could affect water quality (other than to a community sanitary sewer system regulated by an NPDES permit) must file a report of waste discharge. The Porter-Cologne Act applies to the Project since grading, filling, and other construction-related activities could affect the water quality of waters of the State.

Local

Morro Bay National Estuary Program

The Morro Bay National Estuary Program seeks to identify a network of interconnected lands to focus conservation efforts that provide critical habitat for sensitive species; high biodiversity patterns; essential ecosystem services and functions; and provide the greatest opportunity for biodiversity to adapt naturally in a changing and variable environment. In order to do this, the Program has identified the following needs for biological resources that are pertinent to the proposed project:

- Support the maintenance and enhancement of in-stream habitat for freshwater aquatic species, including but not limited to streambed composition, stream geomorphology, water quality, and water temperature.
- Support the maintenance and enhancement of riparian corridors and native riparian vegetation and the implementation of projects to advance bank stabilization, floodplain restoration, and stream geomorphology restoration.

- Promote wetlands protection and enhancement by supporting appropriate regulatory standards and by encouraging effective management.
- Identify the most valuable wetlands areas to provide buffer areas and transition habitats and to create functional connections between ecologically important areas.
- Support installation of new and help maintain existing sediment traps to reduce sediment delivery to Morro Bay. Support efforts to reduce erosion from sediment source areas, such as gullies and bank failures.
- Support conservation and restoration of ecologically significant upland habitats, including but not limited to dunes scrub, maritime chaparral, oak woodlands, and native perennial grasslands and support their preservation and enhancement.
- Develop a better shared understanding of population dynamics of special status species populations in the estuary and watershed.
- Support the removal of barriers to steelhead migration and the enhancement and maintenance of in-stream habitat for steelhead and other aquatic species.

County of San Luis Obispo General Plan

Estero Area Plan/Certified Local Coastal Program

The Estero Area Plan is consistent with the intent and policies of the Coastal Act and the County LCP. All other county plans, policies and programs that involve the Estero Planning Area and are subject to the LCP are to be consistent with and implement this plan. For the Morro Bay estuary and its watershed, the Estero Plan provides the following policies that are applicable to the proposed project:

- Slow the process of bay sedimentation. Keep Chorro and Los Osos Creeks and other watercourses free of excessive sediment and other pollutants to maintain fresh water flow into the estuary, nurture steelhead and support other plant and animal species.
- Implement provisions of Total Maximum Daily Loads (TMDLs) as they are developed for Chorro Creek, Los Osos Creek and the Morro Bay estuary consistent with Regional Board requirements.
- Where appropriate, continue to obtain open space easements for sensitive wetlands and bayfront areas, and encourage other agencies and conservation organizations to obtain open space and conservation easements and fee title to these areas.

Conservation/Open Space Element

The Conservation and Open Space Element of the County General Plan is a tool to protect and preserve these unique community resources. Conservation is the planned management, preservation, and wise utilization of natural resources and landscapes to ensure their availability in the future. The following goals for biological resources have been identified in the Conservation and Open Space Element:

- Native habitat and biodiversity will be protected, restored, and enhanced.
- Threatened, rare, endangered, and sensitive species will be protected.
- Maintain the acreage of native woodlands, forests, and trees at 2008 levels.

- The natural structure and function of streams and riparian habitat will be protected and restored.
- Wetlands will be preserved, enhanced, and restored.
- The County's fisheries and aquatic habitats will be preserved and improved.
- Significant marine resources will be protected.

County of San Luis Obispo Coastal Zone Land Use Ordinance (Title 23 of the San Luis Obispo County Code)

The County Coastal Zone Land Use Ordinance (CZLUO) was created to implement the County General Plan and the County Local Coastal Program, and to guide and manage the future growth of the county in accordance with those plans. As such, all development and land divisions within or adjacent to an ESHA shall be designed and located in a manner which avoids any significant disruption or degradation of habitat values. That standard requires any project which has the potential to cause significant adverse impacts to an ESHA be redesigned or relocated so as to avoid the impact, or reduce the impact to a less than significant level where complete avoidance is not possible. In those cases, where development within the ESHA cannot be avoided, the development shall be modified as necessary so that it is the least environmentally damaging feasible alternative. Development shall be consistent with the biological continuance of the habitat.

In order to preserve and protect the natural hydrological system and ecological functions of coastal streams and adjacent riparian areas, the following applicable provisions are stated in the CZLUO:

- Development adjacent to a coastal stream shall be sited and designed to protect the habitat and shall be compatible with the continuance of such habitat.
- New development shall be setback from the upland edge of riparian vegetation the maximum amount feasible. In the urban areas this setback shall be a minimum of 50 feet. In the rural areas this setback shall be a minimum of 100 feet. A larger setback will be preferable in both the urban and rural areas depending on parcel configuration, slope, vegetation types, habitat quality, water quality, and any other environmental consideration.
- Vegetation that is rare or endangered, or that serves as habitat for rare or endangered species shall be protected. Development shall be sited to minimize disruption of habitat.

While native grasslands dominated by purple needlegrass are relatively common in the general area, the small occurrences of native bunchgrass grassland on the WRF site were intermixed with San Luis Obispo owl's clover, a special status plant, and therefore should be considered ESHA.

City of Morro Bay's Coastal Land Use Plan (Chapter XII. Environmentally Sensitive Habitat Areas)

The City's Coastal Land Use Plan (Chapter XII. Environmentally Sensitive Habitat Areas) and associated Coastal Act policies define ESHA as "areas in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments." Sensitive habitat areas are identified using specific criteria developed under the

Coastal Act. Those resources that meet one or more of the following criteria are typically designated as ESHA:

1. Unique, rare or fragile communities which should be preserved to ensure their survival in the future;
2. Rare and endangered species habitats that are also protected by state and federal laws;
3. Specialized wildlife habitats which are vital to species survival;
4. Outstanding representative natural communities which have an unusual variety or diversity of plant and animal species; and
5. Areas with outstanding educational values that should be protected for scientific research and education uses now and in the future.

Subdivision 30240(a) of the Coastal Act states: "Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas. (b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade such areas, and shall be compatible with the continuance of such habitat areas." Therefore, to be consistent with City policies relating to the protection of ESHA, any future development footprint should avoid and setback or buffer the natural drainage features, native bunchgrass grassland, and riparian habitats. City policy requires a 100-foot setback from the limits of stream ESHA in rural areas and 50-foot in urban areas, but the policy also provides the potential for a project to have a reduced setback from stream ESHA, but in no circumstances is the setback to be reduced greater than 50%.

City of Morro Bay's City Tree Regulations

No person other than the Director of Public Works or his or her duly authorized agent or deputy shall cut, trim, prune, spray, brace, plant, move or remove, or replace any public tree in any public right-of-way within the city, or shall cause the same to be done, unless and until a written permit to do so shall have been first obtained from the director of public services. Any such permit may be declared void by the director of public services if its terms are violated.

3.4.3 Impacts and Mitigation Measure

Significance Criteria

Appendix G of the *CEQA Guidelines* recommends significance criteria for the evaluation of impacts related to biological resources in the study area. Those same criteria are provided below. This Draft EIR assumes implementation of the proposed project would have a significant impact related to biological resources if it would:

- 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 CDFW or USFWS
- 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 CDFW or USFWS

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means
- 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
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance
- Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP

Methodology

A direct impact would occur if a modification, disturbance, or destruction of biological resources would result from project-related activities, such as the removal of habitat. An indirect impact would occur if project-related development would indirectly affect protected plant and wildlife species or habitat, such as through the introduction of noise levels substantially exceeding existing conditions on nesting sites in adjacent areas.

Impact Analysis

Special Status Species

Impact 3.4-1: Ground disturbing activities during construction of the proposed project could have impacts to special status plant and wildlife species, including Morro shoulderband snail, American badger, and nesting birds, as well as indirect impacts to special status plant species such as San Luis Obispo owl's clover. Pre-construction surveys will be conducted to determine presence or absence of species prior to initiation of construction activities. If species are present, measures to avoid or relocate individuals or avoid nests would be implemented to mitigate potential adverse impacts. This is a Class II impact, Less than Significant with Mitigation.

Special Status Plants

The study area contains two occurrences of the San Luis Obispo owl's clover, a CRPR List 1B species, that are outside the proposed development footprint. Native bunchgrass grasslands observed on portions of the preferred WRF site are also outside the development footprint, and would not be impacted by the proposed project. The Cambria morning glory is present in annual grasslands throughout the eastern pipeline alignment as well as at the preferred WRF site. That is a watch list (CRPR 4) species and typically does not meet the CEQA thresholds used to define rarity (please refer to Section 15380 of CEQA). Although no direct impacts are expected, indirect impacts to special-status plants during construction of the WRF could result in potentially significant impacts.

In order to minimize potential indirect impacts to special-status plant species, implementation of construction worker environmental awareness training and best management practices as described in **Mitigation Measure BIO-1 and BIO-2** would ensure potential impacts to special status plants are less than significant.

Special Status Wildlife

Aquatic species, such as CRLF, southern steelhead, tidewater goby, and western pond turtle, may be present on a seasonal basis at the pipeline crossings of Morro Creek. As stated in Chapter 2, Project Description, trenchless construction methods would be used to install the conveyance pipelines across sensitive features, including Morro Creek. Implementation of trenchless construction methods would avoid direct impacts to Morro Creek and to these aquatic species. As such, direct impacts to those special status wildlife species and their associated habitat are not expected.

Although no direct impacts are expected, indirect impacts to special-status wildlife species could result due to construction activities in and around Morro Creek, which could result in potentially significant impacts. In order to minimize potential indirect impacts to special-status wildlife and associated habitat, implementation of construction worker environmental awareness training and best management practices as described in **Mitigation Measure BIO-1 and BIO-2** would ensure potential impacts to special status wildlife are less than significant.

Morro Shoulderband Snail. As currently designed, portions of the western and eastern proposed pipeline alignments, and the northwest corner of the proposed IPR West wellfields, contain Baywood fine sand soils or dunes, and areas of non-native plants along road shoulders that could provide habitat for the federally-protected Morro shoulderband snail (MSS). Suitable sandy soil conditions for the species are present along portions of Quintana Road and adjacent to the southeast corner of the WWTP in the proposed western pipeline alignment, small portions of the eastern pipeline alignment at Bolton Drive and Radcliffe Avenue a portion of the proposed eastern pipeline alignment at Drainage 1A and the northwest corner of the proposed IPR West wellfield (see Figure 3.4.7). Those areas are mostly developed and disturbed by urban development; however, areas with low growing vegetation growing on sandy soils could provide low quality habitat for the species such that MSS could potentially occur in these areas. Construction-related ground disturbance could result in take of MSS and would be a potentially significant impact.

In addition, MSS have been previously identified in an undeveloped parcel near the existing WWTP, between Atascadero Road and the Morro Bay High School. That property is adjacent to, but outside, the proposed project impact area; however, an adjacent dirt parking area on Atascadero Road is likely to be used during project construction and is the location for the proposed lift station Option 5A. Construction on, or use of, the dirt parking area opposite the existing WWTP during wet weather could impact MSS if individuals enter the work area, and would be a potentially significant impact.

To avoid take of MSS during project construction, during design of the project components, surveys would be conducted in areas with potential habitat. The survey information will be used to locate facilities to avoid MSS habitat. If avoidance of MSS habitat is not feasible, then protocol surveys would be conducted to determine if MSS are present. If MSS are present, then consultation with the USFWS would be conducted as appropriate and MSS individuals would be relocated from project areas as necessary. **Mitigation Measure BIO-3** outlines all steps to be taken to ensure impacts to MSS are avoided during project construction. Once project facilities

are built, there would be no long-term impacts to MSS due to project operation. With implementation of Mitigation Measure BIO-3, impacts would be less than significant.

American Badger. The American badger was determined to have potential to occur on the preferred WRF site and in portions of the proposed eastern pipeline alignment, due to presence of grassland habitats, water, and a prey base of California ground squirrels and pocket gophers in the general region. The American badger is a California Species of Special Concern. Because of the limited impact area, the degree of habitat diversity in the region, and the amount of open space surrounding these proposed project components, potential impacts to American badger would only be anticipated to occur during initial construction activities, with no impacts expected during operation. During initial ground disturbance, construction activities may could result in direct harm to badger or destruction of badger dens due to the operation of heavy equipment for purposes of clearing and grading of the preferred WRF site and proposed pipeline alignments. That is a potentially significant impact.

To avoid impacts to the American badger during project construction, first preconstruction surveys would be conducted in areas with potential habitat, to confirm presence or absence prior to initiating construction activities. If badger are present, or active badger dens are found, then measures will be taken to either avoid dens or to discourage badgers from using dens. **Mitigation Measure BIO-4** outlines all steps to be taken to ensure impacts to American badgers are avoided during project construction. Once project facilities are built, there would be no long-term impacts to American badgers due to project operation. With implementation of Mitigation Measure BIO-4, impacts would be less than significant.

Nesting Birds

The removal of vegetation during proposed project construction could result in direct impacts to nesting birds if any are present. In addition, indirect impacts to birds nesting in the vicinity of the proposed disturbance could result from construction activities. Nesting activity typically occurs from February 1 to August 31 for songbirds and from January 15 to August 31 for raptors. Disturbing or destroying active nests is a violation of the Migratory Bird Treaty Act. In addition, nests and eggs are protected under FGC sections 3503 and 3503.5. As such, direct impacts (removal of active nests) and indirect impacts (e.g. by noise causing abandonment of the nest) to nesting birds would be considered a potentially significant impact.

To avoid impacts to nesting birds, the initiation of construction activities within annual grassland habitat and the removal of any trees would occur outside of the nesting season if feasible. If not feasible, then preconstruction surveys for active nests would be required. If active nests are found, measures would be taken to establish a buffer around nests where no project construction activities would occur until nesting activities have ceased, as determined by a qualified biologist. **Mitigation Measure BIO-5** outlines all steps to be taken to ensure impacts to nesting birds are avoided during project construction. Once proposed project facilities are built, there would be no long-term impacts to nesting birds due to project operation. With implementation of Mitigation Measure BIO-5, impacts would be less than significant.

Mitigation Measures

BIO-1: Construction Worker Environmental Awareness Training and Education Program. Prior to the commencement, and for the duration of proposed construction activities, all construction workers shall attend an Environmental Awareness Training and Education Program, developed and presented by the Lead Biologist. The Training and Education shall include:

1. The program shall include information on San Luis Obispo owl's clover and the life history of steelhead, CRLF, MSS, and other raptors; nesting birds; as well as other wildlife and plant species that may be encountered during construction activities. The program will also include descriptions of sensitive habitats (drainages, riparian habitat, and wetlands) and The program shall also discuss the legal protection status of each species and sensitive habitat, the definition of "take" under the Federal Endangered Species Act and California Endangered Species Act, measures the project proponent is implementing to protect each species and sensitive habitat, reporting requirements, specific measures that each worker shall employ to avoid take of wildlife species and sensitive habitats, and penalties for violation of the Federal Endangered Species Act or California Endangered Species Act.
2. An acknowledgement form signed by each worker indicating that Environmental Awareness Training and Education Program has been completed would be kept on record;
3. A sticker shall be placed on hard hats indicating that the worker has completed the Environmental Awareness Training and Education Program. Construction workers shall not be permitted to operate equipment within the construction areas unless they have attended the Environmental Awareness Training and Education Program and are wearing hard hats with the required sticker;
4. A copy of the training transcript, training video or informational binder for specific procedures shall be kept available for all personnel to review and be familiar with as necessary.
5. The construction crews and contractor(s) shall be responsible for unauthorized impacts from construction activities to sensitive biological resources that are outside the areas defined as subject to impacts by project permits.

BIO-2: Avoidance and Protection of Biological Resources. During proposed construction, operations and maintenance, and decommissioning the City and/or contractor shall implement the following general avoidance and protective measures:

1. All proposed impact areas, including staging areas, access routes, and disposal or temporary placement of spoils, shall be delineated with stakes and/or flagging prior to construction to avoid natural resources where possible. Construction-related activities outside of the impact zone shall be avoided.
2. The project proponent shall limit the areas of disturbance to the maximum extent that is practicable. Parking areas, new roads, staging, storage, excavation, and disposal site locations shall be confined to the smallest areas possible. These areas shall be flagged and disturbance activities, vehicles, and equipment shall be confined to these flagged areas.
3. Riparian habitat, drainages, and wetlands will be flagged and signed to restrict project access into these areas.

4. Spoils shall be stockpiled in disturbed areas that lack native vegetation. Best Management Practices shall be employed to prevent erosion in accordance with the project's approved Stormwater Pollution Prevention Plan (SWPPP; as described in Chapter 3.9).
5. To prevent inadvertent entrapment of American badgers or other wildlife during construction, all excavated, steep-walled holes or trenches shall be covered with plywood or similar materials at the close of each working day, or provided with one or more escape ramps constructed of earth fill or wooden planks. If trapped animals are observed, the appropriate agency shall be consulted and escape ramps or structures shall be installed immediately to allow escape. If a listed species is trapped, the U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife shall be contacted immediately.
6. Vehicular traffic to and from the project site shall use existing routes of travel. Cross country vehicle and equipment use outside designated work areas shall be prohibited.
7. Workers shall be prohibited from bringing pets and firearms to the project site and from feeding wildlife.
8. Intentional killing or collection of any plant or wildlife species shall be prohibited.

BIO-3: Morro Shoulderband Snail. The following mitigation measures shall be implemented to avoid or minimize impacts to Morro shoulderband snail (MSS):

1. During project design, if project components would be located in areas determined to have soils and vegetation that could support MSS (e.g., see Figure 3.4-7), then a qualified biologist shall conduct a survey to delineate the extent of potential habitat. The survey information shall be incorporated into the project design such that facilities are located to avoid potential MSS habitat. The following project components have either been mapped as Baywood fine sands or dunes, or are in areas adjacent to known populations (see Figure 3.4.7):
    - Option 5A lift station adjacent to Atascadero Road;
    - the western pipeline alignment adjacent to the southeast corner of the WWTP;
    - a portion of the eastern pipeline alignment at Drainage 1A; and
    - the northwest corner of the IPR-West wellfield.
2. For pipeline alignments or other project components that are sited in areas adjacent to vegetated areas that have capacity to support MSS, silt fencing shall be installed, under the direction of a qualified biologist, to restrict project activities into these areas and to deter MSS movement into the project area.
3. If avoidance of MSS habitat is not feasible, then protocol levels surveys for MSS shall be conducted to determine presence/absence and distribution of MSS. Surveys shall be conducted by a biologist in possession of a valid recovery permit for the species. If the survey results are negative, the City shall request a concurrence determination for the project based on absence of the species. Coordination with USFWS during project design may facilitate receipt of a concurrence determination.
4. If survey results are negative and a concurrence authorization is granted, then vegetation shall be removed under supervision of the permitted biologist, and the site(s) shall be graded/grubbed down to bare mineral soil, and bordered with silt fence to preclude MSS from subsequently entering the area(s).

5. If live MSS are found within areas proposed for impact, then consultation with USFWS will be necessary and the issuance of a Biological Opinion (B.O.) may be required to allow individuals to be moved out of project areas prior to construction. A permitted biologist must be retained to move MSS per the B.O. requirements, and to monitor vegetation clearing activities occurring within the MSS habitat area(s).
6. If equipment use, materials stockpiling, lift station construction, or any other uses are proposed on the north side of Atascadero Road opposite the existing WWTP, then all such areas shall be delineated by installation of silt fencing to create a barrier between potential MSS habitat and project activities. If fenced areas are utilized during or immediately following rain events or dense fog conditions, then a permitted biologist will survey and clear the work areas each morning prior to start of work to ensure that no MSS have entered the site.
7. Work crews will undergo an environmental training session conducted by a qualified biologist prior to start of construction activities in or adjacent to MSS habitat areas. Environmental training would inform project personnel of the constraints associated with working within and adjacent to MSS habitat, and the appropriate protocol should MSS be encountered during construction activities.

BIO-4: American Badger. A pre-construction survey for active badger dens will be conducted within the proposed construction impact footprint and surrounding accessible areas of the mapped annual grassland portions of the eastern pipeline alignment (between the WRF and Downing Street on the west; see Figures 3.4-3 through 3.4-5) and the WRF site at least two weeks prior to any ground disturbing activities. The survey will be conducted by a qualified biologist. In order to avoid potential direct impacts to adults and nursing young, no grading should occur within 50 feet of an active badger den as determined by the project biologist. Construction activities between July 1 and February 28 shall comply with the following measures to avoid direct take of adult and weaned juvenile badgers through the forced abandonment of dens:

1. A qualified biologist will conduct a focused survey at least two (2) weeks prior to the start of construction;
2. If a potential den is located that is too long to see the end, then a fiber optic scope (or other acceptable method such as using tracking medium for a three-night period) will be used to determine if the den is being actively used by a badger;
3. Inactive dens will be excavated by hand with a shovel or using a small excavator to prevent badgers from re-using them during construction.
4. Badgers will be discouraged from using currently active dens prior to the grading of the site by partially blocking the entrance of the den with sticks, debris and soil for three to five days. Access to the den shall be incrementally blocked to a greater degree over this period. This should cause the badger to abandon the den and move elsewhere. After badgers have stopped using any den(s) within the project boundary, the den(s) will be hand-excavated with a shovel or carefully excavated with the use of an excavator to prevent re-use.
5. The qualified biologist will be present during the initial clearing and grading activity. If additional badger dens are found, all work within the area will cease until the biologist can complete measures described above for inactive and active dens. Once the badger dens have been excavated, work in the area may resume.

BIO-5: Nesting Birds. The following mitigation measures are recommended to avoid or minimize impacts to nesting bird species, including special-status species and species protected by the Migratory Bird Treaty Act.

1. Any removal of trees and disturbance of annual grassland habitat will be limited to the time period between September 1 and February 14 if feasible. If tree removal and grassland impacts cannot be conducted during this time period, a qualified biologist shall conduct pre-construction surveys for active bird nests within the limits of the project.
2. If active nest sites of bird species protected under the Migratory Bird Treaty Act and/or FGC section 3503 are observed within or adjacent to the study area, then the project shall be modified and/or delayed as necessary to avoid direct take of the identified nests, eggs, and/or young. Potential project modifications may include establishing appropriate "no activity" buffers around the nest site. The buffer will be 500 feet for raptors and 250 feet for other bird species, or as otherwise determined and documented by a qualified biologist. Construction activities shall not occur in the buffer until the project biologist has determined that the nesting activity has ceased.
3. Active nests shall be documented and monitored by the project biologist, and a letter report will be submitted to the USFWS and CDFW, documenting project compliance with the MBTA and applicable project mitigation measures.

Significance Determination

Less than Significant with Mitigation

Sensitive Natural Communities

Impact 3.4-2: Construction of proposed conveyance pipelines could result in direct and indirect impacts to riparian habitat. Construction of proposed wells could impact riparian habitat associated with Morro Creek and Little Morro Creek. The proposed project would use trenchless construction methods to install pipelines across Morro Creek to avoid direct impacts, and wells would be sited in upland areas to avoid riparian habitat. Implementation of best management practices during construction would minimize indirect impacts to adjacent riparian areas. This would be a Class II impact, Less than Significant with Mitigation.

Based on biological assessment and jurisdictional delineation conducted in the study area to date, numbered drainage features are expected to be subject to Clean Water Act and California Fish and Game Code jurisdiction. The upper portion of Drainage 3B near the WRF site, Morro Creek and several areas along the western pipeline alignment on Quintana Road contained a predominance of arroyo willows creating a low canopy, riparian scrub habitat type. While not a forest community, these small patches of arroyo willow are more consistent with the Central Coast Arroyo Willow Riparian Scrub plant community described by Holland (1986) and Arroyo Willow Thickets described by Sawyer et al. (2009). The riparian scrub areas may contain areas of moist soils and pockets of seasonally ponded water, and on the WRF site were disturbed by cattle grazing. In addition, the IPR West and IPR East wellfield areas include portions of Morro Creek, Little Morro Creek, and adjacent riparian areas.

The riparian habitat near the WRF site would not be affected by the development at the site (see Figure 3.4-5 and Figure 3.4-8). The riparian vegetation would be greater than 100 feet from the footprint of disturbance by the proposed WRF, in accordance with the County's CZLUO. The riparian habitat along Quintana Road would be avoided as the pipeline in the western alignment would be installed within the right-of-way of Quintana Road. However, the riparian habitat south of Lila Keiser Park and north of Morro Creek could be indirectly impacted due to installation of the raw wastewater pipeline along the creek, including an area of restored riparian habitat consisting of planted willows, elderberry, and coast live oaks. Installation of the proposed pipeline across the creek could have direct impacts to the riparian habitat as well. In addition, the proposed IPR West and IPR East wellfield areas may contain areas of riparian habitat associated with Morro Creek (see Figure 3.4-2). Installation of proposed injection and monitoring wells and associated pipelines could directly and/or directly affect riparian habitat. These impacts would be considered potentially significant.

Construction of the proposed pipeline south of Lila Keiser Park would be sited to avoid riparian habitat adjacent to Morro Creek, as required by **Mitigation Measure BIO-6**. That would avoid direct impacts to riparian habitat. Prior to initiation of ground disturbance, measures would be implemented to identify the limits of construction adjacent to the creek and to delineate riparian areas to be avoided to prevent indirect impacts to riparian habitat. Mitigation Measure BIO-6 identifies the measures to be implemented by a qualified biologist to avoid direct and indirect construction-related impacts to riparian habitat. With implementation of Mitigation Measure BIO-6, impacts would be mitigated to less than significant levels.

As described in Chapter 2, Project Description, trenchless construction methods would be used to cross sensitive surface features such as Morro Creek; or pipelines could be installed across the creek suspended on existing bridges. **Mitigation Measure BIO-7** includes requirements for trenching to stop at least 50 feet away from jurisdictional features, such as riparian habitat, and for the remaining distance to be installed using trenchless methods such as horizontal directional drilling (HDD), to ensure impacts to riparian habitat are avoided. That measure would also ensure a buffer around riparian habitat during construction that complies with the City's Coastal Land Use Plan. With implementation of Mitigation Measure BIO-6 and BIO-7, impacts to riparian areas at the Morro Creek crossing would be less than significant.

The proposed IPR West and IPR East wellfield areas contain Morro Creek and Little Morro Creek that support riparian habitat; however, as stated in Chapter 2, Project Description, the proposed injection and monitoring wells would be located on vacant, disturbed lands owned by the City and would be sited to avoid sensitive habitat areas like riparian habitat. With implementation of **Mitigation Measures BIO-1, BIO-2, BIO-6 and BIO-7**, impacts to riparian areas within the proposed IPR-West and IPR-East wellfields would be less than significant.

Mitigation Measures

BIO-6: Riparian Habitat Avoidance. During proposed project design, a qualified biologist shall identify the project boundaries adjacent to Morro Creek and the allowable limits of construction activities to avoid direct and indirect impacts to riparian habitat. Those limits shall be used during proposed project design to identify a pipeline alignment that avoids impacts to riparian habitat as well as areas to be avoided for siting injection

and monitoring wells. During construction, the riparian boundaries and limits shall be clearly flagged or fenced so that contractors are aware of the limits of allowable site access and disturbance. Areas to be preserved should be clearly flagged as off-limits to avoid unnecessary damage and potential erosion.

BIO-7: Trenching Buffer for Jurisdictional Features. During construction of proposed project pipelines, trenching shall stop at least 50 feet away from jurisdictional features, such as the top of stream banks, riparian habitat and wetlands, and the remaining distance shall be installed using trenchless construction methods, such as horizontal directional drilling.

Significance Determination

Less than Significant with Mitigation

Wetlands

Impact 3.4-3: Construction of proposed conveyance pipelines could result in temporary impacts to wetlands associated with ephemeral drainages; construction of the proposed wells could impact adjacent wetlands associated with Morro Creek and Little Morro Creek. The proposed project would use trenchless construction methods to install pipelines across wetlands and avoid direct impacts. Siting of the wells in upland areas would avoid direct impacts to wetlands. Implementation of best management practices during construction would minimize indirect impacts to adjacent wetland areas. This would be a Class II impact, Less than Significant with Mitigation.

Based on biological assessment and jurisdictional delineation conducted in the study area to date, numbered drainage features are expected to be subject to Clean Water Act and FGC jurisdiction, as will Morro Creek and Little Morro Creek. No wetlands were identified at the proposed pipeline crossing of Morro Creek. Wetland habitat consistent with the Coastal and Valley Freshwater Marsh and Freshwater Seep described by Holland (1986) was mapped at the terminus of Drainage 1 adjacent to the western pipeline alignment as it travels along the bike path next to Quintana Road (refer to Figure 3.4-2) and where Drainage 2A crosses the eastern pipeline alignment (refer to Figure 3.4-4). Additionally, the proposed IPR West and IPR East wellfield areas contain Morro Creek and Little Morro Creek and could have adjacent wetlands that have not been identified. Trenching for pipeline installation and well construction could cause direct or indirect temporary impacts to a wetland area, which would be a potentially significant impact.

The wetlands associated with Drainage 1 are adjacent to the proposed western pipeline alignment but could be indirectly degraded by construction activities. Installation of pipelines would progress at a rate of approximately 150 feet per day on average, and as such potential impacts to these wetlands would be limited to less than one week of activity. Impacts would be avoided through construction best management practices (BMPs) that would ensure indirect impacts would not occur. As described in Chapter 3.9, Hydrology and Water Quality, the City would be required to prepare a SWPPP for the proposed project in compliance with the NPDES General Construction Permit. The SWPPP would include BMPs to control erosion, sedimentation, and

hazardous materials release. In addition, construction of the proposed project is also subject to the BMPs included in the City's Storm Water Management Plan to control runoff and protect water quality during the construction period. In accordance with the Morro Bay Municipal Code for Building Regulations—Stormwater Control (Chapter 14.48), the SWPPP would need to be approved by the City prior to commencement of construction activities. **Mitigation Measure BIO-8** includes specific BMPs to be incorporated into the SWPPP to minimize impacts to jurisdictional features. With implementation of Mitigation Measures BIO-1, BIO-2, BIO-7, and BIO-8, indirect impacts to wetlands associated with Drainage 1 would be less than significant.

As described in Chapter 2, Project Description, trenchless construction methods would be used to cross sensitive surface features such as wetlands. With implementation of such methods, impacts to wetlands at Drainage 2A would be avoided. Mitigation Measure BIO-7 includes requirements for trenching to stop at least 50 feet away from jurisdictional features, such as stream banks and wetlands, and for the remaining distance to be installed using trenchless methods such as HDD, to ensure impacts to wetlands are avoided. **Mitigation Measure BIO-9** includes the preparation of a frac-out contingency plan to deal with any inadvertent return of drilling lubricant during HDD beneath wetlands and waterways. With implementation of **Mitigation Measure BIO-1, BIO-2, BIO-7, BIO-8 and BIO-9**, impacts to wetlands at Drainage 2A would be less than significant.

The proposed IPR West and IPR East wellfield areas contain Morro Creek and Little Morro Creek that support riparian habitat and potential wetland areas; however, as stated in Chapter 2, Project Description, the proposed injection and monitoring wells would be located on vacant, disturbed lands owned by the City and would be sited to avoid sensitive habitat areas like riparian habitat and wetlands. With implementation of **Mitigation Measures BIO-1, BIO-2, BIO-7, and BIO-8**, avoidance of these features would be ensured and indirect impacts would be minimized. Impacts to wetlands within the proposed IPR West and IPR East wellfields would be less than significant.

Mitigation Measure

BIO-8: Construction BMPs to Protect Jurisdictional Features and Aquatic Habitat. The following mitigation measures should be implemented prior to and during construction near Morro Creek and Little Morro Creek, as well as Drainages 1, 1A, 1B, 2, 2A, 2B, 3, 3A, and 3B, and wetlands:

1. Prior to start of construction activities, the applicant should retain a qualified biological monitor to ensure compliance with all permit requirements and avoidance and minimization measures (i.e.: pre-construction surveys, worker environmental training, and construction monitoring) during work within and adjacent to drainage features.
2. The qualified biological monitor will conduct pre-construction surveys to identify any new wetland areas and the expansion of existing wetland to determine their limits. The results will be used in the implementation of Mitigation Measure BIO-7.
3. Prior to issuance of construction permits, an Erosion Control Plan incorporating up to date Best Management Practices should be prepared by the project engineer to minimize impacts to jurisdictional features and aquatic habitats. The plan should address installation and maintenance of both temporary and permanent measures to control erosion and dust, contain spills, protect stockpiles, and generally maintain

good housekeeping practices within the worksite. All project plans should show that erosion, sediment, and dust control measures must be installed prior to start of any ground disturbing work.

4. All applicable plans should clearly show project stockpile and materials staging areas. These areas would be at least 50 feet from drainage features, wetlands, and active storm drain inlets, and must conform to BMPs applicable for storm drain protection.
5. Prior to start of work, the contractor should prepare and implement a Spill Prevention Plan to ensure prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur. All project-related hazardous materials spills within the project site should be cleaned up immediately. Spill prevention and cleanup materials should be on-site at all times during the course of the project.
6. All refueling, maintenance, and washing of equipment and vehicles should occur on paved areas in a location where a spill would not travel onto bare ground or to a storm drain inlet. This fueling/staging area will conform to BMPs applicable to attaining zero discharge of stormwater runoff. At a minimum, all equipment and vehicles must be checked and maintained on a daily basis to ensure proper operation and avoid potential leaks or spills. Washing of equipment should occur only in a location where polluted water and materials can be contained for subsequent removal from the site.
7. A designated concrete washout location should be established onsite, in an area at least 50 feet from any drainage or storm drain inlet. The washout should be maintained and inspected weekly, and will be covered prior to and during any rain event. Concrete debris should be removed whenever the washout container reaches the 1/2 full mark.
8. BMP's for dust abatement shall be a component of the project's construction documents. Dust control requirements should be carefully implemented to prevent water used for dust abatement from transporting pollutants to storm drains leading to the creek channel.
9. During project activities, all trash that may attract predators shall be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris shall be removed from work areas.

BIO-9: Preparation of a Frac-Out Contingency Plan. A Frac-Out Contingency Plan shall be prepared prior to initiation of construction activities that involve horizontal direction drilling activities**.** The Frac-Out Plan shall be implemented during HDD construction activities. At a minimum, the Frac-Out Plan will include the following:

1. Minimize the potential for a frac-out associated with horizontal directional drilling activities
2. Provide for the timely detection of frac-outs
3. Protect areas that are considered environmentally sensitive (streams, wetlands, other biological resources, cultural resources)
4. Ensure an organized, timely, and "minimum-impact" response in the event a frac-out and release of drilling mud occurs

5. Ensure that all appropriate notifications are made to the appropriate environmental specialists immediately (e.g., qualified biological monitor), and to appropriate regulatory agencies in 24 hours and that documentation is completed.

Significance Determination

Less than Significant with Mitigation

Migratory Species and Wildlife Corridors

Impact 3.4-4: Construction of the proposed project could affect southern steelhead, a migratory fish species, in Morro Creek and its critical habitat, as well as native wildlife nursery sites in Morro Bay. Implementation of trenchless construction methods to install conveyance pipelines across Morro Creek would avoid direct impacts to steelhead and its habitat. Implementation of a Storm Water Pollution Prevent Plan and best management practices to protect water quality in ephemeral drainages that flow to Morro Creek, Chorro Creek, and Morro Bay would minimize indirect impacts to steelhead and its habitat. This is a Class II impact, Less than Significant with Mitigation.

The primary wildlife corridors in the proposed project area are Morro Creek and Chorro Creek. Seasonal habitat is present in Morro Creek and Chorro Creek for southern steelhead, a migratory species, and Morro Creek is identified by USFWS as critical habitat for the species. As described above under Impacts 3.4-1 and 3.4-2, the proposed project would not have direct impacts to Morro Creek or aquatic species in Morro Creek because trenchless construction methods would be used to install the conveyance pipelines across the creek. Implementation of Mitigation Measures BIO-7 would also ensure no indirect impacts to Morro Creek would occur during construction of the pipeline crossing by requiring trenching to stop at least 50 feet prior to the top of the stream bank.

Southern steelhead is not expected to occur in the small ephemeral drainages within the study area, but impacts to those features could have detrimental effects downstream in Morro Creek and potentially Chorro Creek and Morro Bay. Proposed project construction may temporarily affect these drainages, but no permanent alteration is expected post-construction. Overall, proposed project construction activities could expose soils and other materials to erosion or transport by rainfall and runoff that could affect water quality if allowed to enter drainages or storm drains. Soil, fuels, hydraulic fluids, and associated building materials including concrete, asphalt, paints, solvents, and other chemicals entering the drainages and washing downstream to Morro or Chorro Creek could cause an increase in suspended sediments, sedimentation of aquatic habitat, and introduce compounds that could potentially be toxic to aquatic organisms. Construction-related impacts to ephemeral drainages could result in potentially significant impacts to aquatic habitat for southern steelhead downstream in Morro Creek or aquatic habitat for native wildlife in Morro Bay.

Ensuring sediment-laden runoff does not leave the preferred and proposed project sites during construction, and that post-construction runoff is consistent with pre-construction conditions is

essential to reduce impacts to water quality. As described in Chapter 3.9, Hydrology and Water Quality, the City would be required to prepare a SWPPP for the proposed project in compliance with the NPDES General Construction Permit. The SWPPP would include BMPs to control erosion, sedimentation, and hazardous materials release. In addition, construction of the proposed project is also subject to the BMPs included in the City's Storm Water Management Plan to control runoff and protect water quality during the construction period. In accordance with the Morro Bay Municipal Code for Building Regulations—Stormwater Control (Chapter 14.48), the SWPPP would need to be approved by the City prior to commencement of construction activities. Mitigation Measure BIO-8 includes specific BMPs to be incorporated into the SWPPP to minimize impacts to water quality and ensure there are no significant impacts to aquatic habitat downstream of the ephemeral drainages within the project area. With implementation of Mitigation Measures BIO-1, BIO-2, BIO-7, BIO-8, and BIO-9, impacts to migratory wildlife or native wildlife nursery sites would be less than significant.

Mitigation Measure

Implementation of Mitigation Measures BIO-1, BIO-2, BIO-7, BIO-8, and BIO-9.

Significance Determination

Less than Significant with Mitigation

Local Policies and Ordinances

Impact 3.4-5: Construction of the proposed project could affect streams, which are designated as Environmentally Sensitive Habitat Areas. The proposed project would use trenchless construction methods to install pipelines across streams and avoid direct impacts. Implementation of best management practices during construction would minimize indirect impacts to streams. While no trees are expected to be removed, construction of the proposed project could impact protected trees within the City limits. Protection measures would be put in place to avoid impacts from construction activities. This would be a Class II impact, Less than Significant with Mitigation.

ESHA

The City Coastal Land Use Plan (CLUP) Chapter XII provides definitions of ESHA within the City limits, and identifies coastal streams and riparian areas as follows: "*A Stream or a River is a natural watercourse as designated by a solid line or dash and three dots symbol as shown on the USGS Survey map most recently published, or any well-defined channel with distinguishable bed and bank that shows evidence of having contained flowing water as indicated by scour or deposit of rock, sand, gravel, soil, or debris.*" The County also includes coastal streams and wetlands in its description of ESHA. As such, Morro Creek and the ephemeral drainages would be considered coastal stream ESHA. Construction of the proposed WRF and conveyance pipelines have the potential to result in temporary direct and indirect significant impacts to Morro Creek, ephemeral drainages, and wetlands as described above under Impact 3.4-2 and Impact 3.4-3. Implementation of **Mitigation Measures BIO-1, BIO-2, BIO-6, BIO-7, BIO-8, and BIO-9** would ensure there

are no significant impacts to Morro Creek or ephemeral drainages, and as such, impacts to ESHA would be less than significant.

While the County LCP does identify rare or unusual native plant communities as ESHA, it does not specifically state native perennial grasslands shall be protected. While native grasslands dominated by purple needlegrass are relatively common in the general area (KMA personal observation), the small occurrences of native bunchgrass grassland in the WRF site study area site were intermixed with San Luis Obispo owl's clover, a special-status plant, and therefore should be considered ESHA. However, the proposed WRF facility would be developed outside of the areas that support San Luis Obispo owl's clover and purple needlegrass, and as such its construction would not impact the ESHA.

Overall, with the implementation of **Mitigation Measures BIO-1, BIO-2, BIO-6, BIO-7, BIO-8, and BIO-9**, impacts to ESHAs would be reduced to less than significant based upon the provisions stated in the City and County LCPs. Additionally, these mitigation measures would satisfy the requirements of the County General Plan and the Morro Bay National Estuary Program.

Public Trees

Ornamental trees such as blue gum eucalyptus and Monterey cypress are present along the proposed western and eastern pipeline alignments within the City's limits. Depending on the location of the pipeline to the proposed WRF, trees may or may not be impacted. It is anticipated all trees would be avoided by the proposed project, and those within 25 feet of the limits of disturbance would have protective measures put in place to ensure they remain uninjured during the course of construction. No direct removal of protected trees is expected from the operation of the proposed project. To minimize impacts during construction, **Mitigation Measure BIO-10** will be implemented to protect any adjacent trees from construction activities. With implementation of Mitigation Measure BIO-10, impacts to protected trees would be less than significant.

Mitigation Measure

> **BIO-10: Tree Protection.** For public trees, protection will be established at a minimum distance of 1.5 times the dripline (*i.e.*, the distance from the trunk to the outermost limits of leaves and branches). During development, orange construction fencing or sufficient staking to identify the protection area will surround each tree or clusters of trees.

Significance Determination

Less than Significant with Mitigation

Habitat Conservation Plan

Impact 3.4-6: The proposed project is not located within the boundaries of a habitat conservation plan or natural community conservation plan. There would be no impact.

The proposed project is not located within any habitat conservation plan (HCP), natural community conservation plan (NCCP), or other approved local, regional, or state HCP. As such there would be no conflict with such a plan. There would be no impact.

Mitigation Measures

None required.

Significance Determination

No Impact.

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3.5 Cultural Resources

This section addresses the potential impacts of the proposed project to cultural resources in the project vicinity in accordance with the significance criteria established in Appendix G of the *CEQA Guidelines.* This section is based on the following sources:

- *Archaeological Survey Report for the Morro Bay Water Reclamation Facility Project, South Bay Boulevard, San Luis Obispo County, California* (Ruby, 2016)
- *First Supplemental Archaeological Survey Report for the South Bay Boulevard Morro Bay Water Reclamation Facility Project, San Luis Obispo County, California* (Ruby, 2017); *Summary of Cultural Resources Identification Efforts to Date for the Morro Bay New Water Reclamation Facility Project* (Kaijankoski, 2018)
- *Draft Second Supplemental Archaeological Survey Report for the Morro Bay Water Reclamation Facility Project, San Luis Obispo County, California* (Kaijankoski, 2018)
- *A paleontological database review conducted for the project by the Natural History Museum of Los Angeles County* (McLeod, 2018)

Cultural resources include prehistoric and historic sites, structures, districts, places, and landscapes, or any other physical evidence associated with human activity considered important to a culture, a subculture, or a community for scientific, traditional, religious or any other reason. Under CEQA, paleontological resources, although not associated with past human activity, are grouped within cultural resources. For the purposes of this analysis, cultural resources may be categorized into the following groups: archaeological resources, historic resources (including architectural/engineering resources), contemporary Native American resources, human remains, and paleontological resources.

3.5.1 Environmental Setting

Geologic Setting

The proposed project is located within the Coast Ranges Geomorphic Province, which extends from the Transverse Ranges in southern California to the Klamath Mountains in northern California and into Oregon. Geomorphic Provinces are large regions that display common characteristic landforms and geologic structures, which are governed by tectonics. The Coast Ranges are northwest-trending mountain ranges (2,000 to 4,000, occasionally 6,000 feet elevation above sea level), and valleys composed of sedimentary, volcanic, and metamorphic formations comprised predominantly of Jurassic and Cretaceous age rocks with Tertiary to Quaternary age rocks commonly overlying the older formations along the flanks and foothills of those ranges. Recent sediments of alluvium and colluvium are found above the rock within intervening drainages, valleys, and coastal areas. The ranges and valleys trend northwest, subparallel to the San Andreas Fault (DOC, 2002; Yeh and Associates Inc., 2017).

The proposed project is located within the City of Morro Bay (City) and in unincorporated area of the County of San Luis Obispo (County) adjacent to the City boundaries. The bedrock geology within the preferred and proposed project sites is characterized as the Cretaceous-Jurassic age Mélange of the Franciscan Complex. The Mélange is a mixture of fragmented rock masses

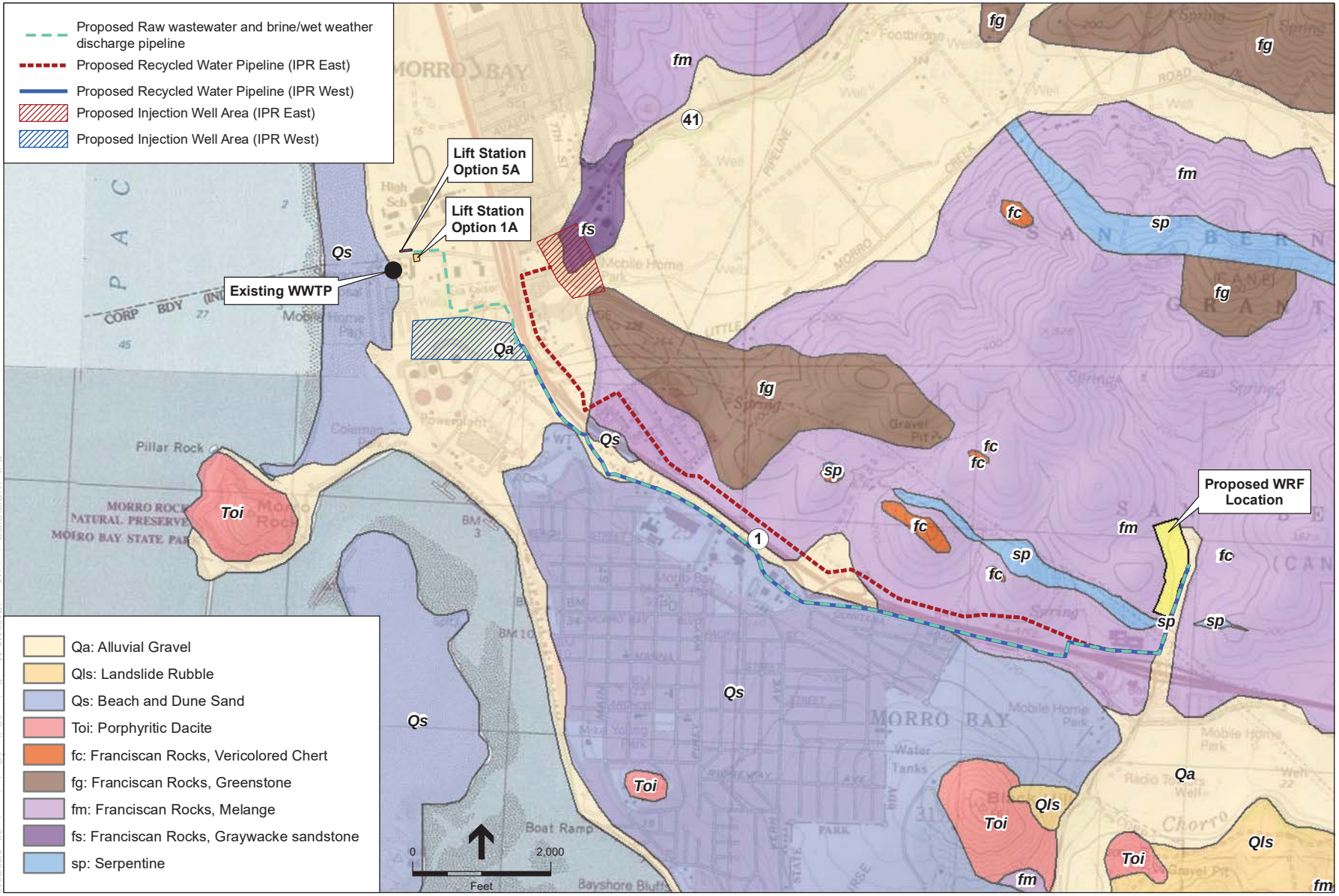
embedded in the sheared matrix of argillite and crushed metasandstone. The Mélange within the project area is mostly concealed by residual soils, colluvium, landslide deposits and alluvium. Further, Jurassic age serpentanized ultramafic rocks are generally found in east-west trending outcrops in and around the City of Morro Bay (Yeh and Associates Inc., 2017).

The preferred and proposed project sites are underlain by a variety of geologic units. **Table 3.5-1** identifies the geologic units underlying each project component and its paleontological sensitivity. **Figure 3.5-1** depicts the geology of the project site.

TABLE 3.5-1
GEOLOGIC UNITS

Project Component	Geologic Unit	Paleontological Sensitivity
WRF	Qa: Alluvial Gravel	Low; maybe underlain by higher sensitivity older sediments at depth
	fm: Franciscan Rocks, Melange	None
	sp: Serpentine	None
Lift Station	Qa: Alluvial Gravel	Low; maybe underlain by higher sensitivity older sediments at depth
Conveyance Pipelines	Qa: Alluvial Gravel	Low; maybe underlain by higher sensitivity older sediments at depth
	Qs: Beach and Dune Sands	Low; maybe underlain by higher sensitivity older sediments at depth
	fm: Franciscan Rocks, Melange	None
Injection and Monitoring Wells	Qa: Alluvial Gravel	Low; maybe underlain by higher sensitivity older sediments at depth
	fg: Franciscan Rocks, Greenstone	None
	fs: Franciscan Rocks, Graywacke sandstone	Low
WWTP	Qa: Alluvial Gravel	Low; maybe underlain by higher sensitivity older sediments at depth
	Qs: Beach and Dune Sands	Low; maybe underlain by higher sensitivity older sediments at depth

SOURCE: Dibblee Geological Foundation



SOURCE: ESRI; Dibblee Geological Foundation

Morro Bay Water Reclamation Facility Project. 150412

Figure 3.5-1

Geologic Units

Prehistoric Setting

Archaeologists have developed individual cultural chronological sequences tailored to the archaeology and material culture of each subregion of California. Each of these sequences is based principally on the presence of distinctive cultural traits and stratigraphic separation of deposits. Jones et al. (2007) provide a framework for the interpretation of the Central Coast, which encompasses the region of the California coast between San Francisco Bay in the north and Point Concepcion in the south. Jones et al. (2007) has developed a chronology for the Central Coast which is divided into the following six periods: the Paleo-Indian Period (pre-8000 B.C.), the Millingstone Period (8000 to 3500 B.C.), the Early Period (3500 to 600 B.C.), the Middle Period (600 B.C. to A.D. 1000), the Middle/Late Transition Period (1000 to 1250 A.D.), and the Late Period (A.D. 1250–1769). The periods have been largely defined on the basis of distinctive bead types; typological analysis and radiocarbon dating of Olivella beads show the bead sequence in the Monterey Bay Area as generally similar to those of the California Central Valley and the Santa Barbara coast. Economic patterns, stylistic aspects, and regional phases further subdivide cultural periods into shorter phases. That scheme uses economic and technological types, socio-politics, trade networks, population density, and variations of artifact types to differentiate between cultural periods.

Very little evidence of human habitation during the Paleo-Indian Period, characterized by big-game hunters occupying broad geographic areas, has been found along the Central Coast region. The only definitive of evidence for Paleo-Indian use of the region includes isolated finds of fluted projectile points from Nipomo, located approximately 30 miles southeast of the project, and at archeological site, CA-SLO-1429, located near Santa Margarita approximately 14 miles east of the project area.

The Millingstone Period is characterized by large numbers of handstones and/or milling slabs, crude core and cobble-core tools, large side-notched projectile points. The vast majority of Millingstone Period sites are located no further than 25 kilometers (km) from the coastlines, and many of these sites have produced quantities of marine shell indicating that coastal and estuarine environments were being exploited during this period (Jones et al. 2007). The closest Millingstone components to the project are associated with the Morro Bay Estuary, located approximately 1.25 miles south of the project.

The Early and Middle Periods are represented by the Hunting Culture (3500 B.C. to A.D. 1250), which is marked by large quantities of stemmed and notched projectile points. During the Early Period (3500 to 600 B.C.), the first cut shell beads and the mortar and pestle are documented in burials, indicating the beginning of a shift from mobility to sedentism (Jones et al., 2007). During the Middle Period, (600 B.C. to A.D. 1000), geographic mobility may have continued, although groups began to establish longer-term base camps in localities from which a more diverse range of resources could be exploited. The first rich black middens are recorded from this period. The addition of milling tools, obsidian and chert concave-base projectile points, and the occurrence of sites in a wider range of environments suggest that the economic base was more diverse and required logistical hunting techniques (Jones et al., 2007). Coastal habitation was still preferred but large Hunting Culture middens have also been identified in inland valleys.

The Late Period (A.D. 1250–1769) is distinguished from the Hunting Culture by large amounts of Desert side-notched and Cottonwood arrow points, small bifacial bead drills, bedrock mortars, hopper mortars, distinct Olivella bead types, and steatite disk beads. These assemblages represent social complexity developed toward lifeways of large, central villages with resident political leaders and specialized activity

Ethnographic Setting

At the time of European contact, the preferred and proposed project sites were occupied by two Native American groups: the Chumash and the Salinan. Detailed descriptions of the Chumash and Salinan groups are provided in the following paragraphs.

Chumash

Kroeber (1925) identifies the Chumash as "predominantly a coast people" who "were more nearly maritime in their habits than any other Californian group." Chumash territory included the Topanga and Malibu areas in the south, north to the approximate location of Morro Bay and east across the coastal range toward the San Joaquin Valley. The Santa Barbara Channel Islands (San Miguel, Santa Rosa, Santa Cruz, and Anacapa) were also included within Chumash territory. Chumash living near the preferred and proposed project area were known, by Europeans, as Obispeño Chumash, after the Mission San Luis Obispo to which many of them were relocated in the 18th century (Greenwood, 1978).

Chumash society consisted of tribal groups lead by a single chief who was responsible for the management and distribution of tribal resources. Chumash settlement sites included established village sites with large, circular residential huts of willow or pole construction and covered with tule mats or thatch. Also present within a Chumash village was a large ceremonial lodge or sweathouse. Along with more permanently settled villages, temporary short-term camps were established by the Chumash for use during resource foraging excursions.

The Chumash were a complex society with a strict social order, a well-established and prosperous system of trade, and standardized money exchange in the form of shell beads. With settlements along the Channel Islands, the Chumash were master maritime navigators, having developed the *tomol*, a wooden plank canoe, to ferry people and trade goods between the islands and the mainland. Other key cultural items representative of the Chumash are finely crafted basketry of all forms, sizes, and decorations. Chumash peoples made use of their diverse environment, capitalizing upon a wide range of natural and animal resources for food and as raw material for the crafting of function tools and non-functional, ornamental items (Kroeber, 1925). Burial practices of the Chumash involved mourning ceremonies and permanent cemeteries near to villages in which the remains were buried. Personal items of the deceased as well as other offerings or objects were placed into the grave, prior to the completion of burial.

Salinan

Far less studied than the Chumash are their northern neighbors, the Salinan. Salinan territory extended between the Pacific Ocean and the South Coast Ranges from the Salinas River Valley near the Mission Soledad on the north to the vicinity of Morro Bay on the south (Hester, 1978).

There were two major divisions of Salinan: the Antoniaños on the north, and the Migueleños on the south, both named, by Europeans, for the Spanish missions with which they became associated. The Salinan language had similarities to the Chumash language (as both are of Hokan stock), but is completely unrelated to neighboring Yokuts and Costanoan languages (Kroeber, 1925).

As with other central Californian groups, subsistence was based on the gathering of plant foods such as acorns, wild oats, sage seeds, berries, and fruits, and the hunting of small game. Material culture was typified by basketry, stone artifacts such as projectile points and grinding stones, bone and shell fishhooks, and some wooden implements. Houses were square, domed structures constructed of wooden poles and covered with tule or other grass. Autonomous villages were the primary sociopolitical unit, each ruled by a chief, and decent was primarily patrilineal. About 20 villages are known ethnographically; while many cannot be accurately mapped, the nearest known Salinan villages to the project area were located near Santa Margarita and San Simeon.

Juan Rodriguez Cabrillo's 1542 expedition, the first recorded visit by Europeans to the California coast, did not record the presence of Native Americans along the Salinan Coast. The first description of Chumash and Salinan villages comes some two centuries later, with the expeditions of Don Gaspar de Portolá in 1769. Records describe about 10 different towns along the coast between what are now the cities of San Luis Obispo and Monterey, with population estimates of between 30 and 400 residents per village. This territory would have included Salinan, Chumash, Esselen, and Costanoan villages (Kroeber, 1925).

After the arrival of the Spanish and the establishment of the missions, disease and hard labor took a toll on the native populations. The Salinan population, estimated at 3,000 at the time of Spanish contact, dropped to fewer than 700 by 1831, and the Chumash population fell from 8,000 to 2,500 in the same period (Hester, 1978). After secularization, populations dropped even faster, with only three Salinan families being reported by early 20th-century anthropologists. In addition, native economies were disrupted, trade routes were interrupted, and native ways of life were significantly altered.

Historic Setting

Morro Rock, the prominent landmark at the entrance to Morro Bay, was first named by Spanish explorer Juan Rodriguez Cabrillo during his voyage of the California coast in 1542. Cabrillo called the rock "El Moro," because it resembled the head of a Moor, the people from North Africa known for the turbans they wore.

Several centuries later, Don Gaspar de Portolá and his party camped near the rock during their march to Monterey in 1769 (Greenwood, 1978). Also in 1769, the Spanish began establishing missions in California and forcibly relocating and converting native peoples. Mission San Luis Obispo, Mission San Antonio de Padua, and Mission San Miguel were the most prominent missions in the area, with Mission San Luis Obispo being nearest to the preferred and proposed project sites.

During Mexico's rule of California, Morro Bay was within the Rancho Moro Y Cayucos, one of the large Mexican land grants, which contained thousands of acres of grazing land around Morro Bay (Krieger, 1988). Local commerce depended on the sea for transportation, as the nearest rail line ended hundreds of miles away from Morro Bay.

Morro Bay pioneer and founder Franklin Riley moved to Morro Bay from San Simeon Creek in 1864 in search of better farming land. Riley built the first house in Morro Bay, which stood on what is now Morro Street between Morro Bay Boulevard and Harbor Street. In 1870, Riley officially founded the town of Morro Bay on a homestead of 160 acres, and built a wharf on what would become the Embarcadero (Morrobay.com, 2008).

At that time the landscape of Morro Bay was covered with greasewood and brush lupia, the only natural vegetation that would grow in the loose, sandy soil. To combat the strong wind and shifting sands, Riley and other early settlers planted eucalyptus trees. The seedlings slowly matured, and Morro Bay was eventually covered with eucalyptus trees (Morrobay.com, 2008).

The town grew quickly in the 1870s as schooners docked along the Embarcadero to pick up local products. Although hazardous due to the swift currents and high surf, boats could enter the harbor through channels on the north and south side of Morro Rock. The nascent town centered on the Embarcadero, where fisherman and coastal travelers would arrive and disembark.

In the late 1800s, Captain James Cass built a deep water wharf in the neighboring town of Cayucos, which began to compete with Morro Bay for shipping traffic. Many ships captains preferred to dock in Cayucos, rather than face the hazardous Morro Bay entrance. While the Embarcadero began to falter due to the competition posed by Cayucos's new deep-water port, land development elsewhere was taking off. Throughout the early 1900's, various real estate developers promoted Morro Bay as a seaside resort (Morrobay.com, 2008).

Morro Rock had been quarried since the late 19th century, but in the early 1930s, a WPA project resulted in much of the base of the rock being dynamited and the volcanic rock used to construct a jetty that would connect the rock to the mainland and close the north entrance to the harbor. The north and south breakwaters, the inner harbor revetment, and the two T-Piers were created, and the Morro Channel was dredged and the spoils deposited behind the inner harbor revetment, creating what is now the Embarcadero Road Area (Morrobay.com, 2008). Once the waterfront became more protected from high surf, the Embarcadero once again grew as a commercial fishing port. Fishermen began to bring in huge catches of albacore, salmon, and cod. Numerous oyster beds, which provided an abundance of oysters for local and regional consumption, were also constructed in the shallow back-bay called Estero Bay.

The U.S. Navy began training operations in Morro Bay in 1940, and base was constructed where the PG&E power plant now stands (City of Morro Bay, 1982). Amphibious landing crafts frequently staged "invasions" along the beach north of the Rock. During World War II, naval operations were expanded.

By 1951, Morro Bay had grown to a population of 2,000 residents. In 1953, groundbreaking ceremonies were held for the PG&E power plant, which was completed the following year and

would eventually provide the tax base for Morro Bay's incorporation, which occurred in 1964 (Caste and Ream, 2006). Morro Rock was declared a State Historical Landmark in 1968. Although Morro Bay continues to operate the Embarcadero as a working waterfront, and it remains a fishing port for halibut, sole, rockfish, albacore, and many other species for both commercial and sport vessels, tourism is the city's largest industry. Morro Bay had a population of approximately 10,000 residents in the 2000 Census (City of Morro Bay, 1982).

Identification of Cultural Resources in the Project Site

Identification of known cultural resources within the proposed project area included: records searches at the California Historical Resources Information System (CHRIS) Central Coast Information Center (CCIC) and cultural resources surveys. The CHRIS-SCCIC records search included a review of all recorded cultural resources within a 0.25-mile radius of the proposed project, as well as a review of cultural resource reports on file. The cultural resources surveys included the proposed pipeline alignments plus an approximately 100-foot buffer on either side of the alignments (200-foot wide survey corridor), Lift Station Option 1A, Lift Station Option 5A, the existing WWTP, the preferred WRF location, and the portions of the proposed injection well locations that are not located on private property. In addition, a buried sensitivity analysis was conducted to assess the potential for unknown cultural resources within the project area.

A historic resources survey of the WWTP was conducted on January 30, 2009. Plant records and interviews with plant employees were conducted. The WWTP contains a total of 16 buildings or structures on a 5.5-acre site that were constructed between 1954 and 1984. Three of those structures, the Primary Clarifier/Chlorine Contact Chamber, the Biofilter/Trickling Filter No. 1, and the Digester No. 1, date from the original construction of the plant in 1954. The historic resources survey resulted in the documentation and evaluation of the WWTP for its potential historic significance. The WWTP was found not eligible for listing in the National Register of Historic Places (National Register or NRHP) or California Register of Historical Resources (California Register or CRHR) under any of the applicable criteria due to a lack of historical and architectural merit.

A paleontological resources records search was requested from the LACM in an effort to identify paleontological resources and/or fossil-bearing geologic formation, which may underlie the proposed and preferred project sites.

Known Cultural Resources

A total of 19 cultural resources have been identified within a 0.25-mile radius of the proposed and preferred project sites (**Table 3.5-2**). Eight of these resources are within or immediately adjacent to (within 100 feet of) those sites (CA-SLO-16, -43, -165, -239, -2222, -2845, WRF-2, and WWTP).

TABLE 3.5-2
CULTURAL RESOURCES WITHIN 0.25-MILES OF THE PROJECT SITE

Resource Number	Resource Type	Description	NRHP/CRHR Eligibility Status	Within or Immediately Adjacent Project Area
CA-SLO-16	Prehistoric archaeological site	Lithic scatter, burials, and habitation debris Site boundaries not fully defined	Unevaluated	Yes
CA-SLO-29	Prehistoric archaeological site	Shell mound with lithics	Unevaluated	No
CA-SLO-43	Prehistoric archaeological site	Shell midden with habitation debris Site boundaries not fully defined	Unevaluated	Yes
CA-SLO-165	Prehistoric archaeological site	Shell midden with burials Site boundaries not fully defined	Determined eligible for NRHP Listed in CRHR	Yes
CA-SLO-166	Prehistoric archaeological site	Midden with lithics	Unevaluated	No
CA-SLO-239	Prehistoric archaeological site	Lithic scatter, burials, heaths/pits, and habitation debris Site boundaries not fully defined	Unevaluated	Yes
CA-SLO-499	Prehistoric archaeological site	Shell midden with bedrock mortars and lithics	Unevaluated	No
CA-SLO-1183	Prehistoric archaeological site	Lithic scatter	Unevaluated	No
CA-SLO-1303	Prehistoric archaeological site	Midden with lithics	Determined not eligible for NRHP Not evaluated for CRHR	No
CA-SLO-2022	Prehistoric archaeological site	Midden with lithics	Unevaluated	No
CA-SLO-2124	Prehistoric archaeological site	Midden with faunal bone and debitage	Unevaluated	No
CA-SLO-2142	Prehistoric archaeological site	Shell midden with beads and a burial	Unevaluated	No
CA-SLO-2143	Prehistoric archaeological site	Shell midden	Unevaluated	No
CA-SLO-2222	Prehistoric archaeological site	Lithics, burials, and habitation debris Site boundaries not fully defined	Unevaluated	Yes
CA-SLO-2232	Historic-era archaeological site	Refuse scatter with shellfish, glass, and ceramics	Unevaluated	No

Resource Number	Resource Type	Description	NRHP/CRHR Eligibility Status	Within or Immediately Adjacent Project Area
CA-SLO-2845	Prehistoric archaeological site	Shell midden with lithics Site boundaries not fully defined	Unevaluated	Yes
WRF-1	Historic-era feature	Concrete highway marker installed between 1914-1934	Not eligible	No
WRF-2	Historic-era feature	Concrete highway marker installed between 1914-1934	Not eligible	Yes
WWTP	Historic architectural resource	A total of 16 buildings or structures constructed between 1954 and 1984	Not eligible	Yes

NRHP = National Register of Historic Places
CRHR = California Register of Historical Resources

Buried Archaeological Site Assessment

The potential for encountering buried prehistoric archaeological sites within the preferred and proposed project sites was determined based on the landform age and distribution of surface soil deposits combined with the proximity to historic-era stream channels (*i.e.*, distance to water). Researchers have shown the highest potential for buried sites occurs where young deposits (late Holocene-age or later) occur within 100 meters of a perennial water source, with the potential for buried sites diminishing rapidly at distance of 200 meters (656 feet) or more from active or formerly active sources of fresh water (e.g., springs, streams, lakes). Sensitivity was assigned one of five categories from Lowest to Highest (Lowest, Low, Moderate, High, Highest). A High sensitivity rating does not mean that an archaeological site will necessarily be discovered there, but that there is a greater likelihood that buried soils could contain cultural deposits.

The northern portions of the preferred and proposed project sites were identified as having a High to Highest potential for buried resources. The remainder of the project site has a Low to Lowest potential for buried resources.

Paleontological Resources Records Search

The paleontological records search conducted by the LACM on January 3, 2018 identified three geologic units underlying the preferred and proposed project sites: Franciscan complex metamorphic rock; younger Quaternary dune sands; and younger Quaternary Alluvium (McLeod, 2018). The Franciscan complex metamorphic rock underlies the portions of those sites located north of Highway 1. Because that geologic unit is comprised of metamorphic rock it has no potential to contain paleontological resources. The portion of those sites located south of Highway 1 is underlain by younger Quaternary dune sands. These younger Quaternary deposits are too young to contain paleontological resources; however, they are often underlain by older Quaternary deposits that are known to produce fossil specimens. Younger Quaternary Alluvium underlies the northwestern portion of those sites, and is derived from alluvial fan deposits

originating from the mountains north of the proposed project and deposited within the preferred and proposed project sites via Morro Creek.

The LACM did not identify any fossil localities within the project site, but two fossil localities (LACM 5903 and 5790) were identified within older Quaternary deposits located approximately 2 miles and 22 miles from the preferred and proposed project sites, respectively. Fossil locality LACM 5903 produced a fossil specimen of mastodon (*Mammutidae*) in stream gravels at a depth of 6 feet below the ground surface. Fossil locality LACM 5790 produced a fossil specimen of mammoth (*Mammuthus)* at shallow but unstated depth (McLeod, 2018).

3.5.2 Regulatory Framework

Federal

National Historic Preservation Act

The principal federal law addressing historic properties is the National Historic Preservation Act (NHPA), as amended (54 United States Code of Laws [USC] 300101 *et seq.*), and its implementing regulations (36 CFR Part 800). Section 106 requires a federal agency with jurisdiction over a proposed federal action (referred to as an "undertaking" under the NHPA) to take into account the effects of the undertaking on historic properties, and to provide the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on the undertaking.

The term "historic properties" refers to "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register" (36 CFR Part 800.16(*l*)(1)). The implementing regulations (36 CFR Part 800) describe the process for identifying and evaluating historic properties, for assessing the potential adverse effects of federal undertakings on historic properties, and seeking to develop measures to avoid, minimize, or mitigate adverse effects. The Section 106 process does not require the preservation of historic properties; instead, it is a procedural requirement mandating that federal agencies take into account effects to historic properties from an undertaking prior to approval.

The steps of the Section 106 process are accomplished through consultation with the State Historic Preservation Officer (SHPO), federally-recognized Indian tribes, local governments, and other interested parties. The goal of consultation is to identify potentially affected historic properties, assess effects to such properties, and seek ways to avoid, minimize, or mitigate any adverse effects on such properties. The agency also must provide an opportunity for public involvement (36 CFR 800.1(a)). Consultation with Indian tribes regarding issues related to Section 106 and other authorities (such as the National Environmental Policy Act, or NEPA, and Executive Order No. 13007) must recognize the government-to-government relationship between the Federal government and Indian tribes, as set forth in Executive Order 13175, 65 FR 87249 (Nov. 9, 2000), and Presidential Memorandum of Nov. 5, 2009.

National Register of Historic Places

The National Register was established by the NHPA of 1966, as "an authoritative guide to be used by federal, State, and local governments, private groups and citizens to identify the Nation's historic resources and to indicate what properties should be considered for protection from

destruction or impairment" (36 CFR 60.2). The National Register recognizes a broad range of cultural resources that are significant at the national, state, and local levels and can include districts, buildings, structures, objects, prehistoric archaeological sites, historic-period archaeological sites, traditional cultural properties, and cultural landscapes. As noted above, a resource that is listed in or eligible for listing in the National Register is considered "historic property" under Section 106 of the NHPA.

To be eligible for listing in the National Register, a property must be significant in American history, architecture, archaeology, engineering, or culture. Properties of potential significance must meet one or more of the following four established 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 construction 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; or

D. Have yielded, or may be likely to yield, information important in prehistory or history.

In addition to meeting one or more of the criteria of significance, a property must have integrity. Integrity is defined as "the ability of a property to convey its significance" (U.S. Department of the Interior, 2002). The National Register recognizes seven qualities that, in various combinations, define integrity. The seven factors that define integrity are location, design, setting, materials, workmanship, feeling, and association. To retain historic integrity a property must possess several, and usually most, of these seven aspects. Thus, the retention of the specific aspects of integrity is paramount for a property to convey its significance.

Ordinarily religious properties, moved properties, birthplaces or graves, cemeteries, reconstructed properties, commemorative properties, and properties that have achieved significance within the past 50 years are not considered eligible for the National Register unless they meet one of the Criteria Considerations (A-G), in addition to meeting at least one of the four significance criteria and possessing integrity (U.S. Department of the Interior, 2002).

State

California Environmental Quality Act

CEQA is the principal statute governing environmental review of projects occurring in the state and is codified at *Public Resources Code (PRC) Section 21000 et seq.* CEQA requires lead agencies to determine if a proposed project would have a significant effect on the environment, including significant effects on historical or unique archaeological resources. Under CEQA (Section 21084.1), a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment.

The *CEQA Guidelines* (14 California Code of Regulations [CCR] section 15064.5) recognize historical resources include: (1) a resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register, (2) a resource included in

a local register of historical resources, as defined in PRC subdivision 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC subdivision 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. The fact a resource does not meet the three criteria outlined above does not preclude the lead agency from determining the resource may be an historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

If a lead agency determines an archaeological site is a historical resource, then the provisions of Section 21084.1 of CEQA and Section 15064.5 of the *CEQA Guidelines* apply. If an archaeological site does not meet the criteria for a historical resource contained in the *CEQA Guidelines*, then the site may be treated in accordance with the provisions of Section 21083, which is as a unique archaeological resource. As defined in Section 21083.2 of CEQA 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; or,
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If an archaeological site meets the criteria for a unique archaeological resource as defined in Section 21083.2, then the site is to be treated in accordance with the provisions of Section 21083.2, which state that if the lead agency determines that a project would have a significant effect on unique archaeological resources, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place (Section 21083.1(a)). If preservation in place is not feasible, then mitigation measures shall be required. The *CEQA Guidelines* note if an archaeological resource is neither a unique archaeological nor a historical resource, then the effects of the project on those resources shall not be considered a significant effect on the environment (*CEQA Guidelines* subdivision 15064.5(c)(4)).

A significant effect under CEQA would occur if a project results in a substantial adverse change in the significance of a historical resource as defined in *CEQA Guidelines* subdivision 15064.5(a). Substantial adverse change is defined as "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired" (*CEQA Guidelines* subdivision 15064.5(b)(1)). According to *CEQA Guidelines* subdivision 15064.5(b)(2), the significance of a historical resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics that:

A. Convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or

B. Account for its inclusion in a local register of historical resources pursuant to Subdivision 5020.1(k) of the PRC or its identification in a historical resources survey meeting the requirements of Subdivision 5024.1(g) of the PRC, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

C. Convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a Lead Agency for purposes of CEQA.

In general, a project that complies with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* (Standards) (Weeks and Grimer, 1995) is considered to have mitigated its impacts to historical resources to a less-than-significant level (CEQA Guidelines subdivision 15064.5(b)(3)).

California Register of Historical Resources

The California Register is "an authoritative listing and guide to be used by State and local agencies, private groups, and citizens 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 subdivision 5024.1[a]). The criteria for eligibility for the California Register are based upon National Register criteria (PRC subdivision 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.

To be eligible for the California Register, a prehistoric or historic-period property must be significant at the local, state, and/or federal level under one or more of the following four 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 in 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; or
4. 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.

Additionally, the California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed on the National Register and those formally determined eligible for the National Register;
- California Registered Historical Landmarks from No. 770 onward; and,
- Those California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the California Register.

Other resources that may be nominated to the California Register include:

- Historical resources with a significance rating of Category 3 through 5 (those properties identified as eligible for listing in the National Register, the California Register, and/or a local jurisdiction register);
- Individual historical resources;
- Historical resources contributing to historic districts; and,
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

California Health and Safety Code Section 7050.5

California Health and Safety Code section 7050.5 requires that in the event human remains are discovered, the County Coroner be contacted to determine the nature of the remains. In the event the remains are determined to be Native American in origin, the Coroner is required to contact the NAHC within 24 hours to relinquish jurisdiction.

California Public Resources Code Section 5097.98

California PRC section 5097.98 provides procedures in the event human remains of Native American origin are discovered during project implementation. PRC section 5097.98 requires that no further disturbances occur in the immediate vicinity of the discovery, that the discovery is adequately protected according to generally accepted cultural and archaeological standards, and that further activities take into account the possibility of multiple burials. PRC section 5097.98 further requires the NAHC, upon notification by a county coroner, designate and notify a Most Likely Descendant (MLD) regarding the discovery of Native American human remains. Once the MLD has been granted access to the site by the landowner and inspected the discovery, the MLD then has 48 hours to provide recommendations to the landowner for the treatment of the human remains and any associated grave goods.

In the event no descendant is identified, or the descendant fails to make a recommendation for disposition, or if the land owner rejects the recommendation of the descendant, the landowner may, with appropriate dignity, reinter the remains and burial items on the property in a location that will not be subject to further disturbance.

Local

The City of Morro Bay Local Coastal Land Use Plan (1982)

The 1982 City of Morro Bay Land Use Plan contains the following regulations related to archaeological resources:

D. ARCHAEOLOGY POLICIES

Policy 4.01: Where necessary significant archaeological and historic resources shall be preserved to the greatest extent possible both on public and privately held lands.

Policy 4.02: The City shall establish and maintain an inventory of archaeological site records. A sensitivity map shall be developed based on available information on file with the California Archaeological Site Survey Office. This information shall be treated as confidential to protect the archaeological resources. Until the mapping has been completed. an archaeological reconnaissance performed by a qualified archaeologist and/or a review of record sites shall be required of all projects applying for a coastal permit.

Policy 4.03: An archaeological reconnaissance performed by a qualified archaeologist shall be required as part of the permit review process for projects with areas identified as having potential archaeological sites. An archaeological reconnaissance will be required for all projects requiring an Environmental Impact Report under CEQA.

Policy 4.0: Where archaeological resources are found as a result of a preliminary site survey before construction. the City shall require a mitigation plan to protect the site.

Policy 4.0: Where archaeological resources are discovered during construction of new development, or through other non-permit activities (such as repair and maintenance of public works projects) all activities shall cease until a qualified archaeologist knowledgeable in Chumash culture can determine the significance of the resource and designate alternative mitigation measures. Development that impacts archaeological resources shall be required to mitigate impacts in one of the following manners:

a. Removal of artifacts

b. Dedication of impacted area as permanent open space

c. Coverage of archaeological site by at least 24 inches of sterile sand.

Policy 4.06: Any archaeological sites of state-wide significance shall be nominated for inclusion in the Registry of California Historic Landmarks. Those of national significance shall be nominated for inclusion the National Registry of Historic Place and the National Historic Landmark Program.

Policy 4.07: All available measure. including purchases, tax relief, purchase of development rights, etc. shall be explored to avoid development on significant archaeological sites. Where sites containing significant archaeological resources are already in public ownership including ownership of the City, the City shall encourage the retention of the site in public ownership and the protection of the archaeological resources. The transfer of City owned properties containing significant archaeological resources shall be accompanied by a deed restriction containing provisions protecting the archaeological resources on the site.

Policy 4.08: Activities other than development which could damage or destroy archaeological resources including, but not limited to, off-road vehicle activity and

unauthorized collecting of artifacts. shall be prohibited unless specifically permitted by the permit issuing agency with provisions for adequately protecting any archaeological resources.

City of Morro Bay Zoning Code 17.48.310: Protection of Archaeological Resources.

The City's Zoning Ordinance (17.48.310) contains the following applicable regulations concerning archaeological resources, with the goal of the protection of cultural resources "to the greatest extent possible":

B. Archaeological Reconnaissance. An archaeological reconnaissance by a qualified archaeologist shall be required as part of initial review for application submission for the following proposed development projects:

1. *Potential archaeological sites*: projects located within three hundred feet of areas identified by the city through an archaeological resource inventory as having potential archaeological sites.
2. *Archaeological resources*: where evidence of potentially significant archaeological resources is found in an initial study conducted pursuant to the California Environmental Quality Act (CEQA).

C. Mitigation Plans for Archaeological Sites. Mitigation plans for the protection of archaeological resources during development and related activities shall be required in accordance with the following provisions:

1. *Site Reconnaissance.* Where unique, significant or valuable archaeological resources are found as a result of a site reconnaissance as required above, the city shall either require a mitigation plan to protect the site, or to recover the resources.
2. *Construction.* Where archaeological resources are discovered during construction of new development (including otherwise ministerial activities such as repair and maintenance of certain public utility facilities) all activities shall cease. Such activities may resume when the director finds the following:
    a. Determination of Significance. That a qualified archaeologist knowledgeable in Chumash culture has determined the significance of the resource and the designated mitigation measures for the protection of such resources;
    b. Potential Impacts. That the potential impacts of the development will be mitigated in the manner recommended by the archaeologist, and/or by one of the following techniques:
        i. Removal of artifacts;
        ii. Dedication of impacted area as permanent open space;
        iii. Coverage of the archaeological site by at least 24 inches of sterile sand;
        iv. Any other available measures to avoid development of significant archaeological sites, including purchase tax relief and transfer of development rights.

Paleontological Resources

CEQA

Paleontological resources are also afforded protection by CEQA. Appendix G (Part V) of the *CEQA Guidelines* provides guidance relative to significant impacts on paleontological resources,

stating that a project will normally result in a significant impact on the environment if it will "disrupt or adversely affect a paleontological resource or site or unique geologic feature, except as part of a scientific study."

California Public Resources Code (PRC) Section 5097.5

PRC sections 5097.5 and 30244 prohibit the removal of any paleontological site or feature from public lands without permission of the jurisdictional agency, define the removal of paleontological sites or features as a misdemeanor, and require reasonable mitigation of adverse impacts to paleontological resources from developments on public (state, county, city, and district) lands.

Society for Vertebrate Paleontology

Professional Standards

The Society for Vertebrate Paleontology (SVP) has established standard guidelines for acceptable professional practices in the conduct of paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, and specimen preparation, identification, analysis, and curation. Most practicing professional paleontologists in the nation adhere closely to the SVP's assessment, mitigation, and monitoring requirements as specifically provided in its standard guidelines. Most California State regulatory agencies accept the SVP standard guidelines as a measure of professional practice.

Paleontological Sensitivity

Paleontological sensitivity is defined as the potential for a geologic unit to produce scientifically significant fossils. This is determined by rock type, past history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific survey. In its "Standard Guidelines for the Assessment and Mitigation of Adverse Impacts to Non-renewable Paleontological Resources," the SVP (1995) defines four categories of paleontological sensitivity (potential) for rock units: high, low, undetermined, and no potential:

- **High Potential.** Rock units from which vertebrate or significant invertebrate fossils or suites of plant fossils have been recovered and are considered to have a high potential for containing significant nonrenewable fossiliferous resources. These units include, but are not limited to, sedimentary formations and some volcanic formations that 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. Also classified as significant are areas that contain potentially datable organic remains older than Recent, including deposits associated with nests or middens, and areas that may contain new vertebrate deposits, traces, or trackways.
- **Low Potential.** 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. Such units will be poorly represented by specimens in institutional collections.

- **Undetermined Potential.** Specific areas underlain by sedimentary rock units for which little information is available are considered to have undetermined fossiliferous potentials.
- **No Potential.** Metamorphic and granitic rock units generally do not yield fossils and therefore have no potential to yield significant non-renewable fossiliferous resources.

For geologic units with high potential, full-time monitoring is generally recommended during any project-related ground disturbance. For geologic units with low potential, protection or salvage efforts will not generally be required. For geologic units with undetermined potential, field surveys by a qualified vertebrate paleontologist should be conducted to specifically determine the paleontological potential of the rock units present within the study area.

3.5.3 Impacts and Mitigation Measures

Significance Criteria

Appendix G of the *CEQA Guidelines* recommends significance criteria for the evaluation of impacts related to cultural resources in the project area. Those same criteria are provided below. This EIR assumes implementation of the proposed project would have a significant impact related to cultural resources if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or
- Disturb any human remains, including those interred outside of formal cemeteries.

CEQA provides that a project may cause a significant environmental effect where the project could result in a substantial adverse change in the significance of a historical resource (PRC, section 21084.1). *CEQA Guidelines*, section 15064.5 defines a "substantial adverse change" in the significance of a historical resource to mean physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be "materially impaired" (*CEQA Guidelines* subdivision 15064.5[b][1]).

CEQA Guidelines subdivision 15064.5(b)(2), defines "materially impaired" for purposes of the definition of "substantial adverse change" as follows:

The significance of a historical resource is materially impaired when a project:

- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or
- Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Subdivision 5020.1(k) of the PRC or its identification in an historical resources survey meeting the requirements of Subdivision 5024.1(g) of the PRC, unless the public agency

reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

- Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA.

CEQA also provides a project may cause a significant environmental effect where the project could result in damage to or destroy unique archaeological resources[1], unique paleontological resource or site or unique geologic feature, or human remains.

Methodology

The following criteria from Appendix G of the *CEQA Guidelines* are used as thresholds of significance to determine the impacts of the proposed project as related to cultural resources. The proposed project would have a significant impact if it would:

1. Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5.
2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5.
3. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
4. Disturb any human remains, including those interred outside of formal cemeteries.

Impact Analysis

Historic and Archaeological Resources

Impact 3.5-1: The proposed project could cause a substantial adverse change in the significance of a historical or archaeological resource, as defined in CEQA Guidelines Section 15064.5. This would be a Class I impact, Significant and Unavoidable.

Construction

A total of eight resources were identified within or immediately adjacent to (within 100 feet or) the proposed and preferred project sites (**Table 3.5-3**). Of these, two (WWTP and WRF-2) have been evaluated as not eligible for the California Register and are not historical resources under CEQA. One (CA-SLO-165) is listed in the California Register and is a historical resource under CEQA. The remaining five resources (CA-SLO-16, -43, -239, -2222, and -2845) have been discretionarily determined to be eligible by the City for the purposes of this Draft EIR pursuant to CEQA subdivision 15064.5(a)(3), and they are all considered historical resources.

[1] Per *CEQA Guidelines* subdivision 15064.5(c), when a project will impact an archaeological site, a lead agency shall first determine whether the site is a historical resource. If the archaeological site does not meet the criteria for historical resource, it will then be assessed for significance as a unique archaeological resource. If it meets the definition of unique archaeological resource, the provisions of section PRC subdivision 21083.2 shall apply.

TABLE 3.5-3
CULTURAL RESOURCES WITHIN OR IMMEDIATELY ADJACENT TO THE PROJECT SITE

Resource Number	Resource Type	Description	CRHR Eligibility Status	Proposed Project Component	Impact Determination
CA-SLO-16	Prehistoric archaeological site	Lithic scatter, burials, and habitation debris Site boundaries not fully defined	*Not evaluated/ Discretionarily eligible	Raw wastewater and brine/wet weather discharge pipeline Injection Well Area (IPR West)	Significant and unavoidable
CA-SLO-43	Prehistoric archaeological site	Shell midden with habitation debris Site boundaries not fully defined	*Not evaluated/ Discretionarily eligible	Injection Well Area (IPR East)	Significant and unavoidable
CA-SLO-165	Prehistoric archaeological site	Shell midden with burials Site boundaries not fully defined	Listed in CRHR	Injection Well Area (IPR East)	Significant and unavoidable
CA-SLO-239	Prehistoric archaeological site	Lithic scatter, burials, heaths/pits, and habitation debris Site boundaries not fully defined	*Not evaluated/ Discretionarily eligible	Raw wastewater and brine/wet weather discharge pipeline Recycled water pipeline (IPR West)	Significant and unavoidable
CA-SLO-2222	Prehistoric archaeological site	Lithics, burials, and habitation debris Site boundaries not fully defined	*Not evaluated/ Discretionarily eligible	Recycled water pipeline (IPR East)	Significant and unavoidable
CA-SLO-2845	Prehistoric archaeological site	Shell midden with lithics Site boundaries not fully defined	*Not evaluated/ Discretionarily eligible	Recycled water pipeline (IPR East)	Significant and unavoidable
WRF-2	Historic-era feature	Concrete highway marker installed between 1914-1934	Not eligible	Recycled water pipeline (IPR East)	N/A
WWTP	Historic architectural resource	A total of 16 buildings or structures constructed between 1954 and 1984	Not eligible	WWTP	N/A

CRHR = California Register of Historical Resources

*denotes resource determined discretionarily eligible by the City for the purposes of this DEIR pursuant to CEQA Section 15064.5(a)(3)

WRF

No historic architectural resources or known archaeological resources are located within the preferred WRF location. The preferred WRF location was identified as having a Lowest to Low sensitivity for the presence of buried archaeological deposits. Nevertheless, ground disturbance related to construction of the proposed WRF has the potential to impact unknown archaeological resources that could qualify as historical or unique archaeological resources under CEQA. Implementation of **Mitigation Measures CUL-1 and CUL-5 through CUL-9** would reduce impacts to less than significant.

Lift Station

No historic architectural resources or known archaeological resources are located within the proposed lift station options. Those lift station options were identified as having a High sensitivity for the presence of buried archaeological deposits. Ground disturbance related to construction of the lift station has the potential to impact unknown archaeological resources that could qualify as historical or unique archaeological resources under CEQA. Implementation of **Mitigation Measures CUL-1 and CUL-5 through CUL-9** would reduce impacts to less than significant.

Conveyance Pipelines

A total of five resources are located within or immediately adjacent to the proposed conveyance pipelines, including CA-SLO-16, -239, -2222, -2845, and WRF-2. One resource, WRF-2, was recommended not eligible and is not considered a historical resource under CEQA. The remaining five resources have been discretionarily determined to be eligible by the City for the purposes of this Draft EIR pursuant to CEQA subdivision 15064.5(a)(3), and are considered historical resources. Ground disturbance related to construction of the conveyance pipelines has the potential to directly impact all of these resources, which would constitute a significant and unavoidable impact under CEQA.

Additionally, some portions of the conveyance pipeline alignments were identified as having a High to Highest sensitivity for the presence of buried archaeological deposits. Ground disturbance related to construction of the conveyance pipelines has the potential to impact unknown archaeological resources that could qualify as historical or unique archaeological resources under CEQA.

Implementation of **Mitigation Measures CUL-1 through CUL-9** would reduce impacts to the degree feasible, however, since CA-SLO-16, -239, -2222, and -2845are historical resources pursuant to CEQA and ground disturbance related to construction of the conveyance pipelines would directly impact these resources, even after mitigation the impact would remain significant and unavoidable.

Injection and Monitoring Wells

A total of three resources are located within the proposed IPR East and IPR West wellfield areas, including CA-SLO-16, CA-SLO-43, and CA-SLO-165. CA-SLO-165 is listed in the California Register and is a historical resource. CA-SLO-16 and CA-SLO-43 have been discretionarily determined to be eligible by the City for the purposes of this Draft EIR pursuant to CEQA

subdivision 15064.5(a)(3), and they are considered historical resources. Since the exact locations of the wells within the wellfield areas have not been identified yet, ground disturbance related to construction of the injection and monitoring wells has the potential to directly impact all of these resources, which would constitute a significant and unavoidable impact under CEQA.

Additionally, the IPR East and IPR West wellfield areas were identified as having a High to Highest sensitivity for the presence of buried archaeological deposits. Ground disturbance related to construction of the injection and monitoring wells has the potential to impact unknown archaeological resources that could qualify as historical or unique archaeological resources under CEQA.

Implementation of **Mitigation Measures CUL-1 through and CUL-9** would reduce impacts to the degree feasible, however, since CA-SLO-16, CA-SLO-43, and CA-SLO-165 are historical resources pursuant to CEQA and ground disturbance related to construction of the injection and monitoring wells would potentially directly impact these resources, even after mitigation the impact would remain significant and unavoidable.

Decommissioning of Current WWTP

The decommissioning of the current WWTP would include the shutdown, demolition, and complete removal of all WWTP facilities and infrastructure such as the piping located four to five feet below grade. Since the existing WWTP is more than 45 years old (the California OHP's threshold for consideration as a historical resource) it was evaluated for listing in the National Register and California Register and was found not eligible. As such, it does not qualify as a historical resource and its shutdown, demolition, and removal would not constitute a significant impact.

No known archaeological sites are located within the WWTP. The WWTP location was identified as having a High to Highest sensitivity for the presence of buried archaeological deposits. Ground disturbance related to the shutdown, demolition, and removal of all WWTP facilities and infrastructure such as the piping located four to five feet below grade, has the potential to impact archaeological resources that could qualify as historical or unique archaeological resources under CEQA.

Implementation of **Mitigation Measures CUL-1 and CUL-5 through CUL-9** would reduce impacts to less than significant.

Operation

WRF, Lift Station, Conveyance Pipelines, Injection and Monitoring Wells, Decommissioning of the WWTP

Although there is unlikely to be ground disturbance associated with the operation of the proposed project facilities, there is potential ground disturbance could occur during maintenance or repair of those facilities. If ground disturbance occurred within areas that have not been previously disturbed, then there is the potential to impact archaeological resources that qualify as, or could qualify as, historical or unique archaeological resources under CEQA. Implementation of

Mitigation Measures CUL-1 and CUL-6 through CUL-9 would reduce impacts to less than significant.

Mitigation Measures

CUL-1: Retention of a Qualified Archaeologist. Within 30 days after the City's approval of the final design plans and prior to start of any ground-disturbing activities (*i.e.*, demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil), the City shall retain a Qualified Archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (U.S. Department of the Interior, 1983) to carry out all mitigation related to archaeological resources.

CUL-2: Pre-Construction Phase I Cultural Resources Survey. Within 30 days after the City's approval of the final design plans and prior to the start of any ground-disturbing activity (i.e., demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil), the Qualified Archaeologist shall conduct pre-construction Phase I Cultural Resources Survey of all areas that have not been previously surveyed within the last 5 years.

The survey shall document resources potentially qualifying as historical resources or unique archaeological under CEQA. The Qualified Archaeologist shall document the results of the survey in a Phase I Cultural Resources Survey Report that follows *Archaeological Resource Management Reports (ARMR): Recommended Contents and Format* (OHP, 1990). The Qualified Archaeologist shall also prepare Department of Parks and Recreation 523 forms for resources encountered during the survey, which shall be appended to the report. If historic architectural resources are encountered that could potentially be impacted by the project, the Qualified Archaeologist shall consult with a Qualified Architectural Historian meeting the Secretary of the Interior's Professional Qualifications Standards for architectural history (U.S. Department of the Interior, 1983). The Qualified Archaeologist shall submit the draft Phase I Cultural Resources Survey Report to the City within 30 days after completion of the survey. The final Phase I Cultural Resources Survey Report shall be submitted to the City within 10 days after receipt of City's comments. The Qualified Archaeologist shall also submit the final Phase I Cultural Resources Survey Report to the Central Coast Information Center.

In the event resources potentially qualifying as historical resources or unique archaeological resources under CEQA are identified during the survey, avoidance and preservation in place shall be the preferred manner of mitigating impacts to the resources in accordance with **Mitigation Measure CUL-3**. If avoidance of the identified resources is determined by the City to be infeasible in light of factors such as the nature of the find, proposed project design, costs, and other considerations, then the portion of the resource within the Area of Direct Impact (ADI) shall be subject to presence/absence testing and if potentially significant deposits are identified, the resource shall be evaluated for significance under all four National Register/California Register Criteria (A/1-D/4). If a resource is found to be significant (i.e., meets the definition for historical resource in *CEQA Guidelines* subdivision 15064.5(a) or unique archaeological resource in PRC subdivision 21083.2(g)), then is shall be incorporated into the Archaeological Resources Data Recovery and Treatment Plan outlined in **Mitigation Measure CUL-4**.

CUL-3: Avoidance and Preservation in Place of Archaeological Resources. The City shall avoid and preserve in place resources CA-SLO-16, -43, -165, -239, -2222, and -2845, and any other resources that are identified as potentially qualifying as historical resources or unique archaeological resources under CEQA, through proposed project re-design. Avoidance and preservation in place is the preferred manner of mitigating impacts to archaeological resources. Preservation in place maintains the important relationship between artifacts and their archaeological context and also serves to avoid conflict with traditional and religious values of groups who may ascribe meaning to the resource. Preservation in place may be accomplished by, but is not limited to, avoidance, incorporating the resource into open space, capping, or deeding the site into a permanent conservation easement. In the event that avoidance and preservation in place of a resource is determined by the City to be infeasible in light of factors such as project design, costs, and other considerations, then **Mitigation Measure CUL-4** shall be implemented for that resource. If avoidance and preservation in place of a resource is determined by the City to be feasible, then **Mitigation Measures CUL-5** shall be implemented for that resource.

CUL-4: Development of an Archaeological Resources Data Recovery and Treatment Plan. The Qualified Archaeologist shall prepare an Archaeological Resources Data Recovery and Treatment Plan for all significant resources that will be impacted by the proposed project. The plan shall be submitted to the City for review and approval prior to the start of field work for data recovery efforts for resources that are eligible under Criterion D/4 (data potential). Data recovery field work shall be completed prior to the start of any project-related ground-disturbing activity. Treatment for resources that are eligible under Criteria A/1 (events), B/2 (persons), and/or C/3 design/workmanship) shall be completed within 3 years of completion of the project. The Archaeological Resources Data Recovery and Treatment Plan shall include:

- *Research Design.* The plan shall outline the applicable cultural context(s) for the region, identify research goals and questions that are applicable to each resource or class of resources, and list the data needs (types, quantities, quality) required to answer each research question. The research design shall address all four National Register/California Register Criteria (A/1-D/4) and identify the methods that will be required to inform treatment, such as subsurface investigation, documentary/archival research, and/or oral history, depending on the nature of the resource.
- *Data Recovery for Resources Eligible under Criterion D/4*. The plan shall outline the field and laboratory methods to be employed, and any specialized studies that will be conducted, as part of the data recovery effort for resources that are eligible under National Register/California Register Criterion D/4 (data potential). If a resource is eligible under additional criteria, treatment beyond data recovery shall be implemented (see CUL-4c).
- *Treatment for Resources Eligible under Criteria A/1, B/2, and/or C/3*. In the event a resource is eligible under National Register/California Register Criteria A/1 (events), B/2 (persons), or C/3 (design/workmanship), then resource-specific treatment shall be developed to mitigate project-related impacts to the degree feasible. That could include forms of documentation, interpretation, public outreach, ethnographic and language studies, publications, and educational programs, depending on the nature of the resource, and may require the retention of additional technical specialists. Treatment measures shall be generally outlined in the plan based on existing information on the resource. Once data recovery is completed and the results are

available to better inform resource-specific treatment, the treatment measures shall be formalized and implemented. Treatment shall be developed by the Qualified Archaeologist in consultation with the City and Native American Tribal representatives for resources that are Native American in origin.

- *Security Measures.* The plan shall include recommended security measures to protect archaeological resources from vandalism, looting, and non-intentionally damaging activities during field work.
- *Procedures for Discovery of Human Remains and Associated Funerary Objects*. The plan shall outline the protocols and procedures to be followed in the event that human remains and associated funerary objects are encountered during field work. These shall include stop-work and protective measures, notification protocols, and compliance with California Health and Safety Code section 7050.5 and PRC section 5097.98. See also CUL-14.
- *Reporting Requirements*. Upon completion of data recovery for resources eligible under Criterion D/4, the Qualified Archaeologist shall document the findings in an Archaeological Data Recovery Report. The draft Archaeological Data Recovery Report shall be submitted to the City within 360 days after completion of data recovery, and the final Archaeological Data Recovery Report shall be submitted to the City within 60 days after the receipt of City comments. The Qualified Archaeologist shall also submit the final Archaeological Data Recovery Report to the Central Coast Information Center.

  Upon completion of all other treatment for resources eligible under Criteria A/1, B/2, and C/3, the Qualified Archaeologist shall document the resource-specific treatment that was implemented for each resource and verification that treatment has been completed in a technical document (report or memorandum). The document shall be provided to the City within 30 days after completion of treatment.
- *Curation Requirements*. Disposition of Native American archaeological materials shall be determined through consultation between Native American representatives, the Qualified Archaeologist, and the City. Disposition of human remains and associated funerary objects shall be determined by the landowner in consultation with the City and Most Likely Descendant (see **Mitigation Measure CUL-14**).

  Any historic-period archaeological materials that are not Native American in origin shall be curated at a repository accredited by the American Association of Museums that meets the standards outlined in 36 Code of Federal Regulations (CFR) 79.9. If no accredited repository accepts the collection, then it may be curated at a non-accredited repository as long as it meets the minimum standards set forth by 36 CFR 79.9. If neither an accredited nor a non-accredited repository accepts the collection, then it may be offered to a public, non-profit institution with a research interest in the materials, or donated to a local school or historical society in the area for educational purposes, to be determined by the Qualified Archaeologist in consultation with the City.
- *Protocols for Native American Monitoring and Input.* The plan shall outline the role and responsibilities of Native American Tribal representatives. It shall include communication protocols and an opportunity and timelines for review of cultural resources documents. The plan shall include provisions for full-time Native American monitoring during field work (see **Mitigation Measure CUL-8**).

CUL-5: Development of a Cultural Resources Monitoring and Mitigation Program (CRMMP). Within 60 days of the award of the contractor's bid and prior to the start of any ground-disturbing activity (*i.e.*, demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil), the Qualified Archaeologist shall prepare a Cultural Resources Mitigation and Monitoring Program (CRMMP) based on the final City-approved project design plans. The CRMMP shall include:

- *Establishment of Environmentally Sensitive Areas.* The CRMMP shall outline areas that will be designated Environmentally Sensitive Areas (including maps). Significant or unevaluated cultural resources that are being avoided and are within 50 feet of the construction zone shall be delineated with exclusion markers to ensure avoidance. These areas will not be marked as archaeological resources, but will be designated as "exclusion zones" on project plans and protective fencing in order to discourage unauthorized disturbance or collection of artifacts.

- *Provisions for Archaeological Monitoring.* Full-time archaeological monitoring shall be required for all ground disturbance. The CRMMP shall outline the archaeological monitor(s) responsibilities and requirements (see **Mitigation Measure CUL-7)**.

- *Procedures for Discovery of Archaeological Resources.* Procedures to be implemented in the event of an archaeological discovery shall be fully defined in the CRMMP, and shall include stop-work and protective measures, notification protocols, procedures for significance assessments, and appropriate treatment measures. The CRMMP shall state avoidance or preservation in place is the preferred manner of mitigating impacts to historical resources and unique archaeological resources, but shall provide procedures to follow should avoidance be infeasible in light of factors such as the nature of the find, project design, costs, and other considerations. See also **Mitigation Measure CUL-9**.

  If, based on the recommendation of the Qualified Archaeologist, it is determined a discovered archaeological resource constitutes a historical resource or unique archaeological resource pursuant to CEQA, then avoidance and preservation in place shall be the preferred manner of mitigating impacts to such a resource in accordance with **Mitigation Measure CUL-3**. In the event that preservation in place is determined to be infeasible and data recovery through excavation is the only feasible mitigation available, an Archaeological Resources Data Recovery and Treatment Plan shall be prepared and implemented following the procedures outlined in **Mitigation Measure CUL-4**. The City shall consult with appropriate Native American representatives in determining treatment of resources that are Native American in origin to ensure cultural values ascribed to the resource, beyond those that are scientifically important, are considered.

- *Procedures for Discovery of Human Remains and Associated Funerary Objects.* The CRMMP shall outline the protocols and procedures to be followed in the event that human remains and associated funerary objects are encountered during construction. These shall include stop-work and protective measures, notification protocols, and compliance with California Health and Safety Code section 7050.5 and PRC section 5097.98 (see **Mitigation Measure CUL-14**).

- *Reporting Requirements.* The CRMMP shall outline provisions for weekly, monthly, and final reporting. The Qualified Archaeologist shall prepare weekly status reports detailing activities and locations observed (including maps) and summarizing any

discoveries for the duration of monitoring to be submitted to the City via email for each week in which monitoring activities occur. Monthly progress reports summarizing monitoring efforts shall be prepared and submitted to the City for the duration of ground disturbance. The Qualified Archaeologist shall prepare a draft Archaeological Resources Monitoring Report and submit it to the City within 180 days after completion of the monitoring program or treatment for significant discoveries should treatment extend beyond the cessation of monitoring. The final Archaeological Resources Monitoring Report shall be submitted to the City within 60 days after receipt of City comments. The Qualified Archaeologist shall also submit the final Archaeological Resources Monitoring Report to the Central Coast Information Center. If human remains are encountered, a confidential report documenting all activities shall be submitted to the California Native American Heritage Commission within 90 days after completion of any treatment (see **Mitigation Measure CUL-14**).

- *Curation Requirements.* Disposition of Native American archaeological materials shall be determined through consultation between Native American representatives, the Qualified Archaeologist, and the City. Disposition of human remains and associated funerary objects shall be determined by the landowner in consultation with the City and Most Likely Descendant (see **Mitigation Measure CUL-14**).

  Any historic-period archaeological materials that are not Native American in origin shall be curated at a repository accredited by the American Association of Museums that meets the standards outlined in 36 CFR 79.9. If no accredited repository accepts the collection, then it may be curated at a non-accredited repository as long as it meets the minimum standards set forth by 36 CFR 79.9. If neither an accredited nor a non-accredited repository accepts the collection, then it may be offered to a public, non-profit institution with a research interest in the materials, or donated to a local school or historical society in the area for educational purposes, to be determined by the Qualified Archaeologist in consultation with the City.

- *Protocols for Native American Monitoring and Input.* The CRMMP shall outline the role and responsibilities of Native American Tribal representatives. It shall include communication protocols, an opportunity and timelines for review of cultural resources documents related to discoveries that are Native American in origin, and provisions for Native American monitoring. The CRMMP shall include provisions for full-time Native American monitoring of all project-related ground disturbance, as well as during any subsurface investigation and data recovery for discovered resources that are Native American in origin (see **Mitigation Measures CUL-8**).

CUL-6: Construction Worker Cultural Resources Sensitivity Training. Prior to start of any ground-disturbing activities (*i.e.*, demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil), the Qualified Archaeologist, or his/her designee, and a Native American representative shall conduct cultural resources sensitivity training for all construction personnel. In the event construction crews are phased, additional trainings shall be conducted for new construction personnel. Construction personnel shall be informed of the types of archaeological resources that may be encountered, the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources or human remains, confidentiality of discoveries, and safety precautions to be taken when working with cultural resources monitors. The City shall ensure construction personnel are made

available for and attend the training and retain documentation demonstrating attendance. That training may be conducted in coordination with paleontological sensitivity training required by **Mitigation Measure CUL-11**.

CUL-7: Archaeological Resources Monitoring. All project-related ground disturbance (*i.e.*, demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil) shall be monitored by an archaeological monitor(s) familiar with the types of resources that could be encountered and shall work under the direct supervisor of the Qualified Archaeologist. The number of archaeological monitors required to be on-site during ground disturbing activities is dependent on the construction scenario, specifically the number of pieces of equipment operating at the same time, the distance between these pieces of equipment, and the pace at which equipment is working, with the goal of monitors being able to effectively observe soils as they are exposed. Generally, work areas more than 500 feet from one another will require additional monitors. The archaeological monitor(s) shall keep daily logs detailing the types of activities and soils observed, and any discoveries. Archaeological monitor(s) shall have the authority to halt and re-direct ground disturbing activities in the event of a discovery until it has been assessed for significance and treatment implemented, if necessary, based on the recommendations of the Qualified Archaeologist in coordination with the City, and the Native American representatives in the event the resource is Native American in origin, and in accordance with the protocols and procedures outlined in the CRMMP (see **Mitigation Measure CUL-5**).

CUL-8: Native American Monitoring. The City shall retain a Native American monitor(s) from a Tribe that is culturally and geographically affiliated with the project site (according to the California Native American Heritage Commission). The Native American monitor shall monitor all project-related ground disturbance (*i.e.*, demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil) and all ground disturbance related to subsurface investigation and data recovery efforts for discovered resources that are Native American in origin. The number of Native American monitors required to be on-site during ground disturbing activities is dependent on the construction scenario, specifically the number of pieces of equipment operating at the same time, the distance between these pieces of equipment, and the pace at which equipment is working, with the goal of monitors being able to effectively observe soils as they are exposed. Generally, work areas more than 500 feet from one another require additional monitors. Native American monitors shall have the authority to halt and re-direct ground disturbing activities in the event of a discovery until it has been assessed for significance.

CUL-9 : Inadvertent Discovery. In the event archaeological resources are encountered during construction of the proposed project, all activity in the vicinity of the find shall cease (within 100 feet), and the protocols and procedures for discoveries outlined in the CRMMP (see **Mitigation Measure CUL-5**) shall be implemented. The discovery shall be evaluated for potential significance by the Qualified Archaeologist. If the Qualified Archaeologist determines that the resource may be significant (i.e., meets the definition for historical resource in *CEQA Guidelines* subdivision 15064.5(a) or unique archaeological resource in PRC subdivision 21083.2(g)), the Qualified Archaeologist shall develop an Archaeological Resources Data Recovery and Treatment Plan for the resource in accordance with the CRMMP (see **Mitigation Measure CUL-5**) and

following the procedures outlined in **Mitigation Measure CUL-4**. When assessing significance and developing treatment for resources that are Native American in origin, the Qualified Archaeologist and the City shall consult with the appropriate Native American representatives. The Qualified Archaeologist shall also determine if work may proceed in other parts of the project site while data recovery and treatment is being carried out.

Significance Determination: Significant and Unavoidable

Paleontological Resources

Impact 3.5-2: Construction-related excavation for the proposed project could affect a unique paleontological resource. Implementation of worker training and monitoring during construction would reduce the potential for adverse effects to paleontological resources. This would be a Class II impact, Less than Significant with Mitigation.

Construction

The proposed and preferred project sites are underlain by a variety of geologic units, all of which have low to no paleontological sensitivity (refer to Table 3.5-1). However, the portions of those sites underlain by alluvial gravel (Qa) and beach and dune sands (Qs) increase sensitivity at depth since higher sensitivity older sediments may underlie them. The LACM did not identify any fossil localities within the project site, but two fossil localities (LACM 5903 and 5790) were identified within older Quaternary deposits located approximately 2 miles and 22 miles from the project site, respectively. Fossil locality LACM 5903 produced a fossil specimen of mastodon (*Mammutidae*) in stream gravels at a depth of 6 feet below the ground surface. Fossil locality LACM 5790 produced a fossil specimen of mammoth (*Mammuthus)* at shallow but unstated depth (McLeod, 2018).

WRF

The preferred WRF site is underlain by alluvial gravel (Qa), Franciscan rocks, mélange (fm), and serpentine (sp), which have low or no paleontological sensitivity. The portions of the proposed WRF located on alluvial gravel (Qa) increase sensitivity at depth since higher sensitivity older sediments may underlie the younger deposits. If construction-related excavation for the proposed WRF extends into older deposits, then it could impact unique paleontological resources. Implementation of **Mitigation Measures CUL-10 through CUL-13** would reduce impacts to less than significant.

Lift Station

The proposed lift station is underlain by alluvial gravel (Qa), which has low paleontological sensitivity. However, sensitivity increases at depth since higher sensitivity older sediments may underlie the younger deposits. If construction-related excavation for the proposed lift station extends into older deposits, then it could impact unique paleontological resources. Implementation of **Mitigation Measures CUL-10 through CUL-13** would reduce impacts to less than significant.

Conveyance Pipelines

The proposed conveyance pipelines are underlain by alluvial gravel (Qa), beach and dune sands (Qs), and Franciscan rocks, mélange (fm), which have low or no paleontological sensitivity. The portions of the proposed conveyance pipelines located on alluvial gravel (Qa) and beach and dune sands (Qs) increase sensitivity at depth since higher sensitivity older sediments may underlie the younger deposits. If construction-related excavation for the conveyance pipelines extends into older deposits, then it could impact unique paleontological resources. Implementation of **Mitigation Measures CUL-10 through CUL-13** would reduce impacts to less than significant.

Injection and Monitoring Wells

The proposed IPR East and IPR West wellfield areas are underlain by alluvial gravel (Qa), Franciscan rocks, greenstone (fg) and Franciscan rocks, graywacke sandstone (fs), which have low or no paleontological sensitivity. The portions of the proposed IPR East and IPR West wellfield areas located on alluvial gravel (Qa) increase sensitivity at depth since higher sensitivity older sediments may underlie the younger deposits. If construction-related excavation for the proposed injection and monitoring wells extends into older deposits, then it could impact unique paleontological resources. Implementation of **Mitigation Measures CUL-10 through CUL-13** would reduce impacts to less than significant.

Decommissioning of Current WWTP

The WWTP is underlain by alluvial gravel (Qa) and beach and dune sands (Qs), which have low paleontological sensitivity. Those sediments increase sensitivity at depth since higher sensitivity older sediments may underlie the younger deposits. Ground-disturbance associated with decommissioning of the current WWTP includes removal of pipelines from at least 4-5 feet below ground surface. If construction-related excavation for the decommissioning of the WWTP extends into older deposits, then it could impact unique paleontological resources. Implementation of **Mitigation Measures CUL-10 through CUL-13** would reduce impacts to less than significant.

Operation

WRF, Lift Station, Conveyance Pipelines, Injection and Monitoring Wells, Decommissioning of the WWTP

Although there is unlikely to be ground disturbance associated with the operation of the proposed project facilities, there is potential ground disturbance could occur during maintenance or repair of these facilities. If ground disturbance occurred within areas that have not been previously disturbed extend into paleontologically sensitive sediments, then there is the potential to impact unique paleontological resources. Implementation of **Mitigation Measures CUL-13** would reduce impacts to less than significant.

Mitigation Measures

> **CUL-10: Retention of a Qualified Paleontologist**. Within 60 days prior to the start of any ground-disturbing activity (*i.e.*, demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil), the City shall retain a paleontologist who meets the (SVP) Standards (SVP,

2010) (Qualified Paleontologist) to carry out all mitigation measures related to paleontological resources.

CUL-11: Paleontological Resources Sensitivity Training. The Qualified Paleontologist, or his/her designee, shall conduct construction worker paleontological resources sensitivity training prior to the start of ground disturbing activities. In the event construction crews are phased, additional trainings shall be conducted for new construction personnel. The training session shall focus on the recognition of the types of paleontological resources that could be encountered within the project site and the procedures to be followed if they are found. The City shall ensure construction personnel are made available for and attend the training and retain documentation demonstrating attendance. That training may be conducted in coordination with construction worker cultural resources sensitivity training required by CUL-6.

CUL-12: Paleontological Resources Monitoring. All ground disturbance in excess of 5 feet within areas that are mapped as younger alluvial gravel (Qa) and beach and dune sands (Qs) shall be monitored on a full-time basis during initial ground disturbance. The Qualified Paleontologist shall spot check the excavation on an intermittent basis and recommend whether the depth of required monitoring should be revised based on his/her observations. If the Qualified Paleontologist determines full-time monitoring is no longer warranted, based on the specific geologic conditions at the surface or at depth, then the Qualified Paleontologist may recommend that monitoring be reduced to periodic spot-checking or cease entirely. Paleontological resources monitoring shall be performed by a qualified paleontological monitor (meeting the standards of the SVP, 2010) under the direction of the Qualified Paleontologist. Monitors shall have the authority to temporarily halt or divert work away from exposed fossils in order to recover the fossil specimens. Any significant fossils collected during project-related excavations shall be prepared to the point of identification and curated into an accredited repository with retrievable storage. Monitors shall prepare daily logs detailing the types of activities and soils observed, and any discoveries. The Qualified Paleontologist shall prepare a Paleontological Resources Monitoring Report detailing the locations of monitoring and any discoveries. The report shall be submitted to the City within 60 days after completion of the monitoring program, or treatment for significant discoveries should treatment extend beyond the cessation of monitoring.

CUL-13: Inadvertent Discovery of Fossils. If construction or other proposed project personnel discover any potential fossils during construction, regardless of the depth of work or location, then work at the discovery location shall cease in a 50-foot radius of the discovery until the Qualified Paleontologist has assessed the discovery and made recommendations as to the appropriate treatment. If the find is deemed significant, it shall be salvaged following the standards of the SVP (2010) and curated with a certified repository.

Significance Determination

Less than Significant with Mitigation

Human Remains

Impact 3.5-3: The proposed project could disturb human remains during construction, including those interred outside of formal cemeteries. This would be a Class I impact, Significant and Unavoidable.

Construction

WRF, Lift Station, Conveyance Pipelines, Injection and Monitoring Wells, Decommissioning of the WWTP

The proposed and preferred project sites and vicinity overlap with known locations of human remains. Ground disturbance associated with the proposed project has the potential to disturb human remains, including those interred outside of formal cemeteries. That would be a potentially significant impact. Implementation of **Mitigation Measures CUL-1 through and CUL-9 and CUL-14** would reduce impacts to the degree feasible, however, even after mitigation the impact would remain significant and unavoidable.

Operation

WRF, Lift Station, Conveyance Pipelines, Injection and Monitoring Wells, Decommissioning of the WWTP

Although there is unlikely to be ground disturbance associated with the operation of the proposed project facilities, there is potential ground disturbance could occur during maintenance or repair of those facilities. If ground disturbance occurred within areas that have not been previously disturbed, then there is the potential to impact human remains. Implementation of **Mitigation Measures CUL-14** would reduce impacts to less than significant.

Mitigation Measures

Implement CUL-1 through CUL-9

> **CUL-14. Inadvertent Discovery of Human Remains**: If human remains are encountered, then the City shall halt work in the vicinity (within 100 feet) of the discovery and contact the County Coroner in accordance with PRC section 5097.98 and Health and Safety Code section 7050.5. If the County Coroner determines the remains are Native American, then the Coroner will notify the California Native American Heritage Commission in accordance with Health and Safety Code subdivision 7050.5(c), and PRC section 5097.98. The California Native American Heritage Commission will designate a Most Likely Descendent for the remains per PRC section 5097.98. Until the landowner has conferred with the Most Likely Descendent, the contractor shall ensure the immediate vicinity where the discovery occurred is not disturbed by further activity, is adequately protected according to generally accepted cultural or archaeological standards or practices, and that further activities take into account the possibility of multiple burials. If human remains are encountered, the Qualified Archaeologist, in consultation with the Most Likely Descendant shall prepare a confidential report documenting all activities and it shall be submitted to the California Native American Heritage Commission within 90 days after completion of any treatment.

Significance Determination

Significant and Unavoidable

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3.6 Geology, Soils, and Seismicity

This section addresses the potential impacts to geology and soils associated with the proposed project. A description of geologic conditions, a summary of applicable regulations related to geologic and seismic hazards, an evaluation of the potential impacts that may result from implementing the proposed project, and identification of mitigation measures to minimize potential effects is provided, if necessary.

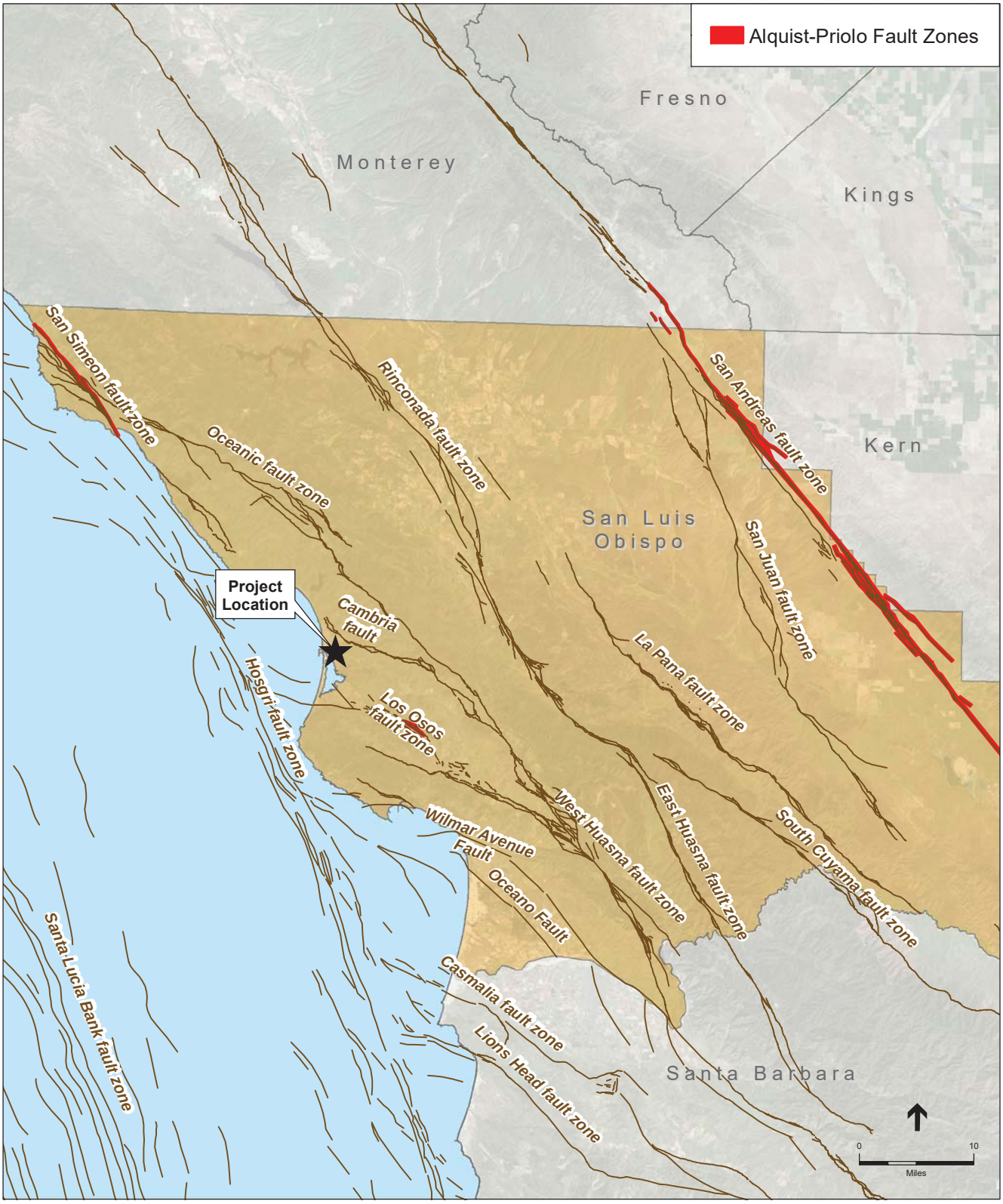
3.6.1 Environmental Setting

Geology

The proposed project is located within the Coast Ranges Geomorphic Province, which extends from the Transverse Ranges in southern California to the Klamath Mountains in northern California and into Oregon. Geomorphic Provinces are large regions that display common characteristic landforms and geologic structures, which are governed by tectonics. The Coast Ranges are northwest-trending mountain ranges (2,000 to 4,000, occasionally 6,000 feet elevation above sea level), and valleys composed of sedimentary, volcanic, and metamorphic formations comprised predominantly of Jurassic and Cretaceous age rocks with Tertiary to Quaternary age rocks commonly overlying the older formations along the flanks and foothills of those ranges. Recent sediments of alluvium and colluvium are found above the rock within intervening drainages, valleys, and coastal areas. The ranges and valleys trend northwest, subparallel to the San Andreas Fault (DOC, 2002; Yeh and Associates Inc., 2017).

Regional-scale geologic structure is characterized by a series of northwest trending faults that are mostly associated with compression and thrust occurring between the San Andreas fault along the eastern border of the County and the Hosgri fault zone located offshore, approximately 8 miles west of the City (see **Figure 3.6-1**). Local northwest trending faults include active and potentially active faults such as the Oceanic, Cambria, Los Osos, Wilmar Avenue and Oceano faults. The Cambria fault is mapped as trending northwest approximately 2,500 feet north of the project area (Yeh and Associates Inc., 2017).

The proposed project is located within the City and in unincorporated area of the County adjacent to the City boundaries (see Figure 2-1 in Chapter 2, *Project Description* of this Draft EIR). The bedrock geology within the proposed project area is characterized as the Cretaceous-Jurassic Age Mélange of the Franciscan Complex. The Mélange is a mixture of fragmented rock masses embedded in the sheared matrix of argillite and crushed metasandstone. The Mélange within the proposed project area is mostly concealed by residual soils, colluvium, landslide deposits and alluvium. Further, Jurassic age serpentanized ultramafic rocks are generally found in east-west trending outcrops in and around the City (Yeh and Associates Inc., 2017).



SOURCE: USGS; ESRI

Morro Bay Water Reclamation Facility Project . 150412

Figure 3.6-1
Regional Faults

Topography and Drainage

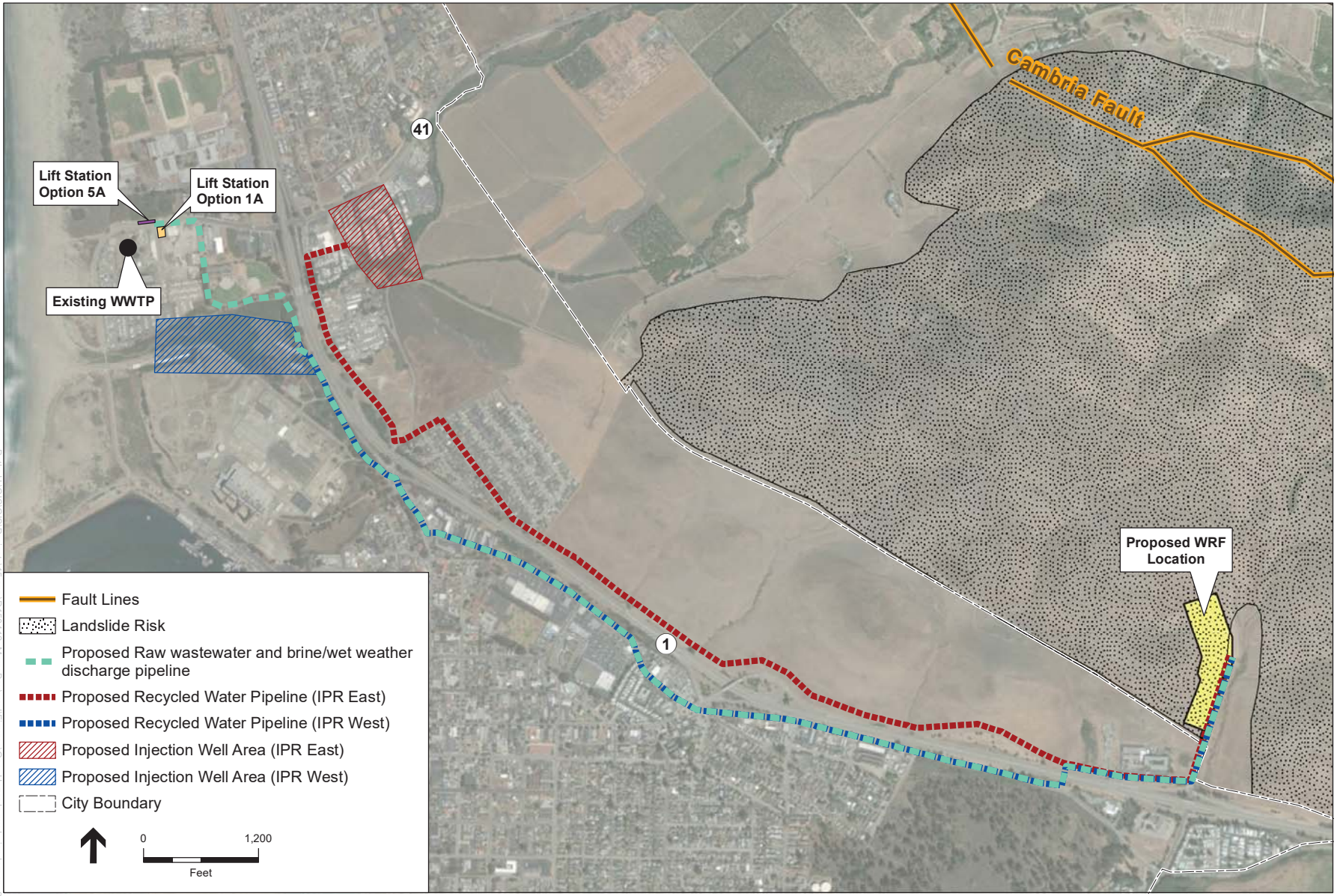
Elevations near the existing Wastewater Treatment Plant (WWTP), proposed lift station, conveyance pipelines and injection well areas in the City range from 14 feet above mean sea level (amsl) to 44 feet amsl. The existing WWTP, proposed lift station, and injection well areas are located close to where Morro Creek empties into the mouth of Morro Bay and the Pacific Ocean.

The proposed WRF site in an unincorporated portion of the County has elevations ranging from about 85 feet to 180 feet amsl. The proposed WRF area is 1.5 miles inland from the Embarcadero of the City and 2 miles inland from the Morro Bay Estuary. The proposed WRF site lies within the coastal valley, adjacent to an unnamed drainage surrounded by low lying ridges. The channel generally trends from north to south, and empties into Chorro Creek south of Highway 1. The drainage is ephemeral and contains recent alluvial deposits and colluvium. The valley floor is gently sloping and is bordered on the north, east, and west by rolling hills and ridges (Yeh and Associates Inc., 2017).

Seismic and Geologic Hazards

Surface Fault Rupture

Seismically-induced ground rupture is defined as the physical displacement of surface deposits in response to an earthquake's seismic waves. The magnitude and nature of fault rupture can vary for different faults, or even along different strands of the same fault. Ground rupture is considered more likely along active faults. The proposed project area is located approximately 2,500 feet south of the Cambria fault system, which is not considered active (i.e., a fault along which displacement has occurred within the past 11,000 years). The California Geologic Survey (CGS) classifies the Cambria Fault as "potentially active;" however, recent mapping indicates that the age of the fault may be older than Quaternary age, and, therefore, inactive. Other potentially active faults that are near the project area are the Los Osos Fault and Hosgri Fault (Figure 3.6-1), located approximately 8 miles southwest and 9 miles southwest of the project area, respectively. Additional faulting associated with the lesser Morro Bay and Cayucos faults (grouped with the Cambria fault system) are located more than one-mile northeast of the site (Yeh and Associates, Inc., 2017) (see **Figure 3.6-2**). The proposed project is not within a designated Alquist-Priolo Fault Zone. An Alquist-Priolo Fault zone refers to regulatory zones around active faults that have been identified by the California Department of Conservation in order to prevent the construction of buildings used for human occupancy on the surface trace of active faults (DOC, 2018).



SOURCE: ESRI 2016

Morro Bay Water Reclamation Facility Project. 150412

Figure 3.6-2

Geologic Hazards

Groundshaking

The proposed project is located in a seismically active region. According to the Department of Conservation's (DOC) Earthquake Shaking Potential for California Map (DOC, 2008), the proposed project is within an area subject to high frequency shaking potential. High frequency shaking areas are near major, active faults that will, on average, experience stronger earthquake shaking more frequently. Ground shaking intensity varies depending on the overall earthquake magnitude, distance to the fault, focus of earthquake energy, and type of geologic materials underlying an area. The Modified Mercalli Intensity (MMI) scale is commonly used to express earthquake effects due to ground shaking because it expresses ground shaking relative to actual physical effects observed by people during a seismic event. MMI values range from I (earthquake not felt) through a scale of increasing intensities to XII (nearly total damage).

With a high probability for producing a major earthquake in the near future, the San Andreas and the offshore Hosgri fault present the most likely sources of groundshaking to the City. Other faults that have the potential to generate strong ground motion include the active Los Osos fault, and the potentially active Wilmar Avenue, Rinconada, Pecho (offshore) and Santa Lucia Bank (offshore) faults (Figure 3.6-1). In addition to the mapped faults, there is also a potential for strong ground motion associated with earthquakes on hypothesized buried thrust faults beneath the coastal area (County of San Luis Obispo, 1999; Yeh and Associates, Inc., 2017).

Liquefaction, Settlement and Lateral Spreading

Soil liquefaction is a phenomenon whereby unconsolidated saturated soils lose cohesion and behave closer to a fluid state as a result of severe vibratory motion. The relatively rapid loss of soil shear strength during strong earthquake shaking can result in ground failure. Secondary ground failures associated with liquefaction include lateral spreading or flowing of stream banks or fills, sand boils, and subsidence. Areas characterized by water-saturated, cohesionless, and granular soils are most susceptible to liquefaction and usually at depths of less than 50 feet, especially in areas with a shallow water table.

Additional factors known to influence liquefaction potential include soil type, relative density, grain size, confining pressure, and the intensity and duration of the seismic ground shaking. Liquefaction is most prevalent in loose to medium dense, silty, sandy, and gravelly soils below the groundwater table. The higher elevations of the City are underlain by older alluvium, old dune sand, Franciscan Formation, and volcanic bedrock, and have a moderate to null potential to be underlain by liquefiable sediments (County of San Luis Obispo, 1999). The proposed WRF site is not located within a State and County Hazard Zone for Liquefaction (City of Morro Bay, 1988; County of San Luis Obispo, 1999; 2018; Yeh and Associates, Inc., 2017). With the exception of the area along the drainage adjacent to the proposed WRF site, the WRF site is within an area as having a low potential to be underlain by soils susceptible to liquefaction. Liquefaction can occur in saturated, young, and loose to medium dense granular soil or sensitive clay subjected to ground motions, depending on the strength of the earthquake. The WRF site is predominantly underlain by stiff to very stiff fine-grained clay overlying bedrock of the Franciscan Mélange. Those conditions are not considered vulnerable to liquefaction (Yeh and Associates, Inc., 2017).

The areas of the City that have a high potential to be underlain by potentially liquefiable sediments are those areas underlain by beach and sand dune deposits and younger alluvium. A majority of the City is underlain by those alluvial, estuarine, beach and sand dune deposits. High groundwater levels can be expected in the Embarcadero area and other beach front areas. Floodplain areas along Chorro, Little Morro and Morro Creeks are also underlain by younger alluvium. The existing WWTP, proposed lift station, and proposed well areas are located within the Seismic Hazard Zone for liquefaction, and, therefore, are susceptible to liquefaction (City of Morro Bay, 1988; County of San Luis Obispo, 1999).

Landslides

Landslides are the down-slope displacement of rock, soils and debris. The susceptibility of land (slope) failure is dependent on slope and geological formations and influenced by levels of rainfall, excavation, or seismic activities. Steep slopes and downslope creep of surface materials characterize landslide-susceptible areas. Landslides are not to be confused with minor slope failures (slumps), which are usually limited to the topsoil zone and can occur on slopes composed of almost any geologic material. Landslides can cause damage to structures both above and below the slide mass. Structures above the slide area are typically damaged by undermining of foundations. Areas below a slide mass can be damaged by being overridden and crushed by the failed slope material. A landslide complex is visible on an east-facing hillside north of the project site. Surficial landslides were observed during the Preliminary Geotechnical and Geologic Hazards Report (Preliminary Geotechnical Report) at the WRF site (Yeh and Associates, Inc., 2017) (see **Appendix E**). The proposed WRF area is located in an undeveloped area with hillsides and varying topography. The proposed WRF site is within a State designated Seismic Hazard Zone for Earthquake Induced-Landslides (City of Morro Bay, 1988; County of San Luis Obispo, 1999; Yeh and Associates, Inc., 2017).

Soils

The subsurface conditions within the proposed WRF area generally consist of mixed surficial sediments of colluvium and residual soil overlying Franciscan Mélange and Serpentinite bedrock. No artificial fill was encountered during the subsurface exploration of the WRF site although the surface has been disturbed by agricultural operations in some areas, including the northern portion of the WRF site and the Ranch Road that provides access from the south (Yeh and Associates, Inc., 2017).

Surficial deposits are comprised of colluvium and residual soil predominantly made up of hard clay with varying amounts of sand and gravel and generally ranged in thickness from 3 to 5 feet along the hillside areas of the project area and thickened to about 20 feet adjacent to the eastern drainage channel adjacent to the proposed WRF site. In some area Franciscan Mélange was weathered to residual soil that consisted of hard clay. The underlying bedrock predominately consisted of intensely to moderately weathered, sheared and fractured soft claystone and moderately hard greywacke (Yeh and Associates, Inc., 2017).

Subsidence

Subsidence of the ground surface can occur under static conditions but can also be accelerated and accentuated by earthquakes and tectonic activity (i.e., dynamic conditions). Subsidence of loose, unconsolidated soils generally occurs slowly, but can cause significant structural damage. Overdraft conditions within groundwater basins in various areas throughout California have resulted in lowered groundwater levels, a static condition which can contribute to subsidence of the ground surface. As water levels decline in the subsurface, dewatering and compaction of aquifer materials, predominantly fine-grained materials such as clay, can cause the overlying ground surface to subside. According to the County of San Luis Obispo General Plan, there are several oil field operations in the southern coastal areas and eastern part of the County; however, there are no known reports of subsidence in these areas. Further, no subsidence was documented in the City of Morro Bay (County of San Luis Obispo, 1999).

However, more recent assessments of subsidence in California have been prepared within the last few years including the *Full Report of Findings of Land Subsidence from Groundwater Use in California* (LSCE et. al, 2014), which document subsidence within the County. The population of the County has grown substantially in the recent years and land has been converted from dry farming and grazing to irrigated agriculture and urban development. Groundwater has been relied upon to make up for shortages of surface water within the County and the most severe cases of land subsidence has been documented in the neighboring cities of San Luis Obispo, Paso Robles, and Cambria areas (LSCE et. al, 2014).

The proposed WRF site is underlain by shallow thicknesses of unsaturated alluvium and colluvium over bedrock. The subsurface conditions encountered during the Preliminary Geotechnical Report are not considered prone to subsidence from the removal of groundwater and there are no known or documented subsidence cases in the immediate area due to the extraction of fluids from the ground (Yeh and Associates, Inc., 2017).

Hydroconsolidation is the potential for soil to consolidate or collapse due to wetting. The proposed WRP site is predominantly underlain by very stiff to hard clay. Clay near the ground surface was desiccated, fissured and is considered susceptible to collapse. According to the Preliminary Geotechnical Report conducted for the proposed project, the upper several feet of soils at the site are not considered suitable for supporting proposed improvements without modification (Yeh and Associates, Inc., 2017).

Erosion

Soil erosion is the detachment and movement of soil materials through natural processes or human activities. Natural processes include water, landslide, fire, flood, and wind. Man-made causes could include irresponsible grading and other construction practices, use of off-road vehicles, and other indiscriminate disruptions of soil. Severe erosion can be a problem anywhere in the County, especially when precipitation and/or wind combine with uncovered soil (County of San Luis Obispo, 1999).

Expansive Soils

Expansive soils contain significant amounts of clay particles that have the ability to give up water (shrink) or take on water (swell). When these soils swell, the change in volume can exert significant pressures on loads that are placed on them, such as loads resulting from building and structure foundations or underground utilities, and can result in structural distress and/or damage. Often, grading, site preparations, and backfill operations associated with subsurface structures can eliminate the potential for expansion. Linear extensibility and plasticity are used to describe the shrink-swell potential of soils. If linear extensibility is greater than 3 percent (classified as Moderate potential), shrinking and swelling can cause damage to buildings, roads, and other structures (NRCS, 2014).

Near-surface samples of soil from the proposed WRF site consists of sandy lean clay, sandy fat clay, decomposed greywacke, and clayey sand. The soils are characterized as having moderate shrink-swell potential (moderately expansive) (Yeh and Associates, Inc., 2017). The predominate soils within the area where the existing WWTP, proposed lift station and well sites consist of unconsolidated sand and fill materials from prior development. Those coastal soils are not typically expansive (County of San Luis Obispo, 1999).

3.6.2 Regulatory Framework

Federal

Earthquake Hazards Reduction Act

The U.S. Congress passed the Earthquake Hazards Reduction Act in 1977, which created the National Earthquake Hazards Reduction Program (NEHRP). The purpose of the NEHRP is to "reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards and reduction program." The principle behind NEHRP is that earthquake-related losses can be reduced through improved design and construction methods and practices, land use controls and redevelopment, prediction techniques and early-warning systems, coordinated emergency preparedness plans, and public education and involvement programs. There are four federal agencies that can contribute to earthquake mitigation efforts; they have been designated as NEHRP agencies and are as follows: the Federal Emergency Management Agency (FEMA), the National Institute of Standards and Technology (NIST), the National Science Foundation (NSF), and the U.S. Geological Survey (USGS).

Federal Occupational Safety and Health Administration Regulations

The Occupational Safety and Health Administration's (OSHA) Excavation and Trenching standard, Title 29 of the Code of Federal Regulations (CFR), Part 1926.650, covers requirements for excavation and trenching operations. OSHA requires that all excavations in which employees could potentially be exposed to cave-ins be protected by sloping or benching the sides of the excavation, supporting the sides of the excavation, or placing a shield between the side of the excavation and the work area.

State

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act of 1990 (Public Resources Code, Chapter 7.8, Section 2690-2699.6) was adopted to reduce the threat to public safety and to minimize the loss of life and property by identifying and mitigating ground failure caused by strong earthquakes, namely liquefaction and slope failure. The Seismic Hazards Mapping Act requires the State Geologist to delineate seismic hazard zones, also known as "zones of required investigation", where regional (that is, not site-specific) information suggests that the probability of a hazard requiring mitigation is adequate to warrant a site-specific investigation. The fact that a site lies outside a zone of required investigation does not necessarily mean that the site is free from seismic or other geologic hazards. Where a project—defined by the act as any structures for human occupancy or any subdivision of land that contemplates the eventual construction of structures for human occupancy—is within a zone of required investigation, lead agencies must apply minimum criteria for project approval. The most basic criteria for project approval are that the owner/developer adequately demonstrates seismic hazards at the site have been evaluated in a geotechnical investigation, that appropriate mitigation measures have been proposed, and that the lead agency has independently reviewed the adequacy of the hazard evaluation and proposed mitigation measures. Both the geotechnical report and the independent review must be performed by a certified engineering geologist or registered civil engineer. The WRF project area is characterized as having a low potential for liquefaction, while the proposed lift station, wells, and pipelines would be located within Seismic Hazard Zones for liquefaction. Further, the proposed WRF is located in a Seismic Hazard Zone for earthquake induced landslides.

California Geologic Survey, Guidelines for Evaluating and Mitigating Seismic Hazards in California

The proposed project would be required to comply with the *CGS Guidelines for Evaluating and Mitigating Seismic Hazards* (Special Publication 117A) (CGS, 2008) which provides guidance for evaluating and mitigating seismic hazards as required by the Public Resources Code Section 2695(a). Special Publication 117A provides new tools for the screening and evaluation of slope stability and liquefaction hazards, and new and improved attenuation relations for the estimation of future ground motions.

California Building Code

The California Building Code (CBC), which is codified in Title 24 of the California Code of Regulations, Part 2, was promulgated to safeguard the public health, safety, and general welfare by establishing minimum standards related to structural strength, egress facilities, and general building stability. The purpose of the CBC is to regulate and control the design, construction, quality of materials, use/occupancy, location, and maintenance of all building and structures within its jurisdiction. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under State law, all building standards must be centralized in Title 24 or they are not enforceable. The provisions of the CBC apply to the construction, alteration, movement, replacement, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California.

The 2016 edition of the CBC is based on the 2015 International Building Code (IBC) published by the International Code Council. The code is updated triennially, and the 2016 edition of the CBC was published by the California Building Standards Commission on July 1, 2016, and took effect in January 1, 2017. The 2016 CBC contains California amendments based on the *American Society of Civil Engineers Minimum Design Standard ASCE/SEI 7-16*, Minimum Design Loads for Buildings and Other Structures, provides requirements for general structural design and includes means for determining earthquake loads[1] as well as other loads (such as wind loads) for inclusion into building codes. Conformance to the current building code recommendations does not constitute any kind of guarantee that significant structural damage would not occur in the event of a maximum magnitude earthquake. However, it is reasonable to expect that a structure designed in-accordance with the seismic requirements of the CBC should not collapse in a major earthquake.

California Occupational Safety and Health Administration Regulations

Occupational safety standards exist in federal and State laws to minimize worker safety risks from both physical and chemical hazards in the work place. In California, the California Division of Occupational Safety and Health (Cal/OSHA) and the federal OSHA are the agencies responsible for ensuring worker safety in the workplace. The OSHA Excavation and Trenching standard (29 CFR 1926.650), covers requirements for excavation and trenching operations, which are among the most hazardous construction activities. Cal/OSHA is the implementing agency for both state and federal OSHA standards.

National Pollutant Discharge Elimination System Construction General Permit

Construction associated with the proposed program may disturb more than one acre of land surface affecting the quality of stormwater discharges into waters of the U.S. If ground disturbance is greater than one acre of land, the proposed project would therefore be subject to the National Pollutant Discharge Elimination System (NPDES) Construction General Permit (Order 2009-0009-DWQ, NPDES No. CAS000002). The Construction General Permit regulates discharges of pollutants in stormwater associated with construction activity to waters of the U.S. from construction sites that disturb one or more acres of land surface, or that are part of a common plan of development or sale that disturbs more than one acre of land surface. The permit regulates stormwater discharges associated with construction or demolition activities, such as clearing and excavation; construction of buildings; and linear underground projects, including installation of water pipelines and other utility lines.

The Construction General Permit requires that construction sites be assigned a Risk Level of 1 (low), 2 (medium), or 3 (high), based both on the sediment transport risk at the site and the receiving waters risk during periods of soil exposure (e.g., grading and site stabilization). The sediment risk level reflects the relative amount of sediment that could potentially be discharged to receiving water bodies and is based on the nature of the construction activities and the location of the site relative to receiving water bodies. The receiving waters risk level reflects the risk to the

[1] A load is the overall force to which a structure is subjected in supporting a weight or mass, or in resisting externally applied forces. Excess load or overloading may cause structural failure.

receiving waters from the sediment discharge. Depending on the risk level, the construction of proposed projects could be subject to the following requirements:

- Effluent standards
- Good site management "housekeeping"
- Non-stormwater management
- Erosion and sediment controls
- Run-on and runoff controls
- Inspection, maintenance, and repair
- Monitoring and reporting requirements

The Construction General Permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that includes specific best management practices designed to prevent sediment and pollutants from contacting stormwater from moving offsite into receiving waters. Routine inspection of all best management practices is required under the provisions of the Construction General Permit.

The SWPPP must be prepared before the construction begins. The SWPPP must contain a site map(s) that delineates the construction work area, existing and proposed buildings, parcel boundaries, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the program area. The SWPPP must list best management practices and the placement of those best management practices that the project proponent would use to protect stormwater runoff. 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 best management practices, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Examples of typical construction best management practices include scheduling or limiting certain activities to dry periods, installing sediment barriers such as silt fence and fiber rolls, and maintaining equipment and vehicles used for construction. Non-stormwater management measures include installing specific discharge controls during certain activities, such as paving operations, vehicle and equipment washing and fueling. The Construction General Permit also sets post-construction standards (i.e., implementation of best management practices to reduce pollutants in stormwater discharges from the site following construction).

Local

County of San Luis Obispo General Plan

The proposed WRF site would be located within an unincorporated portion of the County. The Safety Element of the County General Plan describes potential geologic hazards to the County's citizens. Geologic hazards addressed within the County General Plan include fault rupture, groundshaking, liquefaction and seismic settlement, slope instability and landslides, and coastal bluff erosion (County of San Luis Obispo, 1999).

Estero Area Plan and Geologic Study Area (GSA)

The proposed WRF site is located within the Estero Area Plan and the Geologic Study Area (GSA) combining designation. The project site is located outside of the Urban Reserve Line (URL), which is coterminous with the boundary between the City and County. The GSA designation when applied to lands outside the URL signifies that the area is subject to high

landslide risk potential. The Estero Area Plan provides additional policy guidance and design standards unique to the plan area.

City of Morro Bay General Plan

The proposed lift station, the majority of pipeline infrastructure, and wells sites would be located within the City. Further, demolition of the existing WWTP would occur within the City. The Safety Element of the City of Morro Bay General Plan describes potential hazards to the community's citizens. Geologic hazards addressed within the City of Morro Bay General Plan include groundshaking, liquefaction, tsunamis, landslides, and coastal erosion (City of Morro Bay, 1988).

3.6.3 Impacts and Mitigation Measure

Significance Criteria

Appendix G of the CEQA Guidelines recommends significance criteria for the evaluation of impacts related to geology, soils, and seismicity in the project area. Those same criteria are provided below. This Draft EIR assumes implementation of the proposed project would have a significant impact related to geology, soils, and seismicity if it would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - 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
  - Strong seismic ground shaking
  - Seismic-related ground failure, including liquefaction
  - Landslides
- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on-site or offsite landslide, lateral spreading, subsidence (i.e., settlement), liquefaction, or collapse;
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property; or
- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

The updated CBC no longer cites the 1997 UBC Table 18-1-B for identifying expansive soils. The checklist in Appendix G of the CEQA Guidelines still refers to this out-of-date table. This Draft EIR uses the updated CBC section as defined in 24 CCR 1803.5.3 of the California Building Code (2013).

Methodology

Geologic and seismic information for the proposed project area was derived from various sources and compiled in this chapter to develop a comprehensive understanding of the potential constraints and hazards associated with construction and operation of the proposed project. Information sources include geologic and soils maps and the *Preliminary Geotechnical and Geologic Hazards Report* prepared by Yeh and Associates, Inc. (included as **Appendix E** of this Draft EIR), Department of Conservation, California Geologic Survey (CGS), the County of San Luis Obispo and the City of Morro Bay, all of which reflect the most up-to-date understanding of the regional geology and seismicity.

American Water Works Association (AWWA) Standards for Proposed Pipelines

Pipelines are constructed to various industry standards. The AWWA is a worldwide nonprofit scientific and educational association that, among its many activities, establishes recommended standards for the construction and operation of public water supply systems, including standards for pipe and water treatment facility materials and sizing, installation, and facility operations. While the AWWA's recommended standards are not enforceable code requirements, they nevertheless can dictate how pipelines for water conveyance are designed and constructed. As part of the proposed project, the construction contractors would incorporate AWWA standards into the design and construction of the proposed pipelines.

Seismic Considerations

In California, an earthquake can cause injury or property damage by: (1) rupturing the ground surface, (2) violently shaking the ground, (3) causing the underlying ground to fail due to liquefaction, or (4) causing enough ground motion to initiate slope failures or landslides, any of which could damage or destroy structures. The checklist items in Appendix G of the *CEQA Guidelines*, which provide the basis for most of the significance criteria above, reflect the potential for large earthquakes to occur in California and recommend analysis of the susceptibility of the project sites to seismic hazards and the potential for the proposed project to exacerbate the effects of earthquake-induced ground motion at the project sites and surrounding areas. The significance criteria do not require elimination of the potential for structural damage from seismic hazards. Rather, the criteria require an evaluation of whether significant seismic hazards could be minimized through engineering design solutions that would reduce the associated risk of loss, injury, or death.

State and local code requirements ensure buildings and other structures are designed and constructed to withstand major earthquakes, thereby reducing the risk of collapse and the associated risks to human health and safety and private property. The code requirements have been developed through years of study of earthquake response and the observed performance of structures during significant local earthquakes and others around the world. The proposed project would be required to comply with the CBC and the *CGS Guidelines for Evaluating and Mitigating Seismic Hazards* (Special Publication 117A) which provides guidance for evaluating and mitigating seismic hazards as required by the Public Resources Code Section 2695(a).

Impact Analysis

Earthquakes

Impact 3.6-1: The geologic conditions at the proposed project sites include potential for seismic-induced ground shaking, liquefaction, and landslides that could damage structures or cause injury to employees at manned facilities. However, implementation of engineering design criteria as specified by required geotechnical investigations would reduce the risk of loss, injury, or death. This impact would be Class II, Less than Significant with Mitigation.

Fault Rupture and Seismic Ground Shaking

All Facilities

None of the proposed project facilities would be located within an Alquist-Priolo Fault Zone, as shown on Figure 3.6-1 and are, thus, not located adjacent to an active fault that would be susceptible to fault rupture. However, the entire proposed project area lies within a region that is seismically active. In the event of an earthquake in California, some seismic ground shaking would likely be experienced in the proposed project area sometime during the operational life of the proposed WRF, conveyance pipelines, lift station and injection and monitoring wells. As discussed above, multiple "potentially active" faults are located near the proposed project area, such as the Cambria Fault; however, the closest "active fault" to the proposed project area is the Los Osos fault, approximately 8 miles southwest. Nonetheless, ground shaking could result in structural damage to new facilities, which in turn could affect operation of related systems. Most of the proposed project's facilities are non-habitable; however, full time employees would be on-site at the proposed WRF and may need to access the various facilities for maintenance or manual control purposes. Therefore, structural and mechanical failure of proposed project facilities onset by seismic ground shaking could occur and would potentially threaten the safety of on-site workers. This would be a potentially significant impact.

The City has prepared a Preliminary Geotechnical Investigation for the proposed WRF site (see Appendix E). During the design process for the proposed WRF and all other facilities, site-specific geotechnical investigations would be implemented to determine the geologic conditions and associated design requirements needed to ensure the new facilities would withstand ground shaking. The California Professional Engineers Act (Building and Professions Code Sections 6700-6799), and the Codes of Professional Conduct, as administered by the California Board of Professional Engineers and Land Surveyors, provides the basis for regulating and enforcing engineering practice in California. Geotechnical studies are essential for facility and pipeline design because it is the information that informs the structural design of the foundation and determines whether the geologic materials underlying the proposed facilities are capable of supporting the proposed uses without risk of detrimental effects from potential hazards associated with problematic soils, liquefaction, or excessive seismic shaking.

Based on field observation and laboratory testing, the geotechnical engineer can assess whether the soils are adequate to support the structure under static (non-earthquake) or earthquake conditions. If corrective work is necessary to remedy the problem soils or otherwise unstable ground condition, then the geotechnical engineer would recommend approaches to correct the condition. Geotechnical engineering recommendations are typically standard engineering practices that have been proven

elsewhere to increase the geotechnical performance of an underlying soil or geologic material. All facility designs would comply with the CBC and any County building code amendments. Adherence to the CBC standards would ensure the strongest structure feasible at the proposed locations, with no increased risk to human life. Therefore, with implementation of **Mitigation Measure GEO-1**, which requires the preparation of site-specific geotechnical investigations and incorporation of structural recommendations into facility designs, potential impacts associated with ground shaking would be reduced to less than significant levels.

Liquefaction

WRF

The proposed WRF site is not located within a State and County Hazard Zone for Liquefaction (City of Morro Bay, 1988; County of San Luis Obispo, 1999; Yeh and Associates, Inc., 2017). Although the drainage adjacent to the proposed WRF site have soils that may be susceptible to liquefaction, the area to be developed for the proposed WRF has a low potential to be underlain by soils susceptible to liquefaction. Liquefaction can occur in saturated, young, and loose to medium dense granular soil or sensitive clay subjected to ground motions, depending on the strength of the earthquake. The proposed WRF site is predominantly underlain by stiff to very stiff fine-grained clay overlying bedrock of the Franciscan Mélange. Those conditions are not considered vulnerable to liquefaction (Yeh and Associates, Inc., 2017). The Preliminary Geotechnical Report determined that no special recommendations would be needed to address liquefaction at the WRF site. Impacts would be considered less than significant.

Lift Station, Conveyance Pipelines, Injection and Monitoring Wells, and Decommissioning of Current WWTP

All other existing and proposed facilities would be located within a Seismic Hazard Zone for liquefaction and are areas designated as having moderate to high liquefaction potential (City of Morro Bay, 1988). Thus, in the event of a large earthquake with a high acceleration of seismic shaking, the potential for liquefaction exists. As a result, structural damage could occur to the lift station, conveyance pipelines, and injection and monitoring wells. This would be a potentially significant impact. There would be no impact to the WWTP once it is deconstructed and decommissioned.

As discussed above, **Mitigation Measure GEO-1** would require project components to undergo a design level geotechnical investigation and be designed to resist damage from seismic shaking. All geotechnical recommendations provided by the proposed project geotechnical engineer would be incorporated into proposed project designs in areas where liquefiable soils are identified, if applicable. Solutions to rectify liquefaction are modern engineering approaches used throughout California and are considered standard industry practice. Methods to correct liquefiable soils include removal and replacement of problematic soils, the use of pile foundations, and drainage columns to reduce saturated conditions. The geotechnical investigation and corrective actions for potential liquefiable soils, where needed, would be based on the CGS Special Publication 117A (see Seismic Hazards Mapping Act discussion in Section 3.6.2 of this chapter). Implementation of **Mitigation Measures GEO-1** would reduce potential impacts related to liquefaction to less than significant levels.

Landslides

WRF

According to the proposed project's Preliminary Geotechnical and Geologic Hazards Report, there is no evidence of landslides in the area to be developed for the proposed WRF. However, small superficial landslides have occurred just northwest of the proposed WRF site (Yeh and Associates, Inc., 2017), and the proposed WRF site is located within a State-designated Seismic Hazard Zone for Earthquake Induced-Landslides (City of Morro Bay, 1988; County of San Luis Obispo, 1999; Yeh and Associates, Inc., 2017). Therefore, there is potential for seismically-induced landslides to occur within and around the proposed WRF site. As a result, structural damage could occur to the proposed WRF. This would be a potentially significant impact.

As discussed above, implementation of **Mitigation Measure GEO-1** would require proposed project components undergo a final geotechnical investigation and be designed to resist damage from seismic shaking including seismically-induced landslides. All geotechnical recommendations provided by the proposed project geotechnical engineer would be incorporated into proposed project designs in areas where high landslide susceptibility is identified. Solutions to rectify potential landslide hazards are modern engineering approaches used throughout California and are considered standard industry practice. Design measures could include grading, terraced slopes, and retaining walls, if necessary to meet minimum safety factor standards. Implementation of Mitigation Measure GEO-1 would control the design and location of buildings and structures in order to safeguard the public and reduce potential impacts related to landslides to less than significant.

Lift Station, Conveyance Pipelines, Injection and Monitoring Wells, and Decommissioning of Current WWTP

All other proposed project facilities are not located within a State-designated Seismic Hazard Zone for Earthquake Induced-Landslides (City of Morro Bay, 1988; County of San Luis Obispo, 1999). Therefore, construction and operation of the proposed facilities would not result in the exposure of structures or people to substantial adverse effects involving landslides. No impact would occur.

Mitigation Measures

> **GEO-1: Geotechnical Investigation.** A geotechnical investigation shall be prepared by a certified engineer for all facilities involving substantial ground disturbance or excavation. The investigation shall assess geologic and seismic hazards, including but not limited to, subsidence, liquefaction, landslide, expansive soil potential and collapsible soil potential of each facility site. Structural mitigation recommendations provided in the geotechnical investigation shall be incorporated into the design of the facility prior to construction. The contents of the geotechnical investigation shall vary depending on the jurisdiction and risks associated with each facility's location.

Significance Determination

Less than Significant with Mitigation

Soil Erosion or Topsoil Loss

Impact 3.6-2: Construction of proposed project facilities would result in ground disturbance and exposure of soils to erosion. Implementation of best management practices during construction and site restoration post- construction would minimize the potential for soil erosion or loss of top soil. This impact would be Class II, Less than Significant with Mitigation.

Construction

All Facilities

Construction of the proposed project would include ground disturbing activities such as excavation and grading that could expose soils and result in soil erosion during rain or high wind events. For example, newly graded surfaces and slopes at the proposed WRF site, lift station site, and injection wellfields would be vulnerable to erosion (Yeh and Associates Inc., 2017).

As explained in Chapter 3.3 Air Quality, the proposed project would be required by the SLOAPCD to implement standard fugitive dust control measures, which include watering of construction sites and stockpile areas, stabilization of disturbed soil areas, and timely implementation of revegetation and landscape plans. Such measures would also serve to prevent and/or manage wind erosion and subsequent topsoil loss during construction.

To prevent erosion associated with runoff from the construction area for each proposed project component, the City would be required to prepare and implement a SWPPP in accordance with the requirements of the statewide Construction General Permit (Order 2009-0009-DWQ, NPDES No. CAS000002; as amended by Orders 2010-0014-DWQ and 2012-006-DWQ (See Chapter 3.9 Hydrology and Water Quality for additional discussion). The SWPPP would identify best management practices to control erosion, sedimentation, and hazardous materials potentially released from construction sites into surface waters. Compliance with the Construction General Permit, required SWPPP, and identified best management practices would ensure soil erosion and loss of topsoil impacts would be reduced to less than significant. No mitigation is required.

Operation

Once the proposed project's facilities are constructed, activities that increase the likelihood of top soil loss and soil erosion such as excavation and grading would not take place; therefore, operational impacts regarding significant soil erosion or top soil loss are not expected to occur as described further below.

WRF

The proposed WRF would be located on existing rangeland that is entirely pervious. The proposed WRF would introduce pervious surfaces that themselves would not be subject to erosion. The proposed WRF facilities would change drainage patterns at the site that could potentially cause erosion offsite if not designed appropriately. However, in accordance with the NPDES General Construction Permit, post-construction best management practices would be required to ensure the final conditions do not leave the proposed WRF site susceptible to erosion. The proposed WRF design would be required to include drainage control features that would minimize the potential for erosion to occur. Therefore, compliance with existing regulatory

requirements for the design and operation of the WRF would ensure proposed project operation would have a less than significant impact related to soil erosion or topsoil loss. No mitigation is required.

List Station, Conveyance Pipelines, Injection and Monitoring Wells

The proposed lift station and groundwater wells would introduce small footprints of impervious surfaces that themselves would not be subject to erosion. For the conveyance pipelines, after construction is complete, the trenches would be backfilled with soils that could be subject to erosion at the surface. This would be a potentially significant impact.

To prevent erosion from occurring after the construction of pipelines is complete, the area of disturbance would be restored to pre-construction conditions. Such restoration would minimize potential impacts associated with erosion. In addition, post-construction best management practices would be implemented as necessary in accordance with the NPDES General Construction Permit, to ensure erosion is controlled during project operation. Implementation of **Mitigation Measure GEO-2** would require post-construction restoration. Impacts would be considered less than significant after implementation of Mitigation Measure GEO-2.

Decommissioning of Current WWTP

Decommissioning the current WWTP would reduce the amount of impervious surfaces at the site potentially exposing soils to erosion. However, the existing WWTP site is relatively flat and not very susceptible to erosion. Upon completion of demolition work at the WWTP and upgrades to facilities which are to remain, the WWTP site would be graded and surfaced with a thin layer of gravel, which would control erosion. Impacts to soil erosion and loss of topsoil would be less than significant. No mitigation is required.

Mitigation Measures

> **GEO-2: Post-Construction Site Restoration.** After construction of project pipelines, disturbed areas shall be managed to control erosion, including without limitation: repaving areas within roadways, restoring vegetated areas, and regrading surfaces to minimize changes in drainage patterns.

Significance Determination

Less than Significant with Mitigation

Geologic Instability

Impact 3.6-3: The geologic conditions at various proposed project sites include potential for liquefaction, landslides, lateral spreading, and collapsible soils. However, implementation of engineering design criteria as specified by required geotechnical investigations would reduce the potential for the proposed project to result in unstable soils. This impact would be Class II, Less than Significant with Mitigation.

Geologic hazards including landslides, liquefaction, lateral spreading, settlement, and slope failure can be caused by unstable soils. Subsidence of the ground surface can occur under static conditions (i.e., due to consolidation settlement from overlying load) or long-term water or mineral extraction. The extraction of fluid resources from subsurface sedimentary layers (i.e., water or oil) can result in subsidence from the removal of supporting layers in the geologic formation. Settlement of loose, unconsolidated soils generally occurs slowly, but can cause significant structural damage if structures are not properly designed.

WRF

The proposed WRF site is underlain by shallow thicknesses of unsaturated alluvium and colluvium over bedrock. The subsurface conditions are not considered prone to subsidence from the removal of groundwater, and there are no known or documented subsidence cases in the immediate area due to the extraction of fluids from the ground. The potential for subsidence to occur at the WRF site due to dewatering is considered very low (Yeh and Associates, Inc., 2017).

In addition, as described above under Impact 3.6-1, the conditions at the WRF site are not considered vulnerable to liquefaction (Yeh and Associates, Inc., 2017). The Preliminary Geotechnical Report also concluded that the proposed WRF site conditions would not be considered vulnerable to lateral spreading. However, there is potential for landslides. The Preliminary Geotechnical Report explained that the upper several feet of soils at the site are not considered suitable for supporting proposed improvements without modification (Yeh and Associates, Inc., 2017). Therefore, impacts related to landslides are potentially significant.

As discussed above, implementation of Mitigation Measure GEO-1 would require proposed project components would undergo a final geotechnical investigation and be designed to resist damage from landslides. All geotechnical recommendations provided by the proposed project geotechnical engineer would be incorporated into proposed project designs in areas where high landslide susceptibility is identified. Solutions to rectify potential landslide hazards are modern engineering approaches used throughout California and are considered standard industry practice. Design measures could include grading, terraced slopes, and retaining walls, if necessary to meet minimum safety factor standards. Implementation of Mitigation Measure GEO-1 would control the design and location of buildings and structures in order to safeguard the public and reduce potential impacts related to landslides to less than significant.

Lift Station, Conveyance Pipelines, Injection and Monitoring Wells, and Decommissioning of Current WWTP

According to the County General Plan, there are several oil field operations in the southern coastal areas and eastern part of the County; however, there are no known reports of subsidence in those areas. Further, no subsidence has been documented in the City (County of San Luis Obispo, 1999). Recent reports by the State of California have identified land subsidence in the County with the most severe cases of land subsidence documented in the neighboring cities of San Luis Obispo, Paso Robles, and Cambria areas, due to groundwater pumping to support irrigated agriculture and urban development (LSCE et. al, 2014). The proposed lift station, conveyance pipelines, and decommissioning of the WWTP site would not affect groundwater levels and would not induce subsidence. The use of the recycled water produced at the proposed WRF for groundwater replenishment at the proposed injection wells would directly affect groundwater levels. However, extraction of the replenished groundwater would occur at existing production wells and only after the recycled water is injected and retained in the aquifer for a minimum time period as determined by the SWRCB Division of Drinking Water. The impact of the proposed project to groundwater levels is further described in Chapter 3.9, Hydrology and Water Quality. The proposed project would not result in a net lowering of groundwater levels and as such would not have the potential to induce subsidence.

The lift station, conveyance pipelines, injection and monitoring wells, and current WWTP site are subject to liquefaction as discussed under Impact 3.6-1, and could result in collapsible soils. Because these areas are subject to liquefaction, there is also a potential for lateral spreading. No on- or off-site landslides would occur within these areas because the sites are relatively flat. Due to the characteristics of the soils and geology, the proposed project could be exposed to liquefaction, collapsible soils and lateral spreading and result in damage from unstable soils if not designed appropriately. This is a potentially significant impact.

As discussed previously, implementation of Mitigation Measure GEO-1 would require that project components would undergo a final geotechnical investigation and be designed to resist damage from geologic hazards, such as liquefaction, collapsible soils, and lateral spreading. All geotechnical recommendations provided by the proposed project geotechnical engineer would be incorporated into proposed project designs Implementation of Mitigation Measure GEO-1 would control the design and location of buildings and structures in order to safeguard the public and reduce potential impacts related to liquefaction, collapsible soils, and lateral spreading to less than significant.

Mitigation Measure

Implementation of Mitigation Measure GEO-1 is required.

Significance Determination

Less than Significant with Mitigation

Expansive Soils

Impact 3.6-4: The proposed project facilities could be located on expansive soils, which could create risks to life or structures. However, implementation of engineering design criteria as specified by required geotechnical investigations would reduce the risk of loss or injury. This impact would be Class II, Less than Significant with Mitigation.

WRF

When expansive soils swell, the change in volume can exert significant pressures on loads that are placed on them, such as loads resulting from structure foundations or underground utilities, and can result in structural distress and/or damage. Near-surface samples of soil from the proposed WRF site consists of sandy lean clay, sandy fat clay, decomposed greywacke, and clayey sand. The soils are characterized as having moderate shrink-swell potential (moderately expansive) (Yeh and Associates, Inc., 2017). The presence of expansive soils could decrease the structural stability of the proposed WRF facilities, which could result in structural or operational failure of proposed facilities and/or threaten the health and safety of on-site workers. This is a potentially significant impact.

As discussed previously, impacts associated with geologic site conditions are mitigated through engineering design criteria that ensure structures are built to withstand hazards such as expansive soils. Preparation of a site-specific geotechnical investigation would provide the appropriate geotechnical requirements to include in facility design criterial. Implementation of Mitigation Measure GEO-1 would require preparation of site-specific geotechnical investigations that would include corrective actions for potential expansive soils. In addition, the proposed project would be subject to the CBC which controls the design and location of facilities in order to safeguard the public. With implementation of Mitigation Measure GEO-1, impacts related to expansive soils would be less than significant.

Lift Station, Conveyance Pipelines, Injection and Monitoring Wells, and Decommissioning of Current WWTP

The soils within the areas where the proposed lift station, conveyance pipelines, wells, and existing WWTP sites would be located consist of unconsolidated sands, clays and fill materials from prior development. Sandy soils and fill are not typically expansive; however, clay soils exhibit expansive properties and may also underlay areas of fill materials. If project components are located on expansive soils, the structural stability of proposed facilities could decrease, resulting in structural or operational failure. This is a potentially significant impact.

As described above, impacts associated with geologic site conditions are mitigated through engineering design criteria that ensure structures are built to withstand hazards such as expansive soils. Preparation of a site-specific geotechnical investigation would provide the appropriate geotechnical requirements to include in facility design criterial. Implementation of Mitigation Measure GEO-1 would require preparation of site-specific geotechnical investigations that would include corrective actions for potential expansive soils. In addition, the proposed project would be subject to the CBC which controls the design and location of facilities in order to safeguard the public. With implementation of Mitigation Measure GEO-1, impacts related to expansive soils would be less than significant.

Mitigation Measures

Implementation of Mitigation Measure GEO-1 is required.

Significance Determination

Less than Significant with Mitigation

Wastewater Disposal Systems

Impact 3.6-5: The proposed project would not include septic tanks and would not result in impacts regarding soils incapable of supporting those alternative systems. There would be no impact.

All Facilities

The proposed project facilities would not require the use of septic tanks or alternative reclaimed water disposal systems. During construction of the proposed project components, portable toilet facilities would be provided if necessary, and waste would be collected by a certified waste hauler and appropriately disposed of for treatment. There would be no impact related to soils being incapable of adequately supporting septic tanks or alternative reclaimed water disposal systems.

Mitigation Measure

None required.

Significance Determination

No Impact

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3.7 Greenhouse Gas Emissions and Energy

This section describes and evaluates issues related to greenhouse gas (GHG) emissions and energy use in the context of the proposed project. Discussed is an overview of climate change; the various GHGs that have been identified as drivers of climate change; environmental and regulatory setting pertinent to GHG emissions and energy use, including those relevant at federal, state, and local levels; the criteria used for determining the significance of environmental impacts; and potential impacts associated with the construction, operation and implementation of the proposed project.

3.7.1 Environmental Setting

Greenhouse Gases

Climate Change

Global climate change refers to changes in average climatic conditions on Earth as a whole, including changes in temperature, wind patterns, precipitation and storms. Historical records indicate global climate changes have occurred in the past due to natural phenomena; however, current data increasingly indicate the current global conditions differ from past climate changes in rate and magnitude. Global climate change attributable to anthropogenic (human) GHG emissions is currently one of the most important and widely debated scientific, economic and political issues in the United States and the world. The extent to which increased concentrations of GHGs have caused or will cause climate change and the appropriate actions to limit and/or respond to climate change are the subject of significant and rapidly evolving regulatory efforts at the federal and state levels of government.

GHGs are compounds in the Earth's atmosphere, which play a critical role in determining temperature near the Earth's surface. More specifically, those gases allow high-frequency shortwave solar radiation to enter the Earth's atmosphere, but retain some of the low frequency infrared energy, which is radiated back from the Earth towards space, resulting in a warming of the atmosphere. Not all GHGs possess the same ability to induce climate change; as a result, GHG contributions are commonly quantified in the units of equivalent mass of carbon dioxide (CO_2e). Mass emissions are calculated by converting pollutant specific emissions to CO_2e emissions by applying the proper global warming potential (GWP) value.[1] GWP is the measure of the amount of energy one ton of a gas will absorb over a given period of time, relative to the emissions of one ton of carbon dioxide (CO_2). The larger the GWP, the more a given gas warms the Earth compared to CO_2 over that time period. Those GWP ratios are provided by the Intergovernmental Panel on Climate Change (IPCC) in its Fourth Assessment Report (AR4) (IPCC, 2007). By applying the GWP ratios, project-related CO_2e emissions can be tabulated in metric tons (MT) per year. Typically, the GWP ratio corresponding to the warming potential of CO_2 over a 100-year period is used as a reference point for GHG emissions. The CO_2e values are

[1] GWPs and associated CO_2e values were developed by the Intergovernmental Panel on Climate Change (IPCC), and published in its Second Assessment Report (SAR) in, 1996. Historically, GHG emission inventories have been calculated using the GWPs from the IPCC's SAR. The IPCC updated the GWP values based on the latest science in its Fourth Assessment Report (AR4). The California Air Resources Board (CARB) has begun reporting GHG emission inventories for California using the GWP values from the IPCC AR4.

calculated for construction years as well as existing and project build-out conditions in order to generate a net change in GHG emissions for construction and operation. Compounds that are regulated as GHGs are discussed below.

- **Carbon Dioxide (CO_2):** CO_2 is the most abundant anthropogenic GHG in the atmosphere and is primarily generated from fossil fuel combustion from stationary and mobile sources. CO_2 is the reference gas (GWP of 1) for determining the GWPs of other GHGs.
- **Methane (CH_4):** CH_4 is emitted from biogenic sources (i.e., resulting from the activity of living organisms), incomplete combustion in forest fires, anaerobic decomposition of organic matter in landfills, manure management, and leaks in natural gas pipelines. The GWP of CH_4 is 21 in the IPCC SAR and 25 in the IPCC AR4.
- **Nitrous Oxide (N_2O):** N_2O produced by human-related sources including agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic acid production, and nitric acid production. The GWP of N_2O is 310 in the IPCC SAR and 298 in the IPCC AR4.
- **Hydrofluorocarbons (HFCs):** HFCs are fluorinated compounds consisting of hydrogen, carbon, and fluorine. They are typically used as refrigerants in both stationary refrigeration and mobile air conditioning systems. The GWPs of HFCs range from 140 for HFC-152a to 11,700 for HFC-23 in the IPCC SAR and 124 for HFC-152a to 14,800 for HFC-23 in the IPCC AR4.
- **Perfluorocarbons (PFCs):** PFCs are fluorinated compounds consisting of carbon and fluorine. They are primarily created as a byproduct of aluminum production and semiconductor manufacturing. The GWPs of PFCs range from 6,500 to 9,200 in the IPCC SAR and 7,390 to 17,700 in the IPCC AR4.
- **Sulfur Hexafluoride (SF_6):** SF_6 is a fluorinated compound consisting of sulfur and fluoride. It is a colorless, odorless, nontoxic, nonflammable gas. It is most commonly used as an electrical insulator in high voltage equipment that transmits and distributes electricity. SF_6 has a GWP of 23,900 in the IPCC SAR and 22,800 in the IPCC AR4.

Effects of Global Climate Change

The scientific community's understanding of the fundamental processes responsible for global climate change has improved over the past decade, and its predictive capabilities are advancing. However, there remain significant scientific uncertainties in, for example, predictions of local effects of climate change, occurrence, frequency, and magnitude of extreme weather events, effects of aerosols, changes in clouds, shifts in the intensity and distribution of precipitation, and changes in oceanic circulation. Due to the complexity of the Earth's climate system and inability to accurately model it, the uncertainty surrounding climate change may never be completely eliminated. Nonetheless, the IPCC's *Fifth Assessment Report, Summary for Policy Makers* states, "it is *extremely likely* that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in greenhouse gas concentrations and other anthropogenic forc[es [*sic*] together" (IPCC, 2013). A report from the National Academy of Sciences concluded, 97 to 98 percent of the climate researchers most actively publishing in the field support the tenets of the IPCC in that climate change is very likely caused by human (*i.e.*, anthropogenic) activity (Anderegg et al, 2010).

According to the California Air Resources Board (CARB), the potential impacts in California due to global climate change may include: loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, more drought years, increased erosion of California's coastlines and sea water intrusion into the Sacramento and San Joaquin Deltas and associated levee systems and increased pest infestation (CalEPA, 2006). Below is a summary of some of the potential effects that could be experienced in California as a result of global warming and climate change.

Air Quality

Higher temperatures, conducive to air pollution formation, could worsen air quality in California. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect and, therefore, its indirect effects, are uncertain. If higher temperatures are accompanied by drier conditions, then the potential for large wildfires could increase, which, in turn, would exacerbate air quality. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state (CalEPA, 2013). However, if higher temperatures are accompanied by wetter, rather than drier conditions, then the rains would temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thus ameliorating the pollution associated with wildfires.

In 2009, the California Natural Resources Agency (CNRA) published the *California Climate Adaptation Strategy* as a response to the Governor's Executive Order S-13-2008 (CNRA, 2009). The CNRA report lists specific recommendations for state and local agencies to best adapt to the anticipated risks posed by a changing climate. In accordance with the *California Climate Adaptation Strategy*, the California Energy Commission (CEC) was directed to develop a website on climate change scenarios and impacts that would be beneficial for local decision makers (CNRA, 2009). The website, known as Cal-Adapt, became operational in 2011.[2] The information provided on the Cal-Adapt website represents a projection of potential future climate scenarios. The data are comprised of the average values (*i.e.*, temperature, sea-level rise, snowpack) from a variety of scenarios and models and are meant to illustrate how the climate may change based on a variety of different potential social and economic factors. According to the Cal-Adapt website, the portion of the City in which some of the proposed project site are located could result in an average increase in temperature of approximately 7 to 8 percent (about 3.7 to 4.7°F) by 2070–2099, compared to the 1961–1990 period (CEC, 2018).

Water Supply

Uncertainty remains with respect to the overall impact of global climate change on future water supplies in California. Studies have found that, "Considerable uncertainty about precise impacts of climate change on California hydrology and water resources will remain until we have more precise and consistent information about how precipitation patterns, timing, and intensity will change" (PacInst, 2003). For example, some studies identify little change in total annual precipitation in projections for California while others show significantly more precipitation (PacInst, 2003). Warmer, wetter winters would increase the amount of runoff available for groundwater recharge; however, that additional runoff would occur at a time when some basins

[2] The Cal-Adapt website address is: http://cal-adapt.org.

are either being recharged at their maximum capacity or are already full. Conversely, reductions in spring runoff and higher evapotranspiration because of higher temperatures could reduce the amount of water available for recharge (CNRA, 2014).

The California Department of Water Resources report on climate change and effects on the State Water Project (SWP), the Central Valley Project, and the Sacramento-San Joaquin Delta, concludes "climate change will likely have a significant effect on California's future water resources…[and] future water demand." It also reports "much uncertainty about future water demand [remains], especially [for] those aspects of future demand that will be directly affected by climate change and warming. While climate change is expected to continue through at least the end of this century, the magnitude and, in some cases, the nature of future changes is uncertain." It also reports that the relationship between climate change and its potential effect on water demand is not well understood, but "[i]t is unlikely that this level of uncertainty will diminish significantly in the foreseeable future." Still, changes in water supply are expected to occur, and many regional studies have shown that large changes in the reliability of water yields from reservoirs could result from only small changes in inflows (CDWR, 2006). In its *Fifth Assessment Report*, the IPCC states "Changes in the global water cycle in response to the warming over the 21st century will not be uniform. The contrast in precipitation between wet and dry regions and between wet and dry seasons will increase, although there may be regional exceptions" (IPCC, 2013).

Hydrology and Sea Level Rise

As discussed above, climate changes could potentially affect: the amount of snowfall, rainfall and snow pack, the intensity and frequency of storms, flood hydrographs (flash floods, rain or snow events, coincidental high tide and high runoff events), sea level rise and coastal flooding, coastal erosion and the potential for salt water intrusion. Sea level rise can be a product of global warming through two main processes: expansion of seawater as the oceans warm and melting of ice over land. A rise in sea levels could result in coastal flooding and erosion and could jeopardize California's water supply. Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

Agriculture

California has a $30 Billion agricultural industry that produces half the country's fruits and vegetables. Higher CO_2 levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, then water demand could increase; crop-yield could be threatened by a less reliable water supply; and greater ozone pollution could render plants more susceptible to pest and disease outbreaks. In addition, temperature increases could change the time of year certain crops, such as wine grapes, bloom or ripen, and thus affect their quality (CCCC, 2006).

Ecosystems and Wildlife

Increases in global temperatures and the potential resulting changes in weather patterns could have ecological effects on a global and local scale. Increasing concentrations of GHGs are likely to accelerate the rate of climate change. Scientists expect that the average global surface temperature could rise by 2-11.5°F (1.1-6.4°C) by 2100, with significant regional variation (NRC, 2010). Soil moisture is likely to decline in many regions, and intense rainstorms are likely to become more frequent. Sea level could rise as much as 2 feet along most of the United States coastline. Rising temperatures could have four major impacts on plants and animals: (1) timing of ecological events, (2) geographic range, (3) species' composition within communities and (4) ecosystem processes such as carbon cycling and storage (Parmesan & Galbraith, 2004).

Greenhouse Gas Emission Inventories

State of California

CARB compiles GHG inventories for the State of California. Based on the 2015 GHG inventory data (*i.e.*, the latest year for which data is available from CARB) prepared by CARB in 2017, California emitted 440.4 million metric tons of CO_2e ($MMTCO_2e$), including emissions resulting from imported electrical power (CARB, 2017b). Between 1990 and 2015, the population of California grew by approximately 9.3 million (from 29.8 to 39.1 million) (USCB, 2009, CDF, 2014). That represents an increase of approximately 31 percent from 1990 population levels. In addition, the California economy, measured as gross state product, grew from $773 Billion in 1990 to $2.49 Trillion in 2015 representing an increase of approximately 222 percent (just over three times the 1990 gross state product) (CDF, 2018). Despite the population and economic growth, California's net GHG emissions only grew by approximately 2.2 percent. According to CARB, the declining trend coupled with the state's GHG reduction programs (such as the Renewables Portfolio Standard, Low Carbon Fuel Standard, vehicle efficiency standards, and declining caps under the Cap and Trade Program) demonstrate California is on track to meet the 2020 GHG reduction target codified in California Health and Safety Code (HSC), Division 25.5, also known as The Global Warming Solutions Act of 2006 (AB 32) (CARB, 2016a). **Table 3.7-1**, *State of California Greenhouse Gas Emissions,* identifies and quantifies statewide anthropogenic GHG emissions and sinks (e.g., carbon sequestration due to forest growth) in 1990 and 2015. As shown in the table, the transportation sector is the largest contributor to statewide GHG emissions at approximately 37 percent in 2015.

TABLE 3.7-1
STATE OF CALIFORNIA GREENHOUSE GAS EMISSIONS

Category	Total 1990 Emissions using IPCC SAR ($MMTCO_2e$)	Percent of Total 1990 Emissions	Total 2015 Emissions using IPCC AR4 ($MMTCO_2e$)	Percent of Total 2015 Emissions
Transportation	150.7	35%	164.6	37%
Electric Power	110.6	26%	83.7	19%
Commercial	14.4	3%	12.8	3%
Residential	29.7	7%	23.2	5%
Industrial	103.0	24%	91.7	21%
Recycling and Waste [a]	–	–	8.7	2%
High GWP/Non-Specified [b]	1.3	<1%	19.1	4%
Agriculture/Forestry	23.6	6%	34.6	8%
Forestry Sinks	-6.7		-- [c]	--
Net Total (IPCC SAR)	**426.6**	**100%**	--	--
Net Total (IPCC AR4) [d]	**431**	**100%**	**440.4**	**100%**

[a] Included in other categories for the 1990 emissions inventory.
[b] High GWP gases include hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6). High GWP gases are not specifically called out in the 1990 emissions inventory.
[c] Revised methodology under development (not reported for 2012).
[d] CARB revised the State's 1990 level GHG emissions using GWPs from the IPCC AR4.

Sources: California Air Resources Board, Staff Report – California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit, (2007); California Air Resources Board, "California Greenhouse Gas 2000-2015 Inventory by Scoping Plan Category – Summary," http://www.arb.ca.gov/cc/inventory/data/data.htm. Accessed January 2018.

San Luis Obispo County

A 2006 baseline GHG inventory for the County was prepared as part of the San Luis Obispo County's update of the Conservation and Open Space Element of the General Plan. The inventory identifies the major sources of GHG emissions within the county, including the unincorporated areas of the County, and from County government operations. **Table 3.7-2** summarizes the 2006 Unincorporated County inventory. As shown in the table, the unincorporated area of the County emitted 917,700 MT CO_2e in 2006. On-road vehicles were the greatest contributor to the county's baseline emissions followed by commercial/industrial energy use and residential energy use. The inventory also includes a separate assessment of GHG emissions from County activities. In 2006, GHG Emissions from County operations totaled 16,870 MT CO_2e (County of San Luis Obispo, 2011).

TABLE 3.7-2
UNINCORPORATED SAN LUIS OBISPO COUNTY GHG EMISSIONS IN 2006 (MT CO_2E)

Sector	2006 GHG Emissions	Percentage of Total
Unincorporated San Luis Obispo County		
Residential	136,360	15%
Commercial/Industrial	215,970	24%
Transportation	365,260	40%
Waste	30,540	3%
Other – Crops	22,630	2%
Other – Livestock	83,420	9%
Other – Off Road Equipment	63,280	7%
Other – Aircraft	240	<0.1%
TOTAL	**917,710**	**100%**
San Luis Obispo Country Operations		
Buildings	4,970	30%
Vehicle Fleet	3,360	20%
Employee Commute	7,800	46%
Street Lights	60	0.4%
Water/Sewage	410	2%
Waste	270	2%
Other	<10	<0.1%
TOTAL	**16,870**	**100%**

SOURCE: County of San Luis Obispo, 2011.

City of Morro Bay

According to the 2005 GHG Emissions Inventory for the City, in 2005, the Morro Bay community emitted approximately 55,677 MT CO_2e, as a result of activities that took place within the transportation, residential energy use, commercial and industrial energy use, off-road vehicles and equipment, solid waste, and wastewater sectors. Of those emissions, the City government operations generated approximately 1,955 MT CO_2e representing approximately four percent of Morro Bay's total community-wide GHG emissions. Twenty-three percent of those emissions resulted from the City's wastewater facilities while employee commutes, vehicle fleet, and building and facility energy use accounted for 21, 18 and 17 percent, respectively (City of Morro Bay, 2014).

Energy

Forms of energy generated or obtained within California include fossil fuels, hydroelectric, nuclear, and renewable resources such as biomass, geothermal, solar and wind. The primary uses of energy in California are as electricity, natural gas and transportation fuels.

As the most populated state in the nation with the largest economy, California's total energy demand is second only to Texas. Although California is a leader in many energy-intensive

industries, the state has one of the lowest per capita total energy consumption levels in the country. California's extensive efforts to increase energy efficiency, along with the implementation of alternative technologies, has restrained growth in energy demand. California is also rich in energy resources. The state has an abundant supply of crude oil and is a top producer of conventional hydroelectric power. California also leads the nation in electricity generation from solar, geothermal, and biomass resources.

Transportation dominates California's energy consumption profile. More motor vehicles are registered in California than in any other state, and commute times in California are among the longest in the country. The state also accounts for one-fifth of the nation's jet fuel consumption. California leads the nation in agricultural and manufacturing gross domestic product (GDP), and the industrial sector is the state's second-largest energy consumer. However, due to its relatively mild climate, per capita energy use in California's residential sector is lower than that of every other state except Hawaii. In 2014 to 2015, 37 to 39.3 percent of California's overall energy use was for transportation, 23.9 percent for industrial, 19.1 percent for commercial and 17.7 percent was consumed by residential uses (USEIA, 2017; CEC, 2017).

Electricity

Electricity, a consumptive utility, is a man-made resource. The production of electricity requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources, into energy. The delivery of electricity involves a number of system components, including substations and transformers that lower transmission line power (voltage) to a level appropriate for on-site distribution and use. The electricity generated is distributed through a network of transmission and distribution lines commonly called a power grid. Conveyance of electricity through transmission lines is typically responsive to market demands.

Energy capacity, or electrical power, is generally measured in watts (W) while energy use is measured in watt-hours (Wh). For example, if a light bulb has a capacity rating of 100 W, the energy required to keep the bulb on for 1 hour would be 100 Wh. If ten 100 W bulbs were on for 1 hour, the energy required would be 1,000 Wh or 1 kilowatt-hour (kWh). On a utility scale, a generator's capacity is typically rated in megawatts (MW), which is one million watts, while energy usage is measured in megawatt-hours (MWh) or gigawatt-hours (GWh), which is one billion watt-hours.

The production of electricity requires the consumption or conversion of energy resources including water, wind, oil, gas, coal, solar, geothermal, and nuclear sources. Of the electricity generated in-state, 53.8 percent is generated by natural gas-fired power plants, 14 percent from large hydroelectric dams, 23.9 percent from renewable sources other than hydroelectricity, 8.2 percent from nuclear and only 0.1 percent from coal-fired power plants (USEIA, 2017). The electricity generated and used in California is distributed via a network of high voltage transmission lines commonly referred to as the power grid.

Electricity is provided to the preferred and proposed project sites by the Pacific Gas and Electric Company (PG&E). PG&E provides electricity service to approximately 13 million people

throughout a 70,000 square mile service area in Northern and Central California. PG&E's service area extends from Eureka to Bakersfield (north to south), and from the Sierra Nevada to the Pacific Ocean (east to west). PG&E produces and purchases energy from a mix of conventional and renewable generating sources, which travel through its electric transmission and distribution systems to reach customers. Nearly 70 percent of the electricity provided by PG&E comes from sources that emit no greenhouse gases. Overall, PG&E's electricity creates only one-third as many greenhouse gas emissions per kilowatt-hour compared to the industry average. **Table 3.7-3** shows the electric power mix PG&E delivered to its retail customers in 2016.

TABLE 3.7-3
PG&E'S 2016 ELECTRIC POWER MIX

Power Source	Percent of Total Power Mix Delivered
Nuclear	24
Natural Gas	17
Large Hydroelectric	12
Coal	0
Unspecified Sources	14
Eligible Renewables	33

SOURCE: PG&E, 2016a.

Based on energy statements from PG&E, during 2015-2016, the existing wastewater treatment plant used an average of approximately 3,000 kW hr per day (PG&E, 2016b).

Natural Gas

Natural gas is a combustible mixture of simple hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas consumed in California is obtained from naturally occurring reservoirs, mainly located outside the State, and delivered through high-pressure transmission pipelines. The natural gas transportation system is a nationwide network, and, therefore, resource availability is typically not an issue. Natural gas provides almost one-third of the state's total energy requirements and is used in electricity generation, space heating, cooking, water heating, industrial processes, and as a transportation fuel. Natural gas is measured in terms of cubic feet (cf).

Natural gas is provided to the preferred and proposed project sites by the Southern California Gas Company (SoCalGas). SoCalGas is the principal distributor of natural gas in Southern California, serving residential, commercial, and industrial markets. SoCalGas serves approximately 21.6 million customers in more than 500 communities encompassing approximately 20,000 square miles throughout Central and Southern California, from the City of Visalia to the Mexican border (SoCalGas, 2018).

SoCalGas receives gas supplies from several sedimentary basins in the western United States and Canada, including supply basins located in New Mexico (San Juan Basin), West Texas (Permian Basin), the Rocky Mountains, and Western Canada as well as local California supplies (CGEU,

2016). The traditional, southwestern United States sources of natural gas will continue to supply most of SoCalGas' natural gas demand. The Rocky Mountain supply is available but is used as an alternative supplementary supply source, and the use of Canadian sources provide only a small share of SoCalGas supplies due to the high cost of transport (CGUE, 2016). Gas supply available to SoCalGas from California sources averaged 122 million cf per day in 2015 (the most recent year for which data are available) (CGEU, 2016). Also, the annual natural gas sale to customers in 2016 was approximately 304,290 million kilo British thermal units (kBtu) (Sempra, 2017).

Transportation Energy

According to the CEC, transportation accounts for nearly 37 percent of California's total energy consumption in 2014 (CEC, 2017). In 2016, California consumed 15.5 billion gallons of gasoline and 3.7 billion gallons of diesel fuel (CEC, 2016). Petroleum-based fuels currently account for more than 90 percent of California's transportation fuel use (CEC, 2016a). However, the state is now working on developing flexible strategies to reduce petroleum use. Over the last decade, California has implemented several policies, rules, and regulations to improve vehicle efficiency, increase the development and use of alternative fuels, reduce air pollutants and greenhouse gases (GHGs) from the transportation sector, and reduce vehicle miles traveled (VMT). Accordingly, gasoline consumption in California has declined. The CEC predicts the demand for gasoline will continue to decline over the next 10 years, and there will be an increase in the use of alternative fuels (CEC, 2015a). According to fuel sales data from the CEC, fuel consumption in the County was approximately 142 million gallons of gasoline and 23 million gallons of diesel fuel in 2016 (CEC, 2016).

3.7.2 Regulatory Framework

Federal

The United States Environmental Protection Agency (USEPA) is responsible for implementing federal policy to address GHGs. The federal government administers a wide array of public-private partnerships to reduce the GHG intensity generated in the United States. Those programs focus on energy efficiency, renewable energy, methane and other non-CO_2 gases, agricultural practices, and implementation of technologies to achieve GHG reductions. The USEPA implements numerous voluntary programs that contribute to the reduction of GHG emissions. Those programs (*e.g.*, the ENERGY STAR labeling system for energy-efficient products) play a significant role in encouraging voluntary reductions from large corporations, consumers, industrial and commercial buildings, and many major industrial sectors.

In *Massachusetts v. Environmental Protection Agency* (Docket No. 05–1120), the U.S. Supreme Court held in April of 2007 the USEPA has statutory authority under Section 202 of the federal Clean Air Act (CAA) to regulate GHGs. The court did not hold the USEPA was required to regulate GHG emissions; however, it indicated the agency must decide whether GHGs cause or contribute to air pollution that is reasonably anticipated to endanger public health or welfare. On December 7, 2009, the USEPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the CAA. The USEPA adopted a Final Endangerment Finding for the six defined GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) on December 7, 2009. The Endangerment Finding is required before USEPA can regulate GHG emissions under Section 202(a)(1) of the

CAA consistently with the United States Supreme Court decision. The USEPA also adopted a Cause or Contribute Finding in which the USEPA Administrator found GHG emissions from new motor vehicle and motor vehicle engines are contributing to air pollution, which is endangering public health and welfare. Those findings do not, by themselves, impose any requirements on industry or other entities. However, those actions were a prerequisite for implementing GHG emissions standards for vehicles.

President George W. Bush signed Executive Order 13432 on May 14, 2007, directing the USEPA, along with the Departments of Transportation, Energy, and Agriculture, to initiate a regulatory process that responds to the Supreme Court's decision. Executive Order 13432 was codified into law by the 2009 Omnibus Appropriations Law signed on February 17, 2009. The order sets goals in the areas of energy efficiency, acquisition, renewable energy, toxics reductions, recycling, sustainable buildings, electronics stewardship, fleets, and water conservation. In addition, the order requires more widespread use of Environmental Management Systems as the framework in which to manage and continually improve these sustainable practices. That Executive Order requires federal agencies to lead by example in advancing the nation's energy security and environmental performance by achieving the following goals:

- **Energy Efficiency:** Reduce energy intensity 30 percent by 2015, compared to an FY 2003 baseline.
- **Greenhouse Gases:** Reduce greenhouse gas emissions through reduction of energy intensity 30 percent by 2015, compared to an FY 2003 baseline.
- **Renewable Power:** At least 50 percent of current renewable energy purchases must come from new renewable sources (in service after January 1, 1999).
- **Building Performance:** Construct or renovate buildings in accordance with sustainability strategies, including resource conservation, reduction, and use; siting; and indoor environmental quality.
- **Water Conservation:** Reduce water consumption intensity 16 percent by 2015, compared to an FY 2007 baseline.
- **Vehicles:** Increase purchase of alternative fuel, hybrid, and plug-in hybrid vehicles when commercially available.
- **Petroleum Conservation:** Reduce petroleum consumption in fleet vehicles by 2 percent annually through 2015, compared to an FY 2005 baseline.
- **Alternative Fuel:** Increase use of alternative fuel consumption by at least 10 percent annually, compared to an FY 2005 baseline.
- **Pollution Prevention:** Reduce use of chemicals and toxic materials and purchase lower risk chemicals and toxic materials.
- **Procurement:** Expand purchases of environmentally sound goods and services, including bio-based products.
- **Electronics Management:** Annually, 95 percent of electronic products purchased must meet Electronic Product Environmental Assessment Tool standards where applicable; enable ENERGY STAR® features on 100 percent of computers and monitors; and reuse, donate, sell, or recycle 100 percent of electronic products using environmentally sound management practices.

On May 19, 2009, President Obama announced a national policy for fuel efficiency and emissions standards in the United States auto industry. The adopted federal standard applies to passenger cars and light-duty trucks for model years 2012 through 2016. The rule surpasses the prior Corporate Average Fuel Economy standards and requires an average fuel economy standard of 35.5 miles per gallon (mpg) and 250 grams of CO_2 per mile by model year 2016, based on USEPA calculation methods. Those standards were formally adopted on April 1, 2010. In August 2012, standards were adopted for model year 2017 through 2025 for passenger cars and light-duty trucks. By 2025, vehicles are required to achieve 54.5 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 163 grams of CO_2 per mile. According to the USEPA, a model year 2025 vehicle would emit one-half of the GHG emissions from a model year 2010 vehicle (USEPA, 2012). In 2017, the USEPA recommended no change to the GHG standards for light-duty vehicles for model years 2022-2025. The USEPA intends to reconsider the final determination by April 1, 2018.

On June 23, 2014, the U.S. Supreme Court held USEPA may not treat GHG emissions as an air pollutant for purposes of determining whether a source is a major source required to obtain a PSD or Title V permit. The Court also held PSD permits that are otherwise required (based on emissions of other pollutants) may continue to require limitations on GHG emissions based on the application of Best Available Control Technology (BACT). In accordance with the Supreme Court decision, on April 10, 2015, the D.C. Circuit issued an amended judgment in *Coalition for Responsible Regulation, Inc. v. U.S. Environmental Protection Agency*, which vacated the PSD and Title V regulations under review in that case to the extent they require a stationary source to obtain a PSD or Title V permit solely because the source emits or has the potential to emit GHGs above the applicable major source thresholds. The D.C. Circuit also directed USEPA to consider whether any further revisions to its regulations are appropriate, and if so, to undertake to make such revisions. In response to the Supreme Court decision and the D.C. Circuit's amended judgment, the USEPA intends to conduct future rulemaking action to make appropriate revisions to the PSD and operating permit rules (USEPA, 2017b).

State

A variety of statewide rules and regulations mandate the quantification and, if emissions exceed established thresholds, the reduction of GHGs. CEQA requires lead agencies to evaluate project-related GHG emissions and the potential for projects to contribute to climate change and to provide appropriate mitigation in cases where the lead agency determines a project would result in a significant addition of GHGs to the atmosphere.

California Air Resources Board

CARB, a part of the California Environmental Protection Agency (CalEPA), is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, CARB conducts research, sets state ambient air quality standards (California Ambient Air Quality Standards [CAAQS]), compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray,

aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

In 2004, CARB adopted an Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other toxic air contaminants (Title 13 California Code of Regulations [CCR], Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. That measure generally does not allow diesel-fueled commercial vehicles to idle for more than five minutes at any given location with certain exemptions for equipment in which idling is a necessary function such as concrete trucks. While this measure primarily targets diesel particulate matter emissions, it has co-benefits of minimizing GHG emissions from unnecessary truck idling.

In 2008, CARB approved the Truck and Bus regulation to reduce particulate matter and nitrogen oxide emissions from existing diesel vehicles operating in California (13 CCR, Section 2025, subsection (h)). CARB has also promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. The regulation adopted by the CARB on July 26, 2007, aims to reduce emissions by installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models. While those regulations primarily target reductions in criteria air pollutant emission, they have co-benefits of minimizing GHG emissions due to improved engine efficiencies.

California Greenhouse Gas Reduction Targets

The Governor announced on June 1, 2005, through Executive Order S-3-05 (OOG, 2005), the following GHG emission reduction targets:

- By 2010, California shall reduce GHG emissions to 2000 levels;
- By 2020, California shall reduce GHG emissions to 1990 levels; and
- By 2050, California shall reduce GHG emissions to 80 percent below 1990 levels.

In accordance with Executive Order S-3-05, the Secretary of CalEPA is required to coordinate efforts of various agencies, which comprise the California Climate Action Team (CAT), in order to collectively and efficiently reduce GHGs. Those agencies include CARB, the Secretary of the Business, Transportation and Housing Agency, Department of Food and Agriculture, the Resources Agency, the California Energy Commission, and the Public Utilities Commission. The CAT provides periodic reports to the Governor and Legislature on the state of GHG reductions in the state as well as strategies for mitigating and adapting to climate change. The first CAT Report to the Governor and the Legislature, in 2006, contained recommendations and strategies to help meet the targets in Executive Order S-3-05. The 2010 CAT Report, finalized in December 2010, expands on the policies in the 2006 assessment (CalEPA, 2010). The new information detailed in the CAT Report includes development of revised climate and sea-level projections using new information and tools that became available and an evaluation of climate change within the context of broader social changes, such as land-use changes and demographic shifts.

On April 29, 2015, Governor Brown issued Executive Order B-30-15. Therein, the Governor directed the following:

- Established a new interim statewide reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030.
- Ordered all state agencies with jurisdiction over sources of GHG emissions to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 reduction targets.
- Directed CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent.

In response to the 2030 GHG reduction target, CARB prepared and adopted the 2017 Climate Change Scoping Plan in December 2017 (CARB, 2018). The 2017 Scoping Plan outlines the strategies the State will implement to achieve the 2030 GHG reduction target, which build on the Cap-and-Trade Regulation, the Low Carbon Fuel Standard (LCFS), improved vehicle, truck and freight movement emissions standards, increasing renewable energy, and strategies to reduce methane emissions from agricultural and other wastes by using it to meet our energy needs. The 2017 Scoping Plan also comprehensively addresses GHG emissions from natural and working lands of California, including the agriculture and forestry sectors. The 2017 Scoping Plan considered a number of different alternatives to achieve the 2030 GHG reduction goal. The "Scoping Plan Scenario" was ultimately adopted and relies on the continuation of ongoing and statutorily required programs and continuation of the Cap-and-Trade Program. The Scoping Plan Scenario was modified from the January 2017 Proposed Scoping Plan to reflect AB 398, including removal of the 20 percent GHG reduction measure for refineries (CARB, 2017d).

CARB states the Scoping Plan Scenario "is the best choice to achieve the State's climate and clean air goals" (CARB, 2017d). Under the Scoping Plan Scenario, the majority of the reductions would result from continuation of the Cap-and-Trade regulation. Additional reductions are achieved from electricity sector standards (*i.e.*, utility providers to supply 50 percent renewable electricity by 2030), doubling the energy efficiency savings at end uses, additional reductions from the LCFS, implementing the short-lived GHG strategy (e.g., hydrofluorocarbons), and implementing the mobile source strategy and sustainable freight action plan. The alternatives are designed to consider various combinations of these programs as well as consideration of a carbon tax in the event the Cap-and-Trade regulation is not continued. However, in July 2017, the California Legislature voted to extend the Cap-and-Trade regulation to 2030.

California Health and Safety Code, Division 25.5 – California Global Warming Solutions Act of 2006

In 2006, the California State Legislature adopted Assembly Bill (AB) 32 (codified in the California Health and Safety Code [HSC], Division 25.5 – California Global Warming Solutions Act of 2006), which focuses on reducing GHG emissions in California to 1990 levels by 2020. HSC Division 25.5 defines GHGs as CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6 and represents the first enforceable statewide program to limit emissions of these GHGs from all major industries with penalties for noncompliance. The law further requires reduction measures be technologically feasible and cost effective. Under HSC Division 25.5, CARB has the primary responsibility for reducing GHG emissions. CARB is required to adopt rules and regulations directing state actions that would achieve GHG emissions reductions equivalent to 1990 statewide levels by 2020. In

2016, the California State Legislature adopted Senate Bill (SB) 32 and its companion bill AB 197, and both were signed by Governor Brown. SB 32 and AB 197 amend HSC Division 25.5 and establish a new climate pollution reduction target of 40 percent below 1990 levels by 2030 and includes provisions to ensure the benefits of state climate policies reach into disadvantaged communities.

A specific requirement of AB 32 was to prepare a Climate Change Scoping Plan for achieving the maximum technologically feasible and cost-effective GHG emission reduction by 2020 (HSC section 38561 (h)). CARB developed an AB 32 Scoping Plan that contains strategies to achieve the 2020 emissions cap (CARB, 2009). The initial Scoping Plan was approved in 2008, and contained a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the State's long-range climate objectives (CARB, 2009). The First Update to the Scoping Plan was approved by CARB in May 2014 and built upon the initial Scoping Plan with new strategies and recommendations (CARB, 2014). As discussed above, CARB adopted the Second Update to the Scoping Plan, more commonly referred to as the 2017 Climate Change Scoping Plan, at a public meeting held in December 2017, which outlines the strategy to achieve the 2030 statewide GHG reduction goal.

As required by HSC Division 25.5, CARB approved the 1990 GHG emissions inventory, thereby establishing the emissions limit for 2020. The 2020 emissions limit was originally set at 427 $MMTCO_2e$ using the GWP values from the IPCC SAR. CARB also projected the state's 2020 GHG emissions under no-action-taken (NAT) conditions – that is, emissions that would occur without any plans, policies, or regulations to reduce GHG emissions. CARB originally used an average of the state's GHG emissions from 2002 through 2004 and projected the 2020 levels at approximately 596 $MMTCO_2e$ (using GWP values from the IPCC SAR). Therefore, under the original projections, the state must reduce its 2020 NAT emissions by 28.4 percent in order to meet the 1990 target of 427 $MMTCO_2e$.

In 2014, CARB revised the target using the GWP values from the IPCC AR4 and determined that the 1990 GHG emissions inventory and 2020 GHG emissions limit is 431 $MMTCO_2e$. CARB also updated the State's 2020 NAT emissions estimate to account for the effect of the 2007–2009 economic recession, new estimates for future fuel and energy demand, and the reductions required by regulation that were recently adopted for motor vehicles and renewable energy. CARB's projected statewide 2020 emissions estimate using the GWP values from the IPCC AR4 is 509.4 $MMTCO_2e$.

Therefore, the emission reductions necessary to achieve the 2020 emissions target of 431 $MMTCO_2e$ would be 78.4 $MMTCO_2e$, or a reduction of GHG emissions by approximately 15.4 percent. In the 2017 Climate Change Scoping Plan Update, CARB provides the estimated projected statewide 2030 emissions and the level of reductions necessary to achieve the 2030 target of 40 percent below 1990 levels. CARB's projected statewide 2030 emissions takes into account 2020 GHG reduction policies and programs. A summary of the GHG emissions

reductions required under HSC Division 25.5 is provided in **Table 3.7-4,** *Estimated Greenhouse Gas Emissions Reductions Required by HSC Division 25.5.*

TABLE 3.7-4
ESTIMATED GREENHOUSE GAS EMISSIONS REDUCTIONS REQUIRED BY HSC DIVISION 25.5

Emissions Scenario	GHG Emissions ($MMTCO_2e$)
2008 Scoping Plan (IPCC SAR)	
2020 NAT Forecast (CARB 2008 Scoping Plan Estimate)	596
2020 Emissions Target Set by HSC Division 25.5 (i.e., 1990 Level)	427
Reduction below NAT Necessary to Achieve 1990 Levels by 2020	169 (28.4%) [a]
2011 Scoping Plan (GHG Estimates Updated in 2014 to Reflect IPCC AR4 GWPs)	
2020 NAT Forecast (CARB 2011 Scoping Plan Estimate)	509.4
2020 Emissions Target Set by HSC Division 25.5 (i.e., 1990 Level)	431
Reduction Necessary to Achieve 1990 Levels by 2020	78.4 (15.4%) [b]
Draft 2017 Scoping Plan Update	
2030 NAT Forecast ("Reference Scenario" which includes 2020 GHG reduction policies and programs)	389
2030 Emissions Target Set by HSC Division 25.5 (i.e., 40% below 1990 Level)	260
Reduction Necessary to Achieve 40% below 1990 Level by 2030	129 (33.2%) [c]

[a] 596 – 427 = 169 / 596 = 28.4%
[b] 509.4 – 431 = 78.4 / 509.4 = 15.4%
[c] 389 – 260 = 129 / 389 = 33.2%

SOURCE: California Air Resources Board, Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document (FED), Attachment D, August 19, 2011; California Air Resources Board, 2020 No-action-taken (NAT) Emissions Projection, 2014 Edition. Available: http://www.arb.ca.gov/cc/inventory/data/bau.htm. Accessed January 2018; California Air Resources Board, The 2017 Climate Change Scoping Plan Update, (January 2018). Available: https://www.arb.ca.gov/cc/scopingplan/revised2017spu.pdf. Accessed January 2018.

In its Climate Change Scoping Plan, CARB has acknowledged land use-driven emissions are highly complex: "While it is possible to illustrate the [GHG] inventory many different ways, no chart or graph can fully display how diverse economic sectors fit together. California's economy is a web of activity where seemingly independent sectors and subsectors operate interdependently and often synergistically" (CARB, 2009). GHG emissions and reductions in the land use sector are complicated to assess given emissions are influenced by reduction measures separate from the land use sector, such as the LCFS, vehicle emissions standards, and entities regulated under the Cap-and-Trade program including refineries and utility providers. Those measures will impact other sectors of the economy and will also impact existing development in addition to new land use development.

In its report, *California Environmental Quality Act Guidelines Update Proposed Thresholds of Significance*, the Bay Area Air Quality Management District (BAAQMD) evaluated the reduction in land use emissions needed in order to be consistent with AB 32 (BAAQMD, 2010). CARB included the following sectors for land use emissions: Transportation (on-road passenger vehicles; on-road heavy-duty), electric power (electricity; cogeneration), commercial and

residential (residential fuel use; commercial fuel use) and recycling and waste (domestic wastewater treatment). Table 1 of the BAAQMD document present the results of this analysis, which shows that a 26.2 percent reduction from statewide land-use driven GHG emissions would be necessary to meet the AB 32 goal of returning to the 1990 emission levels by 2020, which is lower than the statewide reduction of 28.4 percent required based on the original 2008 Climate Change Scoping Plan projections.

Transportation Sector

In response to the transportation sector accounting for a large percentage of California's CO_2 emissions, AB 1493 (HSC Section 42823 and 43018.5), enacted on July 22, 2002, required CARB to set GHG emission standards for passenger vehicles, light duty trucks, and other vehicles whose primary use is non-commercial personal transportation manufactured in and after 2009. In setting these standards, CARB must consider cost effectiveness, technological feasibility, economic impacts, and provide maximum flexibility to manufacturers. The federal CAA ordinarily preempts state regulation of motor vehicle emission standards; however, California is allowed to set its own standards with a federal CAA waiver from the USEPA. In June 2009, the USEPA granted California the waiver.

However, as discussed previously, the USEPA and United States Department of Transportation (USDOT) adopted federal standards for model year 2012 through 2016 light-duty vehicles. In addition, the USEPA and USDOT have adopted GHG emission standards for model year 2017 through 2025 vehicles. Those standards are slightly different from the State's model year 2017 through 2025 standards, but the State of California has agreed not to contest these standards, in part due to the fact that while the national standard would achieve slightly less reductions in California, it would achieve greater reductions nationally and is stringent enough to meet state GHG emission reduction goals. In 2012, CARB adopted regulations that allow manufacturers to comply with the 2017 through 2025 national standards to meet state law.

In January 2007, Governor Brown enacted Executive Order S-01-07, which mandates the following: (1) establish a statewide goal to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020 and (2) adopt a LCFS for transportation fuels in California. CARB identified the LCFS as one of the nine discrete early actions in the Climate Change Scoping Plan. The LCFS regulations were approved by CARB in 2009 and established a reduction in the carbon intensity of transportation fuels by 10 percent by 2020 with implementation beginning on January 1, 2011. In September 2015, CARB approved the re-adoption of the LCFS, which became effective on January 1, 2016, to address procedural deficiencies in the way the original regulation was adopted. In April 2017, the LCFS was brought before the Court of Appeal challenging the analysis of potential nitrogen dioxide impacts from biodiesel fuels. The Court directed CARB to conduct an analysis of nitrogen dioxide impacts from biodiesel fuels and froze the carbon intensity targets for diesel and biodiesel fuel provisions at 2017 levels until CARB has completed this analysis, which CARB has indicated is expected to occur in 2018. The 2017 Climate Change Scoping Plan calls for increasing the LCFS from 10 percent to 18 percent by 2030.

Land Use Transportation Planning

SB 375 (Chapter 728, Statutes of 2008), which establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions, was adopted by the State on September 30, 2008. Under SB 375, CARB is required, in consultation with the state's Metropolitan Planning Organizations, to set regional GHG reduction targets for the passenger vehicle and light-duty truck sector for 2020 and 2035. In February 2011, CARB adopted the final GHG emissions reduction targets for the State's Metropolitan Planning Organizations, including the San Luis Obispo Council of Governments, which is the Metropolitan Planning Organization for the region in which the project is located (CARB, 2008). Of note, the proposed reduction targets explicitly exclude emission reductions expected from the AB 1493 and the low carbon fuel standard regulations.

Under SB 375, the reduction target must be incorporated within that region's Regional Transportation Plan (RTP), which is used for long-term transportation planning, in a Sustainable Communities Strategy (SCS). Certain transportation planning and programming activities would then need to be consistent with the SCS; however, SB 375 expressly provides that the SCS does not regulate the use of land, and further provides that local land use plans and policies (e.g., general plan) are not required to be consistent with either the RTP or SCS.

Energy Sector and CEQA Guidelines Appendix F

The CEC first adopted Energy Efficiency Standards for Residential and Nonresidential Buildings (CCR, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the state. Although not originally intended to reduce GHG emissions, increased energy efficiency and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically (typically every three years) to allow for the consideration and inclusion of new energy efficiency technologies and methods. Part 11 of the Title 24 Building Energy Efficiency Standards is referred to as the California Green Building Standards (CALGreen) Code. The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design, (2) Energy efficiency, (3) Water efficiency and conservation, (4) Material conservation and resource efficiency and (5) Environmental air quality" (CBSC, 2010). As of January 1, 2011, the CALGreen Code is mandatory for all new buildings constructed in the state. The CALGreen Code establishes mandatory measures for new residential and non-residential buildings. Such mandatory measures include energy efficiency, water conservation, material conservation, planning and design, and overall environmental quality. The CALGreen Code was most recently updated in 2016 to include new mandatory measures for residential and nonresidential uses; the new measures took effect on January 1, 2017 (CBSC, 2016).

The State has adopted regulations to increase the proportion of electricity from renewable sources. In November 2008, Governor Schwarzenegger signed Executive Order S-14-08 (OOG, 2015), which expands the State's Renewables Portfolio Standard to 33 percent renewable power by 2020. On April 12, 2011, Governor Jerry Brown signed SB X1-2 to increase California's

Renewables Portfolio Standard to 33 percent by 2020. SB 350 (Chapter 547, Statues of 2015) further increased the Renewables Portfolio Standard to 50 percent by 2030. The legislation also included interim targets of 40 percent by 2024 and 45 percent by 2027.

SB 97, enacted in 2007, directed the State Office of Planning and Research (OPR) to develop California Environmental Quality Act (CEQA) Guidelines (*CEQA Guidelines*) "for the mitigation of GHG emissions or the effects of GHG emissions." In December 2009, OPR adopted amendments to the *CEQA Guidelines*, Appendix G Environmental Checklist, which created a new resource section for GHG emissions and indicated criteria that may be used to establish significance of GHG emissions. Appendix F of the *CEQA Guidelines* states, in order to ensure energy implications are considered in project decisions, the potential energy implications of a project shall be considered in an EIR, to the extent relevant and applicable to the project. Appendix F of the *CEQA Guidelines* further states a project's energy consumption and proposed conservation measures may be addressed, as relevant and applicable, in the Project Description, Environmental Setting, and Impact Analysis portions of technical sections, as well as through mitigation measures and alternatives. In accordance with Appendix F of the CEQA Guidelines, relevant information that addresses the energy implications of the Project is provided in this section.

Cap-and-Trade Program

The Climate Change Scoping Plan identifies a Cap-and-Trade Program as a key strategy CARB will employ to help California meet its GHG reduction targets for 2020 and 2030, and ultimately achieve an 80 percent reduction from 1990 levels by 2050. Pursuant to its authority under HSC Division 25.5, CARB designed and adopted a California Cap-and-Trade Program to reduce GHG emissions from major sources (deemed "covered entities") by setting a firm cap on statewide GHG emissions and employing market mechanisms to achieve AB 32's emission-reduction mandate of returning to 1990 levels of emissions by 2020 and 40 percent below 1990 levels by 2030 (17 CCR Sections 95800 to 96023). Under Cap-and-Trade program, an overall limit is established for GHG emissions from capped sectors (e.g., electricity generation, petroleum refining, cement production, and large industrial facilities that emit more than 25,000 MT CO_2e per year) and declines over time, and facilities subject to the cap can trade permits to emit GHGs. The statewide cap for GHG emissions from the capped sectors commenced in 2013 and declines over time, achieving GHG emission reductions throughout the Program's duration (17 CCR Sections 95811-95812). On July 17, 2017 the California legislature passed Assembly Bill 398, extending the Cap-and-Trade program through 2030.

The Cap-and-Trade Regulation provides a firm cap, ensuring the 2020 statewide emission limit will not be exceeded. An inherent feature of the Cap-and-Trade Program is it does not guarantee GHG emissions reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are only guaranteed on an accumulative basis.

If California's direct regulatory measures reduce GHG emissions more than expected, then the Cap-and-Trade Program will be responsible for relatively fewer emissions reductions. If California's direct regulatory measures reduce GHG emissions less than expected, then the Cap-and-Trade Program will be responsible for relatively more emissions reductions. In other words,

the Cap-and-Trade Program functions similarly to an insurance policy for meeting California's GHG emissions reduction mandates.

AB 341 – Solid Waste Diversion

The Commercial Recycling Requirements mandate businesses (including public entities) that generate 4 cubic yards or more of commercial solid waste per week and multi-family residential with five units or more arrange for recycling services. Businesses can take one or any combination of the following in order to reuse, recycle, compost, or otherwise divert solid waste from disposal. Additionally, AB 341 mandates 75 percent of the solid waste generated be reduced, recycled, or composted by 2020.

Local

City of Morro Bay Final Climate Action Plan

The City of Morro Bay Climate Action Plan (CAP) is a long-range plan to reduce GHG emissions from City government operations and community activities within Morro Bay and prepare for the anticipated effects of climate change. The CAP also aims to help achieve multiple community goals such as lowering energy costs, reducing air pollution, supporting local economic development, and improving public health and quality of life (City of Morro Bay, 2014). Specifically, this CAP is designed to:

- Benchmark Morro Bay's 2005 baseline GHG emissions and 2020 projected emissions relative to the statewide emissions target established under AB 32 of 1990 levels by 2020 (approximately 15 percent below 2005 levels by the year 2020).
- Provide a roadmap for achieving the City's GHG emissions reduction target of 15 percent below 2005 levels by the year 2020 and help the City prepare for anticipated climate change impacts.
- Serve as a qualified and comprehensive plan for addressing the cumulative impacts of GHG emissions within the City.
- Support tiering and streamlining the analysis of GHG emissions for future projects within Morro Bay pursuant to *CEQA Guidelines* sections 15152 and 15183.5.

The following measures from the CAP would apply to the proposed project:

Measure O-1: Construction Vehicles and Equipment. Reduce GHG emissions from construction vehicles and equipment by requiring various actions as appropriate to the construction project.

Implementation Actions

O-1.1: Require three percent of construction vehicles and equipment to be electrically-powered or use alternative fuels such as compressed natural gas.

O-1.2: Limit heavy-duty vehicle and equipment idling time to a period of three minutes or less, exceeding CARB's standard of a five-minute limit.

Measure O-2: Off-Road Equipment Upgrades, Retrofits, and Replacements. Continue to work with the APCD and promote existing programs that fund vehicle and equipment upgrades,

retrofits, and replacement through the Carl Moyer heavy-duty vehicle and equipment program or other funding mechanisms.

Implementation Actions

O-2.1: Conduct additional outreach and promotional activities targeting specific groups (*e.g.*, agricultural operations, construction companies, homeowners, etc.).

O-2.2: Direct community members to existing program websites (*e.g.*, APCD, Carl Moyer Grant page).

C-3: Renewable Energy Systems on City Property. Pursue small-scale on-site solar energy systems at City government facilities.

Implementation Actions

C-3.1: Identify funding sources and opportunities for small-scale on-site solar photovoltaic (PV) systems at City government facilities.

C-3.2: Install small-scale on-site solar PV systems at select City government facilities.

County of San Luis Obispo EnergyWise Plan

The EnergyWise Plan (EWP) for San Luis Obispo County was prepared as a requirement of the Conservation and Open Space Element (COSE) of the General Plan and is intended to facilitate the goals of the COSE. This Plan builds upon the goals and strategies of the COSE to reduce local GHG emissions. It identifies how the County will achieve the GHG emissions reduction target of 15 percent below baseline levels by the year 2020 in addition to other energy efficiency, water conservation, and air quality goals identified in the COSE. This Plan also assists with the County's participation in the regional effort to implement land use and transportation measures to reduce regional greenhouse gas emissions from the transportation sector by 2035 (County of San Luis Obispo, 2011).

Consistent with COSE Policy E-2.1, the EWP requires new or renovated County facilities, such as the proposed project to meet or exceed CALGreen's Tier 1 or the intent of the LEED Silver requirements. The EWP lists the following actions in support of this measure:

- Continue to require Utility Coordinator review of new facilities for opportunities to meet or exceed energy efficiency requirements.
- Orient and design new facilities to maximize natural lighting and climate regulation.
- "Right-size" new facilities to meet anticipated uses.
- Pre-wire new facilities to accommodate solar PV and/or electric car charging stations.

The EWP was updated in 2016 with a summary of the progress toward implementing measures in the 2011 EWP and outlines the overall trends in energy use and emissions since the baseline year of the EWP inventory (2006). The EWP Update includes 12 more specific reduction goals, six for government operations and six for community-wide activity (County of San Luis Obispo, 2016). The six goals for government operations are listed below:

Goal G1: Reduce energy use in existing County facilities 20% by 2020.

Goal G2: Increase the use of renewable energy sources in County facilities to account for 10% of total energy used.

Goal G3: Reduce the amount of waste generated at County facilities and increase the County's waste diversion rate to 80% by 2020.

Goal G4: Reduce water use in County facilities 20% by 2020.

Goal G5: Reduce emissions from the County's vehicle fleet by using alternative fuels and decreasing vehicle miles traveled.

Goal G6: Provide additional opportunities for employees to utilize alternative transportation options and reduce commute lengths.

3.7.3 Impacts and Mitigation Measures

Significance Criteria

Appendix G of the *CEQA Guidelines* recommends the following significance criteria for the evaluation of impacts related to greenhouse gases and energy use. This Draft EIR assumes implementation of the proposed project would have a significant impact if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.
- Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.
- Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction or operation.
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

In March 2012, the San Luis Obispo Air Pollution Control District (SLOAPCD) adopted CEQA thresholds for GHG emissions. Based on the adopted SLOAPCD guidance, the following three quantitative thresholds may be used to evaluate the level of significance of GHG emissions impacts for residential and commercial projects:

1. Qualified GHG Reductions Strategies - A project would have a significant impact if it is not consistent with a qualified GHG reduction strategy that meets the requirements of the State CEQA Guidelines. If a project is consistent with a qualified GHG reduction strategy, it would not have a significant impact; OR,
2. Bright-Line Threshold. A project would have a significant impact if it exceeds the "bright-line threshold" of 1,150 MT CO_2e per year; OR,
3. Efficiency Threshold. A project would have a significant impact if the efficiency threshold exceeds 4.9 MT of CO_2e per service population per year.

For stationary-source projects, such as the proposed project, the threshold is 10,000 MT CO_2e per year. Stationary-source projects include land uses that would accommodate processes and equipment that emit GHG emissions and would require an APCD permit to operate.

The City Final CAP and the County EWP serve as the applicable qualified GHG reduction plans the proposed project would be required to comply with. Therefore, the proposed project's contribution to cumulative GHG impacts would be cumulatively considerable if it is inconsistent with either of these plans.

There are no quantitative thresholds to evaluate energy impacts.

Methodology

This section describes the methodologies and assumptions used for identifying and analyzing the proposed project's emissions of GHGs and energy consumption. The evaluation of potential impacts to GHG emissions that may result from the construction and long-term operations of the proposed project is conducted as follows. Potential impacts resulting from the proposed project's potential energy usage, including electricity, natural gas, and transportation fuel are analyzed by assessing energy consumption during both construction and operation. Specific analysis methodologies are discussed below.

Construction Emissions

Construction-related GHG emissions for the proposed project were estimated using a similar methodology to that described for criteria air pollutants in Chapter 3.3, Air Quality, of this EIR. The proposed project's construction-related GHG emissions was estimated using the California Emissions Estimator Model (CalEEMod) (Version 2016.3.2), which calculates the emissions of CO_2, CH_4, and N_2O associated with construction-related GHG sources such as off-road construction equipment, material delivery trucks, soil haul trucks, and construction worker vehicles. The GHG analysis incorporates similar assumptions as the air quality analysis for consistency. As recommended by the SLOAPCD, estimated total construction GHG emissions were amortized over a 25-year period and added to the proposed project's operational emissions estimates (SLOAPCD, 2012).

Operational Emissions

Direct sources of operational GHG emissions resulting from the proposed project include vehicle trips made by employees, maintenance vehicles, and delivery and hauling trucks, and diesel combustion for testing and maintenance of the proposed backup generators. Indirect sources include off-site emissions occurring as a result of the proposed project's operations such as generation of electricity that is used by the proposed project.

GHG emissions generated from the testing and maintenance of backup generators were estimated using CalEEMod. Per SLOAPCD Rule 431, estimates assume those generators would be operated for a maximum of 100 hours per year for testing and maintenance. CO_2 emissions from truck trips to and from the site for chemical deliveries and biosolids removal as well as employee commute trips were calculated using CalEEMod.

The indirect emissions that would be associated with the proposed project's electricity use were estimated using PG&E's power grid emission factor for year 2020 (*i.e.*, 290 pounds CO_2 per megawatt hour [MWh]; PG&E, 2015). N_2O and CH_4 emission factors for electricity use were

obtained from the USEPA (USEPA, 2014). GHG emissions were estimated in CalEEMod for CO_2, N_2O, and CH_4, and total CO_2e associated with project power demand.

See **Appendix C** for all emission factors and assumptions used to estimate GHG emissions that would be associated with operations of the proposed project.

Impact Analysis

Impact 3.7-1: The proposed project would generate GHG emissions, either directly or indirectly, that would not have a significant impact on the environment. This impact would be Class III, less than significant.

Construction

The emissions of GHGs associated with construction of the proposed project were calculated for each year of construction activity using CalEEMod. Construction of the proposed project would generate GHG emissions associated with the use of heavy-duty off-road construction equipment and automobile and truck trips required to transport workers, materials, and debris to and from the project sites. Results of the GHG emission calculations are presented in **Table 3.7-5**, *Estimated Construction GHG Emissions*. It should be noted the GHG emissions shown in **Table 3.7-5** are based on construction equipment operating continuously throughout the work day. In reality, construction equipment tends to operate periodically or cyclically throughout the work day. Therefore, the GHG emissions shown reflect a conservative estimate.

TABLE 3.7-5
ESTIMATED CONSTRUCTION GHG EMISSIONS

Year	GHG Emissions MT CO_2e
2019	1,074.1
2020	2,003.5
2021	1,727.2
Total	**4,804.9**
Amortized Emissions (25 years)	**192.2**

SOURCE: Appendix C.

Although GHGs are generated during construction and are accordingly considered 1-time emissions, it is important to include them when assessing all of the long-term GHG emissions associated with a project. Therefore, as recommended by the SLOAPCD, the proposed project's total construction emissions are amortized over the project's 25-year lifetime in order to include these emissions as part of a project's annualized lifetime total emissions, so GHG reduction measures will address construction GHG emissions as part of the operational GHG reduction strategies. In accordance with that methodology, the estimated proposed project's construction GHG emissions have been amortized over a 25-year period and are included in the annualized operational GHG emissions.

Operation

GHG emissions associated with operation of the proposed project were calculated to disclose operational emissions from the proposed project and were estimated using CalEEMod. Maximum annual GHG emissions resulting from backup generator, motor vehicles (*i.e.*, worker commute trips and delivery/haul truck trips), and energy (*i.e.*, electricity, natural gas were calculated for the expected opening year (2021). **Table 3.7-6** below shows the project's operational emissions from both direct and indirect sources. The sum of those emissions and the amortized annual construction emissions is compared to the SLOAPCD's 10,000 MT CO_2e per year threshold applicable to the proposed project.

TABLE 3.7-6
PROPOSED PROJECT GHG EMISSIONS

Source	MT CO_2e (per year)
Backup Generator – Testing and Maintenance [a]	140.9
Worker Commute Trips	29.0
Delivery & Haul Truck Trips	58.2
Electricity Generation (Indirect)	437.5
Construction Emissions (Amortized)	192.2
Total	**857.8**
SLOAPCD Significance Threshold	10,000
Significant?	**No**

a Assumes operation of the backup generators for a maximum of 100 hours per year for testing and maintenance per SLOAPCD Rule 431.

SOURCE: Appendix C

Indirect emissions from the generation of electricity that would be required to operate the proposed project was based on the proposed project's projected total operational demand of approximately 9,000 kWh/day. Existing energy use of 3,000 kWh/day was deducted from that and the GHG emissions associated with electricity generation presented in the table above represent the net increase in emissions over existing conditions. As shown, total proposed project emissions would be well below the SLOAPCD threshold of 10,000 MT CO_2e per year. Therefore, the proposed project would not generate GHG emissions, either directly or indirectly, that would result in a significant impact on the environment. The proposed project's impact would be less than significant.

Mitigation Measures

None required.

Significance Determination

Less than Significant.

Impact 3.7-2: The proposed project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs. This impact would be Class III, less than significant.

State Plans

In support of HSC Division 25.5, the State has promulgated specific laws aimed at GHG reductions applicable to the proposed project. The primary focus of many of the statewide and regional mandates, plans, policies and regulations is to address worldwide climate change. Due to the complex physical, chemical, and atmospheric mechanisms involved in global climate change, there is no basis for concluding that the proposed project's annual GHG emissions would cause a measurable change in global GHG emissions necessary to influence global climate change. The GHG emissions of the proposed project alone would not likely cause a direct physical change in the environment. According to CAPCOA, "GHG impacts are exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective" (CAPCOA, 2008). It is global GHG emissions in their aggregate that contribute to climate change, not any single source of GHG emissions alone.

Table 3.7-7, *Consistency with Applicable Greenhouse Gas Reduction Strategies*, contains a list of GHG-reducing strategies as they relate to the proposed project. The analysis describes the consistency of the proposed project with these strategies that support the State's strategies in the Climate Change Scoping Plan to reduce GHG emissions. The Climate Change Scoping Plan relies on a broad array of GHG reduction actions, which include direct regulations, alternative compliance mechanisms, incentives, voluntary actions, and market-based mechanisms such as the Cap-and-Trade program. As shown below, the proposed project would incorporate characteristics to reduce energy, conserve water, reduce waste generation, and reduce vehicle travel consistent with statewide strategies and regulations. As a result, the proposed project would not conflict with applicable Climate Change Scoping Plan strategies and regulations to reduce GHG emissions.

TABLE 3.7-7
CONSISTENCY WITH APPLICABLE GREENHOUSE GAS REDUCTION STRATEGIES

Sector / Source	Category / Description	Consistency Analysis
1. Energy		
California Renewables Portfolio Standard	Increases the proportion of electricity from renewable sources to 33 percent renewable power by 2020.	**Consistent.** The Project would use electricity provided by PG&E, which is committed to achieving 33 percent renewables by 2020. They currently deliver 32.8 percent of their energy from renewable resources.
California Renewables Portfolio Standard and SB 350	Increases the proportion of electricity from renewable sources to 33 percent renewable power by 2020. SB 350 requires 50 percent by 2030. It also requires the State Energy Resources Conservation and Development Commission to double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.	**Consistent.** The Project would use electricity provided by PG&E, which is committed to meet the 2030 performance standard. They currently deliver 32.8 percent of their energy from renewable resources.
CCR, Title 24	Energy Efficiency Standards for Residential and Nonresidential Buildings	**Consistent.** The Project would meet or exceed the applicable requirements of the CalGreen Code.
Assembly Bill 1109	The Lighting Efficiency And Toxics Reduction Act (AB1109) prohibits manufacturing specified general purpose lights that contain levels of hazardous substances prohibited by the European Union. AB 1109 also requires a reduction in average statewide electrical energy consumption by not less than 50 percent from the 2007 levels for indoor residential lighting and not less than 25 percent from the 2007 levels for indoor commercial and outdoor lighting by 2018	**Consistent.** As discussed above, the Project would meet or exceed the applicable requirements of the State of California Green Building Standards Code.
California Green Building Standards Code Requirements	All bathroom exhaust fans shall be ENERGY STAR compliant.	**Consistent.** The Project would utilize energy efficiency appliances and equipment and would meet or exceed the energy standards in ASHRAE 90.1-2010, Appendix G and the Title 24 Building Energy Efficiency Standards.
	HVAC Systems will be designed to meet ASHRAE standards.	**Consistent.** The Project would utilize energy efficiency appliances and equipment and would meet or exceed the energy standards in ASHRAE 90.1-2010, Appendix G and the Title 24 Building Energy Efficiency Standards.
	Energy commissioning shall be performed for buildings larger than 10,000 square feet.	**Consistent.** The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.
	Air filtration systems are required to meet a minimum of MERV 8 or higher.	**Consistent.** The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.
	Refrigerants used in newly installed HVAC systems shall not contain any CFCs.	**Consistent** The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.
	Parking spaces shall be designed for carpool or alternative fueled vehicles. Up to eight percent of total parking spaces will be designed for such vehicles.	**Consistent.** The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.
	Long-term and short-term bike parking shall be provided for up to five percent of vehicle trips.	**Consistent.** The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.
	Stormwater Pollution Prevention Plan (SWPPP) required.	**Consistent.** The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.

Sector / Source	Category / Description	Consistency Analysis
	Indoor water usage must be reduced by 20% compared to current California Building Code Standards for maximum flow.	**Consistent.** The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.
	All irrigation controllers must be installed with weather sensing or soil moisture sensors.	**Consistent.** The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.
	Wastewater usage shall be reduced by 20 percent compared to current California Building Standards.	**Consistent.** The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.
	Requires a minimum of 50 percent recycle or reuse of nonhazardous construction and demolition debris.	**Consistent.** The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.
	Requires documentation of types of waste recycled, diverted or reused.	**Consistent.** The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.
	Requires use of low VOC coatings consistent with AQMD Rule 1168.	**Consistent.** The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.
	100 percent of vegetation, rocks, soils from land clearing shall be recycled or stockpiled on-site.	**Consistent.** The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.
2. Mobile Sources		
AB 1493 (Pavley Regulations)	Reduces GHG emissions in new passenger vehicles from model year 2012 through 2016 (Phase I) and model years 2017–2025 (Phase II). Also reduces gasoline consumption to a rate of 31 percent of 1990 gasoline consumption (and associated GHG emissions) by 2020.	**Consistent.** The Project would be consistent with this regulation and would not conflict with implementation of the vehicle emissions standards.
Low Carbon Fuel Standard (Executive Order S-01-07)	Establishes protocols for measuring life-cycle carbon intensity of transportation fuels and helps to establish use of alternative fuels.	**Consistent.** The Project would be consistent with this regulation and would not conflict with implementation of the transportation fuel standards.
Advanced Clean Cars Program	In 2012, CARB adopted the Advanced Clean Cars (ACC) program to reduce criteria pollutants and GHG emissions for model year vehicles 2015 through 2025. ACC includes the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles (PHEV) in the 2018 through 2025 model years.	**Consistent.** The standards would apply to all vehicles used by employees associated with the Project.
SB 375	SB 375 establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions. Under SB 375, CARB is required, in consultation with the state's Metropolitan Planning Organizations, to set regional GHG reduction targets for the passenger vehicle and light-duty truck sector for 2020 and 2035.	**Consistent.** The Project would be consistent with SLOCOG RTP/SCS goals and objectives under SB 375 to implement "smart growth." The Project would provide employment opportunities in close proximity to off-site residential where people can live and work and have access to convenient modes of transportation that provides options for reducing reliance on automobiles and minimizing associated air pollutant emissions. The Project would meet the applicable requirements of CALGreen Building Code.

Sector / Source	Category / Description	Consistency Analysis
3. Water		
CCR, Title 24	Title 24 includes water efficiency requirements for new residential and non-residential uses.	**Consistent.** See discussion under California Green Building Standards Code Requirements above.
Senate Bill X7-7	The Water Conservation Act of 2009 sets an overall goal of reducing per capita urban water use by 20 percent by December 31, 2020. Each urban retail water supplier shall develop water use targets to meet this goal.	**Consistent.** See discussion under California Green Building Standards Code Requirements above.
4. Solid Waste		
California Integrated Waste Management Act (IWMA) of 1989 and Assembly Bill (AB) 341	The IWMA mandated that state agencies develop and implement an integrated waste management plan which outlines the steps to be taken to divert at least 50 percent of their solid waste from disposal facilities. AB 341 directs CalRecycle to develop and adopt regulations for mandatory commercial recycling and sets a statewide goal for 75 percent disposal reduction by the year 2020.	**Consistent.** The Project would be served by a solid waste collection and recycling service that may include mixed waste processing, and that yields waste diversion results comparable to source separation and consistent with Citywide recycling targets.
5. Other Sources		
Climate Action Team	Reduce diesel-fueled commercial motor vehicle idling.	**Consistent.** The Project would be consistent with the CARB Air Toxics Control Measure to limit heavy duty diesel motor vehicle idling to no more than 5 minutes at any given time.
	Achieve California's 50 percent waste diversion mandate (Integrated Waste Management Act of 1989) to reduce GHG emissions associated with virgin material extraction.	**Consistent.** The Project would meet this requirement as part of its compliance with the City's waste diversion requirements and the CALGreen Code. The Project would be served by a solid waste collection and recycling service that may include mixed waste processing, and that yields waste diversion results comparable to source separation and consistent with Countywide recycling targets.
	Plant five million trees in urban areas by 2020 to effect climate change emission reductions.	**Consistent.** The Project would provide appropriate landscaping on the Project Site including vegetation and trees.
	Implement efficient water management practices and incentives, as saving water saves energy and GHG emissions.	**Consistent.** The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.
	Reduce GHG emissions from electricity by reducing energy demand. The California Energy Commission updates appliance energy efficiency standards that apply to electrical devices or equipment sold in California. Recent policies have established specific goals for updating the standards; new standards are currently in development.	**Consistent.** The Project would utilize energy efficiency appliances and equipment and would meet or exceed the energy standards in ASHRAE 90.1-2010 Appendix G, the Title 24 Building Energy Efficiency Standards, and the CALGreen Code.
	Apply strategies that integrate transportation and land-use decisions, including but not limited to promoting jobs/housing proximity, high-density residential/commercial development along transit corridors, and implementing intelligent transportation systems.	**Consistent.** The Project would incorporate options to reduce vehicle trips and VMT and encourage alternative modes of transportation for employees.
	Reduce energy use in private buildings.	**Consistent.** The Project would utilize energy efficiency appliances and equipment and would meet or exceed the energy standards in ASHRAE 90.1-2010 Appendix G, the Title 24 Building Energy Efficiency Standards, and the CALGreen Code..

SOURCE: ESA, 2018.

Furthermore, in addition to the proposed project's consistency with applicable GHG reduction strategies, the proposed project would not conflict with the future anticipated statewide GHG reductions goals. CARB has outlined a number of potential strategies for achieving the 2030 reduction target of 40 percent below 1990 levels. These potential strategies include renewable resources for half of the State's electricity by 2030, increasing the fuel economy of vehicles and the number of zero-emission or hybrid vehicles, reducing the rate of growth in VMT, supporting high speed rail and other alternative transportation options, and use of high efficiency appliances, water heaters, and HVAC systems. The proposed project would benefit from statewide and utility-provider efforts towards increasing the portion of electricity provided from renewable resources. It would also benefit from statewide efforts towards increasing the fuel economy standards of vehicles. The proposed project would use energy-efficient appliances and equipment. While CARB is in the process of developing a framework for the 2030 reduction target in the Scoping Plan, the proposed project would support or not impede implementation of these potential reduction strategies to be identified by CARB. As discussed above, the proposed project would not exceed the SLOAPCD significance threshold of 10,000 MT CO_2e per year and would therefore not conflict with State mandated GHG reduction strategies and impacts would be less than significant.

Local Plans

Some of the proposed project's components, such as the lift station and injection wells, will be located within the City and subject to the City's Climate Action Plan. The preferred WRF site is located in an unincorporated area of the County and subject to the policies and measures in the County's EnergyWise Plan.

As discussed earlier, the City adopted a Climate Action Plan in 2014 which serves as a qualified GHG Reduction Strategy consistent with *State CEQA Guidelines*. The GHG reducing policy provisions contained in the Climate Action Plan were prepared with the purpose of complying with the requirements of AB 32 and achieving the goals of the AB 32 Scoping Plan. Therefore, the Climate Action Plan is consistent with statewide efforts established in ARB's Climate Change Scoping Plan to reduce statewide GHG emissions to 1990 levels by 2020. The Climate Action Plan identifies the City's wastewater facilities and employee commute as the largest generators of GHG emissions from City government operations. The government vehicle fleet and electricity and natural gas used at City buildings was also identified as an important source of GHG emissions. The Climate Action Plan outlines the following GHG reduction areas: 1) City Government Operations, 2) Energy, 3) Transportation and Land Use, 4) Off-Road, 5) Solid Waste, 6) Tree Planting, and 7) Adaption. The proposed project would be consistent with the City's Climate Action Plan if it includes provisions to further the emissions reduction goals in the Plan or not interfere with the attainment of the emission reduction goals in the Plan.

The Project's consistency with the City's Climate Action Plan goals, actions, and strategies is described below:

> **C-1:** City Government Energy Efficiency Retrofits and Upgrades. The proposed project would be consistent with this goal. The newer facility will be more energy efficient than the older facility which will help reduce government energy usage. The proposed project would meet or exceed the applicable requirements of the CalGreen Code.

C-2: City Government Energy Efficient Public Realm Lighting. The proposed project would be consistent with this goal. The newer facility will utilize higher efficiency lamp technologies that are not utilized in the older facility. The proposed project would meet or exceed the applicable requirements of the CalGreen Code.

C-4: Zero- and Low- Emission City Fleet Vehicles. The proposed project would be consistent with this goal. It would not interfere with the City's ability to replace City vehicles with low- or zero- emission vehicles by 2020. Emissions would be less than those identified above for the project if the City were to use low- or zero-emission vehicles to serve the project site. The proposed project would not conflict with the Advanced Clean Car standards.

C-5: City Government Tree Planting Program. The proposed project would be consistent with this goal. Landscaping at the preferred WRF site would utilize appropriate vegetation and trees.

E-5. Small-Scale On-Sight Solar PV Incentive Program. The proposed project would include a solar farm at the preferred WRF site, which would help meet the goal to include renewable energy systems in facilities. Therefore, the proposed project would be consistent with this measure.

O-1. Construction Vehicles and Equipment: The proposed project would be consistent with this measure through compliance that three percent of construction vehicles or equipment utilized at the project site would be powered by electricity or alternative fuels. The proposed project would also limit heavy-duty vehicle and equipment idling times to a period of three minutes or less, exceeding CARB's standard of a five-minute limit. The proposed project would be served by a solid waste collection and recycling service that may include mixed waste processing, and that yields waste diversion results comparable to source separation and consistent with Citywide recycling targets.

S-1. Solid Waste Diversion. The proposed project would be consistent with this goal. The proposed project will divert 75 percent of its solid waste in efforts to meet the City's goals.

A-3. Water Management. The proposed project would be consistent with this measure. The proposed project would address wastewater management issues by replacing the current wastewater treatment facility. The proposed project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.

A-4. Infrastructure. The proposed project is consistent with this measure as it assesses the potential impact of climate change (*i.e.* flooding) on the upgrade to the wastewater infrastructure system (proposed project). Additionally, threats for proposed project climate change impacts on the local wastewater facility are analyzed in this section. The proposed project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.

The County has adopted an EnergyWise Plan (EWP). The EWP 2016 Update serves as a qualified GHG Reduction Strategy consistent with *State CEQA Guidelines*. The GHG reducing policy provisions contained in the EWP were prepared with the purpose of complying with the requirements of AB 32 and achieving the goals of the AB 32 Scoping Plan. Therefore, the EWP is consistent with statewide efforts established in ARB's Climate Change Scoping Plan to reduce statewide GHG emissions to 1990 levels by 2020. The EWP outlines the following GHG reduction areas: 1) Government Operations and 2) Community-Wide. The proposed project

would be consistent with the EWP if it includes provisions to further the emissions reduction goals or not interfere with the attainment of the emission reduction goals in the EWP.

The proposed project's consistency with the County's EWP goals, actions, and strategies is described below:

G1. Reduce energy use in existing County facilities by 20% by 2020. The proposed project is consistent with this measure. The newer facility will be more energy efficient than the older facility which will help reduce government energy usage. The proposed project would meet or exceed the applicable requirements of the CalGreen Code.

G2. Increase the use of renewable energy sources in County facilities to account for 10% of total energy used. The proposed project would include a solar farm at the WRF site which would help meet the goal to include renewable energy systems in government facilities. Therefore, the proposed project would be consistent with this measure.

G3. Reduce the amount of waste generated at County facilities and increase the County's waste diversion rate to 80% by 2020. The proposed project would be consistent with this goal. The proposed project will divert 80 percent of its solid waste in efforts to meet the County's goals.

G4. Reduce water use in County facilities by 20% by 2020. The proposed project would be consistent with this measure. The proposed project would meet this requirement as part of its compliance with the County's requirements and the CALGreen Code.

G5. Reduce emissions from the County's vehicle fleet by using alternative fuels and decreasing vehicle miles traveled. The proposed project would be consistent with this goal. It would not interfere with the County's ability to replace County vehicles with low- or zero-emission vehicles by 2020. Emissions would be less than those identified above for the project if the County were to use low- or zero-emission vehicles to serve the project site. The proposed project would not conflict with the Advanced Clean Car standards.

G6. Provide additional opportunities for employees to utilize alternative transportation options and reduce commute lengths. The proposed project would not interfere with the ability of employees to utilize alternative modes of transportation.

C3. Reduce methane emissions from disposed waste by achieving as close to zero waste as possible through increased diversion rates, methane capture and recovery, and other strategies. The proposed project would be consistent with this goal. The proposed project will divert 80 percent of its solid waste in efforts to meet the County's goals, which will reduce amount of trash going to landfills and thus the amount of methane gas produced.

C4. Reduce emission from potable water use by 20% from per capita baseline levels by 2020 by prioritizing water conservation before development of new water resources. The proposed project would be consistent with this measure. The proposed project would meet this requirement as part of its compliance with the County's requirements and the CALGreen Code.

C5. Reduce transportation emissions through improvements in vehicle fuel efficiency, expansion of non-auto modes of travel, and implementation of smart growth land use policies. The proposed project will not interfere with the efforts of the County to provide education and information on alternative fuel vehicles.

As discussed above, both plans contain measures and policies that promote energy conservation, encourage renewable energy sources at government facilities, reduce waste generated, and reduce emissions from commute and maintenance vehicles by using cleaner alternative fuels. The proposed project would be consistent with these measures. Therefore, the proposed project would not conflict with GHG reduction goals set forth in the City of Morro Bay CAP or the County's EWP and impacts would be less than significant.

The proposed project would meet the mandatory measures of the CALGreen Code as amended by the City by incorporating strategies such as low-flow toilets, low-flow faucets, low-flow showers, and other energy and resource conservation measures. The heating, ventilation, and air conditioning (HVAC) system would be sized and designed in compliance with the CALGreen Code to maximize energy efficiency caused by heat loss and heat gain. Therefore, the proposed project would be consistent with the City's Building Code and impacts would be less than significant.

In summary, the GHG emissions analysis provided above and the proposed project's consistency with applicable regulatory plans and policies to reduce GHG emissions demonstrates the proposed project would substantially comply with or exceed the GHG reduction actions and strategies outlined in CARB's Climate Change Scoping Plan, the County's EnergyWise Plan, the City's Climate Action Plan, and CALGreen Building Code. The Project's consistency with these applicable regulatory plans and policies to reduce GHG emissions would minimize the proposed project's GHG emissions and GHG impacts would be less than significant.

Mitigation Measures

None required.

Significance Determination

Less than Significant

Impact 3.7-3: The proposed project would not lead to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction or operation, which would conflict with applicable energy efficiency policies or standards. This impact would be Class III, less than significant.

As discussed above, the proposed project would consume energy during construction and operational activities. Sources of energy for these activities would include electricity usage, natural gas consumption, and transportation fuels such as diesel and gasoline.

Construction

During the proposed project construction, energy would be consumed in the form of limited electricity associated with the conveyance of water used for dust control and, on a limited basis, powering lights, electronic equipment, or other construction activities necessitating electrical power. As discussed below, construction activities, including the construction of new buildings and facilities, typically do not involve the consumption of natural gas. Proposed project

construction would also consume energy in the form of petroleum-based fuels associated with the use of off-road construction vehicles and equipment on the proposed and preferred project sites, construction worker travel to and from those sites, and delivery and haul truck trips (*e.g.*, hauling of demolition material to off-site reuse and disposal facilities).

Electricity

During construction of the proposed project, electricity would be consumed to supply and convey water for dust control and, on a limited basis, may be used to power lighting, electronic equipment, and other construction activities necessitating electrical power. It is unknown at this time how much electricity would be required for proposed project construction. However, the electricity demand at any given time would vary throughout the construction period based on the construction activities being performed and would cease upon completion of construction. If electric equipment is utilized, when not in use, it would be powered off so as to avoid unnecessary energy consumption. Electricity would not be used wastefully during construction, nor would it be used excessively. A less than significant impact would result from electricity usage during construction.

Natural Gas

Construction activities typically do not involve the consumption of natural gas. Accordingly, natural gas would not be supplied to support proposed project construction activities; thus, there would generally be no routine demand for natural gas generated by construction. No impact would occur resulting from natural gas usage during construction.

Transportation Energy

The petroleum-based fuel use summary provided above in **Table 3.7-8,** *Summary of Transportation Energy Use During Proposed Project Construction*, represents the amount of transportation energy that could potentially be consumed during proposed project construction. As shown, on- and off-road vehicles would consume an estimated 27,322 gallons of gasoline and approximately 4,293,020 gallons of diesel fuel throughout the proposed project's construction. Proposed project construction would last for up to approximately three years; therefore, the annual average fuel consumption would be approximately 9,107 gallons of gasoline and approximately 1,431,007 gallons of diesel fuel per year of construction. For comparison purposes, the annual average fuel usage during proposed project construction would represent approximately 0.006 percent of the 2016 annual on-road gasoline-related energy consumption and 6.2 percent of the 2016 annual diesel fuel-related energy consumption in the County. The majority of the diesel use during construction is from the large number of vendor and haul trips, which were all estimated to be 30 miles one way and represent a worst-case scenario. Vendor and haul trips are likely to be less than those estimated in number and trip length, which would reduce the amount of diesel fuel consumed. Therefore, these numbers do not represent an excessive, nor wasteful, or inefficient consumption of energy during proposed project construction. Additionally, proposed project construction would not conflict with any applicable energy efficiency policies or standards. Impacts would be considered less than significant.

TABLE 3.7-8
SUMMARY OF TRANSPORTATION ENERGY USE DURING PROPOSED PROJECT CONSTRUCTION

Energy Type	Total Quantity	Annual Average Quantity During Construction
Gasoline		
On-Road Construction Equipment	27,322 gallons	9,107 gallons
Off-Road Construction Equipment	0 gallons	0 gallons
Total Gasoline	**27,322 gallons**	**9,107 gallons**
Diesel		
On-Road Construction Equipment	4,095,970 gallons	1,365,323 gallons
Off-Road Construction Equipment	197,050 gallons	65,683 gallons
Total Diesel	**4,293,020 gallons**	**1,431,007 gallons**

SOURCE: ESA, 2018.

Operation

During operation of the proposed project, energy would be consumed for multiple electronics, equipment, and machinery for water reclamation. Energy would also be consumed during proposed project operations related to water usage, solid waste disposal, haul and vendor truck trips, and vehicle trips. As shown in **Table 3.7-9**, *Summary of Annual Energy Use During Project Operation*, the Project's net new electricity demand would be approximately 6.050 kWh of electricity per day or 2,129,600 kWh per year, 2,352 gallons of gasoline per year, and 30,159 gallons of diesel fuel per year.

Electricity

As shown in Table 3.7-9, the total projected energy use for the proposed project would be approximately 9,000 kWh/day, or a net increase of 6,000 kWh/day over existing electrical usage. Although the proposed project would triple the energy demand when compared to current energy use at the existing WWTP, this long-term demand would not be considered wasteful as the proposed project would help the City meet a requirement to produce tertiary disinfected wastewater in accordance with the 22 CCR requirements. The proposed project includes advanced treatment processes, which are generally energy intensive, but would produce and beneficially reuse advanced treated recycled water to meet or exceed all wastewater treatment requirements of the State Water Resources Control Board and augment the City's water supply. In addition, consistent with the policies and measures in the City's Climate Action Plan and the County's EWP, an 800 kW solar farm would be installed at the WRF which would offset some of the proposed project's energy usage. Assuming 5 hours of full sunlight per day for electricity generation, the solar farm would generate approximately 1.2 to 1.3 MWh annually, which would meet approximately 35 to 40 percent of the proposed project's energy needs from the grid.

TABLE 3.7-9
SUMMARY OF ANNUAL ENERGY USE DURING PROPOSED PROJECT OPERATION [a]

Energy Type	Quantity
Electricity [b]	
Proposed Project	
Water Reclamation Facility	8,000 kWh/day
Lift Station	600 KWh/day
Injection Wells	450 kWh/day
Total Project Electricity	9,050 kWh/day
Existing WTF Electricity Usage	3,000 kWh/day
Total Net Electricity	**6,050 kWh/day**
Transportation	
Proposed Project	
Gasoline – worker trips	2,352 gallons/year
Diesel – haul and vendor truck trips	10,629 gallons/year
Diesel – 2 emergency generators	19,530 gallons/year
Total Transportation – Gasoline	**2,352 gallons/year**
Total Transportation – Diesel	**30,159 gallons/year**

kWh = kilowatt-hours
cf = cubic feet
[a] Detailed calculations are provided in Appendix C of this Technical Report.

SOURCE: ESA, 2018.

As the proposed project is consistent with the City's CAP and the County's EnergyWise Plan, operational energy demands of the proposed project would not be considered excessive or wasteful. Moreover, operation of the proposed project would not lead to wasteful, inefficient, or unnecessary consumption of energy, or the wasteful use of energy resources. Impacts to electricity use during proposed project operations would be less than significant.

Natural Gas

The proposed project would use very little natural gas. Any natural gas used would be in compliance with 2016 Title 24 standards and applicable 2016 CALGreen requirements. Impacts to natural gas would be less than significant.

Transportation Energy

During operation, proposed project-related traffic would result in the consumption of petroleum-based fuels related to vehicular travel to and from the preferred and proposed project sites. Vendor and haul trucks would deliver chemicals and maintenance supplies and remove biosolids and screening and grit. Additionally, workers would commute to and from the sites. Diesel and gasoline usage from those trips are presented in Table 3.8-8. Diesel and gasoline usage during proposed project operation would not be excessive and would accommodate required worker and vendor/haul truck trips

The proposed project also includes two diesel powered standby power generators – one 1,750 kW generator at the proposed WRF and a second 1,000 kW generator at the proposed lift station, to provide an alternate source of electrical power in the event of a power failure. While the standby power generators are intended to be used only during emergencies, they will need to be operated routinely for testing and maintenance purposes. Standby power generators would be subject to SLOAPCD's Rules and regulations, which limit testing and maintenance of the engines to a maximum of 100 hours each per year. Conservatively assuming 100 hours per year of non-emergency use at 100 percent load, diesel usage for the two proposed generators would be 19,530 gallons per year. Operation of the generators would not result in excessive or wasteful use of diesel fuel. The standby generators are essential for the operational reliability of the facilities and would undergo regular testing and maintenance consistent with the standards of National Fire Protection Association (NFPA) 110, which specify installation, maintenance, operation, and testing requirements as they pertain to the performance of the emergency or standby power supply systems. As the proposed generator use would be consistent with SLOAPCD requirements and the NFPA standards.

For comparison purposes, the annual average fuel usage during proposed project operation would represent approximately 0.002 percent of the 2016 annual on-road gasoline-related energy consumption and 0.131 percent of the 2016 annual diesel fuel-related energy consumption in San Luis Obispo County. That slight increase in transportation fuel use under the proposed project would not be considered excessive or wasteful. This impact would be less than significant.

Summary of Energy Requirements and Energy Use Efficiencies

Appendix F of the *CEQA Guidelines* recommends quantification of the proposed project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the proposed project's life cycle including construction, operation, maintenance, or removal. If appropriate, then the energy intensiveness of materials may be discussed. The proposed project's energy requirements were calculated based on current usage and predicted project usage based on project scale. Proposed project VMT data were calculated based on CAPCOA guidelines. The calculations also took into account energy efficiency measures such as Title 24, CalGreen and, vehicle fuel economy standards. **Table 3.7-8** and **Table 3.7-9** provide a summary of proposed project construction and operational energy usage, respectively. During proposed project construction activities, a total of 4,320, 342 gallons of transportation fuel (gasoline and diesel). During proposed project operations, a total of 2,129,600 kWh per year of electricity, and 32,511 gallons of transportation fuel would be consumed on an annual basis.

Energy consumption during project construction and operations would be relatively negligible and not excessive or wasteful. The proposed projects energy requirements are within PG&E's existing and planned electricity capacity and supplies would be sufficient to support the project's demand. Transportation fuels (gasoline and diesel) are produced from crude oil which is imported from various regions around the world. Based on current proven reserves, crude oil production would be sufficient to meet over 50 years of consumption (BP, 2017). The proposed project would also comply with CAFE fuel economy standards, which would result in more efficient use of transportation fuels (lower consumption). Proposed project-related vehicle trips would also comply with Pavley and Low Carbon Fuel Standards, which are designed to reduce

vehicle GHG emissions but would also result in fuel savings in addition to CAFÉ standards. Therefore, proposed project construction and operation activities would have a negligible effect on the transportation fuel supply. As the proposed project would not lead to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during proposed project construction or operation, or conflict with applicable energy efficiency policies or standards impacts would be less than significant.

Mitigation Measures

None required.

Significance Determination

Less than Significant

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3.8 Hazards and Hazardous Materials

This section addresses the potential impacts of the proposed project related to hazards and hazardous materials. The section includes a description of the environmental setting to establish baseline conditions for hazards and hazardous materials, including proximity of project components to sensitive receptors such as schools; a summary of the regulations related to hazards and hazardous materials; and an evaluation of the proposed project's potential effects due to hazards and hazardous materials.

3.8.1 Environmental Setting

Hazardous Materials at the Existing WWTP

The City of Morro Bay (City) conducted surveys for asbestos-containing materials (ACM) and lead-based paint (LBP) in preparation for the proposed demolition of the existing WWTP (WCSC, 2010a; 2010b). Based on the investigation of the WWTP for asbestos and sampling of suspect materials, 4 out of the 34 samples were identified as ACM. The ACM consisted of floor tile located in the administrative building, tar located around the roof penetrations and patches on all of the buildings and in the transite panels located in the fume hood in the administrative building (WCSC, 2010a). The ACM was found to be in good condition and is recommended to be removed by an asbestos abatement contractor licensed by the State prior to demolition, renovation, or any activity which could disrupt the ACM. Additionally, based on the survey and testing of paint samples for LBP, two painted surfaces were identified that exceeded the U.S. Environmental Protection Agency (EPA) and the California Department of Public Health (CDPH) threshold of 5,000 parts per million (ppm) lead (WCSC, 2010b). The LBP was detected on the blue painted metal door in the Administrative Building and the yellow painted hoist located outside the Upper Headworks Building. Although the majority of the painted surfaces were below the EPA and CDPH thresholds, 15 out of the 34 samples still showed some level of lead, which when disturbed trigger compliance with EPA and California Occupational Safety and Health Administration (Cal OSHA) regulations.

Naturally Occurring Asbestos

According to the San Luis Obispo Air Pollution Control District's (SLOAPCD) Naturally Occurring Asbestos (NOA) Zones map, the majority of the City of Morro Bay is located in an area that is known to contain NOAs (SLOAPCD, 2018). The proposed project would result in grading activities and, therefore, naturally occurring asbestos may be encountered. Under the State Air Resources Board Air Toxics Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations, prior to any construction or grading activities, the City must comply with all applicable requirements outlined in the Asbestos ATCM, which include preparation of an Asbestos Dust Mitigation Plan and/or an Asbestos Health and Safety Program.

Hazardous Materials Sites

A database search of hazardous materials sites located in or within approximately 0.25-mile of the proposed project components, including the pipeline alignments and indirect potable reuse (IPR) well areas, was performed using the State Water Resources Control Board's (SWRCB) database, Geotracker, and the Department of Toxic Substances Control's (DTSC) database, Envirostor. The databases show the location of "open" cases, which are sites that are undergoing or still require further action, and "closed" cases, which indicates site closure has been completed. Site closure is achieved when remaining contamination meets a risk or cleanup threshold determined not to pose a threat to human health or the environment (USEPA, 2017). The results of the database search are included in Appendix F of this Draft EIR.

Based on the results of the database searches, within 0.25 miles of the proposed project components, there are 13 Leaking Underground Storage Tank (LUST) sites designated as completed; one DTSC inspection site at the Morro Bay Power Plant; and one completed cleanup program site (SWRCB, 2017; DTSC, 2017a). There are currently no open active cases within 0.25-mile of the proposed project components.

Airports

The City does not have a local airport or private airstrip within its boundaries and, as such, is not included in an airport land use compatibility plan. The closest airport to the City is the San Luis County (County) Regional Airport, located approximately 14.5 miles to the southeast. The closest private airport to the City is the Oak Country Ranch Airport, located approximately 12.5 miles to the north.

Wildfires

All of California is subject to some degree of fire hazard, but specific features make some areas more hazardous. The California Department of Forestry and Fire Protection (CAL FIRE) establishes fire hazard severity zones throughout the state that are determined, based on factors that influence fire likelihood and fire behavior. Many factors are considered including fire history, existing and potential fuel (Natural vegetation), flame length, blowing embers, terrain, and typical weather (CAL FIRE, 2007).

Wildland fire protection in California is the responsibility of either the State, or the local government. State responsibility area (SRA) is a legal term defining the area where the State has financial responsibility for wildland fire protection. Local responsibility areas (LRAs) include incorporated cities, cultivated agriculture lands, and portions of the desert. LRA fire protection is typically provided by city fire departments, fire protection districts, counties, and by CAL FIRE under contract to local government (CAL FIRE, 2007). As shown on Very High Fire Hazard Severity Zones Map for the County of San Luis Obispo, the entire proposed project area encompasses both an LRA and a SRA, both of which do not include very high fire hazard severity zones (CAL FIRE, 2009). Furthermore, the County's Local Hazard Mitigation Plan states that the City does not contain the type of vegetation that present a fire risk, and combined with the cool coastal temperatures and lack of connectivity with other fire hazard areas, the risk of wildfires is relatively low (County of San Luis Obispo, 2014).

Nuclear Energy Emergencies from the Diablo Canyon Nuclear Power Plant

The Diablo Canyon Nuclear Power Plant is the only active electricity-generating nuclear power plant in the State, located near Avila Beach in the County. The City is located approximately 10 miles north of the Diablo Canyon Nuclear Power Plant within Protective Zone (PAZ) 9 (County of San Luis Obispo, 2014). According to the County/Cities' Nuclear Power Plant Emergency Response Plan, PAZ 9 is designated as a "balance of state emergency planning zones – State primary oversight" zone, where the City is located outside of the federal 10-mile radius oversight area for plume exposure. While the City is located outside of the plume exposure zones, it is still within the 50-mile radius limit for the ingestion pathway emergency planning zones, where appropriate protocols have been established in the event of a nuclear emergency at the Diablo Canyon Nuclear Power Plant (County of San Luis Obispo, 2014).

Hazards and Hazardous Materials Sensitive Receptors – Schools and Day Care Centers

The City includes six schools within its boundaries; two of those schools are located in or within 0.25-mile of the proposed project area. The closest school to the Morro Bay Cayucos Wastewater Treatment Plant (WWTP), the two potential locations for the lift station, and the two potential locations for the IPR wells sites is Morro Bay High School, located at 235 Atascadero Road. Morro Bay High School is located approximately 0.1-mile to the north of the existing WWTP, proposed lift station potential locations, and proposed IPR West wellfield, and is approximately 0.5-mile west of the proposed IPR East wellfield. The closest school to the middle portion of the proposed raw wastewater and brine/wet weather discharge pipeline is Family Partnership Charter School, located at 1130 Napa Avenue, approximately 0.2-mile to the west of the proposed western pipeline alignment.

There are five daycare centers within the City; one daycare is located within a 0.25-mile of the proposed project components, including the pipeline alignments and IPR wellfield areas. The Morro Bay United Methodist Center is located at 1130 Napa Ave Street, approximately 0.2-miles to the west of the middle portion of the of the proposed raw wastewater and brine/wet weather discharge pipeline.

3.8.2 Regulatory Framework

Federal

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) (42 U.S.C §6901-6987) was enacted in 1976 and gave the U.S Environmental Protection Agency (USEPA) the authority to control hazardous waste from "cradle-to grave," which includes the generation, transportation, treatment, storage and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled USEPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. The Federal Hazardous and Solid Waste Amendments (HSWA) were added to RCRA in 1984 and focused on waste minimization and phasing out land disposal of

hazardous waste as well as corrective action for releases. Some of the other mandates of this law include increased USEPA enforcement authority, more stringent hazardous waste management standards, and a comprehensive underground storage tank program.

Comprehensive Environmental Response, Compensation, and Liability Act and Superfund Amendments and Reauthorization Act of 1986

The Comprehensive Environmental Response, Compensation, and Liability Act, also known as CERCLA, created the federal Superfund program that provides for the response and cleanup of hazardous substances that may endanger public health or the environment. The Superfund Amendments and Reauthorization Act (SARA; 42 USC section 9601 *et seq.*) amended CERCLA in 1986 to increase state involvement and required Superfund actions to consider state environmental laws and regulations. SARA also established a regulatory program for the Emergency Planning and Community Right-to-Know Act. The applicable part of SARA for the proposed project is Title III, otherwise known as the Emergency Planning and Community Right-To-Know Act of 1986. Title III requires states to establish a process for developing local chemical emergency preparedness programs and to receive and disseminate information on hazardous substances present at facilities in local communities. The law provides primarily for planning, reporting, and notification concerning hazardous substances. Key provisions require notification when extremely hazardous substances are present above their threshold planning quantities, immediate notification to the local emergency planning committee and the state emergency response commission when a hazardous material is released in excess of its reportable quantity, and that material safety data sheets for all hazardous materials or a list of all hazardous materials be submitted to the state and local emergency planning agencies and local fire department. Contractors during construction activities and the project applicant during operations would be required to prepare Hazardous Materials Business Plans, as required under the state Hazardous Materials Release Response Plans and Inventory Act, described below, which would make the proposed action consistent with CERCLA as amended by SARA.

Toxic Substance Control Act

The Toxic Substances Control Act of 1976 (TSCA; 15 U.S.C §2605) provides the USEPA with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. TSCA addresses the production, importation, use, and disposal of specific chemicals, including polychlorinated biphenyls (PCBs). Under TSCA, the USEPA has the ability to track the 83,000 industrial chemicals currently produced or imported in the United States and can ban the manufacture and import of those chemicals that pose an unreasonable risk. The Frank R. Lautenberg Chemical Safety for the 21st Century Act was signed into law on June 22, 2016, which amended the TSCA, which includes mandatory requirements for USEPA to evaluate existing chemicals with clear and enforceable deadlines and increased public transparency for chemical information.

Hazardous Materials Transportation Act and Hazardous Materials Transportation Uniform Safety Act

The Hazardous Materials Transportation Act of 1975 (HMTA; 49 U.S.C §5101-5127) allowed the Secretary of Transportation to designate as hazardous material any "particular quantity or form" of a material that "may pose an unreasonable risk to health and safety or property." The HMTA is enforced by compliance orders, civil penalties and injunctive relief.

The Hazardous Materials Transportation Uniform Safety Act was passed in 1990 and amended the HMTA to clarify conflicting federal state and local regulations. The Act required the Secretary of Transportation to promulgate regulations for the safe transport of hazardous material in intrastate, interstate and foreign commerce. The Secretary also retains authority to designate materials as hazardous when they pose unreasonable risks to health, safety or property.

Occupational Safety and Health Administration Worker Safety Requirements

The federal Occupational Safety and Health Administration (OSHA) is the federal agency responsible for ensuring worker safety. The federal regulations for worker safety are contained in Title 29 of the Code of Federal Regulations (CFR), as authorized in the Occupational Safety and Health Act of 1970. These regulations provide standards for safe workplaces and work practices, including those relating to hazardous materials handling. Specifically, 29 CFR section 1910.120 is titled "Hazardous waste operations and emergency response" and covers clean-up operations involving hazardous substances, operations involving hazardous substances, and emergency response operations for releases or substantial threats of releases of hazardous substances. Subpart H of OSHA Occupational Safety and Health Standards covers procedures relating to working with various hazardous materials including compressed gases flammable liquids. This subpart also describes protection and protective gear pertaining to hazardous waste operations and emergency response.

Code of Federal Regulations – Title 40, Part 503

Title 40 of the Code of Federal Regulations Part 503 (40 CFR Part 503) established Standards for the Use or Disposal of Sewage Sludge. Known as the Part 503 Rule, or Part 503, these regulations govern the use and disposal of sewage sludge, also referred to as biosolids. As required by the Clean Water Act Amendments of 1987, the EPA was required to develop Part 503 to protect public health and the environment from any reasonably anticipated adverse effects of certain pollutants that might be present in biosolids. Biosolids are defined by the EPA as a "primarily organic solid product produced by wastewater treatment processes than can be beneficially recycled". Biosolids can be beneficially reused as fertilizer for crops (land application) or disposed either in a surface landfill or biosolids incinerator. Part 503 classifies biosolids by pathogen concentration levels as Class A, Class B, or sub-Class B biosolids.

- Class A Biosolids are biosolids in which the pathogens are reduced below current detectable levels. Biosolids that are to be given away or used by the general public must meet Class A biosolids criteria.
- Class B Biosolids are biosolids in which the pathogens and vectors are reduced to levels that are unlikely to pose a threat to public health and the environment under specific use

conditions. Class B biosolids cannot be sold or given away in bags or other containers or applied to lawns or home gardens.

- Sub-Class B biosolids do not meet adequate pathogen reduction requirements.

Biosolids are considered non-hazardous as long as listed substances are not present in amounts deemed hazardous in Title 22 of the California Code of Regulations (CCR), Chapter 11, Article 5, which defines hazardous waste. Biosolids to be produced by the proposed project would be considered non-hazardous.

Asbestos Hazard Emergency Response Act

The Asbestos Hazard Emergency Response Act, known as AHERA, as enacted by Congress, requires the EPA to establish regulations requiring local educational agencies to inspect school buildings for asbestos-containing building materials, prepare asbestos management plans, and perform asbestos response actions to prevent or reduce asbestos hazards. In addition, the AHERA also requires the EPA to conduct a study to determine the extent of danger to human health posed by asbestos in public and commercial buildings and the means to respond to any such danger.

National Emission Standards for Hazardous Air Pollutants 40 CFR 61 Subpart M

Title 40 of the Code of Federal Regulations Part 61, Subpart M (40 CFR Part 61, Subpart M), National Emission Standards for Hazardous Air Pollutants, established standards for the demolition and/or renovation of structures containing asbestos building materials as well as for the disposal of ACM. If utility pipelines would be removed or relocated, or buildings would be removed or renovated, the Project may be subject to the requirements stipulated in NESHAP. These requirements include but are not limited to: 1) Notification requirements to the SLOAPCD; 2) asbestos survey conducted by a Certified Asbestos Inspector; and 3) applicable removal and disposal requirements of ACMs.

State

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

The Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Health and Safety Code section 25404 *et seq.*) consolidates and coordinates the activities of six separate hazardous materials programs under one agency, a Certified Unified Program Agency (CUPA). The intent has been to simplify the hazardous materials regulatory environment and provide a single point of contact for businesses to address inspection, permitting, billing, and enforcement issues. The following elements are consolidated under the Unified Program:

- Hazardous Waste Generator and On-site Hazardous Waste Treatment Programs (a.k.a. Tiered Permitting)
- Aboveground Petroleum Storage Tanks
- Hazardous Materials Release Response Plans and Inventory Program (a.k.a. Hazardous Materials Disclosure or “Community-Right-To-Know”)

- California Accidental Release Prevention Program
- Underground Storage Tanks (UST) Program
- Uniform Fire Code Plans and Inventory Requirements

The San Luis Obispo County Department of Environmental Health Hazardous Materials Program is designated as the CUPA for San Luis Obispo County, including the City of Morro Bay, where the proposed project is located.

Department of Toxic Substance Control

Under the California Hazardous Waste Control Act, California Health and Safety Code (Division 20, Chapter 6.5, section 25100, *et seq.*), the Cal/EPA, DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste in California. Under RCRA, individual states may implement their own hazardous waste programs in lieu of RCRA, as long as the EPA has determined the state program is at least as stringent as Federal RCRA requirements. California's hazardous waste program has been federally approved. Thus, in California, DTSC enforces hazardous waste regulatory requirements. The hazardous waste regulations establish criteria for identifying, packaging, and labeling hazardous wastes; dictate the management of hazardous waste; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous wastes that cannot be disposed of in landfills.

DTSC is also the administering agency for the California Hazardous Substance Account Act, California Health and Safety Code, Division 20, Chapter 6.8, Sections 25300 et seq., also known as the State Superfund law, providing for the investigation and remediation of hazardous substances pursuant to State law. DTSC maintains a Hazardous Waste and Substances Site List for site cleanup, which is included on the Cortese List. Government Code Section 65962.5 requires the CalEPA to update the Cortese List at least annually. DTSC is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List.

California Accidental Release Prevention Program

California has developed an emergency response plan to coordinate emergency services provided by Federal, State, and local government and private agencies. Responding to hazardous materials incidents is one part of this plan. The plan is administered by the State Emergency Management Agency (EMA), which coordinates the responses of other agencies, including the California Environmental Protection Agency, California Highway Patrol, the Department of Fish and Game, the Regional Water Quality Control Board, and the local fire department. The City's Bay Fire Department provides first response capabilities, if needed, for hazardous materials emergencies within the proposed project area.

EMA is also the State administering agency for the California Accidental Release Prevention Program (CalARP) and California's Hazardous Materials Release, Response and Inventory Law (California's Business Plan Law). State and Federal laws require detailed planning to ensure that hazardous materials are properly handled, used, stored, and disposed of, and in the event that such materials are accidentally released, to prevent or to mitigate injury to human health or the environment. These laws require hazardous materials users to prepare written plans, such as Hazard Communication Plans and Hazardous Materials Management Plans. Laws and regulations require hazardous materials users to store these materials appropriately and to train employees to manage them safely. Primary responsibility for enforcement of these laws has generally been delegated to local agencies.

California Health and Safety Code – Hazardous Materials Business Plans

California Health and Safety Code section 25501 requires an owner or operator of a facility to complete and submit a Hazardous Material Business Plan (HMBP) if the facility handles a hazardous material or mixture containing a hazardous material that has a quantity at any one time during the reporting year equal to or greater than 55 gallons of liquids, 500 pounds of solids, or 200 cubic feet for a compressed gas. The intent of HMBPs is to provide basic information necessary for use by first responders in order to prevent or mitigate damage to the public health and safety and to the environment from a release or threatened release of a hazardous material, as well as satisfy federal and State Community Right-To-Know laws. A HMBP is a document containing detailed information on the inventory of hazardous materials at a facility; Emergency Response Plans (ERP) and procedures in the event of a reportable release or threatened release of a hazardous material; a Site Safety Plan with provisions for training for all new employees and annual training, including refresher courses, for all employees in safety procedures in the event of a release or threatened release of a hazardous material; a site map that contains north orientation, loading areas, internal roads, adjacent streets, storm and sewer drains, access and exit points, emergency shutoffs, evacuation staging areas, hazardous material handling and storage areas, and emergency response equipment.

California Code of Regulations –Hazardous Waste Regulations

Title 22, Division 4.5 of the CCR contains regulations pertaining to hazardous wastes. Pertinent chapters are described below.

- **Chapter 11** identifies a hazardous waste as a waste that exhibits the characteristics that may: (A) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (B) pose a substantial present or potential hazard to human health or the environment when it is improperly treated, stored, transported, disposed of or otherwise managed.
- **Chapter 12** includes standards applicable to hazardous waste generators, including pre-transport requirements, recordkeeping and reporting, and importing/exporting of hazardous wastes.
- **Chapter 13** includes regulatory requirements for the transport of hazardous wastes. Chapter 13 requires hazardous waste transporters to be registered with DTSC. To obtain registration status, transporters must complete and submit a Hazardous Waste Hauler Application Form and proof of ability to provide adequate response in damages for DTSC review. Registered

hazardous waste transporters are subject to random inspection by the Department of California Highway Patrol. Registered transporters must also report any changes in their operations to DTSC. Transporters must also receive an identification number from DTSC. This chapter also requires immediate action is taken to protect human health and the environment in the event of a hazardous waste discharge.

- **Chapter 31** covers pollution prevention and hazardous waste source reduction and management review. This requires hazardous waste generators to conduct a source reduction and evaluation review and plan for hazardous waste, as well as a hazardous waste management performance report. This plan and report format is designed to prevent hazardous waste generation and to report hazardous waste generation amounts, respectively.

Title 8, Division 1, Chapter 4, of the CCR contains regulations pertaining to hazardous building materials, including ACM (Sections 1529 and 5208) and LBP (1532.1).

- **Section 1529, Asbestos:** At least 10 working days prior to the issuance of the demolition permit or commencement of any asbestos stripping or removal work, such as site preparation that would break up, dislodge or similarly disturb ACM, the entity performing such work is required to provide written or electronic notification, an asbestos report for the site, and applicable fees to the designated Air Pollution Control District (SLOAPCD is the designated APCD for the project area). The asbestos report shall be prepared by an asbestos consultant licensed with the California State Licensing Board and certified by the Cal OSHA to conduct an asbestos inspection in compliance with the Asbestos National Emission Standard for Hazardous Air Pollutants (NESHAP) requirements. The Asbestos NESHAP, as specified under Rule 40 CFR 61, Subpart M, (enforced locally by the SLOAPCD), under authority, per Regulation XI, Subpart M - Rule 361.145), requires the Asbestos Demolition or Renovation Operational Plan to include the facility information, project description, presence of asbestos, removal and demolition contractors, means of waste transportation offsite, contingency plan, and certified specialist who will be present onsite during removal of asbestos. Removal of all ACM or presumed ACM on the WWTP site shall be monitored by the certified asbestos consultant and shall be performed in accordance with all applicable laws, including 8 CCR section 1529, Asbestos, and OSHA and Cal OSHA standards. Notification of at least 10 days of any removal or demolition work and payment of the appropriate fee(s) is required by SLOAPCD.
- **Section 1532.1, Lead Based Paint:** Prior to the issuance of a grading permit or demolition permit, the entity performing the work is required to show proof that a Certified Lead Inspector/Assessor, as defined in 17 CCR section 35005, and in accordance with all applicable laws pertaining to the handling and disposal of lead-based paint, has been retained to perform demolition and removal of all existing on-site structures identified to contain lead-based materials. Lead-based materials exposure is regulated by Cal OSHA. Title 8 CCR section 1532.1 requires testing, monitoring, containment, and disposal of lead-based materials so that exposure levels do not exceed Cal OSHA standards.

California Code of Regulations – Hazard Communication

Title 8, Subchapter 7, Group 16, Article 109, Section 5194 of the CCR contains regulations pertaining to hazards communication. According to this Section, employers must develop, implement, and maintain at the workplace a written hazard communication program for their employees. The program should include a list of the hazardous chemicals known to be present using a product identifier that is referenced on the appropriate safety data sheet (the list may be compiled for the workplace as a whole or for individual work areas). The program must also

include the methods the employer will use to inform employees of the hazards of non-routine tasks, and the hazards associated with chemicals contained in unlabeled pipes in their work areas.

California Code of Regulations – Fire Protection and Prevention

Title 8, Division 1, Chapter 4, Subchapter 4, Article 36 of the CCR contains regulations pertaining to Fire Protection and Prevention during construction. Some of the pertinent sections are described below:

- **Section 1921: Water Supply.** A temporary or permanent water supply required to property operate firefighting equipment shall be made available as soon as combustible materials accumulate.
- **Section 1933: Fire Control.** Suitable fire control devices such as a small hose or portable fire extinguisher shall be available at locations where flammable or combustible liquids are stored.
- **Section 1965: Use of Flammable Liquids.** Flammable liquids shall be kept in closed containers when not actually in use and leakage or spillage of flammable or combustible liquids shall be disposed of promptly and safely. These liquids shall not be used near open flames or sources of ignition within 50 feet.
- **Section 1936: Service and Refueling Areas.** Flammable liquids shall be stored in approved closed containers or tanks. Smoking or open flames shall not be permitted in areas used for fueling, servicing fuel systems for internal combustion engines, receiving or dispensing flammable liquids. Conspicuous and legible signs prohibiting smoking shall be posted within site of the person being served. The motors of all equipment being fueled shall be shut off during the fueling operation except for emergency generators, pumps, etc., where continuing operation is essential.
- **Section 1938: Construction Site, General.** Internal combustion engine powered equipment shall be located so that exhausts are well away from combustible materials.

California Division of Occupational Safety and Health (Cal/OSHA)

The Division of Occupational Safety and Health (Cal/OSHA; California Labor Code, section 6300 *et seq.*) protects and improves the health and safety of working men and women in California and the safety of passengers riding on elevators, amusement rides, and tramways – through the setting and enforcing standards; providing outreach, education, and assistance; and issuing permits, licenses, certifications, registrations, and approvals. Cal/OSHA has requirements specific to fire protection and prevention during construction. Employers must establish an effective fire prevention program and ensuring it is followed through all phases of construction work. Firefighting equipment must be freely accessible at all times, placed in a conspicuous location, and well-maintained. As soon as combustible materials accumulate, a water supply adequate to operate firefighting equipment must be made available.

Local

County Local Hazardous Materials Emergency Response Plan

The County's Office of Emergency Services (OES) serves the residents of the County before, during, and after times of emergency by promoting effective coordination between agencies and encourages preparedness of the public and organizations involved in emergency response. The OES prepares a variety of emergency-related documents, such as disaster recovery information, evacuation assistance lists, and storm preparedness, as well as emergency response plans for specific natural disasters, such as tsunamis, dam and levee failure, and earthquakes. The OES has prepared the Hazardous Materials Emergency Response Plan specifically to establish the County's response organization, command authority, responsibilities, functions and interactions required to mitigate hazardous material incidents in order to protect life and property, and the environment during such an incident. This plan may also serve as the emergency response section of the County's Hazardous Materials Area Plan.

County/Cities' Nuclear Power Plant Emergency Response Plan

The County/Cities' Nuclear Power Plant Emergency Response Plan outlines the authorities, concepts, and operating procedures for responding to potential radiological emergency situations in San Luis Obispo County that may occur at the Diablo Canyon Nuclear Power Plant. The Plan's objectives are to facilitate the command and control of offsite radiological emergency operations and to enhance the County's preparedness in initiating protective actions for the general public in the event of radiation releases at the Diablo Canyon Nuclear Power Plant.

City Multi-Hazard Emergency Response Plan

The City, in coordination with the County OES, has prepared the Multi-Hazard Emergency Response Plan to establish the City's policies and concepts for responding to any and all emergencies which could affect the health, safety, and property of the public within the city. In regards to hazardous materials, the Multi-Emergency Response Plan states that the potential for a hazardous materials emergency exists primarily through transportation accidents of surface vehicles, where the probability of an incident occurring is low. The City's Fire Department is the designated primary agency responsible for the management of a hazardous materials emergency.

City Local Hazard Mitigation Plan

The City prepared and adopted the Local Hazard Mitigation Plan in 2006 to satisfy the federal requirements set forth by the Disaster Mitigation Act of 2000, which allows the City to be eligible for certain federal and state mitigation funds. The Local Hazard Mitigation Plan identifies natural and human-caused hazards that impact the city, assesses the vulnerability and risk posed by those hazards to community-wide human and structural assets, develops strategies for mitigation of those identified hazards, and presents future maintenance procedures for the plan. Specific to hazardous materials, the plan determines hazardous materials incidents as having a low probability of occurring in the city but a high severity of impacts if such an incident was to occur.

3.8.3 Impacts and Mitigation Measures

Significance Criteria

Appendix G of the *CEQA Guidelines* recommends significance criteria for the evaluation of impacts related to hazards and hazardous materials in the project area. Those same criteria are provided below. This Draft EIR assumes implementation of the proposed project would have a significant impact related to hazards and hazardous materials if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of, or through foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Emit hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, would create a significant hazard to the public or the environment.
- Be located within an area covered by an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, and would result in a safety hazard for people residing or working in the project area.
- Be located within the vicinity of a private airstrip and would result in a safety hazard for people residing or working in the project area.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Methodology

The evaluation of hazardous conditions and materials associated with construction and/or operation of the project is based on the site-specific hazardous building materials surveys, database searches conducted for the proposed project area, as well as a comparison of the proposed project's consistency with applicable regulations, programs, and plans related to hazardous materials. Compliance with applicable federal, state, and local health and safety laws and regulations by the project is assumed in this analysis, and local and state agencies would be expected to continue to enforce applicable requirements to the extent that they do so now.

Impact Analysis

Routine Use of Hazardous Materials

Impact 3.8-1: Construction and operation of the proposed project would include the routine transport, use, and disposal of hazardous materials. However, the proposed project would be required to comply with all applicable federal, state, and local regulations regarding the use and disposal of hazardous materials and wastes which would reduce the potential for impacts to human health, public safety, and the environment. This impact would be Class III, Less than Significant.

Construction

WRF, Conveyance Pipelines, Lift Station, Injection and Monitoring Wells

Construction of the components of the proposed project (the WRF, the collection system consisting of a lift station and conveyance pipelines, and the distribution system comprised of injection and monitoring wells and the proposed recycled water pipeline) would involve drilling, trenching, excavation, grading, and other ground-disturbing activities. Those construction activities would require small amounts of routinely-used hazardous materials including but not limited to petroleum products (i.e. oil, gasoline, and diesel fuels), automotive fluids (i.e. antifreeze and hydraulic fluids), and other chemicals (i.e. adhesives, solvents, paints, thinners, and other chemicals). If incorrectly transported, handled, or disposed of, then those substances could pose a potential health risk to construction workers and to the general public. However, construction activities for the proposed project would be required to comply with all applicable federal, state, and local laws and regulations that pertain to avoiding and, if necessary, mitigating the accidental release of hazardous materials, including 8 CCR section 5194 that requires a hazards communication program identifying hazardous materials onsite and reducing the potential for a spill, and 29 CFR section 1910.120 that includes requirements for emergency response to releases or substantial threats of releases of hazardous substances. Construction contractors would be required to prepare and implement a HMBP to manage any hazardous materials they use. Further, all spent hazardous materials would be disposed of in accordance with DTSC and County regulations. Adherence to federal, state, and local regulations regarding the use and disposal of hazardous materials and wastes would reduce the potential for impacts to human health, public safety, and the environment to less than significant during construction of the proposed project.

In addition to the transport, usage, and disposal of hazardous materials during construction, the proposed project is also located within an area known to contain NOAs, which could be released into the air during ground disturbing activities. If the proper construction protocols are not implemented, the release of NOAs into the air could create a health hazard for construction workers as well as residents located nearby. However, prior to earthwork activities, a site-specific Health and Safety Plan would be developed per Cal/OSHA requirements. The Health and Safety Plan would include appropriate best management practices (BMPs) related to the treatment, handling, and disposal of NOAs. An NOA Construction and Grading Project Form would be prepared and submitted to the SLOAPCD prior to grading activities. All construction employees that have the potential to come into contact with contaminated building materials and soil/bedrock would be briefed on the safety plan, including required proper training and use of

personal protective equipment. During earthwork and demolition activities, procedures would be established to eliminate or minimize construction worker or general public exposure to heavy hydrocarbons and other potential contaminants in soil and groundwater. Procedures shall include efforts to control fugitive dust, appropriate laboratory analysis of soil for waste characterization, and segregation of contaminated soil from uncontaminated soil. The applicable regulations associated with excavation, removal, transportation, and disposal of contaminated soil would also be required to be followed (e.g., tarping of trucks and waste manifesting). Implementation of the Health and Safety Plan would ensure that impacts related to NOAs would be minimized during construction and impacts would be less than significant.

Decommissioning of Current WWTP

The decommissioning of the existing WWTP would include the shutdown, demolition, and complete removal of all WWTP facilities and infrastructure, such as the piping located four to five feet below grade. During the decommissioning of the existing WWTP, the existing onsite Household Hazardous Waste Facility would be relocated to another location; however, the relocation of this facility is not included as part of the proposed project and would undergo a separate environmental review process. As discussed in the Environmental Setting, the Asbestos Building Inspection and the Lead Building Inspection for the WWTP identified the presence of ACM and LBP within various materials at the WWTP facility, which could pose a risk to human health and the environment if removed and disposed of incorrectly. Compliance with 8 CCR sections 1529 and 1532.1 would require the retention of certified asbestos and lead contractors during demolition of the WWTP to implement the proper protocols for both ACM and LBP. Specifically, removal of all ACM or presumed ACM on the WWTP site shall be monitored by the certified asbestos consultant and shall be performed in accordance with all applicable laws, including 8 CCR section 1529, Asbestos, and OSHA and Cal OSHA standards. Notification of at least 10 days before any removal or demolition work and payment of the appropriate fee(s) is required by SLOAPCD. Additionally, prior to demolition activities, a site-specific Health and Safety Plan would be developed per Cal/OSHA requirements that would include appropriate BMPs related to the treatment, handling, and disposal of ACMs. During demolition activities, procedures would be followed to eliminate or minimize construction worker or general public exposure to potential ACMs within potential demolished materials. Potential BMPs could include, but are not limited to, containing and covering excavation debris piles and segregation of contaminated demolished materials from clean demolished materials to ensure proper disposal.

Adherence to the regulations would minimize the potential risk for ACM and LBPs to impact the general public and the environment to the fullest extent feasible. In addition, demolition and removal of all materials and debris would be performed in accordance with all applicable federal, state, and local regulations, plans, and programs to ensure the safety of the general public and to minimize impacts to the environment. All non-hazardous demolition material and debris would be hauled to and disposed at a nearby Class 3 landfill, such as Cold Canyon Landfill. All hazardous demolition materials and waste would be transported to a Class 1 or Class 2 landfill, such as Kettleman Hills Landfill. As such, with compliance with the applicable regulations, impacts would be less than significant level.

Operation

WRF

Operation of the WRF would be designed to provide tertiary treatment to wastewater generated within the City and produce recycled water in compliance with 22 CCR recycled water requirements for unrestricted use. The facility design includes primary treatment; biological treatment via sequence batch reactor (SBR) or membrane bioreactor (MBR); tertiary treatment; advanced water treatment including membrane filtration (if needed), reverse osmosis, ultraviolet (UV) radiation disinfection; and solids dewatering with off-site solids disposal or on-site reuse. These various treatment processes would involve a range of chemical additives depending on the technology. In addition, the WRF would include a clean in place (CIP) chemical storage facility for containment and handling of hazardous materials associated with the treatment process, including reverse osmosis membrane cleaning chemicals, disinfection chemicals, and other treatment-related chemicals. Chemicals such as sodium hypochlorite, citric acid, sodium bisulfite, and sulfuric acid would be stored in the CIP. In addition, the WRF would generate biosolids as a byproduct of treating wastewater; however, the biosolids produced by the WRF would not be considered to be hazardous materials as defined by 40 CFR Part 503. A third-party biosolids management firm would be contracted to haul the WRF biosolids offsite for compositing and land application, such as for the purpose of conditioning soil or fertilizing crops. Compositing and land application of the biosolids would not pose a risk to human health or the environment.

While the proposed treatment processes are not chemical intensive, regular deliveries of various chemicals would be required. As such, new chemicals would need to be routinely transported, used, and or disposed from the WRF facilities. If not done properly, transport of chemicals could result in spills. In accordance with Title 22 Division 4.5 Chapter 13 of the CCR, all hazardous waste transporters that would serve the proposed project during operation would be required to be registered with DTSC and provide proof of the ability to provide adequate response to leaks and damages for DTSC review. Additionally, the registered hazardous waste transporters would be required to implement all standard industry practices for securing and transporting of hazardous materials as well as for cleanup of any accidental spills or leaks. Once the hazardous materials have arrived onsite, all bulk chemical storage on the preferred WRF site would be located in chemical containment areas fitted to contain spills. If a spill incident were to occur, all spills would be conveyed to blind sumps for manual pumping and disposal by truck. Furthermore, the use of such hazardous materials would be required to comply with existing regulatory standards with respect to the storage and handling of hazardous materials including preparation of and compliance with a Hazardous Materials Business Plan (HMBP) as managed and overseen by the San Luis Obispo County Department of Environmental Health Services. These requirements include such safety measures as ensuring the use of appropriate storage vessels, secondary containment features, safety labeling, readily available spill absorbent materials, and training of site workers to respond to any accidental release. Adherence to these requirements and programs would ensure that impacts to the environment and public health due to routine transport, use, and disposal of hazardous materials during operation of the WRF would be less than significant.

Collection System – Lift Station and Conveyance Pipelines

Once construction of the collection system is complete, operation of the conveyance pipelines would occur underground and would not include the use of hazardous materials. Operation of the lift station would include odor control measures, such as the addition of calcium ammonium nitrate, use of an onsite odor scrubbing system and installation of sealed hatches to reduce the release of odors may also be applied. Routine maintenance of the lift station would include deliveries of additional calcium ammonium nitrate and other similar chemicals, which if incorrectly transported, handled or disposed of could pose a potential health risk to employees and to the general public. However, compliance to all applicable federal, state, and local regulations and requirements, including those established by Cal OSHA, DTSC, and the County, during transport, handling, and disposal of these hazardous materials would minimize potential impacts to employees, the general public, and the environment. Thus, impacts associated with operation of the collection system would be less than significant.

Distribution System – Indirect Potable Reuse East or West and Recycled Water Pipeline

Once constructed, the distribution system would convey recycled water from the advanced water treatment facility at the WRF via a new recycled water conveyance pipeline to injection and monitoring wells located either east of Highway 1 and south of Highway 41, near the Narrows (IPR East) or west of the Highway 1 and south of Highway 41 near the bike path adjacent to Lila Keiser Park (IPR West), as shown on Figures 2-9a and 2-9b. As an end use, the stored groundwater would be extracted, treated, and conveyed using existing City wells, water treatment plant, and conveyance facilities. Operation of the distribution system would not require the use of hazardous materials and thus would not have the potential for impacts to human health, public safety, and the environment. Since the end use of the stored groundwater would be treated at the City's existing water treatment plant, the treatment process of the stored groundwater would not require substantial new quantities of chemicals in addition to those already being utilized at the existing facility. Furthermore, compliance with all applicable hazardous materials regulations and programs would be required in order to ensure that all potential risks to human health, public safety, and the environment are minimized to the fullest extent possible. Therefore, impacts associated with the operation of the distribution system would be less than significant.

Decommissioning of Current WWTP

Upon completion of demolition work and upgrades to facilities which are to remain, the WWTP site would be graded to fit the basic drainage pattern of the surrounding facility and would be surfaced with a thin layer of gravel. The WWTP site would remain vacant and undeveloped until the City's approves a new use of the site; however, at this time there is no substantial evidence that the City has any planned uses for the site in the foreseeable future. No hazardous materials would be stored or used on the site and thus there would be no potential for an accidental release of hazardous materials. Impacts would be less than significant.

Mitigation Measures

None required.

Significance Determination

Less than Significant.

Proximity to Schools

Impact 3.8-2: Although portions of the proposed project are located adjacent to Morro Bay High School, adherence to the applicable hazardous materials regulations would reduce potential impacts regarding hazardous materials emissions within 0.25 mile of a school. This impact would be Class III, Less than Significant.

WRF

The closest school to the preferred WRF site is Family Partnership Charter School, at 1130 Napa Avenue, and the nearest daycare center is Morro Bay United Methodist Center, also at 1130 Napa Avenue, both of which are located approximately 1.6 miles to the northwest of the preferred site. Because of the distance from the closest school and daycare, construction and operation activities the preferred WRF site would not have the potential to release hazardous emissions or handle hazardous materials which could affect a nearby school or daycare. Impacts would be less than significant.

Collection System (Lift Station and Conveyance Pipelines) and Distribution System (Indirect Potable Reuse East or West and Recycled Water Pipeline)

The closest school to the two potential locations for the lift station, and the two potential locations for the IPR wells sites is Morro Bay High School, located at 235 Atascadero Road. Morro Bay High School is located approximately 0.1-mile to the north of the two potential locations for the lift station, and west system option for the IPR injection and monitoring wells and is approximately 0.5-mile west of the east system option for the IPR injection and monitoring wells. The closest school to the middle portion of the proposed raw wastewater and brine/wet weather discharge pipeline is Family Partnership Charter School, located at 1130 Napa Avenue, approximately 0.2-mile to the west. Construction activities for the proposed project's collection and distribution systems would use limited quantities of hazardous materials such as gasoline and diesel fuel and would be required to comply with all applicable federal, state and local laws and regulations that pertain to the release of hazardous materials during construction. The proposed project would comply with 8 CCR Section 5194, which requires a hazards communication program identifying hazardous materials onsite and reducing the potential for a spill, and 29 CFR Section 1910.120 that includes requirements for emergency response to releases or substantial threats of releases of hazardous substances. Construction contractors would be required to prepare and implement a HMBP to manage any hazardous materials they use. Further, all spent hazardous materials would be disposed of in accordance with DTSC and County regulations.

In addition to the transport, usage, and disposal of hazardous materials during construction, the proposed project is also located within an area known to contain NOAs, which could be released into the air during ground disturbing activities. If the proper construction protocols are not implemented, release of NOAs into the air could create a health hazard for construction workers as well as residents located nearby. However, prior to earthwork activities, a site-specific Health

and Safety Plan would be developed per Cal/OSHA requirements. The Health and Safety Plan would include BMPs related to the treatment, handling, and disposal of NOAs. A NOA Construction and Grading Project Form would be prepared and submitted to the SLOAPCD prior to grading activities. All construction employees that have the potential to come into contact with contaminated building materials and soil/bedrock would be briefed on the safety plan, including required proper training and use of personal protective equipment. During earthwork and demolition activities, procedures would be established to eliminate or minimize construction worker or general public exposure to heavy hydrocarbons and other potential contaminants in soil and groundwater. Procedures shall include efforts to control fugitive dust, appropriate laboratory analysis of soil for waste characterization, and segregation of contaminated soil from uncontaminated soil. The applicable regulations associated with excavation, removal, transportation, and disposal of contaminated soil would also be required to be followed (e.g., tarping of trucks and waste manifesting). Implementation of the Health and Safety Plan would ensure that impacts related to NOAs would be minimized during. For these reasons, adherence to all hazardous materials regulations would reduce potential impacts regarding hazardous materials emissions within 0.25 mile of a school. Therefore, impacts during construction of the collection and distribution systems would be less than significant.

Once construction is completed, the majority of the collection and distribution system components would operate underground and would not require the use of hazardous materials. Thus, these components would not have the potential to generate hazardous materials emissions within 0.25-mile of a school. The lift station would require minimal amounts of hazardous materials, such as calcium ammonium nitrate, during operation for the odor control measures. However, compliance to all applicable federal, state, and local regulations and requirements would ensure the proper handling and use of these hazardous materials. Adherence to the applicable regulations and requirements would minimize the potential for operation of the lift station to impact the adjacent Morro Bay High School. Impacts would be less than significant.

Decommissioning of Current WWTP

Morro Bay High School is located approximately 0.1-mile to the north of the existing WWTP site. The decommissioning of the existing WWTP would include the shutdown, demolition, and complete removal of all WWTP facilities and infrastructure such as the piping located four to five feet below grade. According to the Asbestos Building Inspection and the Lead Building Inspection for the WWTP, presence of ACM and LBP have been identified within various materials at the WWTP facility, which could emit hazardous materials near the adjacent Morro Bay High School if removed and disposed of incorrectly. However, compliance with 8 CCR sections 1529 and 1532.1 would require the retention of certified asbestos and lead contractors during demolition of the WWTP to implement the proper protocols for both ACM and LBP. Specifically, removal of all ACM or presumed ACM on the WWTP site shall be monitored by the certified asbestos consultant and shall be performed in accordance with all applicable laws, including 8 CCR section 1529, Asbestos, and OSHA and Cal OSHA standards. Notification of at least 10 days of any removal or demolition work and payment of the appropriate fee(s) is required by SLOAPCD.

With adherence to the applicable regulations, the potential risk for asbestos and lead based materials to be emitted near Morro Bay High School would be minimized to the fullest extent feasible. In addition, demolition and removal of materials and debris would be performed in accordance with all applicable federal, state, and local regulations, plans, and programs to ensure the safety of the general public and to minimize impacts to the environment. As such, construction impacts would be less than significant level.

Upon completion of demolition work and upgrades to facilities which are to remain, the WWTP site would be graded to fit the basic drainage pattern of the surrounding facility and would be surfaced with a thin layer of gravel. The WWTP site would remain vacant and undeveloped until the City approves a new use of the site; however, at this time there is no substantial evidence that the City has any planned uses for the site in the foreseeable future. No hazardous materials would be stored or used on the site and thus there would be no potential for the emission of hazardous materials within 0.25-mile of a school. Impacts would be less than significant.

Mitigation Measure

None required.

Significance Determination

Less than Significant.

Cortese List

Impact 3.8-3: The proposed project components would not be located on sites that are included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would not create a significant hazard to the public or the environment. This impact would be Class III, Less than Significant.

There are 15 LUST cleanup and other hazardous materials sites in or within 0.25-mile the proposed project area. However, the majority of these sites have been remediated or withdrawn from their respective lists, indicating contamination no longer poses a risk to human health or the environment on the site. None of the proposed project components are located on or directly adjacent to a site that is listed as a hazardous material site pursuant to Government Code section 65962.5. Thus, implementation of the proposed project would not create a significant hazard to the public or environment due to being located on a designated hazardous materials site. Impacts would be less than significant.

Mitigation Measure

None required.

Significance Determination

Less than Significant.

Airport Land Use Plan

Impact 3.8-4: The proposed project area is not within the boundaries of an airport land use plan. Construction and operation of the proposed project would not result in a safety hazard at a public airport. There would be no impact.

The City does not have a local airport within its boundaries and, as such, is not include in an airport land use compatibility plan. The closest airport to the city is the County Regional Airport, located approximately 14.5 miles to the southeast. Therefore, construction and operation of the proposed project would not interfere with operation of an airport and thus would not result in a safety hazard for people residing or working in the project area. No impact would occur.

Mitigation Measure

None required.

Significance Determination

No Impact.

Private Airstrip

Impact 3.8-5: The City does not include a private airstrip within its boundaries. Construction and operation of the proposed project would not affect a private airstrip or create a safety hazard. There would be no impact.

The closest private airport to the City is the Oak Country Ranch Airport, located approximately 12.5 miles to the north. Therefore, construction and operation of the proposed project would not have an effect on a private airstrip and would not result in a safety hazard for people residing or working in the project area. No impact would occur.

Mitigation Measure

None required.

Significance Determination

No Impact.

Emergency Response

Impact 3.8-6: Construction of proposed project components within public rights-of-way could result in partial or full lane closures and/or blocked access to roadways, which could physically interfere with an emergency response or evacuation plan. However, implementation of a Traffic Control Plan would require construction contractors to notify emergency responders including the City's Fire Department, Police Department and ambulances of planned road closures and roadway blockages. This impact would be Class II, Less than Significant with Mitigation.

WRF

Access to the preferred WRF site would be provided via South Bay Boulevard off State Highway 1. Currently, there is a residential senior development adjacent to the preferred WRF site that would also use South Bay Boulevard on the east of State Highway 1 during an emergency or evacuation. Construction activities would occur solely within the boundaries of the preferred WRF site and would not result in roadway closures or blocked access. While large trucks hauling construction materials would travel at slower speeds, the presence of these types of trucks would not impair or interfere with an emergency or evacuation response. Operation of the WRF would primarily occur onsite and would generate approximately 4 maintenance vehicle trips a day, which would not impair or interfere with emergency or evacuation routes. Therefore, impacts would be less than significant.

Collection System (Lift Station and Conveyance Pipelines) and Distribution System (Indirect Potable Reuse East or West and Recycled Water Pipeline)

Construction of the lift station would occur either at the Option 1A or Option 5A site and would not have the potential to block roadways or require lane closures. Construction of the collection and distribution systems would occur within public right-of-way (ROW), adjacent to roadways, and on City-owned property. Construction activities within the roadway ROW would require either partial or full lane closures and/or blocked access to roadways, which could physically interfere with an emergency response or evacuation plan. As explained in Section 3.14, *Traffic and Transportation*, **Mitigation Measure TRAF-1** would require construction contractors to notify emergency responders including the City's Fire Departments, Police Department and ambulances of planned road closures and roadway blockages as part of the Traffic Control Plan. With incorporation of Mitigation Measure TRAF-1, impacts related to interfering with emergency response or evacuation plans would be reduced to a less than significant level.

Once constructed, the majority of the collection and distribution system components would be installed belowground and would not interfere with roadways operations. The lift station would require minimal maintenance and would not interfere with normal roadway operations. Therefore, with incorporation of Mitigation Measure TRAF-1, construction and operation of the collection and distribution systems would not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan requiring the use of these roadways.

Decommissioning of Current WWTP

Access to the WWTP site would be provided via Atascadero Road off State Highway 1. The WWTP site is located in the curve of Atascadero Road, where there is the Morro Bay RV Park to

the west, trailer storage to the south, and the City Corporation Yard to the east, and Morro Bay High School to the north. While those other uses would also use Atascadero Road in case of emergency or evacuation, the amount of vehicles and trucks that would utilize that roadway would not be substantial. Demolition of the WWTP would occur solely within the boundaries of the WWTP site and would not require roadway closures or blocked access. While large trucks hauling demolition materials would travel at slower speeds, the presences of those types of trucks would not impair or interfere with an emergency or evacuation response. Once decommissioning of the WWTP site is complete, the site would be graded to fit the basic drainage pattern of the surrounding facility and would be surfaced with a thin layer of gravel and would not have the potential to interfere with an emergency or evacuation plan. Therefore, impacts during and after decommissioning the WWTP would be less than significant.

Mitigation Measure

Implementation of TRAF-1. (See Chapter 3.14, Traffic and Transportation)

Significance Determination

Less than Significant with Mitigation.

Wildfire

Impact 3.8-7: The proposed project would not be located in a very high fire hazard severity zone and as such, the potential for wildfires is considered low. All project components would be designed to comply with all applicable fire codes and fire protection requirements established by the CCR and the City's building codes, would not be constructed of highly flammable materials, and would contain water thereby reducing flammability. This impact would be Class III, Less than Significant.

As shown on Very High Fire Hazard Severity Zones Map for the County, the entire proposed project area does not include very high fire hazard severity zones and the potential for wildfire in the city, including the proposed project area, is low. While the City and proposed project area has a low risk for wildfire, all construction activities would still be required to comply with all applicable fire protection and prevention regulations specified by the CCR and Cal/OSHA. That includes various measures such as easy accessibility of firefighting equipment, proper storage of combustible liquids, no smoking in service and refueling areas, and worker training for firefighter extinguisher use. Compliance with all applicable regulations and plans would further minimize the potential for construction activities to cause a wildland fire. Impacts during construction of the proposed project would be less than significant.

Once construction of the proposed project is complete, the collection system's conveyance pipelines and the distribution system's injection and monitoring wells and recycled water conveyance pipeline would operate underground, where they would have no potential to cause a wildland fire. While the majority of the aboveground facilities would be developed close to or within urban, developed areas with relatively low potential to cause wildfires, the WRF would be developed in an area that is currently rangeland that supports cattle grazing. Since the WRF

facility would include the use of hazardous and possibly flammable chemicals, the potential for wildfire could increase with operation of the WRF. However, all aboveground facilities included under the proposed project would be required to comply with all applicable fire codes and fire protection requirements established by the CCR and the City's building codes. In addition, all aboveground structures would not be constructed of highly flammable materials and would contain water within the facilities, thereby reducing flammability. As such, operation of the proposed project would not substantially increase the risk of wildland fires within the project area. Impacts would be less than significant.

Mitigation Measure

None required.

Significance Determination

Less than Significant

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3.9 Hydrology and Water Quality

This section describes local surface water and groundwater resources and discusses regional water quality issues. This section also evaluates the proposed project's potential impacts on water resources in the project area.

3.9.1 Environmental Setting

Regional Hydrology

The City of Morro Bay (City) lies on the narrow coastal shelf between the Pacific Ocean and the coastal hills. The climate in the City is characterized as coastal with mild to moderate temperatures year-round and little diurnal variation. The average annual rainfall in the region is approximately 16 inches per year and primarily occurs between the months of October and April (WRCC, 2018).

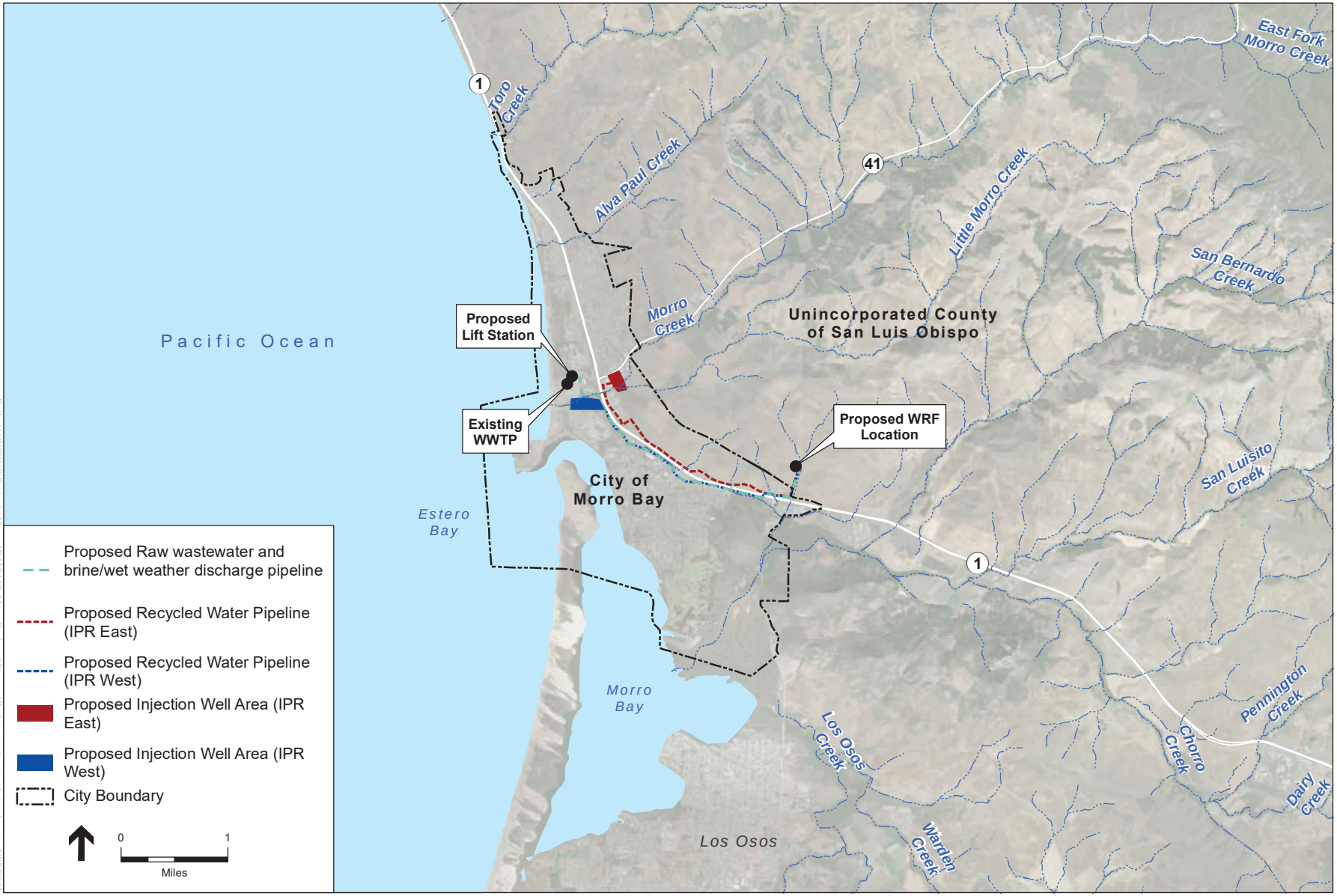
The study area for the project is located within the Central Coastal Watershed (USGS Unit 18060006) (USEPA, 2009) in the Morro Bay Watershed and Cayucos Creek – Whale Rock Area Watershed within the Estero Bay Hydrologic Unit. A watershed is an area of land that drains all the streams and rainfall to a common outlet such as the outflow of a reservoir, mouth of a bay, or any point along a stream channel. The major surface water features in the region are Chorro Creek, Los Osos Creek, Toro Creek, Alva Paul Creek, San Bernardo Creek, Little Morro Creek, and Morro Creek, which all flow to the Pacific Ocean, either directly or via the Morro Bay estuary (**Figure 3.9-1**). Those creeks and their tributaries also serve as receiving waters for the City's storm drain system.

Topography and Drainage

The study area for the proposed project includes varied topography with rolling hills and coastal plains. In general, drainage flows westerly towards the ocean. In the vicinity of the proposed WRF location at about 85 feet above mean sea level (amsl), drainage is toward the unnamed drainage which is a tributary to Chorro Creek. The existing WWTP at about 15 feet amsl and proposed lift station options at about 20 feet amsl are located close to where Morro Creek empties into the mouth of Morro Bay and the ocean.

Groundwater Hydrology

The study area for the proposed project is located within the Morro Valley Groundwater Basin (Basin No. 3-41 in the California Department of Water Resources [DWR] Bulletin 118; DWR, 2004) (**Figure 3.9-2**). The Morro Valley Basin is a shallow alluvial basin that encompasses approximately 1.9 square miles and is bounded on the west by the ocean and otherwise surrounded and underlain by impermeable bedrock of the Franciscan Complex. The basin materials consist of alluvium, dune sand, and terrace deposits that range in thickness from 30 to 40 feet along the northern side of the valley at the base of the mountain slopes to 80 to 85 feet near Morro Creek (Fugro, 2016). The depths to water in six of the City wells (MB-1, MB-3, MB-4, HS-1, HS-2, and Flippos) ranged from about 9 feet to 18 below ground surface (bgs) on November 7, 2017 (GSI, 2017).

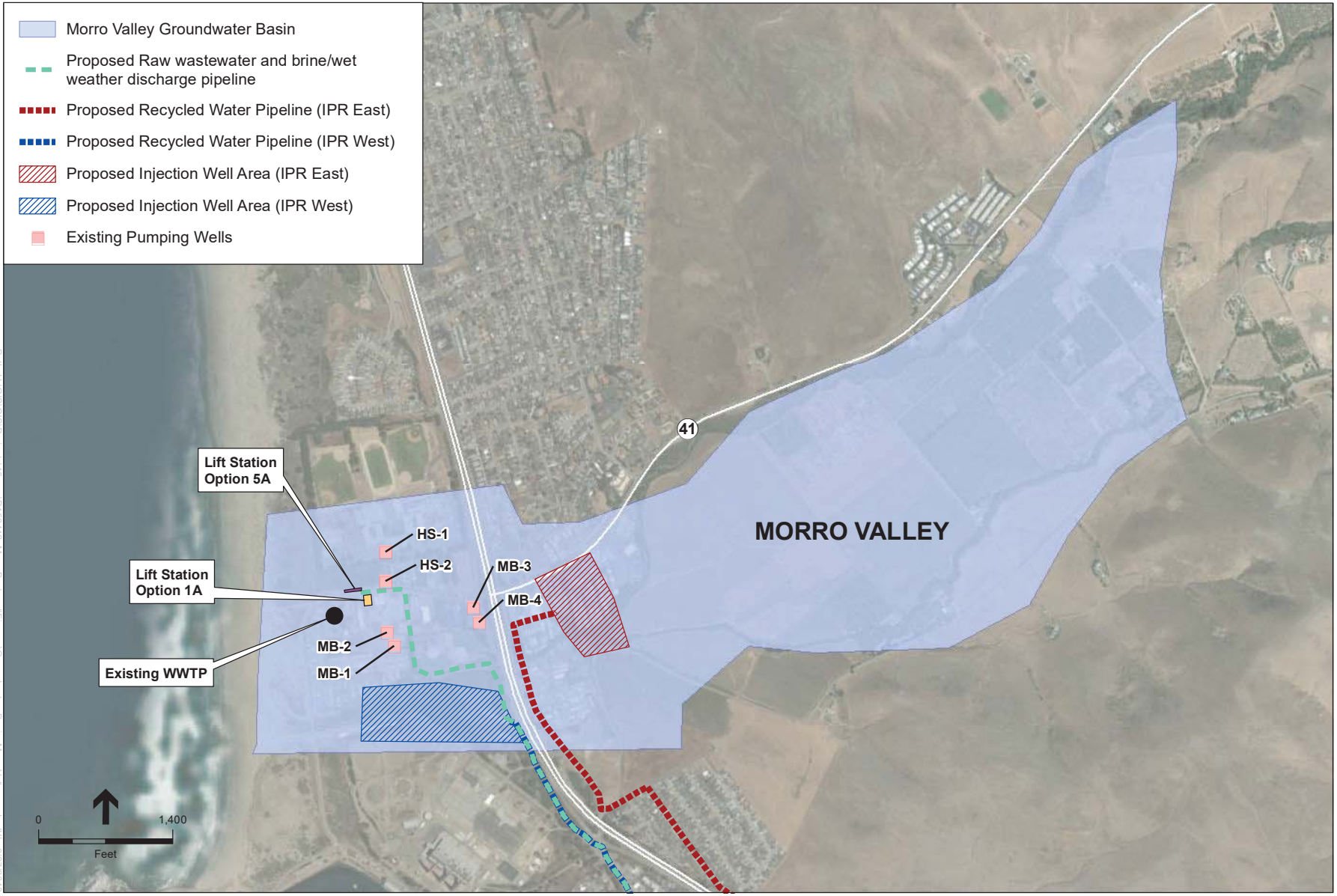


SOURCE: ESRI 2015; NHD

Morro Bay Water Reclamation Facility Project. 150412

Figure 3.9-1

Surface Waters



SOURCE: ESRI 2016; FEMA

Morro Bay Water Reclamation Facility Project. 150412

Figure 3.9-2

Morro Valley Groundwater Basin

Recharge to the basin is by percolation of stream flow, precipitation, and irrigation return flows. As a shallow alluvial basin, the Morro Valley Basin functions in a manner similar to an underground stream (MKN Associates, 2017). Rainfall in the watershed percolates into the ground and flows underground to the ocean. Use of such water resources is controlled by the SWRCB. The SWRCB issued findings in 1972 that the Morro Valley Basin is supplied by riparian underflow. The City applied for appropriative water rights, and the SWRCB approved rights in 1995 for an instantaneous withdrawal of up to 1.2 cubic feet per second (cfs) and annual withdrawal of 581 acre-feet per year (AFY) from the Morro Valley Basin underflow.

Groundwater modeling conducted for the proposed project further refined the inflow and outflow of the existing water conditions in the groundwater basin (GSI, 2017). The primary source of recharge to the Lower Morro Valley Basin appears to be mostly from Morro Creek streambed percolation. Morro Creek is mostly a losing stream (*i.e.*, water in the creek is usually percolating down into and recharge the underlying aquifer). However, during wet periods, portions of Morro Creek can become a gaining stream (*i.e.*, water from the underlying aquifer rises up enough to discharge into the stream and support its flow). The volume of Morro Creek percolation is believed to be partly affected by City pumping; the higher the rate of pumping, the more water Morro Creek loses to the aquifer because groundwater levels decrease and do not support its flow. The following summarizes the recharge components in decreasing order of magnitude:

- Streambed percolation
- Underflow from upgradient areas
- Areal recharge from deep percolation of precipitation
- Subsurface inflow from the ocean (seawater intrusion)

The primary discharge component from the aquifer under non-pumping conditions is subsurface underflow to the ocean. The following summarizes the discharge components in decreasing order of magnitude:

- Subsurface outflow to ocean
- Municipal groundwater pumping
- Rising groundwater into Morro Creek

Aquifer testing on local wells conducted for the modeling revealed that the aquifer has a large permeability contrast between the upper and lower portions, with the lower portion of the aquifer being more permeable. The horizontal hydraulic conductivities (*i.e.*, the rate the groundwater horizontally flows through the aquifer materials) are estimated at about 10 feet per day for the upper portion, and about 725 feet per day for the lower portion, which is the producing zone (the zone from which the City currently pumps groundwater). Vertical hydraulic conductivities (the rate the groundwater vertically seeps down or rises up through the aquifer materials) indicate a similar pattern of 0.1 feet per day in the upper portion and 72.5 feet per day in the lower portion.

The City has five seawater wells located along Morro Bay harbor that are operated to provide desalinated water during drought emergency or when SWP water is otherwise unavailable (MKN, 2017). The water is treated at the City's desalination plant, which was constructed in 1992. In

2009, the City modified the desalination plant to treat brackish groundwater. Groundwater from the Morro Valley Basin that is pumped by the City is treated by the plant's Brackish Water Reverse Osmosis (BWRO) treatment train. The BWRO plant treatment train can produce up to 581 AFY, enough to treat the annual permitted allowance from the Morro Valley basin.

Active groundwater supply users in the Morro Valley Basin include the City, Morro Bay Mutual Water Company, a cement plant, a small public water system at mobile home park, and individual residential and agricultural land uses (MNS Engineers, 2016). Due to the relatively small size and number of users, the groundwater basin can reach overdraft conditions during droughts (MKN, 2017). The Morro Basin is not listed as critically overdrafted basins by the DWR as of December 2016 (DWR, 2016). Groundwater management of Morro Valley Basin is not judicially designated as with the neighboring Los Osos Basin adjudication. However, since the basin is supplied by riparian underflow, SWRCB issues water right permits for groundwater extraction, thus effectively managing groundwater resources.

Groundwater Quality

The general water quality from City water supply production wells for 2011 through 2015 are summarized in **Table 3.9-1**, along with maximum contaminant levels (MCLs, including primary and secondary drinking water standards) and public health goals (PHGs) (MKN, 2017).

TABLE 3.9-1
GENERAL GROUNDWATER QUALITY

Constituent	Units	MCL	PHG	Maximum Annual Detected Range 2011 to 2015
Primary Drinking Water Standards				
Aluminum	mg/L	1	0.6	nd – 0.01
Barium	mg/L	1	2	0.0128 – 100
Fluoride	mg/L	2	1	0.2 – 0.3
Nickel	ug/L	100	12	nd – 10
Nitrate as nitrogen	mg/L	10	10	20.34 - 37.41
Secondary Drinking Water Standards				
Chloride	mg/L	500	ne	64 – 1480
Color	color units	300	ne	nd – 20
Hardness	mg/L	ne	ne	533 – 1800
Manganese	ug/L	50	ne	nd – 30
Selenium	ug/L	50	ne	nd – 19
Sodium	mg/L	ne	ne	42 – 317
Specific Conductance	microohms	1600	ne	715 – 5050
Sulfate	mg/L	500	ne	36 – 149
Total Dissolved Solids	mg/L	1000	ne	423 – 2870
Turbidity	turbidity units	5	ne	0.11 – 11.7

NOTES:
Values in bold exceeded a regulatory standard
mg/L = milligrams per liter
ug/l = micrograms per liter
SOURCE: MKN, 2017.

The above-listed water quality data indicates nitrates and seawater intrusion are the predominant concerns for water quality (MKN & Associates, 2017; MNS Engineers, 2016). Nitrate levels are elevated due to the agricultural application of nitrogen fertilizers within the watershed, which is restricting the City's ability to use groundwater as a potable water supply. Historically, the Morro Valley Basin wells have experienced elevated nitrate concentrations as high as 110 mg/L as nitrate (MKN & Associates, 2017). Periodically high iron and manganese levels have also been detected.

In the mid-1980s, total dissolved solids (TDS) concentrations in groundwater downstream of the narrows near Highway 1 began to exceed 1,000 mg/L seasonally due to seawater intrusion and tidal influences (MNS Engineers, 2016). In general, under natural conditions, the seaward movement of freshwater prevents seawater from encroaching coastal aquifers (USGS, 2018). An interface between freshwater and seawater is maintained with denser seawater underlying freshwater. When groundwater is pumped from a coastal aquifer, lowered water levels can cause seawater to be drawn toward the freshwater zones of the aquifer. The intruding seawater decreases the freshwater storage in the aquifers. In 2007, basin TDS concentrations were typically between 400 and 800 mg/L and increasing toward the coast, except for an area beneath agricultural fields in the lower valley where TDS concentrations reached 1,000 mg/L, and nitrate concentrations reached 220 mg/L as nitrate (MNS Engineers 2016). Groundwater wells in the Morro Valley basin have experienced elevated levels of salinity during dry periods, with TDS levels as high as 4,000 milligrams per liter (mg/L). The City's BWRO plant is designed to remove TDS and nitrate from groundwater pumped out of the Morro Valley groundwater basin. Permeate from the reverse osmosis process is remineralized through calcium carbonate contact to reduce corrosivity and is disinfected and sent to the distribution system. Concentrate is discharged to an ocean outfall separate from the existing WWTP outfall (MKN, 2017).

In 1999, methyl tertiary butyl ether (MTBE) was discovered in groundwater in the Morro Basin, and in 2000, the SWRCB issued an order prohibiting the use of the City's five Morro Basin wells. The source of the MTBE was found to be the Shell gasoline station on Main Street at Highway 41. The CCRWQCB required the Shell station owner to install monitoring wells and to conduct groundwater and soil sampling. Subsequent investigations confirmed the MTBE contamination originated from this former Shell service station. The underground storage tanks (USTs) and gasoline-impacted soils beneath the USTs were removed from the location in January 2002. Shell implemented extensive remedial actions since the discovery of the contamination, which included the excavation of contaminated soil, addition of oxygen releasing compound to the UST excavation backfill, soil vapor extraction, and onsite and offsite groundwater extraction and treatment. Extensive monitoring conclusively demonstrated that the City's Well Field was never impacted, even prior to MTBE plume stabilization. On September 26, 2008, the CCRWQCB sent case closure letter to Shell Oil Company and the wells were reinstated for use.

Surface Water

The proposed project is located within the Morro Bay Watershed and Cayucos Creek – Whale Rock Area Watershed, as shown on **Figure 3.9-3**. The Cayucos Creek Watershed lies within the southern portion of the California Coast Range. The watershed is bounded to the west by Pacific Ocean and the east by the Santa Lucia Mountain Range. Consistent with the CalWater HUC 10 grouping scale, the watershed area contains four major drainages that independently reach the Pacific Ocean: Cayucos Creek, Old Creek, Toro Creek and Morro Creek, the latter of which borders and shares some attributes with the Morro Bay watershed. The headwaters of the watershed are in Santa Lucia Range, reaching a maximum elevation of approximately 2,345 feet amsl with the lowest elevation at around at sea level, draining in to the Pacific Ocean. Whale Rock reservoir is located in the watershed approximately ½ mile east of the community of Cayucos. The dominant land use in the watershed is agriculture with the sea side town of Cayucos providing an urban core area with tourist oriented opportunities.

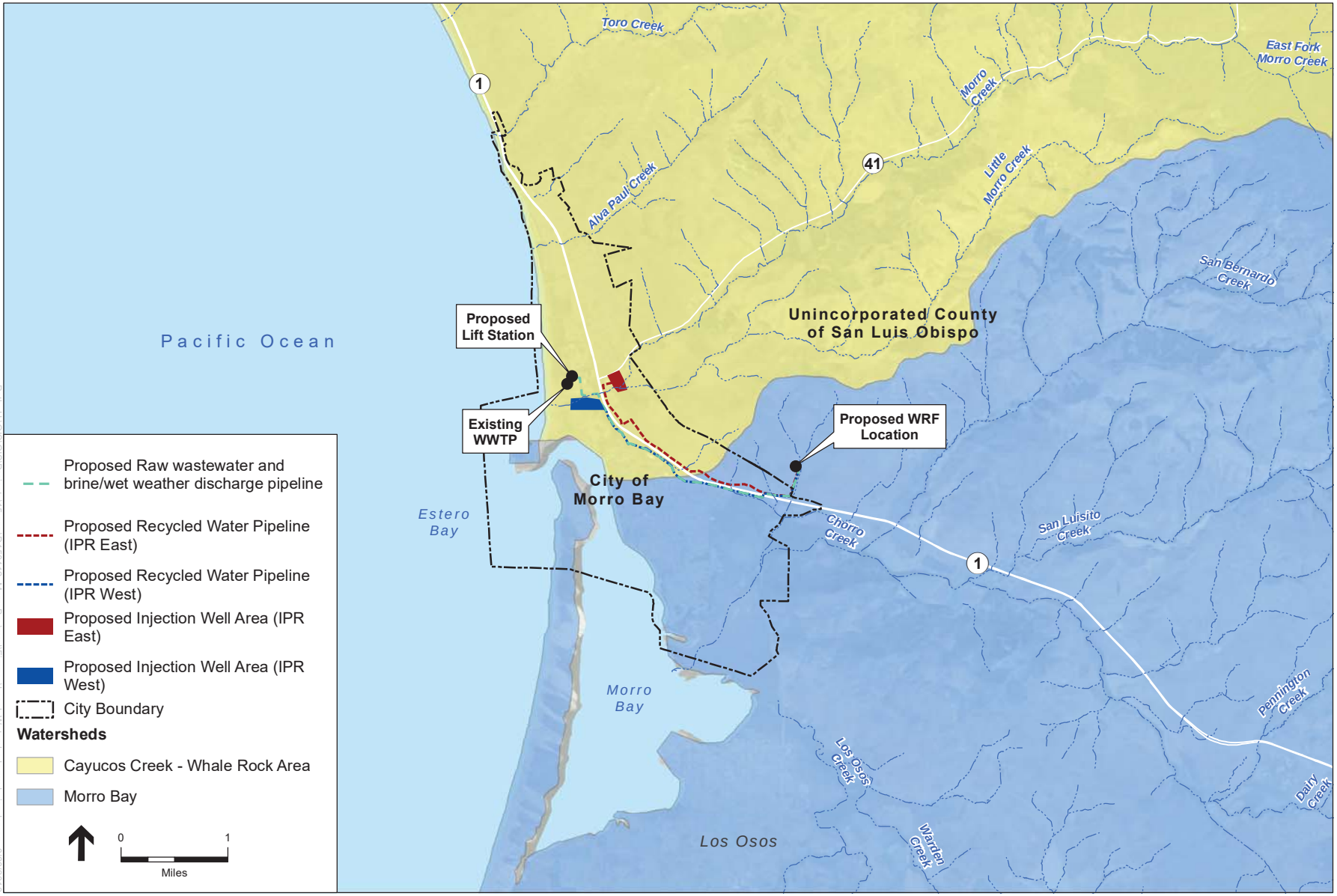
The Morro Bay Watershed is located in the central area of a coastal portion of the County. It is composed of two major sub-watersheds that drain into Chorro and Los Osos Creeks. The Chorro Creek sub-watershed accounts for about 60 percent of the total land area draining into the estuary.

Much of the watershed remains in open space that is used primarily for agriculture and a range of public uses, including parks, golf courses, nature preserves, a military base, and university-owned rangeland. The developed portions of the watershed include the community of Los Osos/ Baywood Park, parts of the City, Cuesta College, Camp San Luis Obispo, the California Men's Colony, and various facilities of the County.

Surface Water Quality

Section 303(d) of the Clean Water Act (CWA) requires each state identify water bodies or segments of water bodies that are "impaired" (*i.e.*, do not meet one or more of the water quality standards established by the state). Those waters are identified in the Section 303(d) list as waters that are polluted and need further attention to support their beneficial uses. Once the water body or segment is listed, the state is required to establish a Total Maximum Daily Load (TMDL) for each pollutant. A TMDL is the maximum amount of a pollutant that a water body can receive and still meet the water quality standards. Typically, TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources.

Table 3.9-2 summarizes the impaired water bodies on the Central Coast Regional Water Quality Control Board (CCRWQCB) 2012 Clean Water Act Section 303(d) list near the proposed project. Morro Creek, one of the closest surface waters to the study area, is not an impaired water body, however Chorro Creek is listed.



SOURCE: ESRI 2015; NHD; San Luis Obispo County 2018

Morro Bay Water Reclamation Facility Project. 150412

Figure 3.9-3

Local Watersheds

TABLE 3.9-2
IMPAIRED WATER BODIES IN THE PROJECT AREA

Water Body/Reach Name	Pollutant/Stressor	Potential Source
Chorro Creek	E. Coli Fecal Coliform, Nutrients Sedimentation	Source Unknown
Morro Bay	Dissolved Oxygen Pathogens Sedimentation/Siltation	Source Unknown

SOURCE: SWRCB, 2012.

Flood Zone

According to flood zone mapping compiled by the Federal Emergency Management Agency's Flood Insurance Rate Maps (FIRMs), the proposed WRF location is outside of the 100-year flood zone (See **Figure 3.9-4**). However, the proposed lift station and existing WWTP are located within what is known as Flood Zone AE where the flood zone elevation occurs at approximately 20 feet above sea level (FEMA, 2017).

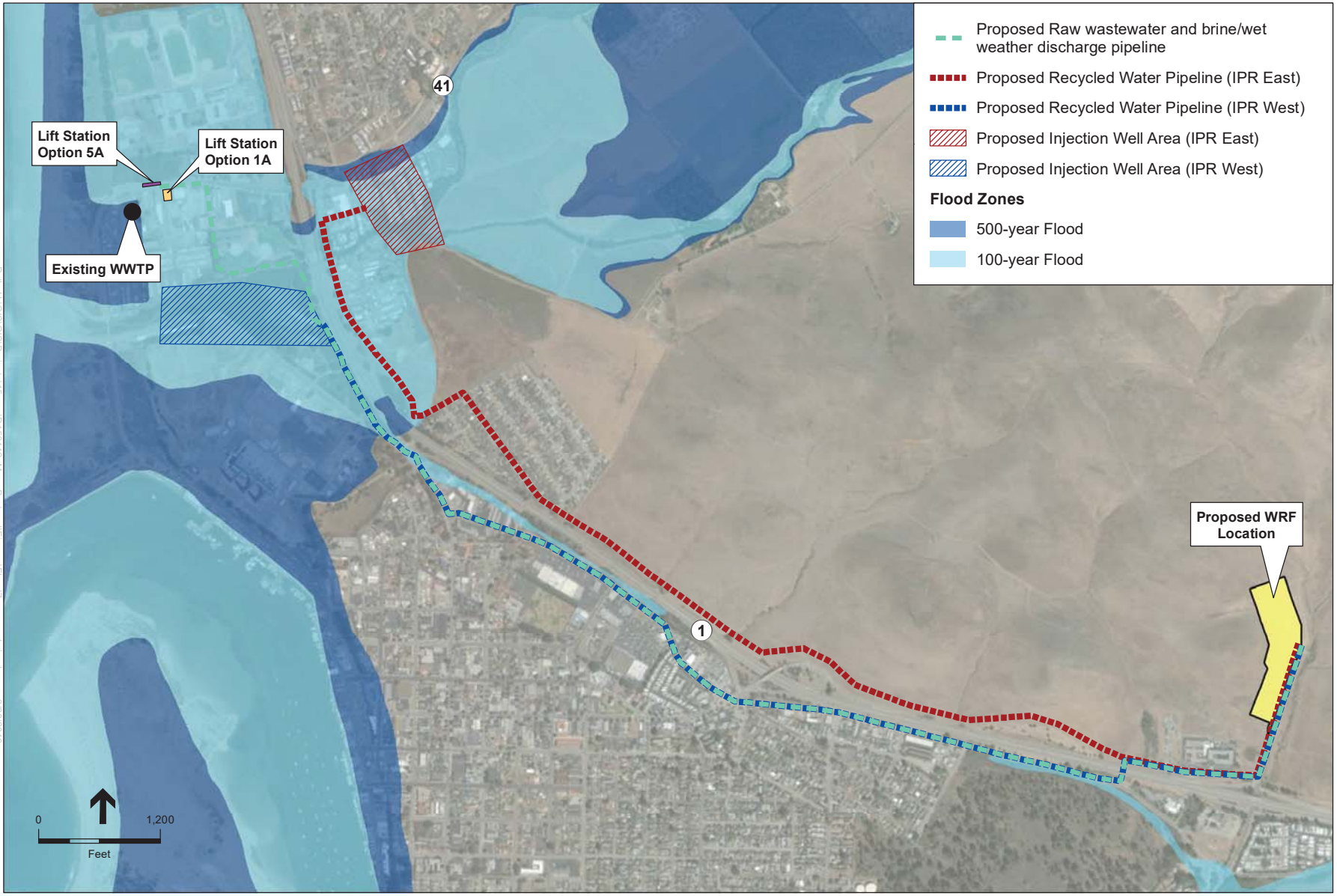
Dam Inundation

None of the proposed project elements are located within a dam inundation zone.

Tsunami, Seiche, and Mudflow

Tsunamis are a series of ocean waves generated by vertical movement of the sea floor (SLO, 2016). The movement is typically caused by earthquake related faulting, but can also result from submarine landslides or volcanic eruptions. Seiches are defined as oscillations of enclosed and semi-enclosed bodies of water (*e.g.*, Morro Bay) due to strong ground motion from seismic events, wind stress, volcanic eruptions, large landslides, and local basin reflections of tsunami. The San Luis Obispo County Office of Emergency Services produced maps depicting modeled inundation areas for a suite of tsunami and seiche source events. According to this mapping, the existing WWTP and proposed lift station are located within the tsunami inundation area. The preferred WRF site is located further upland and outside of a tsunami hazard area.

Mudflows are rivers of liquid mud generated in sloped areas that flow across the surface of normally dry land, and are typically caused by a combination of brush loss and subsequent heavy rains (FEMA 2016). The existing WWTP and lift stations are located within the relatively flat urban part of the city in an area not susceptible to mudflows. The preferred WRF site is located on an area of gently sloping grassy hills about 100 feet from an unnamed tributary of Chorro Creek. That area does not show erosional features consistent with mudflows or other strong erosional forces.



SOURCE: ESRI 2016; FEMA

Morro Bay Water Reclamation Facility Project. 150412

Figure 3.9-4

FEMA Flood Zones

3.9.2 Regulatory Framework

Federal

Clean Water Act

The Federal Water Pollution Control Act (33 U.S.C. 1251 *et seq.*), as amended by the Federal Water Pollution Control Act Amendments of 1972, also known as the Clean Water Act (CWA), states the discharge of pollutants to waters of the United States from any point source is unlawful, unless the discharge is in compliance with a NPDES permit. Amendments (1987) to the CWA added a section that establishes a framework for regulating municipal and industrial (M&I) storm water discharges under the NPDES program. On November 16, 1990, the USEPA published final regulations (under the 1987 CWA Amendments) that establish application requirements for storm water permits.

Federal Emergency Management Agency

Under Executive Order 11988, FEMA is responsible for the management and mapping of areas subject to flooding during a 100-year flood event (*i.e.*, one percent chance of occurring in a given year). FEMA requires local governments covered by federal flood insurance pass and enforce a floodplain management ordinance that specifies minimum requirements for any construction within the 100-year flood plain, as depicted on FEMA maps. The existing WWTP, proposed lift station sites, proposed injection wellfield areas, and portions of the pipeline alignments west of Highway 1 are located within the Morro Creek 100-year floodplain (**Figure 3.9-3)**.

U.S. Environmental Protection Agency Underground Injection Control Program

Under existing federal regulations for the Underground Injection Control (UIC) program, injection wells (such as proposed for this project) are "authorized by rule," which means they do not require a permit from the U.S. Environmental Protection Agency (USEPA) if they do not endanger underground sources of drinking water and comply with other UIC program requirements. For California, USEPA Region 9 is the permitting administrator for Class V wells (wells that are used to inject non-hazardous fluids underground). Any injection project planned in California must meet the Sources of Drinking Water Policy which ensures protection of groundwater quality for drinking water supplies, so a Federal permit is not necessary. However, all Class V injection well owners in California are required to submit information to USEPA Region 9 on the well for USEPA's inventory.

State

Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code) provides the basis for water quality regulation within California. This act establishes the authority of the SWRCB and the nine RWQCBs. The SWRCB administers water rights, water pollution control, and water quality functions throughout the state, while the RWQCBs conduct planning, permitting, and enforcement activities. The project area lies within the jurisdiction of the Central Coast RWQCB (Region 3).

Central Coast Water Quality Control Plan

The SWRCB and the Central Coast RWQCB share the responsibility, under the Porter-Cologne Act, to formulate and adopt water policies and plans and to adopt and implement measures to fulfill CWA requirements. The Central Coast RWQCB has prepared the Central Coast Water Quality Control Plan (Basin Plan) that identifies beneficial uses for the major creeks in the project area as well as the Morro Bay Estuary and Estero Bay (see **Table 3.9-3** and **3.9-4** below). The current version was published in September 2017. The Basin Plan also includes water quality objectives for inland surface water, enclosed bays and estuaries, and groundwater basins that correspond to the identified beneficial uses. Groundwater beneficial use designations include Municipal & Domestic Supply (MUN) and Agricultural Supply (AGR). Within the Estero Bay hydrologic unit, there are water quality objectives for Chorro Creek including 1,000 mg/L TDS.

TABLE 3.9-3
BENEFICIAL USE DESIGNATIONS FOR WATER BODIES IN THE PROJECT AREA

	Morro Creek	Little Morro Creek	Chorro Creek	Morro Bay Estuary	Estero Bay and Morro Bay
MUN	X	X	X		
AGR	X	X	X		
PROC					
IND				X	X
GWR	X	X	X		
REC1	X	X	X	X	X
REC2	X	X	X	X	X
WILD	X	X	X	X	X
COLD	X	X	X	X	
WARM	X		X		
MIGR	X	X	X	X	
SPWN	X	X	X	X	
BIOL			X	X	
RARE	X	X	X	X	X
EST	X			X	
FRSH	X		X		
NAV					X
POW					
COMM	X	X	X	X	X
AQUA				X	
MAR					X
SHELL				X	X

X = Present or potential beneficial uses

SOURCE: CCRWQCB Basin Plan, 2017

TABLE 3.9-4
DEFINITIONS OF BENEFICIAL USES OF SURFACE WATERS

Beneficial Use	Description
Municipal and Domestic Supply (MUN)	Waters are used for community, military, municipal or individual water supply systems. These uses may include, but are not limited to, drinking water supply.
Agricultural Supply (AGR)	Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.
Industrial Service Supply (IND)	Uses of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well repressurization.
Groundwater Recharge (GWR)	Uses of water for natural or artificial recharge of groundwater for purposes of future extraction, maintenance of water quality, or halting saltwater intrusion into freshwater aquifers.
Water Contact Recreation (REC 1)	Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white-water activities, fishing, or use of natural hot springs.
Non-Contact Water Recreation (REC 2)	Uses of water for recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tide pool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.
Wildlife Habitat (WILD)	Uses of water that support terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.
Cold Freshwater Habitat (COLD)	Uses of water that support cold water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
Warm Freshwater Habitat (WARM)	Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
Migration of Aquatic Organisms (MIGR)	Uses of water that support habitats necessary for migration or other temporary activities by aquatic organism, such as anadromous fish.
Spawning, Reproduction, and/or Early Development (SPWN)	Uses of water that support high quality aquatic habitats suitable for reproduction and early development of fish.
Preservation of Biological Habitats of Special Significance (BIOL)	Uses of water that support designated areas of habitats, such as established refuges, parks, sanctuaries, ecological reserves, or Areas of Special Biological Significance (ASBS), where the preservation or enhancement of natural resources requires special protection.
Preservation of Rare and Endangered Species (RARE)	Uses of waters that support habitats necessary for the survival and successful maintenance of plant or animal species established under state and/or federal law as rare, threatened, or endangered.
Estuarine Habitat (EST)	Uses of water that support estuarine ecosystems including, but not limited to, preservation or enhancement of estuarine habitats, vegetation, fish, shellfish, or wildlife (e.g., estuarine mammals, waterfowl, shorebirds). An estuary is generally described as a semi-enclosed body of water having a free connection with the open sea, at least part of the year and within which the seawater is diluted at least seasonally with fresh water drained from the land. Included are water bodies which would naturally fit the definition if not controlled by tide gates or other such devices.

Beneficial Use	Description
Freshwater Replenishment (FRSH)	Uses of water for natural or artificial maintenance of surface water quantity or quality (e.g., salinity) which includes a water body that supplies water to a different type of water body, such as, streams that supply reservoirs and lakes, or estuaries; or reservoirs and lakes that supply streams. This includes only immediate upstream water bodies and not their tributaries.
Commercial and Sport Fishing (COMM)	Uses of water for commercial or recreational collection of fish, shellfish, or other organism including, but not limited to, uses involving organisms intended for human consumption or bait purposes.
Aquaculture (AQUA)	Uses of water for aquaculture or mariculture operations including, but not limited to, propagation, cultivation, maintenance, or harvesting of aquatic plants and animals for human consumption or bait purposes.
Navigation (NAV)	Uses of water for shipping, travel, or other transportation by private, military, or commercial vessels.
Marine Habitat (MAR)	Uses of water that support marine ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.
Shellfish Harvesting (SHELL)	Uses of water that support habitats suitable for the collection of filter-feeding shellfish (e.g., clams, oysters, and mussels) for human consumption, commercial, or sport purposes. This includes waters that have in the past, or may in the future, contain significant shellfisheries.

SOURCE: CCRWQCB Basin Plan, 2017

Water Quality Control Plan for Ocean Waters of California (Ocean Plan)

The California Ocean Plan was prepared by the SWRCB and was last updated in 2015. It is applicable to point source discharges to the ocean. The Ocean Plan specifies the beneficial uses of the ocean to be protected including industrial water supply, water contact and non-contact recreation, navigation, commercial and sport fishing, mariculture, preservation and enhancement of Areas of Special Biological Significance, rare and endangered species, marine habitat, fish migration, fish spawning and shellfish harvesting. The California Ocean Plan establishes water quality objectives for California's ocean waters and provides the basis for regulation of wastes discharged in the state's coastal waters. Water quality objectives and effluent limits specified in the Ocean Plan currently are included in the WWTP's NPDES permit and would be included in the new NPDES permit for the WRF.

WWTP NPDES Permit

The existing WWTP currently discharges treated effluent through its ocean outfall under NPDES Permit No. CA0047881, Waste Discharge Requirements Order No R3-2017-0050. The permit requires compliance with full secondary treatment requirements for BOD and TSS. Prior to issuance of the new permit, the City and Cayucos Sanitary District (CSD) had a modified NPDES Permit with a 301(h) waiver, which waived full secondary treatment requirements for BOD_5 and TSS. The permit required 75 percent removal of TSS, a 30-day average TSS effluent limit of 70 mg/L, 30 percent removal of BOD_5, and a 30-day average BOD_5 effluent limit of 120 mg/L (CCWB). It is anticipated the pending Time Schedule Order from RWQCB will allow the City and District to meet those prior effluent limits as interim limits until a new WRF is constructed.

The NPDES permit also establishes water quality objectives for receiving waters based on Ocean Plan requirements, as described above, and requires that effluent have a minimum dilution ratio of 133 parts seawater to one-part effluent.

In December 2008, the City and CSD executed a Settlement Agreement with the RWQCB to upgrade the existing WWTP and eliminate the 301(h) waiver modified permit. On January 10, 2013, the California Coastal Commission denied a Coastal Development Permit for the proposed upgrade. The objectives of the currently proposed project are to meet the requirements of the new discharge permit by constructing a new wastewater treatment facility to achieve full secondary treatment at minimum. After implementation of the proposed project, the WRF effluent would be able to meet full secondary standards as required by the 40 Code of Federal Regulations (CFR) Part 133, Secondary Treatment Regulation. The proposed WRF facilities would be subject to these treatment standards as a condition of the NPDES permit, requiring the facility to remove, as a 30-day average, at least 85 percent of both TSS and BOD_5 from the influent stream before discharging wastewater to the ocean. In addition, the 30-day average effluent limit would be 30 mg/L for both TSS and BOD_5 (40CFR Part 133). For discharge of treated effluent into the groundwater via injection wells, the effluent would be required to meet advanced treatment recycled water in accordance with 22 California Code of Regulations (CCR) Division 4.

California Code of Regulations, Title 22, Division 4, Chapter 3 Water Recycling Criteria

The use of recycled water throughout the State of California is governed by 22 CCR, Division 4, Chapter 3, *Water Recycling Criteria*. Water Recycling Criteria are incorporated in water reclamation requirements issued by the local RWQCB, which include groundwater replenishment using recycled water. The California Division of Drinking Water (a division of the SWRCB) has updated the regulations to govern groundwater replenishment for aquifers designated as sources of drinking water using recycled water from domestic wastewater sources (22 CCR Division 4, Chapter 3, Article 5.2, *Indirect Potable Reuse: Groundwater Replenishment – Subsurface Application*). The regulations for groundwater replenishment using recycled water became effective on July 16, 2015, and are implemented through the SWRCB and its RWQCBs. A Discharge Permit must be obtained from the Central Coast RWQCB for the use of recycled water. Further details for the reuse of 22 CCR recycled water and the discharge of fully advanced treated water intended for groundwater recharge or injection are summarized below.

Groundwater Replenishment Reuse Project Regulations

The proposed project is considered a Groundwater Replenishment Reuse Project (GRRP). As defined by 22 CCR §60301.390, a GRRP is "a project involving the planned use of recycled municipal wastewater that is operated for the purpose of replenishing a groundwater basin designated in the Water Quality Control Plan for use as a source of municipal and domestic water supply." Prior to operating a GRRP, the treatment facility is required to site and construct at least two monitoring wells downgradient of the GRRP such that at least one monitoring well is located no less than two weeks but no more than six months of travel time from the GRRP, and one monitoring well is at least 30 days of travel time upgradient of the nearest drinking water well. GRRP groundwater monitoring well requirements are set forth in 22 CCR §60320.226.

Pursuant to 22 CCR §60320.226, the project sponsor is required to collect groundwater samples from each aquifer that will receive the GRRP's recharge water or that is validated as receiving recharge water from the GRRP. In addition, the monitoring wells would provide data on water levels and groundwater mounding as a result of recharge. The City would monitor groundwater levels and recycled water and groundwater quality, as required by the GRRP regulations (22 CCR §60320).

Title 22 Engineering Report

22 CCR §60323 requires the submittal of a Title 22 Engineering Report. The purpose of the Title 22 Engineering Report is to provide data and information on the treatment facility and to describe the broader framework of the City's plan for compliance with the GRRP regulations. The Division of Drinking Water's approval of the Title 22 Engineering Report would be required prior to the production of reclaimed recycled water for reuse from the WRF and as a condition of the Discharge Permit. Among other things, the Title 22 Engineering Report would include a hydrogeological assessment of groundwater conditions in the project vicinity, as required by the GRRP regulations. The hydrogeological assessment would include the following:

- The report shall be prepared by a qualified engineer licensed in California and experienced in the field of wastewater treatment, and include the qualifications of the individual(s) preparing the assessment;
- A general description of geologic and hydrogeological setting of the groundwater basin(s) potentially directly impacted by the project;
- A detailed description of the stratigraphy beneath the facility, including the composition, extent, and physical properties of the affected aquifers;
- The existing hydrogeology and the hydrogeology anticipated as a result of the operation of the GRRP;
- Maps showing quarterly groundwater elevation contours, along with vector flow directions and calculated hydraulic gradients; and
- The estimated response retention time (see further discussion below);
- A description of the design of the proposed reclamation system;
- The means for compliance with these regulations and any other features specified by the regulatory agency;
- A contingency plan which will assure that no untreated or inadequately treated wastewater will be delivered to the use area.

Response Retention Time

As required by 22 CCR §60320.224, recycled municipal wastewater applied by a GRRP shall be retained underground for a required period of time (i.e., response retention time). The investigation shall determine the amount of time necessary to allow a project sponsor sufficient response time to identify treatment failures and implement actions. The minimum response retention time is two months. The GRRP regulations identify four methods of quantifying the response retention time that include conducting an operational tracer test or conducting numerical or analytical modeling of groundwater flow travel times.

Monitoring Programs

Recycled Water Monitoring Program. In accordance with 22 CCR §§60320.210, 60320.212, 60320.218, and 60320.220, the City would be required to monitor WRF recycled water prior to injecting into the groundwater. Each quarter, the GRRP sponsor is required to sample and analyze the recycled municipal wastewater and groundwater for priority toxic pollutants and other chemicals specified by the California Division of Drinking Water (DDW) based on the engineering report. WRF recycled water quality monitoring is performed to protect the drinking aquifers in the event of a treatment breakthrough. The treatment processes are required to undergo routine performance monitoring to demonstrate treatment of specific indicator compounds to specific performance standards, which include various organic and inorganic compounds, and pathogenic microorganisms (specifically Giardia and Cryptosporidium).

Operational Groundwater Monitoring Program. In accordance with 22 CCR §§ 60320.220 and 60320.226, the City would monitor each nested piezometer at each monitoring well location to assess changes in groundwater quality associated with groundwater replenishment activities. The GRRP is required to collect two samples prior to operation and at least one sample each quarter after operation begins. Each sample is to be analyzed for total nitrogen, nitrate, nitrite, and any contaminants specified by the DDW or RWQCB.

Annual Reporting

As required by 22 CCR §60320.228, the City would be required to submit an annual report no later than six months after the end of each calendar year to the Division of Drinking Water and the RWQCB. Public water systems and drinking water well owners having downgradient sources potentially affected by the GRRP and within 10 years' groundwater travel time from the GRRP shall be notified by direct mail and/or electronic mail of the availability of the report. The report shall be prepared by an engineer licensed in California and experienced in the fields of wastewater treatment and public water supply. The report shall include the following:

- A summary of the GRRP's compliance status with the monitoring requirements and criteria of this Article during the previous calendar year;
- For any violations of this Article during the previous calendar year;
  - the date, duration, and nature of the violation,
  - a summary of any corrective actions and/or suspensions of subsurface application of recycled municipal wastewater resulting from a violation, and
  - if uncorrected, a schedule for and summary of all remedial actions;
- Any detections of monitored chemicals or contaminants, and any observed trends in the monitoring wells and diluent water supplies;
- Information pertaining to the vertical and horizontal migration of the recharge water plume;
- A description of any changes in the operation of any unit processes or facilities;
- A description of any anticipated changes, along with an evaluation of the expected impact of the changes on subsequent unit processes;
- The estimated quantity and quality of the recycled municipal wastewater and diluent water to be applied for the next calendar year;

- A summary of the measures taken to comply with § 60320.206 and 60320.200(j), and the effectiveness of the implementation of the measures; and
- Increases in RWC during the previous calendar year and RWC increases anticipated for the next calendar year.

Five Year Reporting

Every five years from the date of the initial approval of the Title 22 Engineering Report required pursuant to 22 CCR §60323, the City shall update the report to address any project changes and submit the report to the DDW and the RWQCB. The update shall include, but not be limited to:

- Anticipated recycled municipal wastewater contribution (RWC)[1] increases, a description of how the RWC requirements in 22 CCR §60320.216 will be met, and the expected impact the increase will have on the GRRP's ability to meet the requirements of this Article;
- Evidence that the requirements associated with retention time in 22 CCR §60320.208, if applicable, and 22 CCR §60320.224 have been met; and
- A description of any inconsistencies between previous groundwater model predictions and the observed and/or measured values, as well as a description of how subsequent predictions will be accurately determined.

NPDES General Construction Permit for Storm Water Runoff

Construction associated with the proposed project would disturb more than one acre of land surface affecting the quality of stormwater discharges into waters of the U.S. The proposed project would therefore be subject to the *NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities* (Order 2009-0009-DWQ, NPDES No. CAS000002; as amended by Orders 2010-0014-DWQ and 2012-006-DWQ). The Construction General Permit regulates discharges of pollutants in stormwater associated with construction activity to waters of the U.S. from construction sites that disturb one or more acres of land surface, or that are part of a common plan of development or sale that disturbs more than one acre of land surface. The permit regulates stormwater discharges associated with construction or demolition activities, such as clearing and excavation; construction of buildings; and linear underground projects, including installation of water pipelines and other utility lines. That General Permit requires storm water discharges and authorized non-storm water discharges must not contain pollutants that cause or contribute to an exceedance of any applicable water quality objective or water quality standards (identified in the Basin Plan).

The Construction General Permit requires construction sites be assigned a Risk Level of 1 (low), 2 (medium), or 3 (high), based both on the sediment transport risk at the site and the receiving waters risk during periods of soil exposure (*e.g.*, grading and site stabilization). The sediment risk level reflects the relative amount of sediment that could potentially be discharged to receiving water bodies and is based on the nature of the construction activities and the location of the site relative to receiving water bodies. The receiving waters risk level reflects the risk to the receiving

[1] 22 CCR §60301.705. Recycled Municipal Wastewater Contribution (RWC) means the fraction equal to the quantity of recycled municipal wastewater applied at the GRRP divided by the sum of the quantity of recycled municipal wastewater and credited diluent water.

waters from the sediment discharge. Depending on the risk level, the construction projects could be subject to the following requirements:

1. Effluent standards
2. Erosion and sediment controls
3. Good site management ("housekeeping")
4. Inspection, maintenance, and repair
5. Non-stormwater management
6. Monitoring and reporting requirements
7. Run-on and runoff controls

The Construction General Permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that includes specific best management practices (BMPs) designed to prevent sediment and pollutants from contacting stormwater as well as non-storm water and from moving offsite into receiving waters. The BMPs fall into several categories, including erosion control, sediment control, waste management and good housekeeping. Routine inspection of all BMPs is required under the provisions of the Construction General Permit. In addition, the SWPPP is required to contain a visual monitoring program, a chemical monitoring program for non-visible pollutants, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment.

Receiving water risk is based on whether the project drains to a sediment-sensitive water body. A sediment-sensitive water body is one that appears on the most recent 303(d) list for water bodies as impaired for sediment, has a USEPA-approved TMDL implementation plan for sediment, or has the beneficial uses of cold freshwater habitat, fish migration, and fish spawning.

Examples of typical construction BMPs include scheduling or limiting certain activities to dry periods, installing sediment barriers such as silt fence and fiber rolls, and maintaining equipment and vehicles used for construction. Non-stormwater management measures include installing specific discharge controls during certain activities, such as paving operations, vehicle and equipment washing and fueling. The Construction General Permit also sets post-construction standards (*i.e.*, implementation of BMPs to reduce pollutants in stormwater discharges from the site following construction).

In addition to stormwater discharges, the Construction General Permit also covers other non-storm water discharges including irrigation of vegetative erosion control measures, water to control dust, uncontaminated groundwater from dewatering, and other discharges not subject to a separate general NPDES permit adopted by the Regional Water Board. The discharge of non-storm water is authorized under the following conditions:

1. The discharge does not cause or contribute to a violation of any water quality standard;
2. The discharge does not violate any other provision of the General Permit;
3. The discharge is not prohibited by the applicable Basin Plan;

4. The discharger has included and implemented specific BMPs required by the General Permit to prevent or reduce the contact of the non-storm water discharge with construction materials or equipment.
5. The discharge does not contain toxic constituents in toxic amounts or (other) significant quantities of pollutants;
6. The discharge is monitored and meets the applicable numeric action levels; and
7. The discharger reports the sampling information in the Annual Report.

Dischargers are required to electronically submit a notice of intent (NOI) and permit registration documents (PRDs) in order to obtain coverage under this Construction General Permit. Dischargers are responsible for notifying the RWQCB of violations or incidents of non-compliance, as well as for submitting annual reports identifying deficiencies of the BMPs and how the deficiencies were corrected. The risk assessment and SWPPP must be prepared by a state Qualified SWPPP Developer and implementation of the SWPPP must be overseen by a state Qualified SWPPP Practitioner. A Legally Responsible Person, who is legally authorized to sign and certify PRDs, is responsible for obtaining coverage under the permit.

NPDES Phase II Small MS4 General Permit

The City prepared a Stormwater Management Program (SWMP) to comply with the Phase II Small Municipal Separate Storm Sewer System (MS4) NPDES permit (Water Quality Order No. 2013-0001-DWQ) issued by the State Water Resources Control Board, effective July 1, 2013. The permit contains a comprehensive plan to reduce the discharge of pollutants to the "maximum extent practicable" and mandated that participating municipalities implement an approved stormwater management plan. The program incorporates BMPs that include construction controls (such as a model grading ordinance), legal and regulatory approaches (such as stormwater ordinances), public education and industrial outreach (to encourage the reduction of pollutants at various sources), inspection activities, wet-weather monitoring, and special studies.

USEPA and the SWRCB have determined that a SWMP will be considered to reduce pollutants to the "maximum extent practicable" (MEP) if it fulfills the following minimum control measures (MCMs): 1) Public Education and Outreach, 2) Public Participation and Involvement, 3) Illicit Discharge Detection and Elimination, 4) Construction Site Runoff Control, 5) Post-Construction Stormwater Management and 6) Pollution Prevention/Good Housekeeping for Municipal Operations

To fulfill each of the six minimum control measures and reduce pollutants to achieve the MEP, MS4s are required to develop and implement BMPs and measurable goals. BMPs consist of structural and non-structural activities that address stormwater. The BMPs in this SWMP were selected using a process based on EPA guidance documents, the MS4 General Permit, and on factors specific to the County and the regulated communities.

NPDES General Industrial Permit for Storm Water Runoff

The NPDES General Industrial Permit regulates storm water discharge associated with ten broad categories of industrial activity within California. The General Industrial Permit requires the implementation of management measures that will achieve the performance standard of best

available technology economically achievable and best pollutant control technology. The General Industrial Permit also requires the development of a SWPPP and a monitoring plan. Category 9, Sewage and Wastewater Treatment Works includes facilities used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage and land designated to the disposal of sewage sludge that are located within the confines of a facility with a design flow of one million gallons per day or more are required to have an approved pretreatment program under 40 CFR Part 403 (SWRCB, 2009). The City would be required to revise and renew the General Industrial Permit for the WWTP to include the new proposed facilities.

SWRCB WDRs for Construction Dewatering

Construction of the proposed project may require dewatering during excavation for new facilities. Discharge of the removed waters requires waste discharge requirements (WDRs) from the SWRCB. Dewatering discharges are considered a low-threat discharge if the groundwater does not contain significant quantities of pollutants that would violate the provisions of the Basin Plan. The dewatering discharges for the proposed project would be considered low-threat discharges and would be covered under the SWRCB General Waste Discharge Requirements for Discharges to Land with a Low Threat to Water Quality (Water Quality Order No. 2003-003-DWQ) or discharged to surface waters in accordance with the Central Coast Regional Water Quality Control Board's General Waste Discharge Requirements for Discharges with Low Threat to Water Quality (Water Quality Order No. R3-2006-0063). Coverage under the General WDRs requires the City to file a Notice of Intent to comply with the general order and a discharge monitoring plan (DMP) with SWRCB. The City would be required to comply with the terms and conditions of the General WDRs and DMP issued by SWRCB to avoid impacts to surface and groundwater quality.

Local

San Luis Obispo County Environmental Health Services Well Program

The County Environmental Health Services Well Program provides the regulatory oversight to permit the construction and installation of community water supply wells, individual domestic wells, industrial wells, agricultural wells, cathodic protection wells, electrical grounding wells, test and exploratory holes, observation wells and salt water (hydraulic) barrier wells. The Program also covers destruction of existing wells. Contractors are required to submit permit application and meet all well construction requirements for the drilling method and well design requirements.

City of Morro Bay Storm Water Management Plan

As noted above, the SWMP was prepared by the City of Morro Bay to comply with mandatory requirements of the USEPA NPDES Phase II Final Rule and the SWRCB General Construction Permit. The SWMP, last updated in 2013, provides an integral approach for the prevention of pollution from storm water runoff in Morro Bay. The program is managed by the City Public Works Department and implemented by the Harbor Department, Recreation and Parks, and staff from the Public Works Department. The SWMP meets the four additional conditions required by the CCRWQCB: (1) maximize infiltration of clean storm water, and minimize runoff volume and

rates, (2) protect riparian areas, wetlands, and their buffer zones, (3) minimize pollutant loading and (4) provide long-term watershed protection.

City of Morro Bay Stormwater Control Ordinance

The purpose of Chapter 14.48 Building Regulations—Stormwater Control, of the Morro Bay Municipal Code is to prevent water quality degradation and prevent damage to property from increased runoff rates and volumes. In accordance with Chapter 14.48, the SWPPP for the proposed project would need to be approved by the City prior to commencement of construction activities (14.48.020 E.). In addition, Chapter 14.48 requires management of peak runoff from development and redevelopment sites to prevent significant increases in downstream peak flows. A significant increase in peak flow for 2-year, 10-year, 50-year, and 100-year events is considered to be over five percent at and immediately downstream of the project site (14.48.020 C.).

City of Morro Bay Flood Damage Prevention Ordinance

The purpose of Chapter 14.72 of the City's Municipal Code is "to promote public health, safety and general welfare, and to minimize public and private losses due to flood conditions in specific areas" (14.72.010 C.). The proposed project is considered nonresidential construction, and as such, the following provisions are applicable:

> 14.72.050 A.3. b. Nonresidential construction, new or substantial improvement, shall either be elevated to [at least one foot above the base flood elevation] or together with attendant utility and sanitary facilities:
>
> i. Be floodproofed…so that the structure is watertight with walls substantially impermeable to the passage of water;
>
> ii. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and
>
> iii. Be certified by a registered professional engineer or architect retained by the applicant that the standards of subsection (A)(3)(a) are satisfied.

City of Morro Bay Sewer System Management Plan

The preparation and implementation of the City of Morro Bay's Sewer System Management Plan (SSMP) is required by the SWRCB to fulfill the requirements of the State General Waste Discharge Requirements (WDR) for Sanitary Sewer Systems, Order No. 2006-003. The WDR requires the City as the owner and operator of the sanitary sewer system to develop and implement a system-specific SSMP. SSMPs must include provisions to provide proper and efficient management, operation, and maintenance of sanitary sewer systems, while taking into consideration risk management and cost benefit analysis. Additionally, an SSMP must contain a spill response plan that establishes standard procedures for immediate response to a sanitary sewer overflow in a manner designed to minimize water quality impacts and potential nuisance conditions. The WDR also requires the SSMP include the development and implementation of a Fats, Oils and Grease (FOG) Control Program, which describes procedures for identifying the primary dischargers of FOG to the system and measures to reduce or eliminate FOG from the system. The City is required to revise and adopt an updated SSMP every five years. The latest SSMP was adopted by the City Council in 2014.

3.9.3 Impacts and Mitigation Measures

Significance Criteria

Appendix G of the *CEQA Guidelines* recommends significance criteria for the evaluation of impacts related to hydrology and water quality in the project area. This Draft EIR assumes implementation of the proposed project would have a significant impact related to hydrology and water quality if it would:

- Violate water quality standards or waste discharge requirements;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or offsite;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;
- 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;
- Otherwise substantially degrade water quality;
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows;
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or
- Result in inundation by seiche, tsunami or mudflow.

Methodology

General

Information for this assessment of impacts relative to hydrology and water quality is based on the project design features, a review of available literature (hydrology and water quality reports and maps), groundwater modeling (discussed below), and the regulatory requirements summarized in the Regulatory Framework. The impact analysis discusses the potential effects of the proposed project on hydrology and water quality according to the key issue areas identified in Appendix G of the *CEQA Guidelines* and corresponding to the significance criteria identified above.

The proposed project would be regulated by the various laws, regulations, and policies summarized in the Regulatory Framework. Compliance by the project with applicable federal, state, and local laws and regulations is assumed in this analysis, and local and state agencies would be expected to continue to enforce applicable requirements to the extent that they do so now. Note that compliance with many of the regulations is a condition of permit approval.

Additionally, it is assumed that the City would require its pipeline engineers and construction contractors to adhere to the American Water Works Association (AWWA; see discussion further below) standards, or its equivalent for pipeline construction.

A significant impact would occur if, after considering the features described in Chapter 2, Project Description and the required compliance with regulatory requirements, identified significance thresholds are exceeded. For those impacts considered to be significant, mitigation measures are proposed to reduce the identified impacts.

Groundwater Modeling

A screening level groundwater model was developed for the proposed project to determine the feasibility of the proposed injection and extraction of advanced treated recycled water (GSI, 2017) (see Appendix G to this Draft EIR). The modeling effort evaluated the feasibility of injecting 825 acre-feet per year (AFY), determined the maximum annual production (extraction) capacity of the existing wells without causing seawater intrusion, and the ability to satisfy the CCR Title 22 minimum response retention time requirements for the injected recycled water. The model and results are summarized below.

Purpose and Objectives

Groundwater modeling was conducted to evaluate the response of the aquifer to the injection and extraction of treated recycled water (GSI, 2017). Prior to the modeling, aquifer testing was conducted on the existing city wells to better quantity the parameters of the aquifer to be used for injection, including the horizontal and vertical hydraulic conductivity, as discussed above in the Environmental Setting. That information was reported in the groundwater modeling report and used to design the model.

The primary purpose of the groundwater model was to quantify the retention time. As discussed in the Regulatory Framework, GRRP by Subsurface Application requires that the injected water be retained in the aquifer for a minimum of 2 months in order to provide an environmental buffer. The buffer allows for further treatment of the injected water and provides time to adjust operations if needed in an emergency.

The objectives of the modeling were to evaluate the feasibility of:

- Injecting 825 AFY of treated recycled water in the aquifer
- Sustaining the annual production capacity of the City wells without causing significant seawater intrusion
- Satisfying Title 22 minimum response retention time requirements for the injected recycled water

General Description of a Groundwater Model

Groundwater models are computer simulations that represent water flow in the environment using mathematical equations. By mathematically representing a simplified version of a hydrogeological system, the effects of groundwater pumping scenarios can be simulated, evaluated, and compared to determine their effects on an aquifer system. The applicability or

usefulness of the model depends on how closely the mathematical equations approximate the essential characteristic of the groundwater system being modeled.

Groundwater models consist of individual cells in a model domain. A domain is the entire area and depth within which the model simulates subsurface conditions. The domain is made of smaller units called cells, which represent a defined three-dimensional area, the size of which is dependent on the coverage area of the model. For example, models that cover an entire groundwater basin of many square miles may have cells that represent one square mile area each, while models designed to evaluate smaller areas have cells representing only 200 square feet. Each cell contains information about the occurrence and flow of groundwater at that particular location. Using subsurface hydrogeological information from soil borings, well logs, geologic mapping, and aquifer testing, each cell is assigned, or populated with, parameters to describe how water moves through that cell. Parameters typically include hydraulic conductivity (the ability of water to flow through a given material), permeability and porosity (the relative amount of open spaces between grains in the geologic material), and the direction of water flow into and out of each of the model cells. Vertical layers are then established based on the subsurface geologic characteristics, such as permeable aquifer zones and less permeable aquitards. After the cells are populated, the model is then tuned or calibrated with actual groundwater information (depth, hydraulic conductivity, etc.), so that the model can better represent real world conditions.

Once the model has been populated and tuned, it can be used to predict the effects of hydrological changes, like groundwater extraction, on the behavior of the aquifer or aquifers. As previously noted, the model used for this analysis estimated the retention time under several operating scenarios, discussed further below.

Limitations of Groundwater Models

Groundwater models simulate aquifer conditions based on a specific set of data that describes parameters such the subsurface characteristics, groundwater flow, and pumping rates. The more robust the data set, the more capable the model will be to accurately simulate subsurface conditions. Most groundwater models use conservative input parameters so that the output overstates the actual aquifer response. Nevertheless, groundwater models are mathematical-based computer programs that rely on input parameters and, consequently, there is a degree of uncertainty. However, the model code described below was developed by the USGS and has been in use and updated for many years. In addition, the model used input data derived from site-specific subsurface information, including the aquifer testing. Given that, and given the fact t the model was calibrated with known data, the level of degree of uncertainty for this analysis is considered reasonable.

Model Description

The groundwater modeling was constructed using MODFLOW-2000, a block-centered, modular finite-difference groundwater flow code developed by the United States Geologic Survey (USGS) (GSI, 2017). The modeled area covered about 742 acres with a grid consisting of 122 rows in the northeast to southwest direction and 106 columns in the northwest to southeast direction for a total of 38,796 cells. The active model area of 538 acres consisted of 22,454 model cells with

each model cell representing an area of 50 feet by 50 feet. The model grid was divided into three layers as follows:

- Layer 1: Ocean (offshore only)
- Layer 2: Upper Portion of Aquifer
- Layer 3: Lower Portion of Aquifer (main groundwater production zone)

As discussed in the Environmental Setting, aquifer has a large permeability contrast between the upper and lower aquifer zones requiring the use of two model layers (Layers 2 and 3).

Four scenarios were modeled that used changes in injection locations and the number of wells. The results of the scenarios estimated the retention time, the flow paths of water, and the potential for exacerbating seawater intrusion from either of the proposed injection fields shown on Figure 2-2. The modeled scenarios are listed as follows:

- Scenarios 1A (utilizing 5 extraction wells) and 1B (utilizing 6 extraction wells) evaluated recycled water injection upgradient (east) of the City's existing wells, near the Narrows.
- Scenarios 2A (utilizing 4 extraction wells) and 2B (utilizing 5 extraction wells) evaluated recycled water injection cross-/downgradient (south) of the City's existing wells.

Model Results and Recommendations

The modeled retention time under each of the four scenarios are listed in **Table 3.9-5**. The minimum allowable response residence time is 2 months. The DDW requires that if groundwater modeling is utilized for permitting, a safety factor of two is required, hence, 4 months of retention time must be demonstrated. The estimated minimum retention time for some of the scenarios are less than 4 months but always greater than 2 months. Thus, the modeling results suggest that it may be possible to meet the minimum required retention time. However, because some of the retention times are less than 4 months, groundwater modeling alone may not be sufficient for permitting.

TABLE 3.9-5 ESTIMATED RETENTION TIMES

Scenario	Injection (AFY)	Pumping (AFY)	Minimum Retention Time (months)	
			Wet	Dry
1A	825	943	3 to 4	Greater than 4
1b	825	1,193	2 to 3	3 to 4
2A	801	1,119	2 to 3	3 to 4
2B	814	1,305	2 to 3	3 to 4

NOTES:
AFY = acre-feet per year
SOURCE: GSI, 2017

Of the modeled scenarios, Scenario 1A provided the longest estimated retention time. **Figures 3.9-5 and 3.9-6** illustrate the modeled flow paths from the injection wells to the extraction wells during dry and wet periods, respectively. The model creates the flow paths by tracking a particle of water from the injection point to the extraction point. Note that the modeled retention times range from about 4 to 8 months. The retention times were less for all other scenarios. Of the four modeled scenarios, Scenarios 1A and 1B indicated that the 825 AFY injection goal could be achieved, whereas Scenarios 2A and 2B indicated that there may be times when injection would need to be curtailed by an estimated 2 to 5 percent due to high groundwater levels that could occur during wet periods. The model was also used to assess the potential for the proposed project to exacerbate seawater intrusion by tracking several particles of water from near the shore. The results indicated that seawater intrusion would not be exacerbated by the proposed project under Scenarios 1A, 1B, and 2A. Seawater intrusion was observed to be exacerbated under Scenario 2B. In summary, the model results concluded that:

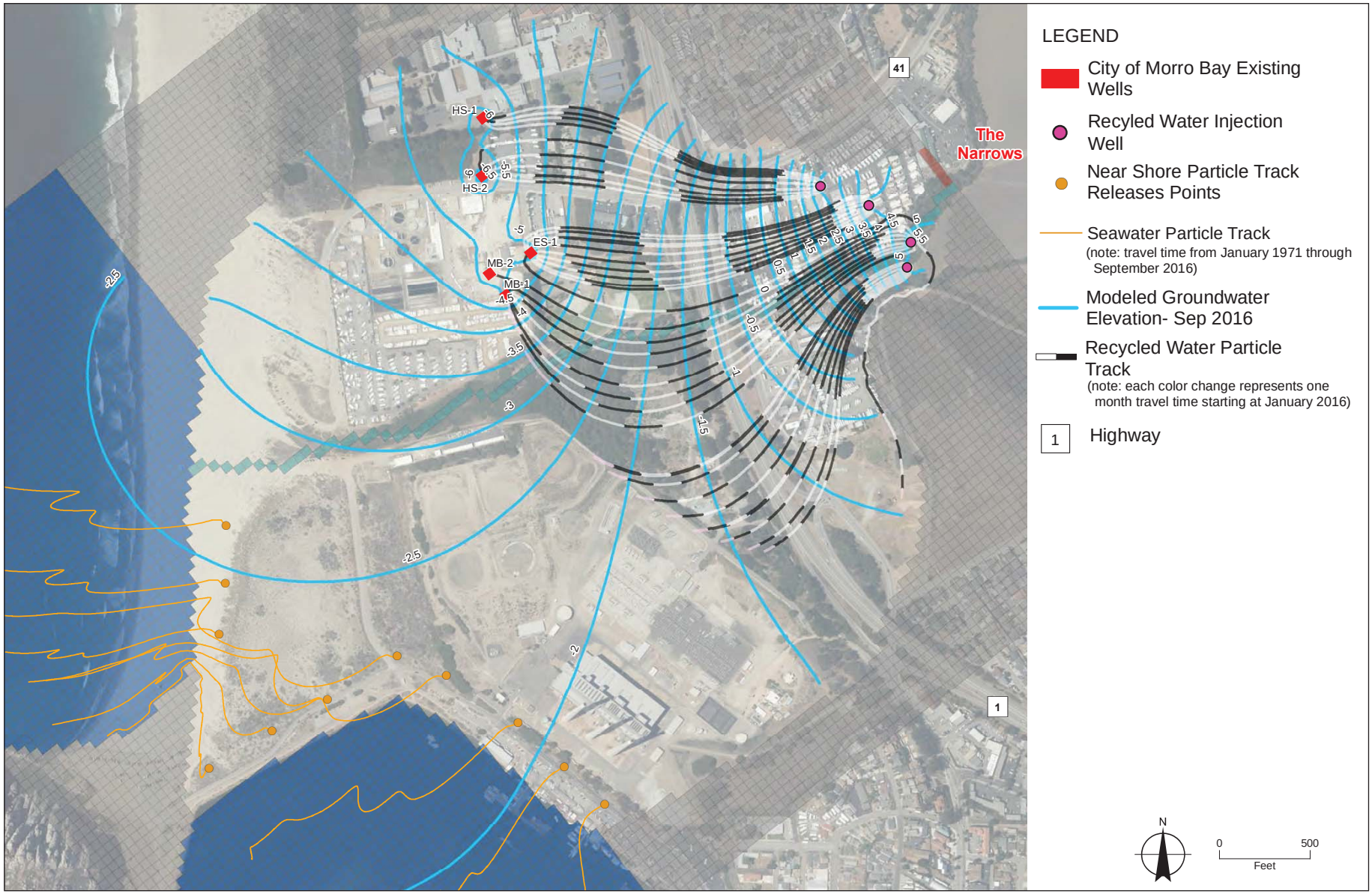
- It is likely feasible for the aquifer to accept 825 AFY of treated recycled water
- A minimum of four injection wells would likely be needed to achieve the desired treated recycled water injection capacity
- Depending on the injection well locations, up to approximately 1,200 AFY of groundwater could potentially be produced for potable supply without the model indicating seawater intrusion would occur
- The 2-month minimum subsurface recycled water response retention time required under 22 CCR will likely be met.

Based on the screening evaluation, the model report provided the following recommendations:

- Conduct a preliminary consultation with DDW regarding permitting considerations.
- Implement a pilot injection program. The pilot program would consist of constructing a pilot injection well and monitoring wells, baseline groundwater monitoring, and long-term injection pilot tests. The purpose of the pilot program would be to validate the screening modeling results and provide a design basis for the full scale project and permitting.

American Water Works Association Standards for Proposed Recycled Water and Potable Water Pipelines

Pipelines are constructed to various industry standards. The AWWA is a worldwide nonprofit scientific and educational association that, among its many activities, establishes recommended standards for the construction and operation of public water supply systems, including standards for pipe and water treatment facility materials and sizing, installation, and facility operations. While the AWWA's recommended standards are not enforceable code requirements, they nevertheless can dictate how pipelines for water conveyance are designed and constructed. The City has committed to requiring its contractors to incorporate AWWA Standards into the construction of the proposed recycled water and potable water pipelines.

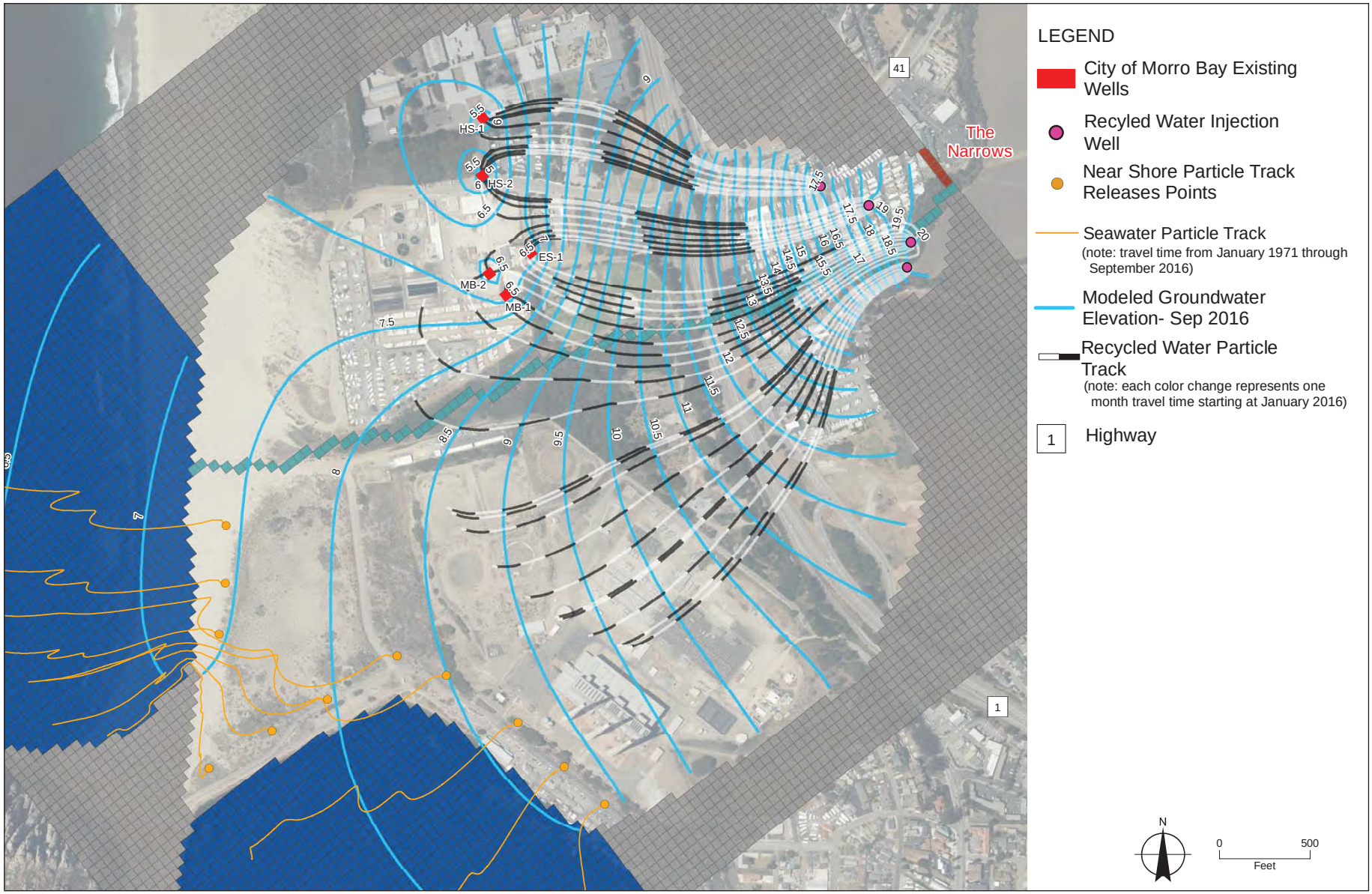


SOURCE: GSI, 2016

Morro Bay Water Reclamation Facility Project . 150412

Figure 3.9-5

Recycled Water Response Retention Time
Scenario 1A During Dry Periods



SOURCE: GSI, 2016

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Figure 3.9-6

Recycled Water Response Retention Time
Scenario 1A During Dry Periods

Issues Not Discussed in Impacts

Due to the nature of the project, there would be no impact related to the following topics for the reasons described below:

- ***Housing in flood zone***: The proposed project does not involve construction of any housing within a 100-year flood hazard area. There would be no impact relative to residential units. This issue is not discussed further as there would be no impact.

- ***Failure of a levee or dam***: The proposed project would not expose people or structures to a significant risk of loss, injury, or death involving flooding due to failure of a levee or dam. The WRF and associated facilities are not located near a levee or dam nor would it involve construction or other activities that would alter the stability of any levee or dam, or any other flood control structure. This issue is not discussed further as there would be no impact.

Impact Analysis

Water Quality Standards and Waste Discharge Requirements

Impact 3.9-1: As a Groundwater Recharge Reuse Project, the proposed project would inject advanced treated recycled water into the Morro Valley Groundwater Basin for subsequent withdrawal as potable water supply. The proposed project would not result in violating water quality standards or waste discharge requirements or otherwise substantially degrade water quality. This would be a Class III impact, Less than Significant.

Construction of All Facilities

Until operational and treated recycled water is injected into the aquifer, the proposed project would not affect groundwater quality and there would be no impact.

Operation

All Facilities except Injection Wells

Only the injection wells would involve the potential to affect groundwater quality. All other facility components would not affect groundwater quality and there would be no impact.

Injection Wells

The proposed project would inject advanced treated recycled water into the Morro Valley Groundwater Basin for subsequent withdrawal as potable water supply. If not properly managed, the injection of treated water could adversely affect groundwater quality by adding chemicals not presently in groundwater or causing a chemical reaction that degrades the existing water quality.

As discussed in Chapter 2.0 Project Description, prior to injection, the recycled water would be treated to tertiary standards, followed by additional treatment using microfiltration, reverse osmosis (RO) and advanced oxidation with ultraviolet radiation (UV), and an oxidant. Microfiltration filters out bacteria, protozoa, and solids; followed by RO to filter out viruses, salts, and organic contaminants; followed by advanced oxidation to destroy remaining trace contaminants and provide the final disinfection (TrojanTech, 2015). The use of advanced oxidation at the end of the treatment process is to remove nitrosamines, chemicals of emerging

concern[2] such as pharmaceuticals, and industrial solvents. In addition, the use of oxidation is effective in destroying microorganisms such as Cryptosporidium and Giardia. The combination of these post-tertiary advanced water treatment methods is required by the DDW for indirect potable reuse water projects using injection wells.

In addition to the treatment processes described above, the proposed project would also require retention time in the aquifer, as described above in the Methodology subsection. As previously discussed, the groundwater modeling indicates that Scenarios 1A and 1B would likely result in sufficient retention time to comply with DDW regulations. The City recognizes the DDW may require more stringent analysis of the retention time for permitting. In response, the City will be required to conduct tracer tests to further refine the estimated travel time. That test would include the installation of injection wells, in application of a tracer chemical in groundwater, and the monitoring of the existing extraction wells to measure the retention time. Those data would define the minimum distance between the injection and extraction wells, as required by the DDW.

With compliance with the existing regulations, the injection of treated recycled water into the aquifer would not degrade water quality and the impact would be less than significant.

Mitigation Measures

None required.

Significance Determination

Less than Significant

Impact 3.9-2: The proposed project could degrade surface water or groundwater quality in the event of pipeline rupture or accidental spill. Implementation of regulatory requirements, including a leak detection system and preventative maintenance program for new proposed project pipelines would ensure water quality in the project area is not adversely affected. This is a Class III impact, Less than Significant.

Construction of All Facilities

Construction of the proposed project would involve earthmoving activities such as excavation, grading, soil stockpiling, and filling. Construction activities could result in soil erosion and the subsequent discharge of sediment to down gradient surface waters or drainages (i.e., Morro Creek, Chorro Creek, and Estero Bay). Sedimentation of down gradient waterways could degrade water quality and affect the associated beneficial uses. Construction activities would also involve the use and handling of chemicals such as, but not limited to, oil, fuels, and lubricants. In the event of accidental release of such chemicals, such as spills during fueling of equipment or vehicles, the chemicals could come into contact with storm water runoff and flow into the nearby

[2] Chemicals of emerging concern are man-made chemicals that have made their way into drinking water supplies but have not been previously regulated or studied at length. The chemicals include pharmaceuticals, personal care products, and various industrial chemicals.

water bodies, thus affecting surface water quality and or absorb into the soil and affect groundwater quality. That would be a potentially significant impact to water quality

Prior to the start of the proposed project construction, the City would be required to obtain coverage under the NPDES General Construction Permit and prepare NOI, Risk Assessment, and a SWPPP since the construction areas would be greater than one acre in size. The SWPPP would include BMPs to control erosion, sedimentation, and hazardous materials release, appropriate to the project's risk level. The CCRWQCB also would require that the SWPPP contain the necessary BMPs to meet its waste discharge requirements. In addition, construction of the proposed project is also subject to the BMPs included in the City's SWMP to control runoff and protect water quality during the construction period. In accordance with the City of Morro Bay's Municipal Code for Building Regulations—Stormwater Control (Chapter 14.48), the SWPPP would need to be approved by the City prior to commencement of construction activities (14.48.020 E.). Implementation of these BMPs during construction would ensure storm water runoff would not violate any water quality standards or waste discharge requirements.

Injection and monitoring wells would be required to adhere to well permitting requirements issued by the County Environmental Health Services Well Program. Well permit requirements would include measures that ensure the protection of water quality during the construction of any wells.

Project construction could require dewatering of groundwater during excavation phases to complete any subsurface improvements. Compliance with the required SWRCB Low-Threat General WDRs for construction dewatering would ensure impacts to water quality from construction dewatering discharges are less than significant. The General WDRs would require a Detection Monitoring Program (DMP) and may require treatment of dewatering discharges depending on water quality of the groundwater. Compliance with these existing regulations would ensure construction dewatering would have a less than significant impact on water quality.

Operation

WRF

The proposed WRF would meet advanced water treatment standards (tertiary treatment plus RO/UV/advanced oxidation) as required by 22 CCR recycled water quality control requirements for unrestricted use. The new WRF facilities would allow the City to discharge the advanced treatment recycled water for groundwater injection and indirect potable reuse, as well as direct discharge to Estero Bay through the existing ocean outfall if necessary, such as during periods of high groundwater levels. In addition, brine and wet weather flows would be discharged through the existing ocean outfall. Therefore, relative to the existing ocean discharge from the existing WWTP, the proposed project would decrease the volume of effluent currently discharged to Estero Bay under expected normal operating conditions when recycled water is used for groundwater replenishment and brine is discharged through the outfall. Even under conditions when recycled water is discharged through the outfall, water quality would be improved due to the addition of advanced treatment at the proposed WRF. As currently required for any water that is discharged to Estero Bay, the effluent would be required to adhere to the requirements of the Ocean Plan which would be included in the WRF's NPDES permit. The WRF effluent would be

required to meet the Secondary Treatment Regulation of 40 CFR Part 133. The WRF facilities would be subject to these treatment standards as a condition of the NPDES permit, requiring the facility to remove, as a 30-day average, at least 85 percent of both TSS and BOD_5 from the influent stream before discharging wastewater to the ocean. In addition, the 30-day average effluent limit would be 30 mg/L for both TSS and BOD_5 (40CFR Part 133.) Therefore, as required by the required operational permits, the discharge of brine and wet weather flows would be in compliance with NPDES and Ocean Plan effluent discharge requirements.

The proposed WRF would also be subject to regulation by an NPDES General Industrial Permit for WWTPs, which requires implementation of Best Available Technology (BAT) and Best Control Technology (BCT) design measures to control the quality of storm water runoff from industrial land uses. The General Industrial Permit also requires the preparation of a SWPPP and a monitoring plan. The SWPPP must identify the sources of pollutants and the means to manage the sources to reduce storm water pollution. The City would be required to submit a new NOI to comply with the General Industrial Permit for the proposed new WRF following completion of the proposed project.

The WRF is also subject to the BMPs included in the City of Morro Bay's SWMP, including any relevant post-construction BMPs to control runoff and protect water quality. Provision E.12 of the NPDES MS4 Permit requires the project to implement both source control measures and low impact design (LID) standards for post-construction stormwater treatment. As shown on **Figure 2-4**, the WRF design would include a stormwater management system that would route offsite stormwater around the WRF, and capture all onsite stormwater for percolation onsite or use within landscaping. Stormwater within the immediate areas of WRF processes will be drained to the WRF headworks for treatment. The storm system would comply with the City's NPDES MS4 and SWMP requirements. Therefore, compliance with existing regulatory requirements for the design and operation of the WRF would ensure that project operation does not impact water quality standards or violate waste discharge requirements. Impacts to water quality would be less than significant

Lift Station

The proposed lift station would be constructed to convey up to 7.05 MGD of wastewater uphill to the new WRF. Although relatively small (approximately 500 square feet), the proposed lift station would be required to adhere to NPDES MS4 storm drainage requirements as discussed above. Otherwise, there would be no other direct discharges associated with the lift station. Operation of the lift station may, however, include use of calcium ammonium nitrate or some other product for the purpose of odor control. Mismanagement of any chemicals or products used for odor control could be released causing adverse effects to workers, the public, or the environment. However, all activities associated with odor control and any other maintenance activities at the lift station would adhere to the Hazardous Materials Management Plan that would be required for all operational aspects of the project (See also discussion of hazardous materials handling in Chapter 3.8, Hazards and Hazardous Materials). Compliance with existing hazardous materials handling, storage, and disposal regulatory requirements would ensure that potential water quality impacts would be less than significant.

Conveyance Pipelines

The proposed raw wastewater and waste discharge conveyance pipelines would be completed below the ground surface using AWWA standards. Any failure of the raw wastewater pipeline (force main) could adversely affect groundwater quality through the inadvertent release of untreated wastewater to the subsurface. This would result in a potentially significant impact to water quality.

However, the most frequently used materials for wastewater force mains are ductile iron, high density polyethylene, cement morter-lined steel, and polyvinyl chloride (PVC). Ductile iron pipe has particular advantages in wastewater collection systems due to its high strength and high flow capacity with greater than nominal inside diameters and tight joints. For special corrosive conditions and extremely high flow characteristics, polyethylene-lined or epoxy-lined ductile iron pipe and fittings are widely used. Force mains are very reliable when they are properly designed and maintained (EPA, 2010). For the proposed project, the conveyance pipelines would be constructed in accordance with current industry practices and engineering standards by a qualified Civil Engineer, including a leak detection system. The leak detection system would use pressure gauges and flow meters to constantly monitor pipeline pressure and identify leaks early so that repairs would be made and pipeline failures would be avoided. The City's SSMP (2014) provides the framework for implementing preventative operation and maintenance activities on daily, monthly, semi-annually, and annual time steps. Such activities include daily lift station checks, daily sewer line cleaning, and daily CCTV (closed-circuit TV) inspections. The monitoring and inspection efforts are recorded and inform the City's plans for rehabilitation and replacement projects. The preparation and implementation of the SSMP is required by the SWRCB to fulfill the requirements of the State General Waste Discharge Requirements for Sanitary Sewer Systems, Order No. 2006-003. The City is required to revise and adopt an updated SSMP every five years. With implementation of regulatory requirements for system preventative maintenance and operation, there would be a less than significant impact to water quality.

Injection and Monitoring Wells

As previously discussed in Impact 3.9-1, the proposed WRF would allow the City to meet advanced treatment standards as required by 22 CCR recycled water quality control requirements for unrestricted use. 22 CCR Article 5.2 *Indirect Potable Reuse: Groundwater Replenishment – Subsurface Application* includes the water quality requirements that are necessary for a project sponsor to be permitted to inject advanced treated recycled water into the subsurface. Consequently, in the event that injection or monitoring wells leaked, the leaked fluid would be water treated to advance treatment standards meeting all drinking water standards. Therefore, the leaked water would not adversely affect water quality and the impact would be less than significant. In addition, and as previously discussed in the Methodology section, the injection of advanced treatment recycled water would aid in limiting any further seawater intrusion, which would benefit water quality.

Decommissioning of Current WWTP

Once the demolition and decommissioning of the WWTP is completed, that site would be graded to conform with the basic drainage pattern of the surrounding area and be surfaced with a thin layer of gravel. In accordance with the City's Stormwater Control Ordinance and Storm Water

Management Plan, the vacant site would be designed to meet requirements to minimize increases in peak runoff volumes and rates, maximize infiltration of clean storm water, and minimize pollutant loading in storm water. Compliance with such regulatory requirements would result in less than significant impacts to water quality in the long-term due to decommissioning of the WWTP.

Mitigation Measures

None required.

Significance Determination

Less than Significant

Groundwater Supplies

Impact 3.9-3: As a Groundwater Recharge Reuse Project, the proposed project would inject advanced treated recycled water into the Morro Valley Groundwater Basin for subsequent withdrawal as potable water supply. The project would not result in a net deficit in aquifer volume or lowering of the local groundwater table. This would be a Class III impact, Less than Significant.

Construction of All Facilities

The proposed project would be built in areas where groundwater levels are likely to be relatively shallow. As a result, temporary dewatering activities may be necessary in order to complete construction of some subsurface elements such as foundations, utility connections, pipelines, and improvements associated with the lift station. However, any dewatering that may be necessary would be temporary and not result in any permanent change to the underlying water table level or availability of groundwater supplies. The impact during construction would be less than significant.

Operation

WRF

The proposed WRF would introduce new impervious surfaces on land currently covered in pervious surfaces. As a result, there would be a reduction in the ability to allow for onsite infiltration of stormwater. However, development of the proposed WRF would be required to adhere to the Low Impact Development (LID) stormwater drainage control requirements of the NPDES MS4 permit, which minimizes the amount of new impervious surfaces and requires drainage features that infiltrate stormwater runoff onsite. Accordingly, as mentioned in Chapter 2, Project Description, the WRF design would include new stormwater detention basins; these basins would allow for percolation and onsite landscaping, similar to existing conditions. As a result, the proposed WRF would not reduce the infiltration of stormwater to the underlying groundwater basins. There would be no changes in the groundwater table or aquifer volume, and impacts would be less than significant.

Lift Station

The proposed lift station would have a relatively small footprint (approximately 500 square feet). Depending on lift station location, this could result in a small change from pervious to impervious surfaces. That change would be considered negligible with respect to interference with stormwater infiltration. The proposed lift station would not substantially alter groundwater levels, and the impact would less than significant.

Conveyance Pipelines

The proposed pipelines would be located in areas where both pervious and impervious surfaces occur within the footprint of disturbance. However, once construction is completed the cover would be restored to match existing conditions such that there would be no change in the amount of surface runoff that is able to recharge into the underlying aquifer due to permeability of surface materials (See also discussion in Chapter 3.8 Geology, Soils and Seismicity and Mitigation Measure GEO-2). There would be no impact to the groundwater table or aquifer volume.

Injection and Monitoring Wells

The impervious footprint of the proposed injection or monitoring wells would not be large enough to interfere substantively with groundwater recharge owing to the fact those are largely vertical subsurface improvements.

In operation, the injection of advanced treated recycled water could raise the water table such that adverse effects (*i.e.*, seepage and/or flooding of subsurface improvements) could result to land uses in the area if not managed appropriately, especially during years of higher than average precipitation. Historical groundwater monitoring data indicate that groundwater levels fluctuate from approximately 10 to 18 feet below ground surface. According to the groundwater modeling conducted for the project, injection of the treated recycled water at the proposed IPR East injection well area (Scenarios 1A and 1B) would not be expected to result in water levels approaching the ground surface. The groundwater modeling results did indicate, if the proposed IPR West injection well area is used (Scenarios 2A and 2B), then it could be necessary to reduce the maximum amount of advanced treated recycled water injected to the groundwater basin by 2 to 5 percent during wet periods. However, the monitoring wells required by the GRRP regulations would include the ability to monitor groundwater levels to ensure that such adverse effects of a high groundwater table do not occur, which would be incorporated into the Title 22 Engineering Report. The recycled water distribution system would be designed to convey water for injection, or as could possibly occur in wet weather conditions, to the ocean outfall as warranted by operational conditions. With compliance with the operational requirements identified by the Title 22 Engineering Report, the monitoring program would be developed with actionable triggers to modify operations such that adverse water levels do not occur. As a result, the potential impact related to a lowering of the groundwater table would be less than significant.

Decommissioning of Current WWTP

As noted above, the decommissioning of the current WWTP would remove all of the existing impervious surfaces and result in a net increase in the amount of pervious surfaces that could provide infiltration. As a result, there would be no interference with groundwater recharge; rather the additional potential for stormwater infiltration may augment groundwater replenishment and

offset small increases in new impervious surfaces caused by the lift station and injection wells. The decommissioning of the WWTP would not lower the local groundwater table or cause a net deficit in aquifer volume; the impact would be less than significant.

Mitigation Measures

None required.

Significance Determination

Less than Significant

Alteration of Drainage Patterns

Impact 3.9-4: Installation of the proposed project components would alter topography and drainage patterns at each site; however, compliance with the City's Storm Water Management Plan and other NPDES regulatory requirements would minimize erosion, siltation, and flooding onsite and offsite. Implementation of mitigation requiring post-construction restoration of conveyance pipeline alignments would also ensure long-term impacts associated with erosion, siltation or flooding during storm events would be minimized. This is a Class II impact, Less than Significant with Mitigation.

Construction of All Facilities

The construction of all proposed project facilities would require ground disturbance, including grading and excavation. Those activities would potentially alter site topography and slope temporarily, which could affect site drainage patterns. In particular, the WRF site includes a hillside area with approximately 10 to 25 percent slope (Yeh, 2017). Without control of stormwater runoff during construction, exposed soils could be subject to erosion, resulting in siltation at neighboring drainages such as the unnamed tributary to Chorro Creek near the WRF site and Morro Creek near the conveyance pipeline crossings. That is a potentially significant impact.

As noted above, all construction activities would be required to obtain coverage under the NPDES General Construction Permit. As part of the permit requirements, the contractor would prepare and implement a SWPPP, which would include BMPs to control erosion, sedimentation, and stormwater runoff during construction. Implementation of these BMPs would protect water quality during the construction period and minimize the potential for erosion or siltation. These measures would also be effective to protecting flooding either on- or off-site. Therefore, the potential impacts to erosion, siltation, or flooding from altered drainage patterns during construction would be less than significant.

Operation

WRF

The preferred WRF site is located on currently vacant hillside rangeland that is entirely pervious. The introduction of new impervious surfaces that are graded and flat would change drainage

patterns at the site and potentially cause erosion, siltation, or flooding if the control of stormwater runoff from the site is not designed appropriately. That is a potentially significant impact.

The proposed WRF would be required under the NPDES General Industrial Permit for WWTPs and the City's SWMP to implement BAT and BCT design measures to control both the quality and quantity of storm water runoff from the site. The City would be required to submit a new NOI to comply with the General Industrial Permit for the proposed new facility following completion of the proposed project. Prior to proposed project approval, the WRF design would be required to include drainage control features that would minimize the potential for erosion or siltation and provide the volume control to ensure that post-project flows do not exceed existing runoff volumes. Therefore, compliance with existing regulatory requirements for the design and operation of the WRF would ensure that project operation would have a less than significant impact related to erosion, siltation, or flooding either on- or off-site.

Lift Station and Injection and Monitoring Wells

The proposed lift station and the injection and monitoring wells would be relatively small and would not substantively alter drainage patterns at each site. In addition, the proposed facilities would be required to adhere to any applicable drainage control requirements from the City's SWMP, which complies with the NPDES MS4 permit. Therefore, the design of the proposed facilities would be required to include drainage control features that would contain or direct stormwater runoff, as needed, such that the potential for erosion, siltation or flooding would be less than significant.

Conveyance Pipelines

Once constructed, proposed project pipelines would be underground. The trenches or tunnels that would be created to install the pipelines would be backfilled and the residual post-construction disturbance at the ground surface could alter the local topography and drainage, resulting in onsite and offsite erosion, siltation, or flooding during storm events. That is a potentially significant impact.

To mitigate that potential impact, after construction is complete, the area of disturbance for conveyance pipelines would be restored in accordance with Mitigation Measure GEO-2 (see Chapter 3.6, Geology, Soils, and Seismicity) such that there would be negligible change to drainage patterns. The result would be a less than significant impact with mitigation related to erosion, siltation or flooding.

Decommissioning of Current WWTP

Decommissioning the current WWTP would alter drainage patterns by reducing the amount of impervious surfaces and buildings at that site. The site is relatively flat and not highly susceptible to erosion or siltation. Once the demolition and decommissioning of the WWTP is completed, the site would be graded to fit the basic drainage pattern of the surrounding area and be surfaced with a thin layer of gravel. In accordance with the NPDES General Construction Permit, post-construction BMP measures also would be required to ensure the final conditions do not leave the site susceptible to erosion or siltation. Demolition of the WWTP structures would increase onsite pervious surfaces and the potential for onsite infiltration, such that the potential for onsite and

offsite flooding may be lessened. Therefore, the potential impact related to erosion, sedimentation, and flooding would be less than significant.

Mitigation Measures

Implement Mitigation Measure GEO-2: Post-Construction Site Restoration (see Chapter 3.6 Geology, Soils, and Seismicity, Impact 3.6-2).

Significance Determination

Less than Significant with Mitigation

Stormwater Runoff and Drainage Systems

Impact 3.9-5: Installation of the proposed project components would add impervious surfaces that could increase stormwater runoff from proposed project sites. Compliance with the City's Storm Water Management Plan, Stormwater Ordinance, and other NPDES regulatory requirements would require drainage control features and LID features to be incorporated into proposed project design to control and prevent increases in stormwater runoff and minimize impacts to the existing capacity of the storm drain system. This is a Class III impact, Less than Significant.

Construction of All Facilities

As described above under Impact 3.9-3, construction of proposed project components would temporarily alter drainage patterns at each site and potentially cause increases in stormwater runoff offsite that would be captured by the existing storm drain system. Runoff from construction sites also could carry pollutants such as oil, fuels, and lubricants to the existing storm drain system. That is a potentially significant impact.

All construction activities would be required to adhere to a SWPPP with BMPs to control stormwater runoff during construction in accordance with the NPDES General Construction Permit. Adherence to these existing regulatory requirements would ensure that stormwater runoff from construction sites would be controlled, such that the capacity of the existing stormwater drainage system is not impacted and polluted runoff is minimized. Impacts to the stormwater drainage system during project construction would be less than significant.

Operation

WRF

The preferred WRF site is currently undeveloped hillside rangeland and entirely covered in pervious surfaces. The introduction of new impervious surfaces that are graded and flat would change drainage patterns at the preferred WRF site and potentially cause increases in stormwater runoff offsite. Runoff from construction sites also could carry pollutants such as oil, fuels, and lubricants to the existing storm drain system. That is a potentially significant impact.

The proposed project would be required to adhere to the City's SWMP, which complies with the NPDES MS4 permit. To be consistent with these regulatory requirements, the design for the proposed WRF facility would be required to adhere to Provision E.12, which requires the project to implement both source control measures and low impact design (LID) standards for post-construction which limit the amount of runoff that is discharged offsite. In addition, the proposed WRF would be required to adhere to the City's Stormwater Ordinance which requires that existing or proposed infrastructure be capable of preventing any significant increase in peak flow for 2-year, 10-year, 50-year, and 100-year events which is defined as flows that are over five percent at and immediately downstream of the project site (MBMC subdivision 14.48.020 C.). The WRF design would include a stormwater management system that would route offsite stormwater around the WRF, and capture all onsite stormwater for percolation onsite or use within landscaping. Stormwater within the immediate areas of WRF processes will be drained to the WRF headworks for treatment. Implementation of the required LID drainage features in the facility design and compliance with the City's Stormwater Ordinance would ensure that all stormwater runoff from the site is captured onsite to reduce potential impacts related to the drainage system capacities to less than significant levels.

Lift Station and Injection and Monitoring Wells

The proposed lift station and the injection and monitoring wells would introduce new impervious surface at each site. The footprint of each facility would be relatively small at the ground surface and would not generate substantial volumes of stormwater runoff. In addition, as applicable, any new impervious surfaces associated with the lift station or wells would be required to implement stormwater drainage control features consistent with the City's Stormwater Ordinance and the SWMP. Compliance with these existing drainage control requirements, which include controls on stormwater volumes, would also prevent any significant increase in stormwater runoff. As such, there would be no significant impact to existing stormwater drainage system capacity.

Conveyance Pipelines

Once constructed, project pipelines would be underground. The trenches or tunnels that would be created to install the pipelines would be backfilled once construction is complete. There would be no change in the amount of pervious surfaces along the pipeline alignments and thus no change in the volume of stormwater runoff from the pipeline alignments' footprint. There would be no impact to the existing stormwater drainage system capacity from this project component.

Decommissioning of Current WWTP

Decommissioning of the current WWTP would reduce the amount of impervious surfaces and buildings at the site. The site is relatively flat, and once the demolition and decommissioning of the WWTP is completed, the site would be graded to fit the basic drainage pattern of the surrounding area and be surfaced with a thin layer of gravel. Demolition of the WWTP structures would increase onsite pervious surfaces and the potential for onsite infiltration. Accordingly, the amount of stormwater runoff discharged from the site would be reduced. Therefore, the potential impact related to drainage capacities and sources of runoff pollution would be less than significant.

Mitigation Measures

None required.

Significance Determination

Less than Significant

Flood Hazard Areas

Impact 3.9-6: The proposed lift station and IPR wells would be located within a 100-year flood hazard area; however, the relatively small footprint would be negligible and would not impede or redirect flood flows. This would be a Class III impact, Less than Significant. In addition, decommissioning of the WWTP would remove treatment facilities from the same 100-year flood hazard area, which is beneficial because it would remove a substantial impediment within the flood plain. Overall, the introduction of IPR wells combined with the removal of the existing WWTP would result less impervious surface than the current condition, which is a net beneficial impact (Class IV).

Operation

WRF

The proposed WRF would not be located within a 100-year flood zone (FEMA, 2017). As a result, there would be no impact related to placing structures within flood hazard area that could impede or redirect flood flows.

Lift Station

The proposed lift station would be located within the 100-year flood zone according to the FEMA FIRM maps (FEMA, 2017). However, the lift station would include a subsurface concrete wet well and a separate control building structure. The lift station would only be visited during infrequent maintenance times and would not otherwise be staffed. The proposed lift station would have a relatively small footprint and would be designed to be floodproofed in accordance with the City's Municipal Code (Subdivision 14.72.050 A. 3. b.) so the structure is watertight with walls substantially impermeable to the passage of water. The lift station also would be designed to be elevated at least one foot above the base flood elevation in accordance with the same code section. Therefore, considering the relatively small mass of the lift station, and design requirements for floodproofing, there would be a less than significant impact related to flood flow and flood elevations on neighboring parcels.

The design of the lift station would also ensure its continued operation in the event of a flood, ensuring raw wastewater is pumped to the WRF without interruption, thus avoiding wastewater backup and spills. The lift station design also would include a backup generator to ensure uninterrupted operation in the event of a power outage.

Conveyance Pipelines

The conveyance pipelines would be completed below ground surface and would not impede or redirect flood flows. The result would be no impact related to placing structures within a flood hazard area.

Injection and Monitoring Wells

The proposed injection and monitoring wells would have a relatively small above ground presence but would be placed within the 100-year flood zone (FEMA, 2017). The proposed injection and monitoring wells would primarily consist of below ground improvements and thus would have a negligible contribution to the impedance or redirection of any flood flows. Therefore, there would be a less than significant impact related to impeding or redirecting flood flows from the injection and monitoring wells.

Decommissioning of Current WWTP

Decommissioning of the current WWTP would remove structures that currently reside within the flood zone. Therefore, there would be no impact related to placing structures within the flood hazard area. Flood elevations in the immediate vicinity may be lower and experience less redirection of flooding with the removal of the current WWTP. This would be a beneficial impact.

Mitigation Measure

None required

Significance Determination

Beneficial impact

Tsunami Hazard Zone

Impact 3.9-7: The proposed project would remove the existing WWTP from the tsunami hazard zone, but construct a new lift station within the tsunami hazard zone. Floodproof design features and compliance with the City's Tsunami Emergency Response Plan would minimize service disruptions to the wastewater system due to the potential effects of tsunami inundation of the lift station. This is a Class III impact, Less than Significant.

A seiche is a free or standing wave oscillation(s) of the surface of water in an enclosed or semi-enclosed basin that may be initiated by an earthquake. None of the proposed elements of the proposed project are located adjacent to an enclosed or semi-enclosed body of water such that they would be susceptible to seiche waves. There would be no impact related to inundation by seiche.

Tsunamis (seismic sea waves) are long period waves that are typically caused by underwater disturbances (landslides), volcanic eruptions, or seismic events. Areas that are highly susceptible to tsunami inundation tend to be located in low-lying coastal areas such as tidal flats, and

marshlands. The proposed lift station, injection and monitoring wells, and the existing WWTP are located within a tsunami hazard area and discussed below (San Luis Obispo County, 2016).

Mudflows are debris flows that are associated with a high water content and typically associated with areas of steep slopes where vegetation is not sufficient to prevent rapid erosion. Mudflows are most common in arid and semi-arid regions and can also be associated with volcanoes and areas that have been affected by wildfires. The preferred WRF site is located in a hillside area, and as such, impact related to mudflow are discussed below.

Construction and Operation

WRF

The preferred WRF site is located upland over two miles from the coastline and out of any potential tsunami inundation hazard area (San Luis Obispo County, 2016). The preferred WRF site is located within a State-designated Seismic Hazard Zone for Earthquake Induced-Landslides, but mudflows are associated with high volumes of water on steep slopes where vegetation is not sufficient to prevent rapid erosion. The slopes at the preferred WRF site are approximately 10 to 25 percent. As discussed above in Impact 3.9-5, the proposed WRF design would include routing offsite stormwater around the proposed WRF and an onsite stormwater runoff detention system that would capture all onsite stormwater for onsite landscaping with the option of pumping excess stormwater to the proposed WRF for treatment. With the construction of stormwater control measures, mudflows are not considered likely (See Chapter 3.6 Geology for a further discussion of landslide hazards). Therefore, the proposed project would not be susceptible to inundation by tsunami or mudflow, and impacts would be less than significant.

Lift Station and Injection/Monitoring Wells

Since the proposed lift station and IPR wellfield locations are located in the coastal zone, these facilities could experience inundation by a tsunami event (San Luis Obispo County, 2016). The City has an adopted Tsunami Emergency Response Plan. The plan is intended to effectively coordinate the City's response to a tsunami to minimize loss of life and damage to property. The proposed project elements would all be required to adhere to the plan. Although there is no way to completely protect against a potential tsunami near the coast, the Tsunami Emergency Response Plan provides measures that would lessen the potential for catastrophic failure of the proposed improvements and protect any workers that may be onsite. The Emergency Response Plan measures include alarms, notifications, remote monitoring systems, procedures to protect electrical and controls systems to the extent practicable, and procedures to bring systems back online as soon as facilities are safe to enter by operations staff. In addition, as mentioned above under Impact 3.9-5, the proposed lift station would only be visited during infrequent maintenance times and would not otherwise be staffed. The proposed lift station would have a relatively small footprint and would be designed to be floodproofed in accordance with the City's Municipal Code (Subdivision 14.72.050 A. 3. b.) so the structure is watertight with walls substantially impermeable to the passage of water. The lift station also would be designed to be elevated at least one-foot above the base flood elevation in accordance with the same code provision. Therefore, considering the relatively small mass of the proposed lift station and design requirements for floodproofing, the impact of potential tsunami inundation to the operation of the wastewater system would be less than significant.

The proposed lift station and well sites are flat and located on unconsolidated sandy soils. Therefore, there is a low potential for damage or injury from mudflows. Therefore, the potential impacts from mudflows would be less than significant.

Conveyance Pipelines

The proposed conveyance pipelines would be completed below ground and would not be susceptible to any tsunami or mudflow hazards. There would be no impact.

Decommissioning of Current WWTP

The existing WWTP is located within the tsunami hazard inundation zone. The decommissioning would remove the treatment facilities from the tsunami hazard zone and relocate the associated treatment plant staff to the proposed WRF which is outside of the tsunami hazard area. That would be a beneficial impact. In addition, the existing WWTP site is flat and would not be susceptible to mudflow.

Mitigation Measure

None required.

Significance Determination

Less than Significant

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3.10 Land Use and Land Use Planning

This section provides an assessment of project effects related to land use and planning, and addresses whether the proposed project would physically divide existing communities and potential conflicts with existing land use policies. An assessment of the proposed project's potential to conflict with the County of San Luis Obispo's General Plan, Local Coastal Program (LCP) and Coastal Zone Land Use Ordinance (CZLUO) and the City of Morro Bay's General Plan, LCP and City of Morro Bay Zoning Ordinance.

This analysis complies with Subdivision 15125(d) of the *CEQA Guidelines*, which directs all EIRs to discuss a project's potential to conflict with applicable plans, policies, and regulations adopted for the purpose of avoiding or mitigating environmental effects, including general plans and regional plans. Potential conflicts with policies related to specific environmental issues (e.g., water quality, cultural resources) are addressed in the environmental topic areas included in other sections of this EIR.

3.10.1 Environmental Setting

Local Setting

Some components of the proposed project are located in an unincorporated portion of the County of San Luis Obispo (County), while others are within the City of Morro Bay (City). Specifically, the preferred WRF site is located within the Count while the lift station, distribution system and conveyance pipelines between the lift station and WRF site are located within the City. The entire study area is located within the Coastal Zone as defined by the California Coastal Act (see Figure 1-1 in Chapter 1).

Proposed WRF Site

The preferred WRF site would be located within a portion of the Estero Planning Area in the County, which occupies a narrow strip along the coast north of the City and south of the unincorporated community of Los Osos. The Estero Planning Area is characterized by its natural setting including volcanic peaks, green valleys, coastal terraces, and hillsides (County of San Luis Obispo, 2009). The area surrounding the preferred WRF site is mostly undeveloped. The Bayside Care Center senior living facility is located just southwest of the preferred WRF site. The preferred WRF site is otherwise surrounded to the west, north and east by undeveloped grazing land. Immediately east of the preferred WRF site is an unnamed drainage that is a tributary to Chorro Creek. Highway 1 is located approximately 690 feet south of the southern boundary of the preferred WRF site, and across Highway 1, at the intersection of Highway 1 and South Bay Boulevard is a church, mortuary and a mobile home park.

Proposed Lift Station

Morro Rock is one of the defining geologic and topographic characteristics of Morro Bay. The City's land use pattern is largely defined by Morro Harbor, which is a working waterfront that services commercial fishing operations and offers recreational opportunities. The most dense

residential and commercial land uses are located south of Morro Rock around Morro Bay, inland from the sandspit located in the middle of the harbor. Moving outward and eastward from the Harbor, the City is surrounded by agricultural land uses that serve to maintain a buffer around the town, isolating it from other development (City of Morro Bay, 2004). The proposed lift station would either be located within the City's existing Corporation Yard on Atascadero Road (Option 1A) or adjacent to Atascadero Road along the public right-of-way (Option 5A). Those locations are just north and east of the existing WWTP and the City's Corporation Yard. Morro Bay High School is located just north of Atascadero Road and the Morro Strand RV Park is also located along Atascadero Road just northeast of the proposed lift station locations. Developed areas are more heavily concentrated further inland of the proposed lift station sites, on the east side of Highway 1.

Proposed Conveyance Pipelines

There are two options for the proposed recycled water conveyance pipeline alignments, a west alignment and an east alignment. The raw wastewater and brine/wet weather discharge pipeline would run along the majority of the proposed west alignment starting at the proposed injection well area as shown in Figure 2-2 and culminating at the proposed WRF site.

IPR West Alignment (West Alignment)

The proposed west alignment starts at the proposed lift station and travels south along J Street and east around the perimeter of Lila Keiser Park before following an existing parkway/bike path across Morro Creek and south until it meets Main Street. The remainder of the alignment is generally located within existing rights-of-way. The alignment continues southeast along the Main Street right-of-way to Quintana Road. Along Main Street, to the west are residential uses separated from the right-of-way by a landscaped berm, and to the east are commercial uses. The west alignment continues along Quintana Road, a frontage road that generally parallels Highway 1, until it reaches a point just west of the Bay Boulevard interchange where it crosses Highway 1. Commercial and light industrial uses exist along the south side of Quintana Road until La Loma Avenue. Along that segment of Quintana Road there are some commercial uses located on the north side of Quintana Road near Main Street, otherwise the remainder of Quintana Road on the north is bordered by Highway 1. The segment of Quintana Road from La Loma Avenue to the crossing point abuts a portion of Morro Bay State Park the south, and Highway 1 to the north. After crossing Highway 1, the west alignment continues east along Teresa Road to South Bay Boulevard, where it heads north to the proposed WRF site. Teresa Road fronts Highway 1 and serves as the entry road to the Bayside Care Center nursing home.

IPR East Alignment (East Alignment)

The proposed east alignment starts at the proposed injection well area (IPR East) as shown in Figure 2-2 and culminates at the preferred WRF site. The proposed east alignment would extend west along Errol Street to Main Street. Along the north side of Errol Street are commercial uses, and a mobile home park is located to the south. The east alignment continues along Main Street to Radcliff Avenue. That segment of the alignment fronts Highway 1 to the west and commercial uses, an RV park, and open space to the east. The east alignment continues east along Radcliff Avenue to the end of Bolton Drive within a residential neighborhood. The east alignment

continues from the end of Bolton Road to Teresa Road. This segment generally parallels Highway 1 and is located within undeveloped grazing land. The east alignment continues east along Teresa Road to South Bay Boulevard, where it heads north to the proposed WRF site. Teresa Road fronts Highway 1 and serves as the entry road to the Bayside Care Center nursing home.

3.10.2 Regulatory Framework

State

California Coastal Act

The California Coastal Act (Public Resources Code (PRC) section 30000 *et seq.*) (Coastal Act) was enacted to provide long-term protection of the state's 1,100-mile coastline for the benefit of current and future generations. The Coastal Act provides for the management of lands within California's Coastal Zone boundary, as established by the Legislature and defined in Coastal Act (PRC section 30103). The width of the Coastal Zone varies across the State, extending inland a couple hundred feet in some locations to 5 miles in others, and offshore out to 3 miles. The Coastal Act authorizes the State of California to regulate development within the Coastal Zone, defined as the area between the seaward limits of the state's jurisdiction and generally 1,000 yards landward from the mean high-tide line of the sea. The Coastal Zone in the project vicinity is shown in Figure 1-1.

The Coastal Act includes specific policies for management of natural resources and public access within the coastal zone. Those policies constitute the statutory standards applied to coastal planning and regulatory decisions made by the California Coastal Commission (CCC) and by local governments, pursuant to the Coastal Act. The basic goals of the Coastal Act, per PRC section 30001.5, are:

(a) Protect, maintain, and, where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources.

(b) Assure orderly, balanced utilization and conservation of coastal zone resources taking into account the social and economic needs of the people of the state.

(c) Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resources conservation principles and constitutionally protected rights of private property owners.

(d) Assure priority for coastal-dependent and coastal-related development over other development on the coast.

(e) Encourage state and local initiatives and cooperation in preparing procedures to implement coordinated planning and development for mutually beneficial uses, including educational uses, in the coastal zone.

The Coastal Act's coastal resources planning and management policies cover six areas: public access, recreation, the marine environment, land resources, development, and industry. The policies articulate requirements for public access and for protection of marine resources and environmentally sensitive habitat areas. They lay out clear priorities for concentrating

development in urbanized areas, preserving agriculture and open space, protecting fishing and coastal-dependent industry, promoting recreational use of the coast, and giving priority to visitor-serving commercial uses over general commercial or residential development. In particular, relevant Coastal Act policies that would be applicable to the proposed project are those related to public access and recreation. The proposed project does not interfere with public access or the provision of sufficient recreation and low-cost visitor and recreation facilities.

The Coastal Act requires individual jurisdictions adopt an LCP to implement the Coastal Act at the local level. Upon certification of the LCP by the CCC, the local government becomes the Coastal Development Permit (CDP) permitting authority. The County and the City have adopted LCPs, which have been certified. Upon certification of the LCP, the LCP serves as the standard for review to determine any conflicts with the Coastal Act, including avoidance of hazard areas and designated sensitive view areas, protection of archaeological resources, maximizing and protecting public access, and maximizing wastewater reclamation. Relevant LCP policies that would be applicable to the proposed project and an assessment of the proposed project's potential to conflict with any applicable LCP policies adopted for the purpose of avoiding or mitigating an environmental effect are described in the impact analysis below (see Table 3.10-2 and Table 3.10-3).

The County and City are working closely to implement the proposed project, which will ensure compliance with a directive from the CCC to relocate the WRF outside of a coastal hazard area and sensitive view areas, two of the reasons the CCC denied the CDP for replacing/upgrading the existing WWTP in its current location.[1]

San Luis Obispo Local Agency Formation Commission (LAFCO)

San Luis Obispo Local Agency Formation Commission (LAFCO) implements the Knox-Cortese-Hertzberg Act of 2000. More specifically, the State of California gives LAFCO the authority to achieve the following objectives:

- Encourage orderly formation of local government agencies. Consider proposals for formation of new local governmental agencies including Cities and Special Districts. LAFCO is also responsible for considering annexations and detachments for agencies. LAFCO also determines the Sphere of Influence, which is a plan for the probable physical boundary of a City or Special District. Reviews proposals based on a variety of factors including: a plan for services submitted by the agency, resource and infrastructure capacity, and the need for services.
- Preserve agricultural land resources. Considers the impact that a proposal may have on existing agricultural lands with focus on prime agricultural lands. San Luis Obispo LAFCO has adopted specific policies regarding the preservation of agricultural resources.

[1] In January 2013, the CCC denied the City and Cayucos Sanitary District's project application for the CDP to demolish the existing WWTP and construct a new treatment facility on the same site. The basis for that denial included the CCC's assessment the new facilities would be inconsistent with the Morro Bay Local Coastal Plan's zoning provisions, failed to avoid coastal hazards, failed to include a sizeable reclaimed water component, and that the project location was within an LCP-designated sensitive view area.

- Discourages urban sprawl. Urban sprawl can best be described as irregular and disorganized growth occurring without apparent design or plan. By discouraging sprawl, LAFCO limits the misuse of land resources and promotes a more efficient system of services by local governmental agencies.

The preferred WRF site is located immediately adjacent to the Morro Bay service area. However, it is not currently located within the City's sphere of influence. The 396-acre parcel that the preferred WRF site is located within was studied in LAFCO's Morro Bay Sphere of Influence (SOI) Update and Municipal Service Review (MSR) in 2017. The study identified two roughly 15-acre portions of the 396-acre parcel considered viable locations for a future WRF site. LAFCO recommended the SOI should exclude the larger, 396-acre parcel with exception of a future WRF site. LAFCO further recommended, if the City selected the site and builds a treatment facility, then LAFCO would support the City's selection and would process an SOI and annexation proposal at that time (San Luis Obispo LAFCO, 2017).

Local

County of San Luis Obispo General Plan and Local Coastal Plan

The County General Plan is integrated with the Local Coastal Program and was first adopted by the County and certified by the California Coastal Commission in 1988. The Land Use Element provides a framework for planning within the Coastal Zone and serves as the Land Use Plan portion of the County Local Coastal Program (LCP). In addition to a framework and coastal plan policies, the Land Use Plan includes Area Plans and land use category maps. The County land use category maps also serve as the zoning maps. The Land Use Plan together with the Coastal Zone Land Use Ordinance (CZLUO) and related maps comprise the Local Coastal Program (County of San Luis Obispo, 2011).

Estero Area Plan and Geologic Study Area (GSA)

The preferred WRF site is located within the Estero Area Plan and the Geologic Study Area (GSA) combining designation. That site is located outside of the Urban Reserve Line (URL), which is coterminous with the boundary between the City and County. The GSA designation when applied to lands outside the URL signifies that the area is subject to high landslide risk potential. The Estero Area Plan provides additional policy guidance and standards unique to the plan area. Combining designations are overlay designations that are applied to areas with hazardous conditions or resources of particular public value and where more detailed project review is needed.

The existing land use designations for the preferred WRF site and surrounding areas are depicted in **Figure 3.10-1** and further described below.

The majority of the Estero Planning Area is designated Agriculture, including the preferred WRF site and surrounding properties to the north, east and south. To the west, the preferred WRF site abuts the City. Land use designations within the City are described in further detail in the subsequent section.

The Agriculture designation allows Public Utility Facilities as a special use, which is allowable subject to special standards and/or processing requirements, unless otherwise limited by a specific planning area standard. Public Utility Facilities are defined as:

> *Fixed-base structures and facilities serving as junction points for transferring utility services from one transmission voltage to another or to local distribution and service voltages. These uses include any of the following facilities: electrical substations and switching stations; telephone switching facilities; natural gas regulating and distribution facilities; public water system wells, treatment plants and storage; and community wastewater treatment plants, settling ponds and disposal fields (County of San Luis Obispo, 2011).*

County of San Luis Obispo Coastal Zone Land Use Ordinance (CZLUO)

As defined above, Public Utility Facilities uses within the County's Agriculture designation are subject to the special use standards in the San Luis Obispo Costal Zone Land Use Ordinance (CZLUO) (County of San Luis Obispo, 2011). The CZLUO was adopted in 1988 and most recently revised in December 2014. Development within the Coastal Zone as defined by the Coastal Act of 1976 is subject to the CZLUO. As set forth in Section 30106 of the Coastal Act, "development" in the Coastal Zone means:

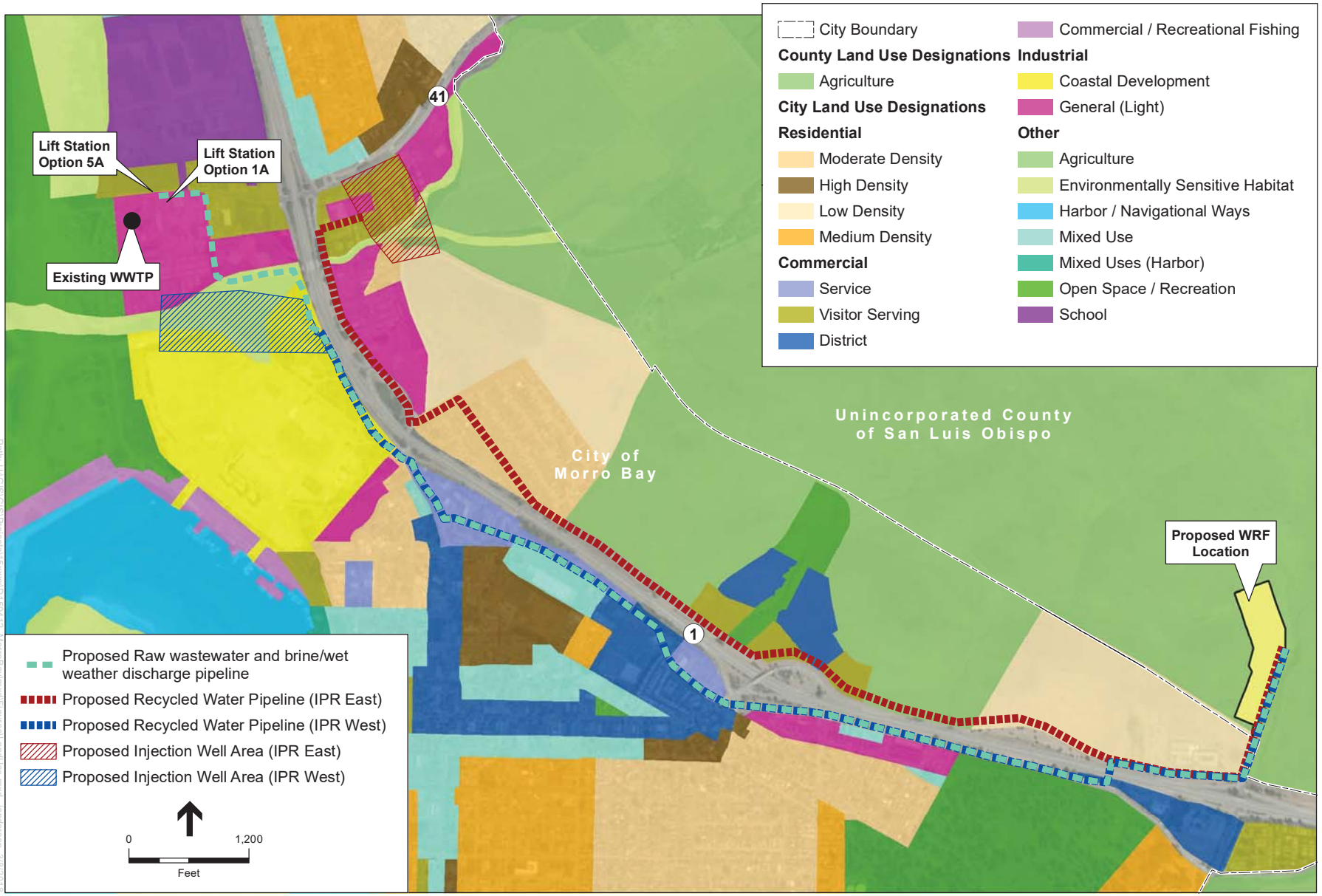
> *construction, reconstruction, demolition, or alteration of size of any structure, including any facility of any private, public or municipal utility*

As used in the CZLUO,

> *structure includes, but is not limited to, any building, road, pipe, flume, conduit, siphon, aqueduct, telephone line, and electrical power transmission and distribution line.*

Pursuant to Section 23.08.288 of the CZLUO, any new public use facility or modification of an existing public use facility in the Agriculture, Rural Lands, Residential, Office and Professional, and Commercial land use categories requires approval of a Development Plan consistent with the requirements of Section 23.02.034 (Development Plan) and additional application requirements of Section 23.08.288 (b). In addition, pursuant to Section 23.08.288(c), the following development standards apply in addition to any that may be established as conditions of approval:

1) Environmental quality assurance. An environmental quality assurance program covering all aspects of construction and operation shall be submitted prior to construction of any project component. This program will include a schedule and plan for monitoring and demonstrating compliance with all conditions required by the Development Plan. Specific requirements of this environmental quality assurance program will be determined during the environmental review process and Development Plan review and approval process.



SOURCE: ESRI 2016; City of Morro Bay; San Luis Obispo County

Morro Bay Water Reclamation Facility Project. 150412

Figure 3.10-1

County and City Land Use Designations

2) Clearing and revegetation. The land area exposed and the vegetation removed during construction shall be the minimum necessary to install and operate the facility. Topsoil will be stripped and stored separately. Disturbed areas no longer required for operation will be regarded, covered with topsoil and replanted during the next appropriate season.

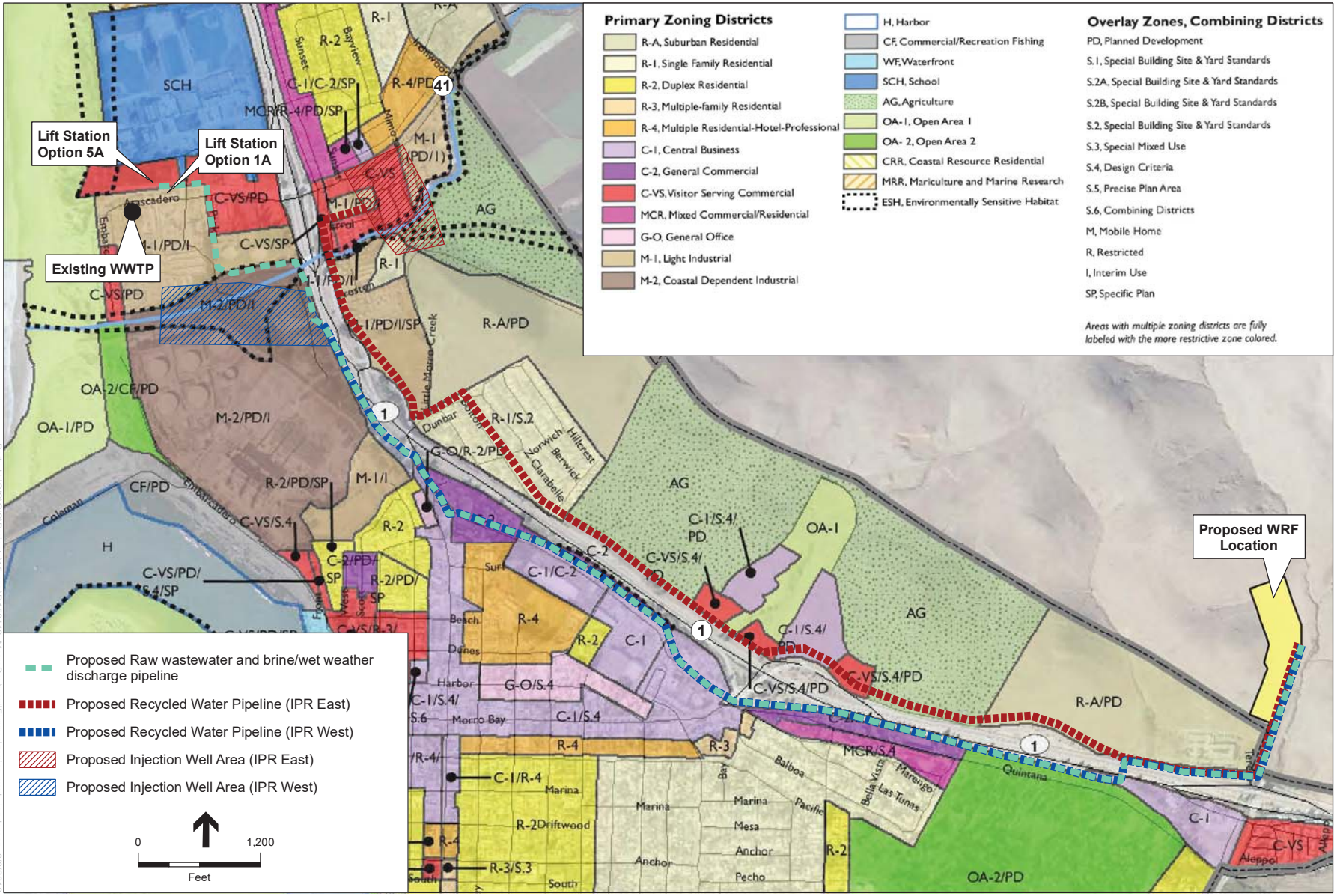
3) Fencing and screening. Public Utility Facilities shall be screened on all sides. An effective visual barrier will be established through the use of a solid wall, fencing and/or landscaping. The adequacy of the proposed screening will be determined during the land use permitting process.

The Development Plan process includes a public hearing before the Review Authority. Action on the Development Plan is discretionary and serves as the local government equivalent of a coastal development permit action in accordance with the Coastal Act.

City of Morro Bay General Plan and Local Coastal Plan

The City's current General Plan was adopted in 1988 and the Local Coastal Program was certified by the California Coastal Commission in 1982. Existing land use and zoning designations for the preferred WRF site and surrounding areas are depicted in **Figure 3.10-1** and **Figure 3.10-2** respectively and are further described below. A large portion of the proposed recycled water pipeline, the proposed injection well sites, and the proposed lift station are within the City. The proposed recycled water pipeline passes through several land use and zoning designations. Along IPR East, land use designations include: Low and Moderate Density residential, Agriculture, Environmentally Sensitive Habitat, General (Light) industrial and Visitor Serving. Along IPR West, land use designations include: Low Density Residential, District Commercial, Open Space/Recreation, General (Light) Industrial, Service Commercial, Costal Development Industrial, Environmentally Sensitive Habitat and Visitor Serving. The existing land use designations and corresponding zoning for project components, with the exception of pipelines, also are listed in **Table 3.10-1** and described below.

The City's 1988 General Plan and 1982 Local Coastal Program currently govern the components of the proposed project within the City. However, it should be noted the City is currently in the process of comprehensively updating the General Plan and Local Coastal Program. The General Plan and Local Coastal Program (GP/LCP) Update, referred to as Plan Morro Bay, was initiated in early 2016 and is estimated to be completed by the end of 2018. The City has completed their initial outreach, community baseline assessment, key issues and policies report, vision and values statement and the draft vulnerability assessment. The intent of the GP/LCP update is to ensure the proposed WRF is consistent with and is coordinated within the planning framework of the updated Plan. A preferred Land Use Map was selected in August 2017 that designates the preferred WRF site as Public/Institutional and a Notice of Preparation (NOP) for the EIR analyzing the updating of the City's land use regulations was prepared in November 2017. The City is currently preparing the Draft Plan and EIR and adoption hearings are anticipated to occur in the Fall/Winter 2018.



SOURCE: ESRI 2016

Morro Bay Water Reclamation Facility Project. 150412

Figure 3.10-2

City of Morro Bay Zoning

TABLE 3.10-1
ABOVE-GROUND COMPONENTS EXISTING LAND USE AND ZONING DESIGNATIONS (CITY OF MORRO BAY)

Project Site	1988 General Plan Land Use Designation/1982 Local Coastal Program Designation	Existing Zoning /Zoning Overlay
Lift Station Option 1A	General (Light) Industrial	M-1 - Light Industrial
Lift Station Option 5A	Visitor Serving	CVS - Visitor Serving Commercial/PD - Planned Development
Proposed Injection Wells Site (IPR West)	General (Light) Industrial, Environmentally Sensitive Habitat Coastal Dependent Industrial	M-2 - Coastal Dependent Industrial/PD - Planned Development /I- Interim Use M-2 – Coastal Dependent/PD-Planned Development/I – Interim Use M-1 – Light Industrial/PD – Planned Development/I-Interim Use M-2 – Light Industrial/PD – Planned Development/I-Interim Use
Proposed Injection Wells Site (IPR East)	General (Light) Industrial Visitor-Serving Commercial Environmentally Sensitive Habitat Moderate Density Residential Low Density Residential	M-1 – Light Industrial/PD – Planned Development/I – Interim Use C-VS – Visitor Serving Commercial AG – Agriculture R-1 – Single-Family Residential R-A/PD – Suburban Residential/Planned Development

City of Morro Bay Zoning Ordinance

The City's Zoning Ordinance implements the General Plan and serves as the implementation plan for the LCP. As shown in Figure 3.10-2, there are a range of zoning designations that apply to the project sites. The following describes the intent of each zoning designation as well as applicable overlay designations.

The proposed project includes the construction of new public utility facilities. Public Utility Facilities, include but are not limited to water wells, substations, switching stations, pipelines, transmission lines and similar utility uses. Public Utility Facilities are considered a special use and are allowed in any of the above listed zoning designations subject to approval of a conditional use permit processed in accordance with the provisions of Chapter 17.60 and Subdivision 17.30.030 (P)(1)(a) of the Morro Bay Municipal Code (MBMC), which provides the following additional finding applicable to new pipelines.

a. Routes of All New Lines. The routes of all new lines shall, to the maximum extent feasible, avoid important coastal resources such as recreation and environmentally sensitive areas. Where such resources cannot be avoided, and will be adversely affected, the planning commission/city council shall require appropriate mitigation measures. These measures may include, but are not limited to precluding construction during peak visitor seasons in recreational areas, precluding construction during nesting or breeding seasons in sensitive habitat areas, the vegetation of graded areas, the undergrounding of utility facilities, the preparation of an oil spill contingency plan for new pipelines, restrictions of the use of herbicides, and various erosion control measures (as appropriate);

The proposed project is also subject to approval of a Coastal Development Permit in accordance with the provisions of MBMC Chapter 17.58.

3.10.3 Impacts and Mitigation Measures

Significance Criteria

Appendix G of the *CEQA Guidelines* recommends significance criteria for the evaluation of impacts related to land uses in the project area. Those same criteria are provided below. This Draft EIR assumes implementation of the proposed project would have a significant impact related to land use and planning if it would:

- Physically divide an established community;
- 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, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or
- Conflict with any habitat conservation plan or natural community conservation plan.

Methodology

The potential impacts to land use associated with the various components of the project were evaluated on a qualitative basis. The evaluation of impacts is based on professional judgement, the significance criteria established by the CEQA Plus guidelines and a comparison with relevant land use policies and standards for consistency.

Impact Analysis

Divide Established Community

> **Impact 3.10-1: The proposed project would not physically divide an established community. Project components are located in areas that are not established residential communities and would not disconnect any established communities. There would be no impact.**

The proposed construction and operation of the project would not create any physical barriers or linear development within an established community. As a result, there would not be impacts related to physically dividing an established community.

WRF

The proposed WRF would be located on an approximately 10- to 15-acre site of a larger 396-acre agricultural parcel. The majority of the surrounding area is undeveloped, grazing land. There nearest development is an existing nursing home located southwest of the preferred WRF site. However, the preferred WRF site development would not create a physical barrier or physically disconnect the existing nursing home from any established communities within the vicinity of the preferred project site.

Lift Station

The proposed lift station would be located within the existing Corporation Yard or along the right of way of Atascadero Road across the street from the existing Corporation Yard. There are no existing residential developments within the vicinity of the proposed lift station sites. Thus, development of the proposed lift station would not physically divide two established residential communities.

Conveyance Pipelines

The conveyance pipelines would be constructed in trenches within existing rights-of-way or underground and would not result in the creation of a physical barrier that would divide an established community.

Injection and Monitoring Wells

The injection and monitoring wells would be constructed primarily underground. The injection wellheads would occupy a footprint of approximately 200 square feet, enclosed by a fence no greater than 8 feet tall. The wellhead would not be of sufficient size or massing to create a physical barrier that would divide an established community.

Decommissioning of Current WWTP

The decommissioning of the existing WWTP and the eventual removal of this facility would not create a physical barrier that would divide an established community.

Mitigation Measures

None required.

Significance Determination

No Impact.

Land Use Plans and Policies

> **Impact 3.10-2: The project would not conflict with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect, including the City or County General Plan, Local Coastal Plan, Coastal Zone Land Use Ordinance, or Zoning Ordinance. There would be no impact.**

Consistent with the *CEQA Guidelines* subdivision 15125(d), an EIR shall discuss potential conflicts between a proposed project and applicable plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect, including those of a General Plan and regional plans. The following analysis addresses that requirement, as it pertains to land use. In addition, policies related to specific environmental issues are addressed in other chapters of this

Draft EIR within particular topical sections (e.g. Chapter 3.2 Agriculture, Chapter 3.4 Biological Resources).

As discussed in Section 3.10.2 Regulatory Framework, applicable land use plans, policies and regulations include the San Luis Obispo General Plan, LCP and CZLUO and the City's General Plan, LCP and Zoning Ordinance. The proposed WRF would be located within the County and is subject to the policies and regulations of the San Luis Obispo General Plan, LCP and CZLUO. The proposed lift station, distribution system and conveyance pipelines between the lift station and preferred WRF site are located within the City and are subject to the policies and regulations of the City's General Plan, LCP and Zoning Ordinance.

The proposed project's potential to conflict with the above listed land use plans, policies and regulations is addressed in the tables that follow.

The evaluation of potential conflicts with the plans and policies is intended to provide perspective on whether the proposed project could conflict with the framework of goals and policies the City and County have adopted to guide growth and development. The following discussion and tables summarize the relevant sections of the applicable plans and ordinances and evaluate the proposed project's potential to conflict with these guiding policies and regulations.

County of San Luis Obispo General Plan and Local Coastal Plan

Table 3.10-2 identifies all County land use goals, policies and objectives relevant to the proposed project from the Land Use Element, including the Estero Area Plan, which along with the land use maps serve as the LCP land use plan. The table includes an analysis of the project's potential to conflict with these goals, policies and objectives. In order to implement the proposed project, the County would be required to process and adopt a Coastal Development Permit in the form of a Development Plan.

TABLE 3.10-2
POTENTIAL TO CONFLICT WITH COUNTY OF SAN LUIS OBISPO GENERAL PLAN AND LOCAL COASTAL PLAN

Policies	Project's Potential to Conflict
FRAMEWORK FOR PLANNING COASTAL ZONE General Goals and Objectives	
Goal 1: Preserve open space, scenic natural beauty and natural resources. Conserve energy resources. Protect agricultural land and resources. Objective 1. Environment – Maintain and protect a living environment that is safe, healthful and pleasant for all residents by: c. Giving highest priority to avoiding significant environmental impacts from development through site and project design alternatives. Where such impacts cannot be avoided, minimize and mitigate them to the extent feasible.	**No Conflict.** The WRF project site was selected after a rigorous site selection and review process that included constraints and alternatives reports that considered a wide range of sites and examined them for suitability based on a variety of criteria related to cost, environmental, logistical and engineering issues and prioritized based on a robust public outreach program. Through this process, which started with 17 possible sites, the current project site was chosen as the most suitable. Site selection was guided by goals adopted by the Morro Bay City Council adopted in 2013 and updated in 2017. In addition, the site layout of the WRF as described in the Facility Master Plan and shown in Chapter 2 of this Draft EIR, has been designed to minimize the footprint of the facilities to avoid impacts to rangeland and the unnamed drainage. The proposed architectural treatment including massing, colors and

Policies	Project's Potential to Conflict
	materials is designed to ensure compatibility with the agricultural building forms in the area and tree plantings would provide additional visual screening of structures. Additional mitigation measures have been identified in Chapter 3.4 Biological Resources to ensure that site design minimizes project specific impacts to natural resources to the lowest extent possible.
Goal 2: Strengthen and direct development toward existing and strategically planned communities. Objective 3. Public Services and Facilities – Avoid the use of public resources, services, and facilities beyond their renewable capacities. c. Locating new public service facilities as close as possible to the users. If facilities are necessary in rural areas, allow for sufficient buffers to protect environmentally sensitive and agricultural areas.	**No Conflict.** As discussed under Goal 1, the WRF site was selected after a rigorous review process that determined it to be the most physically suitable location for the WRF. In addition, as described above, the WRF has been designed to minimize the footprint of the facilities to avoid impacts to rangeland and the unnamed drainages. As described in Chapter 3.2 Agriculture and Forestry Resources, the WRF would occupy only 4 percent of the 396-acre parcel on which it would be located, and which would still be available for grazing. As described in Chapter 3.4, Biological Resources, the WRF layout also would meet LCP setback requirement of 100 feet from riparian areas.
Goal 11: Strengthen regional cooperation Objective 1 Work closely with cities and regional agencies to achieve common land use goals. Objective 2. Collaborate with communities, stakeholders and the public to plan according to strategic growth goals and objectives and encourage "ownership" of the process and the outcomes.	**No Conflict**. The County of San Luis Obispo and the City of Morro Bay are working closely to implement the new WRF facility which will ensure compliance with a directive from the California Coastal Commission to relocate the Morro Bay Wastewater Treatment facilities outside of a coastal hazard area and would achieve goals identified by the City of Morro Bay City Council for the facility. In addition, the site alternatives and constraints analysis process included robust community outreach that prioritized site selection. In addition, the current project is consistent with recommendations provided by LAFCO during their MSR process which reviewed the potential for a future WRF site at the selected location.
Public Service Objectives and Implementing Strategies	
Objective 3. Provide additional public resources, services and facilities in sufficient time to avoid overburdening existing resources, services and facilities while sustaining their availability for future generations. Conduct long term planning (20+ years) to fund and provide additional, sustainable public resources, services and facilities in sufficient time to avoid overburdening existing resources, services and facilities. Schedule development to occur when needed services are available or can be supplied concurrently	**No Conflict.** As stated previously, the new WRF facility is designed to meet the requirements of the California State Water Resources Control Board to meet secondary treatment requirements. The RWQCB's executive officer has indicated that the project be implemented by 2021 in order to meet the goals of the RWQCB. The project location also meets the requirements of the Coastal Commission to avoid coastal hazards which also helps to ensure the physical sustainability of the proposed facility for future generations. In addition, the project provides a significant reclaimed water component intended to augment the City's water supplies and the project has been designed for energy efficiency to maximize opportunities for funding and to further ensure sustainability.
ESTERO AREA PLAN Public Facilities, Services and Resources	
B. Wastewater 1. Wastewater Recycling. Sewage disposal agencies should work with the County Public Works and Health Departments and the Regional Water Quality Control Board to develop a program to find alternative uses for treated wastewater, such as irrigation (e.g., on agricultural lands and the Morro Bay Golf Course), groundwater recharge, and environmental enhancement.	**No Conflict**. One of the primary reasons for the proposed project was to comply with the Regional Water Quality Control Board requirements to meet secondary treatment requirements. The project includes a Master Water Reclamation Plan to explore the most feasible approach to reclaim water for future use to augment existing City water supplies. The Master Water Reclamation Plan identifies a recommended approach to implementing a recycled water program consistent with RWQCB objectives.

Policies	Project's Potential to Conflict
Environmental and Cultural Resource Policies and Programs	
V. Morro Bay Estuary and Its Watershed A. Policies, Cayucos and Rural Area 5. Where feasible, implement applicable provisions of the Comprehensive Conservation and Management Plan for Morro Bay published by the Morro Bay National Estuary Program through special programs, land use planning strategies, review of development proposals, and public education.	**No Conflict**. The Comprehensive Conservation and Management Plan for Morro Bay, BMP-12, supports the increase in treatment levels and the upgrades for recycled water distribution both of which the proposed project incorporates. Additional discussion of consistency with the Comprehensive Conservation and Management Plan is discussed in Chapter 3.4 Biological Resources.
Geologic Study Areas Moor Bay and Cayucos Hillsides. A geologic report prepared by a certified engineering geologist is required for hillside development adjacent to the city of Morro Bay and the Cayucos Urban Reserve Line.	**No Conflict.** A geotechnical report and hydrogeology report were prepared for the project. See Chapter 3.6 Geology for additional discussion.

County of San Luis Obispo Coastal Zone Land Use Ordinance

As shown in Figure 3.10-1, the preferred WRF site is located within the Agriculture land use category. According to Table O in the Land Use Element, Public Utility Facilities (which includes WRF facilities) is an allowed use in the Agriculture land use category subject to the approval of a Development Plan or a Coastal Development Permit for projects located within the Coastal Zone. As indicated in Chapter 2, Project Description, the City would prepare and submit to the County for review and approval a Coastal Development Permit which must meet all applicable land use regulations and findings consistent with the CZLUO. That includes consistency with Section 23.02.034 Development Plan and the additional application requirements of Section 23.08.288 (b) as well as the development standards provided in Section 23.08.288(c). Through adherence to the above-referenced provisions, the project would not conflict with the County's CZLUO.

City of Morro Bay General Plan and Local Coastal Program

Table 3.10-3 identifies all City land use policies, objectives and programs relevant to the proposed project from the General Plan and Local Coastal Program. The table includes an analysis of the proposed project's potential to conflict with those policies. objectives and programs. In order to implement the proposed lift station, distribution system and conveyance pipelines, the City would be required to process a Coastal Development Permit.

TABLE 3.10-3
POTENTIAL TO CONFLICT WITH CITY OF MORRO BAY GENERAL PLAN AND LOCAL COASTAL PLAN

Policies	Project's Potential to Conflict
City of Morro Bay General Plan and LCP	
Coastal-Dependent Industrial Uses Policy LU-39: Industrial uses located on or adjacent to the harbor and beaches shall be regulated to protect the environment and priorities shall be established for coastal dependent land uses. *Program LU-39.3 The Morro Bay Wastewater Treatment facilities shall be protected in their present location since an important operational element, the outfall line, is coastal dependent. (LCP 123)*	**No Conflict.** The proposed lift stations are not proposed to be located on or adjacent to the harbor and beaches and the removal of the existing WWTP would create the opportunity for new coastal-dependent land uses and the project would not relocate the outfall line.
Public Facilities Objective: Maintain the level of service of public facilities in a manner consistent with the expectations that have resulted from past levels of service. Efforts should continue to strive towards improving public facilities, but should occur with careful recognition of the range of costs supportable by the community (LUE55) *Program LU-77.2: Improvements in public facilities should also respond to the positive impact they can have on the overall community image. (LUE 55)* *Program LU-77.4: It should be the practice of the City to give highest priority to those public facility programs that would solve existing problems and overcome existing deficiencies in the public facilities system. (LUE 55)*	**No Conflict.** The proposed WRF and associated project components fulfill directives from the California State Water Resources Control Board and the Coastal Commission to meet regulatory requirements. The project would not impact levels of service and would remedy deficiencies in the existing public facilities system. In addition, the decommissioning and ultimate removal of the existing WWTP facility would allow the community to evaluate potential future development proposals for the site in keeping with its overall community image priorities.
Wastewater – Related Policies and Programs Policy LU-81: The City shall endeavor to implement its Wastewater Treatment Program. (OS 86) Program LU-81.1: The City will continue a program of providing wastewater treatment facilities to accommodate the build-out population of 12,195, determined to be the buildout figure in Coastal Development Permit No. 406-01, which permitted further expansion of the wastewater treatment facilities to 2.4 mgd. (LCP 96)	**No Conflict.** The City is currently embarking on a process to update its General Plan and LCP, which will evaluate future population for the City. As part of the City's preliminary analysis for the General Plan Update, they estimated a build-out population of 12,015 in the year 2040. This projection is less than the 12,200 which was established as an ultimate population cap under Measure F (Ordinance 266) adopted in 1984 and referenced in Program LU81.1. The proposed WRF facility has been designed to accommodate the buildout population as specified in the General Plan and anticipated in the General Plan Update and therefore is not in conflict with this program.

City of Morro Bay Zoning Ordinance

The proposed project includes the construction of lift station, distribution system and conveyance pipelines, which are identified as new public utility facilities considered a special use in the City's Zoning Ordinance. As a special use, Public Utility Facilities are allowed within any zoning designation, subject to approval of a Conditional Use Permit. As stated previously, Public Utility Facilities, include, but are not limited to, water wells, substations, switching stations, pipelines, transmission lines and similar utility uses.

In addition, the proposed project is subject to approval of a Coastal Development Permit. As indicated in Chapter 2, Project Description, the City would submit applications for a Conditional Use Permit and Coastal Development Permit. Through adherence to the above-referenced permitting requirements, the project would not conflict with the City's Zoning Ordinance.

Mitigation Measures

None required.

Significance Determination

Less than Significant.

Habitat Conservation Plan

Impact 3.10-3: The project would not be not located in or adjacent to a habitat conservation plan or a natural community conservation plan and therefore would not conflict with a habitat conservation plan or natural community conservation plan. There would be no impact.

The proposed project would not be located in or adjacent to a habitat conservation plan or a natural community conservation plan. Therefore, the project would not result in a conflict with a habitat conservation plan or community conservation plan.

Mitigation Measures

None required.

Significance Determination

Less than Significant.

References

City of Morro Bay, 2004. City of Morro Bay General Plan/Local Coastal Plan, February 23, 2004

County of San Luis Obispo, 2009. The Land Use Element and Local Coastal Plan of the San Luis Obispo County General Plan, Estero Area Plan, Revised January 2009

County of San Luis Obispo, 2011. Framework for Planning Coastal Zone, Revised November 2011.

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3.11 Noise

This section describes the existing noise environment near the proposed project areas, and evaluates the potential for construction and operation of the proposed project to result in significant impacts associated with noise and vibration.

The analysis included in this section was developed based on data provided in the County of San Luis Obispo General Plan (San Luis Obispo County, 1992), the City of Morro Bay General Plan (City of Morro Bay, 1993), the Federal Highway Administration (FHWA) *Road Construction Noise Mode*l (FHWA, 2006) and the Federal Transit Administration's (FTA's) *Transit Noise and Vibration Impact Assessment* (FTA, 2006).

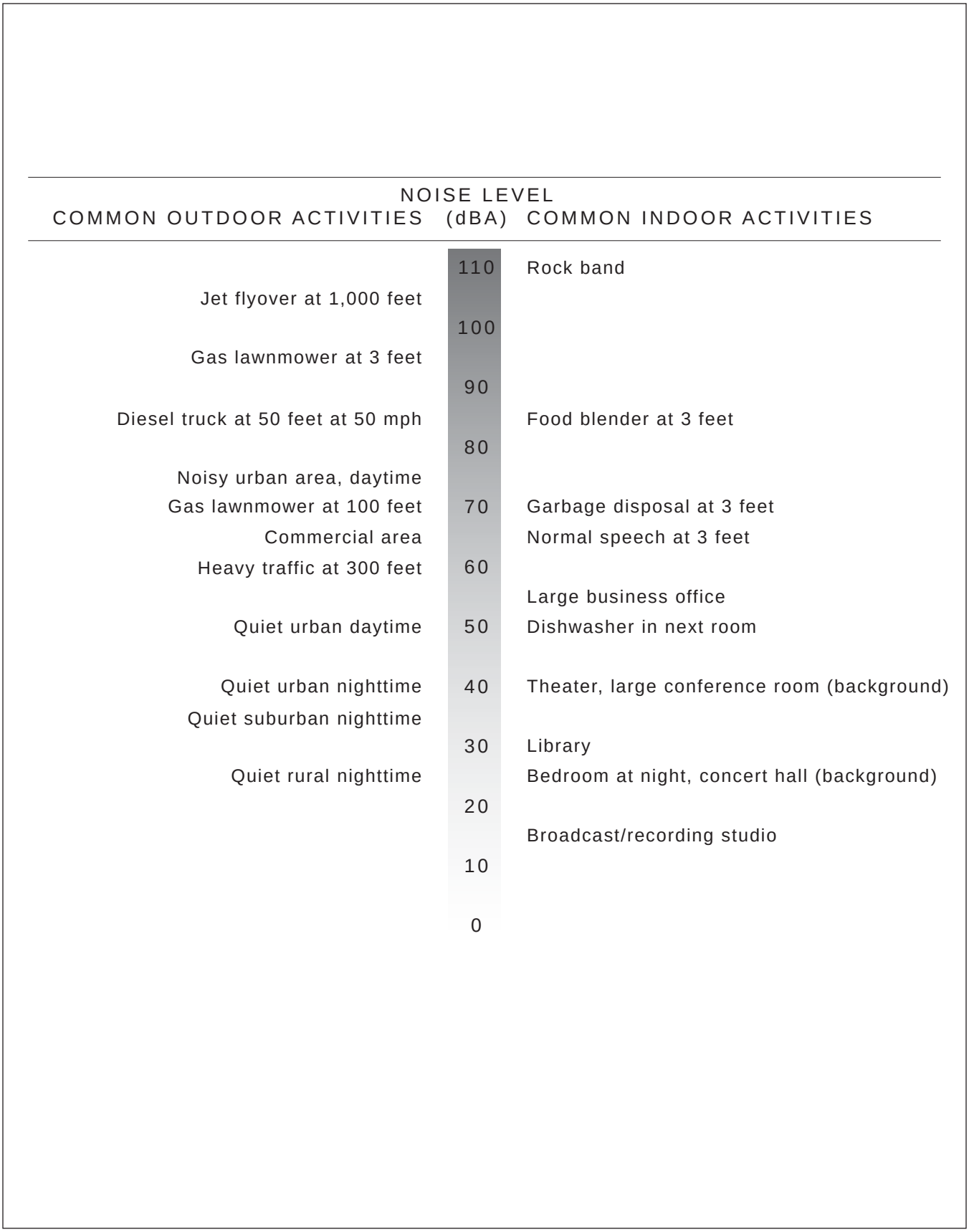
3.11.1 Principles of Noise and Vibration

Technical Background and Noise Terminology

Noise can be generally defined as unwanted sound. Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level), which is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude (sound power). The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the frequency/sound power level spectrum.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to low and extremely high frequencies instead of the frequency mid-range. That method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA). Frequency A-weighting follows an international standard methodology of frequency de-emphasis and is typically applied to community noise measurements. Some representative noise sources and their corresponding A-weighted noise levels are shown in **Figure 3.11-1**.



SOURCE: ESA, 2017

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Figure 3.11-1
Typical Noise Levels

Noise exposure is a measure of noise over a period of time. Noise level is a measure of noise at a given instant in time. Community noise varies continuously over a period of time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic and atmospheric conditions. What makes community noise constantly variable throughout a day, besides the slowly changing background noise, is the addition of short duration single event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual receptor. Those successive additions of sound to the community noise environment vary the community noise level from instant to instant, requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts.

The time-varying characteristic of environmental noise is described using statistical noise descriptors. The most frequently used noise descriptors are summarized below:

L_{eq}: the energy-equivalent sound level is used to describe noise over a specified period of time, typically one hour, in terms of a single numerical value. The L_{eq} is the constant sound level, which would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).

L_{max}: the instantaneous maximum noise level for a specified period of time.

L_{50}: the noise level that is equaled or exceeded 50 percent of the specified time period. The L_{50} represents the median sound level.

L_{90}: the noise level that is equaled or exceeded 90 percent of the specific time period. This is considered the background noise level during a given time period.

L_{dn}: is a 24-hour day and night A-weighted noise exposure level which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night ("penalizing" nighttime noises). Noise between 10:00 p.m. and 7:00 a.m. is weighted (penalized) by adding 10 dB to take into account the greater annoyance of nighttime noises.

CNEL: similar to DNL, the Community Noise Equivalent Level (CNEL) adds a 5-dB "penalty" for the evening hours between 7:00 p.m. and 10:00 p.m. in addition to a 10-dB penalty between the hours of 10:00 p.m. and 7:00 a.m.

As a general rule, in areas where the noise environment is dominated by traffic, the L_{eq} during the peak-hour is generally within one to two decibels of the L_{dn} at that location (Caltrans, 2013a).

Effects of Noise on People

When a new noise is introduced to an environment, human reaction can be predicted by comparing the new noise to the ambient noise level, which is the existing noise level comprised of all sources of noise in a given location. In general, the more a new noise exceeds the ambient

noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- except in carefully controlled laboratory experiments, a change of 1-dB cannot be perceived;
- outside of the laboratory, a 3-dB change is considered a just-perceivable difference;
- a change in level of at least 5-dB is required before any noticeable change in human response would be expected; and
- a 10-dB change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

The perceived increases in noise levels shown above are applicable to both mobile and stationary noise sources. Those relationships occur in part because of the logarithmic nature of sound and the decibel system. The human ear perceives sound in a non-linear fashion; hence, the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, rather logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.

Noise Attenuation

Stationary point sources of noise, including stationary mobile sources such as idling vehicles, attenuate (lessen) at a rate between 6 dB for hard sites and 7.5 dB for soft sites for each doubling of distance from the reference measurement. Hard sites are those with a reflective surface between the source and the receiver such as parking lots or smooth bodies of water. No excess ground attenuation is assumed for hard sites and the changes in noise levels with distance (drop-off rate) is simply the geometric spreading of the noise from the source. Soft sites have an absorptive ground surface such as soft dirt, grass or scattered bushes and trees. In addition to geometric spreading, an excess ground attenuation value of 1.5 dB (per doubling distance) is normally assumed for soft sites. Line sources (such as traffic noise from vehicles) attenuate at a rate between 3 dB for hard sites and 4.5 dB for soft sites for each doubling of distance from the reference measurement (Caltrans, 2013a).

Noise levels may also be reduced by intervening structures, such as a row of buildings, a solid wall, or a berm located between the receptor and the noise source.

Fundamentals of Vibration

As described in the FTA's *Transit Noise and Vibration Impact Assessment*, ground-borne vibration can be a serious concern for nearby neighbors, causing buildings to shake and rumbling sounds to be heard (FTA, 2006). In contrast to airborne noise, ground-borne vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of ground-borne vibration are trains, buses and heavy trucks on rough roads, and construction activities such as blasting, sheet pile-driving and operating heavy earth-moving equipment.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal, which is measured

in inches per second (in/sec). The PPV is most frequently used to describe vibration impacts to buildings. The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (Vdb) is commonly used to express RMS. The decibel notation acts to compress the range of numbers required to describe vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receptors for vibration assessment include structures (especially older masonry structures), people who spend a lot of time indoors (especially residents, students, the elderly and sick), and vibration sensitive equipment such as hospital analytical equipment and equipment used in computer chip manufacturing.

The effects of ground-borne vibration include movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls and rumbling sounds. In extreme cases, the vibration can cause damage to buildings. Building damage is not a factor for most projects, with the occasional exception of blasting and pile-driving during construction. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by only a small margin.

3.11.2 Environmental Setting

Existing Noise Environment

The noise environment surrounding the proposed project sites is influenced by vehicular traffic along Highway 1 and along roadways such as Main Street and Quintana Road. Other noise sources in the area consist of ocean surf and operations at the existing wastewater facility. The locations of proposed project components do not include noise-generating land uses. The existing WWTP does generate low noise levels through vehicular trips to and from the site, but such levels are relatively insignificant in the context of other traffic using existing nearby roadways. The ambient noise environment within the preferred and proposed project sites were estimated using a relationship between ambient noise levels and population density researched by the U.S. Environmental Protection Agency (EPA, 1974) and traffic noise contours found in the County of San Louis Obispo Department of Planning and Building Land Use View (County of San Luis Obispo, 2018).

The EPA determined ambient noise can be related to population density in locations away from transportation corridors, such as airports, major roads, and railroad tracks. **Table 3.11-1** provides typical ambient noise levels from environs ranging from "Quiet Suburban" to "Very Noisy Urban." According to the U.S. Census Bureau, the population density of the City of Morro Bay is 1,929.9 people per square mile as of 2010 (U.S. Census, 2010). Using the typical ambient noise levels presented in Table 3.11-1, the estimated existing ambient within the City of Morro Bay could range from 53 to 57 dBA L_{dn}.

TABLE 3.11-1
TYPICAL AMBIENT NOISE LEVELS IN A SUBURBAN AND URBAN ENVIRONMENT

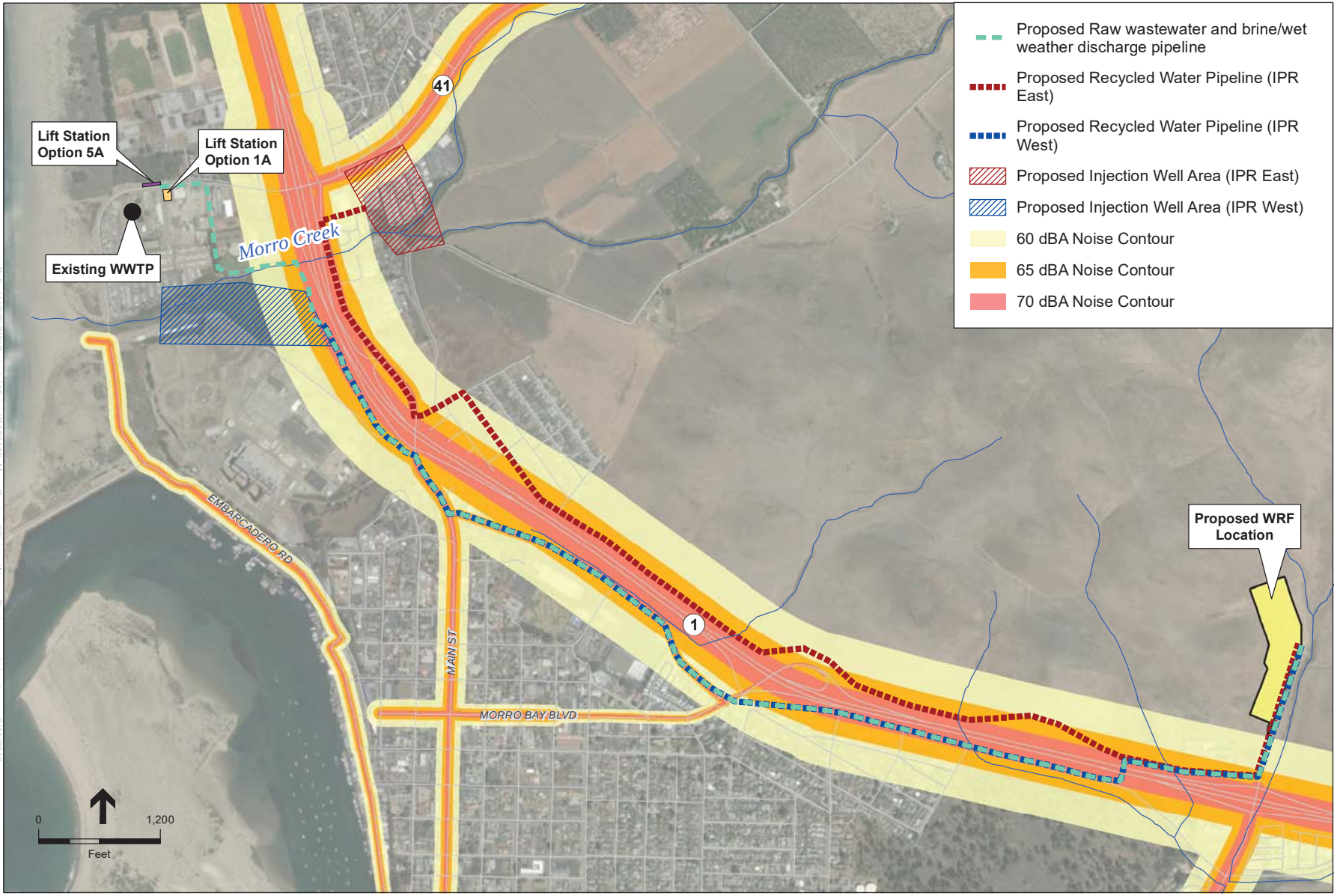
Description	Typical Range L_{dn}, dBA	Average L_{dn}, dBA	Average Census Tract Population Density, Number of People per Square Miles
Quiet Suburban Residential	48–52	50	630
Normal Suburban Residential	53–57	55	2,000
Urban Residential	58–62	60	6,300
Noisy Urban Residential	63–67	65	20,000
Very Noisy Urban Residential	68–72	70	63,000

SOURCE: EPA, 1974

The County of San Luis Obispo (County), Department of Planning and Building, have developed traffic noise contours to the 60 dBA, 65 dBA and 70 dBA L_{dn} along Highway 1 and along major arterial roadways within the County (County of San Luis Obispo, 2018). The traffic contours for the segment of Highway 1 that transverses through the City of Morro Bay (City) can be found in **Figure 3.11-2**. As shown in Figure 3.11-2, sensitive receptors located near the proposed pipelines are currently exposed to traffic noise levels ranging from 60 dBA to 65 dBA L_{dn}.

Existing Noise-Sensitive Land Uses

Human response to noise varies considerably from one individual to another. Effects of noise at various levels can include interference with sleep, concentration, and communication, and can cause physiological and psychological stress and hearing loss. Given those effects, some land uses are considered more sensitive to noise levels than others due to the duration and nature of time people spend at these uses. In general, residences are considered most sensitive to noise as people spend extended period of time in them including the nighttime hours. Therefore, noise impacts to rest and relaxation, sleep, and communication are highest at residential uses. Schools, hotels, hospitals, nursing homes, and recreational uses are also considered to be more sensitive to noise as activities at these land uses involve rest and recovery, relaxation and concentration, and increased noise levels tend to disrupt such activities. Places such as churches, libraries, and cemeteries, where people tend to pray, study, and/or contemplate, are also sensitive to noise but due to the limited time people spend at these uses, impacts are usually tolerable. Commercial and industrial uses are considered the least noise-sensitive.



SOURCE: ESRI 2016

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Figure 3.11-2

Traffic Noise Contours

The sensitive receptors nearest to the proposed WRF and O&M facilities consists of residences at the Bayside Care Center located approximately 360 feet from the preferred project site's southernmost boundary. The location of those residences can be found on Figure 3.4-5.

Sensitive receptors near the proposed lift station located at either the Option 1A or Option 5A site include the Morro Strand RV Park, Morro Dunes RV Park and Morro Bay High School. The location of those sensitive receptors relative to the proposed lift station locations at Option 1A and Option 5A can be found in Figure 2-3. As shown in Figure 2-3, the people at the Morro Strand RV Park are located approximately 260 feet south-east of Option 1A and approximately 330 feet southeast of Option 5A. The people at the Morro Dunes RV Park are located approximately 510 feet south of Option 1A and approximately 650 feet south of Option 5A. The students and staff at the Morro Bay High School are located approximately 380 feet north of Option 1A and approximately 270 feet north of Option 5A.

The route of the proposed conveyance pipeline alignment for raw wastewater and brine/wet weather discharge can be found in Figure 2-2. Sensitive receptors near the proposed conveyance pipeline alignment for raw wastewater and brine/wet weather discharge consist of the Morro Dune RV Park, single-family residences along Main Street and Quintana Road, and Bayside Care Center. As shown in Figure 2-2, people at the Morro Dune RV Park are located approximately 50 feet east of the proposed conveyance pipeline alignment. The single-family residences along Main Street and Quintana Road are located approximately 50 and 130 feet east of the proposed conveyance pipeline alignment, respectively. The residences at the Bayside Care Center are located approximately 50 feet north of the proposed conveyance pipeline alignment.

Location of the proposed recycled water distribution system IPR East alignment can be found in Figure 2-2. As shown in Figure 2-2, sensitive receptors located near the proposed recycled water distribution system IPR East alignment alternative consist of the Bayside Care Center, single-family residences along Bolton Drive and Radcliff Avenue, and Tratel-Morro Bay mobile home park. All of these land uses will be located within approximately 50 feet from the proposed recycled water distribution system IPR East alignment alternative.

Location of the proposed recycled water distribution system IPR West alignment can be found in Figure 2-2. As shown in Figure 2-2, the proposed recycled water distribution system IPR West alignment alternative would follow the same path as the proposed conveyance pipeline alignment for raw wastewater and brine/wet weather discharge. Sensitive receptors near the proposed recycled water distribution system IPR West alignment alternative will be the same as those already discussed under the proposed conveyance pipeline alignment above.

3.11.3 Regulatory Framework

Federal

Federal regulations establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under 40 Code of Federal Regulations (CFR), Part 205, Subpart B. The federal truck pass-by noise standard is 80 dBA at 15 meters (approximately 49 feet) from the

vehicle pathway centerline. These controls are implemented through regulatory controls on truck manufacturers.

Noise Control Act

In 1972, the Noise Control Act was established to address the concerns of noise as a growing danger to the health and welfare of the Nation's population, particularly in urban areas. In 1974, in response to the Noise Control Act, the U.S. Environmental Protection Agency (EPA) published Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. **Table 3.11-2** summarizes U.S. EPA findings for residential land uses.

TABLE 3.11-2.
SOUND LEVELS THAT PROTECT PUBLIC HEALTH (DBA)

		Indoor			Outdoor		
Category	**Measure of Exposure**	**Activity Interference**	**Hearing Loss**	**To Protect Against Both Effects**	**Activity Interference**	**Hearing Loss**	**To Protect Against Both Effects**
Residential with Outside Space	L_{dn}	45	70	45	55	70	55
Residential with No Outside Space	L_{dn}	45	70	45	-	-	-

NOTES:

Sound levels are yearly average equivalent in decibels; the exposure period which results in hearing loss at the identified level is a period of forty years.
Source: U.S. Environmental Protection Agency, Information of Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an adequate Margin of Safety, 1974.

State

The State of California establishes noise limits for vehicles licensed to operate on public roads. For heavy trucks, the State pass-by standard is consistent with the federal limit of 80 dBA. The State pass-by standard for light trucks and passenger cars (less than 4.5 tons, gross vehicle rating) is also 80 dBA at 15 meters (approximately 49 feet) from the centerline. These standards are implemented through controls on vehicle manufacturers and by legal sanction of vehicle operators by state and local law enforcement officials.

Local

County of San Luis Obispo General Plan

The following noise and vibration-related policies identified in the Noise Element of the *County of San Luis Obispo General Plan* (County of San Luis Obispo, 1992) are relevant to the proposed project.

> **Policy 3.3.3:** Noise created by new transportation noise sources, including roadway improvement projects, shall be mitigated so as not to exceed the levels specified in **Table 3.11-3** within the outdoor activity areas or interior spaces of existing noise sensitive land uses.

TABLE 3.11-3
MAXIMUM ALLOWABLE NOISE EXPOSURE – TRANSPORTATION

Land Use	Outdoor Activity Areas[1] L_{dn}/CNEL, dB	Interior Spaces L_{dn}/CNEL, dB	Interior Spaces L_{eq}, dB[2]
Residential (except temporary dwellings and res accessory uses)	60[3]	45	--
Bed and Breakfast Facilities, Hotels and Motels	60[3]	45	--
Hospitals, Nursing and Personal Care	60[3]	45	--
Public Assembly and Entertainment (except Meeting Halls)	--	--	35
Offices	60[3]	--	45
Churches, Meeting Halls	--	--	45
Schools-Preschool to Secondary, College and University, Specialized Education and Training Libraries and Museums	--	--	45
Outdoor Sports and Recreation	70	--	--

1 Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving and use.

2 As determined for a typical worst-case hour during periods of use.

3 For other than residential uses, where an outdoor activity area is not proposed, the standard shall not apply. Where it is not possible to reduce noise in outdoor activity areas to 60 dB Ldn/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

SOURCE: County of San Luis Obispo, 1992

Policy 3.3.5: Noise created by new proposed stationary noise sources or existing stationary noise sources which undergo modifications that may increase noise levels shall be mitigated as follows and shall be the responsibility of the developer of the stationary noise source:

a) Noise from agricultural operations conducted in accordance with accepted standards and practices is not required to be mitigated.

b) Noise levels shall be reduced to or below the noise level standards in **Table 3.11-4** where the stationary noise source will expose an existing noise-sensitive land use to noise levels which exceed the standards in Table 3.11-2. When the affected noise-sensitive land use is Outdoor Sports and Recreation, the noise level standards in Table 3.11-3 shall be increased by 10 dB.

   Where the noise source is one of the following electrical substations which is not modified so as to increase noise levels, the noise standards shall instead be 50 dBA between 10:00 p.m. and 7:00 a.m. and 55 dBA between 7:00 a.m. and 10:00 p.m., determined at the property line of the receiving land use: the Cholame, San Miguel, Templeton, Cambria, Perry, Cayucos, Baywood, Highway 1 between Morro Bay and the California Men's Colony, Goldtree, Foothill, San Luis Obispo, Oceano, Mesa, Union Oil, Callender, and Mustang electrical substations.

c) Noise levels shall be reduced to or below the noise level standards in Table 3.11-2 where the stationary noise source will expose vacant land in the Agriculture, Rural Lands, Residential rural, Residential Suburban, Residential Single-Family, Residential Multi-Family, Recreation, Office and Professional, and Commercial Retail land use categories to noise levels which exceed the standards in Table 3.11-3.

   Where the noise source is one of the following electrical substations which is not modified so as to increase noise levels, the noise standards shall instead be 50 dBA

between 10:00 p.m. and 7:00 a.m. and 55 dBA between 7:00 a.m. and 10:00 p.m., determined at the property line of the receiving land use: the Cholame, San Miguel, Templeton, Cambria, Perry, Cayucos, Baywood, Highway 1 between Morro Bay and the California Men's Colony, Goldtree, Foothill, San Luis Obispo, Oceano, Mesa, Union Oil, Callender, and Mustang electrical substations.

This policy may be waived when the Director of Planning and Building determines that such vacant land is not likely to be developed with a noise sensitive land use.

d) For new proposed resource extraction, manufacturing or processing noise sources or modifications to those sources which increase noise levels: where such noise sources will expose existing noise-sensitive land uses to noise levels which exceed the standards in Table 3.11-3, best available control technologies shall be used to minimize noise levels. The noise levels shall in no case exceed the noise level standards in Table 3.11-3.

Policy 3.3.6: San Luis Obispo County shall consider implementing mitigation measures where existing noise levels produce significant noise impacts to noise-sensitive land uses or where new development may result in cumulative increases of noise upon noise-sensitive land uses.

TABLE 3.11-4
MAXIMUM ALLOWABLE NOISE EXPOSURE – STATIONARY NOISE[A]

		Maximum Exterior Noise Level Standards, dBA	
Category	**Cumulative Duration of Noise Event in Any One-hour Period**	**Daytime 7:00 a.m. to 10:00 p.m.**	**Nighttime 10:00 p.m. to 7:00 a.m.**
1	Hourly Leq, dBA[b]	50	45
2	Maximum Level, dBA[b]	70	65
3	Maximum level, dBA – Impulsive Noise[c]	65	60

[a] As determined at the property line of the receiving land use. When determining the effectiveness of noise mitigation measure, the standards may be applied on the receptor side of noise barriers or other property line noise mitigation measures.

[b] Sound level measurement shall be made with slow meter response.

[c] Sound level measurements shall be made with fast meter response.

SOURCE: City of Morro Bay, 1993; County of San Luis Obispo, 1992; City of Morro Noise Ordinance

City of Morro Bay General Plan

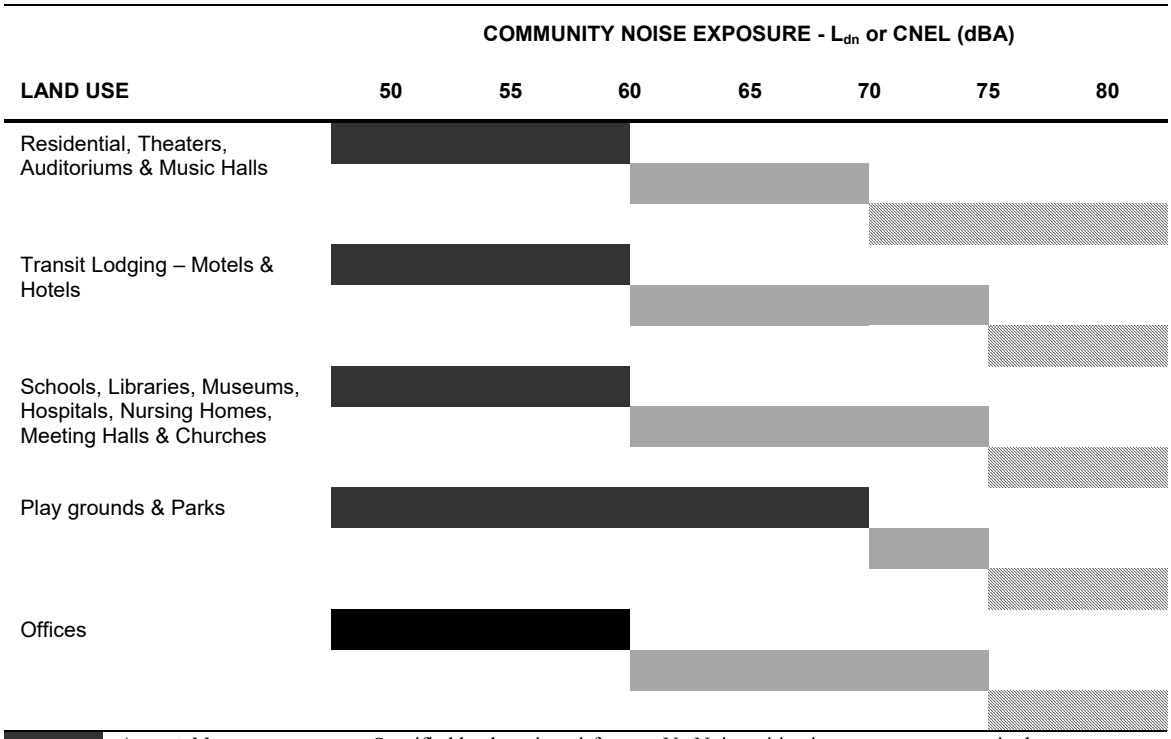
The following noise and vibration-related policies and programs identified in the Noise Element of the *City of Morro General Plan* (City of Morro Bay, 1993) are relevant to the proposed project.

Policy N-2: The City will provide for the identification and evaluation of potential noise problem areas within its fiscal limitations.

Program N-2.2: Using the noise compatibility standards provided in **Figure 3.11-3**, existing land uses should be reviewed to identify potential noise problems.

Policy N-4: The City will reduce existing and potential incompatible noise levels in problem areas through operational or source controls where the City has responsibility for such controls and such reductions are feasible.

Figure 3.11-3
Land Use Compatibility for Community Noise Environment



SOURCE: City of Morro Bay, 1993

Program N-4.1: Routes for use by heavy trucks will be located away from noise sensitive land uses when feasible.

Program N-4.3: Noise created by new proposed stationary noise sources or existing stationary noise sources which undergo modifications that may increase noise levels shall be mitigated so as not to exceed the noise level standards of Table 3.11-3 on lands designated for noise sensitive land use.

Program N-4.4: The City will require noise abatement by stationary sources in cases of excessive noise emissions when feasible.

Program N-4.5: The City shall consider implementing mitigation measures where existing noise levels produce significant noise impacts to noise-sensitive land uses or where new development may result in cumulative increases of noise upon noise sensitive land use.

Morro Bay Municipal Code

The Morro Bay Municipal Code includes noise regulations in Title 17 – Zoning, Chapter 17.52– Noise Requirements and Title 9.28 Prohibited Conduct. Of the regulations in Chapter 17.52 and Chapter 9.28, the following regulations would be applicable to the proposed project:

9.28.030(I) Construction Noise. Construction or Repairing of Buildings. The erection (including excavating), demolition, alteration or repair of any building or general land grading and contour activity using equipment in such a manner as to be plainly audible at a distance of 50 feet from the building other than between the hours of 7:00 a.m. and 7:00 p.m. on weekdays and 8:00 a.m. and 7:00 p.m. on weekends except in case of urgent necessity in the interest of public health and safety, and then only with a permit from the community development department, which permit may be granted for a period not to exceed three days or less while the emergency continues and which permit may be renewed for a period of three days or less while the emergency continues. If the building official determines the public health and safety will not be impaired by the erection, demolition, alteration and repair of any building or the excavation of streets and highways within the hours of 7:00 p.m. and 7:00 a.m. on weekdays and 7:00 p.m. and 7:00 a.m. on weekends and if he further determines that loss or inconvenience would result to any party in interest, he may grant permission for such work to be done within the hours of 7:00 p.m. and 7:00 a.m. on weekdays and 7:00 p.m. and 8:00 a.m. on weekends upon application being made at the time the permit for the work is awarded or during the progress of the work.

17.52. 030(A) General Noise Limitations. Any business operation with sustained or intermittent noise levels exceeding 70 dBA L_{dn} as described by the Noise Element including, but not limited to, wood or machine milling, air hammers, generators, and prolonged or excessive truck deliveries, shall not be allowed within 100 feet of residential uses, hospitals, and other noise sensitive uses unless noise levels are mitigated in compliance with this Section.

17.52.030(B) Operational Hours. All commercial and industrial deliveries and loud commercial activities such as loading and unloading, leaf blowers, bands with loudspeakers within 100 feet of a residential use shall be limited to the hours between 7:00 a.m. and 10:00 p.m.

17.52.040 Vibration. No vibration shall be permitted so as to cause a noticeable tremor, measurable without instruments at the lot line.

Noise level performance standards in Tables 3.11-3 and **Table 3.11-5**, are performance standards for noise producing land uses that may affect noise sensitive land uses.

County of San Luis Obispo County Code

The County of San Luis Obispo County Code includes noise regulations in Title 23 – Coastal Zone Land Use, Chapter 23.06– Operational Standards. Of the regulations in Chapter 23.06, the following regulations would be applicable to the proposed project:

23.06.042(b) Exceptions to Noise Standards. Noise sources associated with construction, provided such activities do not take place before seven a.m. or after nine p.m. any day except Saturday or Sunday, or before eight a.m. or after five p.m. on Saturday or Sunday.

23.06.044(a) Exterior Noise Level Standards. No person shall create any noise or allow the creation of any noise at any location within the unincorporated areas of the county on property owned, leased, occupied or otherwise controlled by such person which causes the exterior noise level when measured at any of the preceding noise-sensitive land uses situated in either the

incorporated or unincorporated areas to exceed the noise level standards in **Table 3.11-6**. When the receiving noise-sensitive land use is outdoor sports and recreation, the following noise level standards shall be increased by 10 dB.

TABLE 3.11-5
MAXIMUM ALLOWABLE NOISE EXPOSURE – TRANSPORTATION

	Outdoor Activity Areas[a]	Interior Spaces	
Noise Sources / Land Use	**Ldn/CNEL, dB**	**Ldn/CNEL, dB**	**Leq, dB[b]**
Residential	60[c]	45	--
Transient Lodging	60[c]	45	--
Hospitals, nursing homes	60[c]	45	--
Theatres, auditoriums, music halls	--	--	35
Churches, meeting halls, office buildings	60[c]	--	45
Schools, libraries, museums	--	--	45
Playgrounds, neighborhood parks	70	--	--

[a] Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving and use.

[b] As determined for a typical worst-case hour during periods of use.

[c] Where it is not possible to reduce noise in outdoor activity areas to 60 L_{dn}/CNEL, dB or less using a practical application of the best available noise reduction measures, an exterior noise level of up to 65 L_{dn}/CNEL, dB may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

SOURCE: Morro Bay Zoning Ordinance.

TABLE 3.11-6
COUNTY OF SAN LUIS OBISPO COUNTY CODE – EXTERIOR NOISE STANDARDS

	Daytime	Nighttime
Category	**(7:00 a.m. to 10:00 p.m.)**	**(10:00 p.m. to 7:00 a.m.)**
Hourly Equivalent Sound Level (Leq, dB)	50	45
Maximum level, dBA	70	65

Notes:

1 In the event the measured ambient noise level exceeds the applicable exterior noise level standard in subsection (a), the applicable standard shall be adjusted so as to equal the ambient noise level plus one dB.

2 Each of the exterior noise level standards specified in subsection (a) shall be reduced by five dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises.

3 If the intruding noise source is continuous and cannot reasonably be discontinued or stopped for a time period whereby the ambient noise level can be measured, the noise level measured while the source is in operation shall be compared directly to the exterior noise level standards.

Source: Chapter 23.06.044 of the County of San Luis Obispo County Code

23.23.062(a) Exceptions to Standards. Vibrations from construction, the demolition of structures, surface mining activities or geological exploration between 7:00 a.m. and 9:00 p.m.

23.23.062(b) Exceptions to Standards. Vibrations from moving sources such as trucks and railroads.

3.11.4 Impacts and Mitigation Measures

Significance Criteria

Appendix G of the *CEQA Guidelines* recommends significance criteria for the evaluation of impacts related to noise and vibration in the project area. Those same criteria are provided below. This Draft EIR assumes implementation of the proposed project would have a significant impact related to noise and vibration if it would:

- Result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- Result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels.
- Result in a substantial permanent increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project.
- Result in a substantial temporary or periodic increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project.
- For a project located within an airport land use plan area, or, where such a plan has not been adopted, in an area within 2 miles of a public airport or public use airport, expose people residing or working in the area to excessive noise levels.
- For a project located in the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

Methodology

Construction noise impacts are assessed relative to the increase in noise levels that could result from the operation of specified construction equipment compared to existing noise level conditions. Analysis of the proposed project's temporary construction noise effects is based on specific estimates of construction equipment and duration of use from the project applicant. In all cases, the analyses accounted for attenuation of noise levels due to distances between the construction activity and the sensitive land uses in the site vicinity. Construction noise levels at nearby sensitive land uses that would be associated with the proposed project were estimated using the FHWA's *Roadway Construction Noise Model* (FHWA, 2006).

The FTA has identified a daytime 1-hour L_{eq} level of 90 dBA as a noise level where adverse community reaction could occur at residential land uses (FTA, 2006). That noise level is used here to assess whether construction-related on-site and off-site noise levels would have the potential to cause a substantial temporary or periodic increase in ambient noise levels at sensitive receptor locations.

For the analysis of long-term operational impacts on the existing ambient noise environment, impacts are considered significant if operation of the project facilities would result in a substantial increase in noise levels in the project area. That evaluation uses a 5-dBA increase in noise exposure—which Caltrans identifies as a readily perceptible noise increase (Caltrans, 2013a) —to assess the significance of operational noise increases on ambient noise levels in the proposed project vicinity.

For the purposes of the assessment of potential vibration impacts, the methodology described in the Caltrans' *Transportation and Construction Vibration Guidance Manual* was used to evaluate project-related vibration effects to nearby sensitive land uses (Caltrans, 2013b). For adverse human reaction, the analysis applies the "strongly perceptible" threshold of 0.9 in/sec PPV for transient sources (Caltrans, 2013b). For risk of architectural damage to historic buildings and structures, this analysis applies a threshold of 0.12 in/sec PPV (Caltrans, 2013b). A threshold of 0.3 in/sec PPV is used for all other buildings.

Impact Analysis

Compliance with Noise Standards

Impact 3.11-1: Construction of the proposed injection and monitoring wells would require continuous drilling for 24-hour periods, at noise levels in excess of standards established in the Morro Bay Municipal Code. Implementation of a Construction Noise Reduction Plan approved by the City's building official would reduce noise levels to acceptable levels. This would be a Class II impact, Less than Significant with Mitigation.

The proposed project would result in the construction of a new WRF, conveyance pipelines, lift station and three to five injection wells. Construction of the new facilities would involve the use of a variety of heavy construction machinery onsite. In addition to the construction of new facilities, the proposed project would also include the demolition of the City's existing WWTP. Construction is anticipated to begin in June 2019 and would take approximately three years for construction, commissioning, startup, and verification testing. All construction and demolition, with the exception of the installation of the proposed injection wells, are expected to occur generally between 7:00 a.m. to 5:00 p.m. Monday through Friday

The majority of off-road equipment and vehicles would be associated with the intensive earthwork and the structural and paving phases of construction. Large construction equipment such as backhoes, compactors, cranes, excavators, haul trucks, pavers, and rollers would be used during all construction and demolition phases of the proposed project. **Table 3.11-7** shows typical noise levels produced by the types of off-road equipment that would likely be used during construction of the proposed project as well as demolition of the existing WWTP.

TABLE 3.11-7
REFERENCE CONSTRUCTION EQUIPMENT NOISE LEVELS – (50 FEET FROM SOURCE)

Type of Equipment	L_{max}, dBA	Hourly L_{eq}, dBA/% Use[1]
Backhoe	80	76/40%
Jackhammer	85	78/20%
Roller	85	78/20%
Compactor	80	73/20%
Paver	85	82/50%
Crane	85	77/16%
Grader	85	81/40%
Concrete Mixer Truck	85	81/40%
Loader	80	76/40%
Air Compressor	80	76/40%
Auger Drill Rig	85	78/20%
Excavator	85	81/40%

NOTES:
[1] Percent used during the given time period (usually an hour – hourly L_{eq}) were obtained from the FHWA Roadway Construction Noise Model User's Guide.

SOURCE: FHWA, 2006.

The operation of each piece of off-road equipment within project construction areas would not be constant throughout the day, as equipment would be turned off when not in use. Over a typical workday, the equipment would be operating at different locations and all the equipment would not necessarily operate concurrently within the same location of the project area. To quantify construction-related noise exposure at the nearest sensitive land uses, it is assumed that the two loudest pieces of construction equipment would operate within the project areas closest to the nearest off-site sensitive receptor. **Table 3.11-8** presents the highest L_{max} and L_{eq} noise levels sensitive receptors would be exposed to at each of the proposed construction areas during operation of the two loudest pieces of construction equipment. A summary of impact per project component is provided below.

TABLE 3.11-8
SUMMARY OF NOISE AT SENSITIVE RECEPTORS DURING PROJECT CONSTRUCTION

Project Facility	Loudest two Pieces of Construction Equipment	Equipment Noise Level at 50 feet (dBA L_{eq}/ dBA L_{max})[1]	Distance to nearest Sensitive Receptor (feet)	Attenuated Noise Level (dBA L_{max}/ dBA L_{eq})[2]
WRF	Crane, Backhoe	86/80	360	55/49[3]
Lift Station				
Option 1A	Excavator, Backhoe	86/82	260	68/64
Option 5A	Excavator, Backhoe	86/82	270	68/64
Conveyance Pipelines				
Discharge Pipeline	Excavator, Auger Drill Rig	88/83	50	88/83
IPR West	Excavator, Auger Drill Rig	88/83	50	88/83
IPR East	Excavator, Auger Drill Rig	88/83	50	88/83
Injection/Monitoring Wells	Backhoe, Auger Drill Rig	86/80	50	86/80
Decommissioning of Current WWTP	Excavator, Backhoe	86/82	250	69/65

Notes:
1 Reference construction equipment noise levels were obtained from Caltrans' Roadway Construction Noise Level (RCNM) (FHWA, 2006).
2 Assumed an attenuation rate of 7.5 dB per doubling of distance (i.e., soft site).
3 Assumed 10 dB of attenuation due to intervening hill blocking line-of-sight between the preferred WRF site and nearest sensitive receptor.

Source: ESA, 2017; FHWA, 2006

WRF

The construction activities associated with the proposed WRF would occur within an unincorporated area of the County. As described in Section 3.11.3, *Regulatory Framework*, the County noise ordinance exempts activities associated with construction provided they occur from 7:00 a.m. to 9:00 p.m. Monday through Friday or from 8:00 a.m. to 5:00 p.m. Saturday or Sunday. Construction activities that occur outside of these construction exempt hours must limit onsite construction activities as to not expose the nearest sensitive receptors to noise levels that exceed the exterior noise standards found in Subdivision 23.06.042(a) of the County's noise ordinance (see Table 3.11-4).

Construction of the WRF and O&M buildings would consist of site clearing and grading, excavation, construction of treatment buildings and installation of equipment, and site completion. Construction equipment would include backhoe, loader, dump trucks, crew trucks, concrete trucks, cranes, personal vehicles, compactor, delivery trucks, and a water truck. The construction of those facilities are expected to begin in June 2019 and take approximately 30 months to complete.

The residences at the Bayside Care Center, the nearest sensitive receptors to the preferred site for the WRF, are located approximately 360 feet from that site's southernmost boundary. A crane and backhoe are the two loudest pieces of off-road equipment that will be operating during the proposed project construction. As shown in Table 3.11-8, the people living at the Bayside Care Center would be exposed to noise levels of 55 dBA L_{max}/ 49 dBA L_{eq} during project construction.

All construction activities associated with the proposed WRF and associated O&M facilities would only occur within the construction exempt hours specified in the County noise ordinance. Since project-related construction activities would be exempt from the County's noise ordinance, construction of the proposed WRF and associated O&M facilities would not result in a violation of the County's code. There would be less-than-significant impact with respect to exposure of persons to, or generation of, noise levels in excess of standards found in the local noise ordinance.

Lift Station

As described in Chapter 2, *Project Description*, there are two alternative locations for the proposed lift station, which are designated as Option 1A and Option 5A. The locations of those proposed facilities can be found in Figure 2-3. The construction of the lift station is expected to begin in June 2019 and take approximately 10 months to complete. The construction equipment needed for either lift station option generally includes: auger truck, backhoe, boom lift truck, excavator and plate compactor.

The construction activities associated with the two proposed lift station options (*i.e.*, Option 1A and Option 5A) would occur within the City's jurisdiction. As described in the Section 3.11.3, *Regulatory Framework*, the City noise ordinance exempts activities associated with construction provided they occur from 7:00 a.m. to 7:00 p.m. Monday through Friday or from 8:00 a.m. to 7:00 p.m. Saturday or Sunday. Construction activities that occur outside of those construction exempt hours must submit an application to the City building official requesting permission to work outside the allowed construction hours.

The sensitive receptors nearest the proposed lift station alternative designated as Option 1A consists of people at the Morro Strand RV Park located approximately 260 feet south-east of the project site. As shown in Table 3.11-8, the people staying at the Morro Strand RV Park would be exposed to noise levels of 68 dBA L_{max}/ 64 dBA L_{eq} during project construction.

The sensitive receptors nearest the proposed lift station alternative designated as Option 5A consists of people at the Morro Bay High School located approximately 270 feet north of the project site. As shown in Table 3.11-8, the students and staff at the Morro Bay High School would be exposed to noise levels of 68 dBA L_{max}/ 64 dBA L_{eq} during project construction.

All construction activities associated with the proposed lift stations (*i.e.*, Option 1A and Option 5A) would only occur within the construction exempt hours specified in the City's noise ordinance. Since project-related construction activities would be exempt from the City's noise ordinance, construction of the proposed lift stations would not result in a violation of the Morro Bay Municipal Code. There would be less-than-significant impact with respect to exposure of persons to, or generation of, noise levels in excess of standards found in the local noise ordinance.

Conveyance Pipelines

As described in Chapter 2, *Project Description*, the proposed project would include the installation of one raw wastewater and brine/wet weather discharge pipeline connecting the proposed WRF to the proposed lift station and two proposed options (*i.e.*, IPR East and IPR

West) for a recycled water pipeline connecting the proposed WRF to the proposed injection wells.

The construction activities associated with the conveyance pipeline would occur within the jurisdiction of the City. As described in the Section 3.11.3, *Regulatory Framework*, the City's noise ordinance exempts activities associated with construction provided they occur from 7:00 a.m. to 7:00 p.m. Monday through Friday or from 8:00 a.m. to 7:00 p.m. Saturday or Sunday. Construction activities that occur outside of these construction exempt hours must submit an application to the City building official requesting permission to work outside the allowed construction hours.

The construction of the proposed conveyance pipelines is expected to begin in June 2019 and take approximately 12 months to complete. Construction would involve trenching using a conventional cut and cover technique or directional drilling technique where necessary under Highway 1 and to avoid sensitive drainages and roadway intersections if utilities are congested. The proposed pipeline would be installed within existing roadway rights-of-ways to the extent feasible. The trenching technique would include saw cutting of the pavement, trench excavation, pipe installation, backfill operations, and re-surfacing to the original condition.

Proposed Raw Wastewater and Brine/Wet Weather Discharge Pipeline

The nearest sensitive receptors to the proposed raw wastewater and brine/wet weather discharge pipeline alignment consist of the Morro Dune RV Park, single-family residences along Main Street and Quintana Road and Bayside Care Center. All of these sensitive receivers would be located within 50 feet from the proposed conveyance pipeline alignment. As shown in Table 3.11-8, the sensitive receptors located within 50 feet of the proposed discharge pipeline would be exposed to noise levels of 88 dBA L_{max}/83 dBA L_{eq} during construction.

All construction activities associated with the proposed raw wastewater and brine/wet weather discharge pipeline would only occur within the construction exempt hours specified in the City's noise ordinance. Since project-related construction activities would be exempt from the City's noise ordinance, construction of the proposed lift stations would not result in a violation of the Morro Bay Municipal Code. There would be less-than-significant impact with respect to exposure of persons to, or generation of, noise levels in excess of standards found in the local noise ordinance.

Proposed Recycled Water Pipeline (IPR West)

The proposed IPR West pipeline would be nearly identical to the proposed raw wastewater and brine/wet weather discharge pipeline. Consequently, sensitive receptors located adjacent to the proposed recycled water pipeline alignment would be similar to those already discussed under the proposed raw wastewater and brine/wet weather discharge pipeline above.

Proposed Recycled Water Pipeline (IPR East)

Sensitive receptors located near the proposed recycled water distribution system IPR-East alignment alternative consist of the Bayside Care Center, single-family residences along Bolton Drive and Radcliff Avenue, and Tratel-Morro Bay mobile home park. All of these land uses will

be located within approximately 50 feet from the proposed recycled water distribution system IPR East alignment alternative. As shown in Table 3.11-8, the sensitive receptors located within 50 feet of the proposed IPR East pipeline would be exposed to noise levels of 88 dBA L_{max}/ 83 dBA L_{eq} during construction.

All construction activities associated with the proposed IPR East pipeline would only occur within the construction exempt hours specified in the City's noise ordinance. Since project-related construction activities would be exempt from the City's noise ordinance, construction of the proposed lift stations would not result in a violation of the Morro Bay Municipal Code. There would be less-than-significant impact with respect to exposure of persons to, or generation of, noise levels in excess of standards found in the local noise ordinance.

Injection and Monitoring Wells

The proposed project would include the installation of three to five injection/monitoring wells. As discussed in Chapter 2, *Project Description*, there are two new proposed areas (IPR East and IPR West) where the proposed injection/monitoring wells could be installed. The areas where the injection/monitoring wells could be installed are shown in Figure 2-9a and Figure 2-9b. The exact locations of where the proposed injection/monitoring wells would be stalled are unknown at this time.

The construction activities associated with the proposed injection/monitoring wells would occur within the jurisdiction of the City of Morro Bay. As previously discussed, the City's noise ordinance exempts activities associated with construction provided they occur from 7:00 a.m. to 7:00 p.m. Monday through Friday or from 8:00 a.m. to 7:00 p.m. Saturday or Sunday. Construction activities that occur outside of these construction exempt hours must submit an application to the City's building official requesting permission to work outside the allowed construction hours.

Construction of injection wells would include site preparation, mobilization of equipment to the well site, well drilling, water quality testing, installation of the well casing, gravel packing and finishing with a cement seal. Construction equipment typically would include an auger rig, drill rig, small crane, welder, all-wheel drive forklift, pipe trailer, generator, Baker tanks, circulation pits and a backhoe. For approximately one month, daily 24-hour drilling would be required. To drill the well, the drill rig must run 24 hours-a-day.

Since the exact locations of where the proposed injection/monitoring wells are unknown at this time, it is conservatively assumed that the nearest sensitive receptors are located approximately 50 feet from construction areas. As shown in Table 3.11-8, the sensitive receptors located within 50 feet of the proposed injections/monitoring wells would be exposed to noise levels of 86 dBA L_{max}/80 dBA L_{eq} during construction.

As previously discussed, drilling could occur over a 24-hour period. The nearest sensitive receptors to the wells sites could be exposed to construction-related noise levels outside of the allowed construction hours provided in the City's noise ordinance. There would be a potentially

significant impact with respect to exposure of persons to, or generation of, noise levels in excess of standards found in the local noise ordinance.

To address potential impacts, the City would prepare and implement a Construction Noise Reduction Plan, that would be submitted and approved by the City's building official in accordance with Subdivisions 9.28.030. I. of the Morro Bay Municipal Code. The Construction Noise Reduction Plan Could demonstrate to the City's building official assigned to the project that no loss or inconvenience would result to any party of interest. Once the Plan is approved by the City's building official, nighttime drilling activities would be allowed to occur. Implementation of the Plan as required by **Mitigation Measure NOISE-1** would ensure well drill activities would not result in a violation of the Morro Bay Municipal Code. Therefore, this impact would result in a less than significant impact after mitigation.

Decommissioning of Current WWTP

The existing WWTP facility is located within the jurisdiction of the City of Morro Bay. As previously discussed, the City's noise ordinance exempts activities associated with construction provided they occur from 7:00 a.m. to 7:00 p.m. Monday through Friday or from 8:00 a.m. to 7:00 p.m. Saturday or Sunday. Construction activities that occur outside of these construction exempt hours must submit an application to the City's building official requesting permission to work outside the allowed construction hours.

The Morro Dunes RV Park is the nearest sensitive land use to the existing WWTP. People staying at the Morro Dune RV Park could be located as close as 250 feet from the existing WWTP buildings. As shown in Table 3.11-8, the sensitive receptors located within 25 feet of the existing WWTP facility would be exposed to noise levels of 69 dBA L_{max}/65 dBA L_{eq} during demolition.

All construction activities associated with the proposed decommissioning of the current WWTP would only occur within the construction exempt hours specified in the City's noise ordinance. Since project-related construction activities would be exempt from the City's noise ordinance, construction of the proposed lift stations would not result in a violation of the Morro Bay Municipal Code. There would be a less-than-significant impact with respect to exposure of persons to, or generation of, noise levels in excess of standards found in the local noise ordinance.

Mitigation Measures

NOISE-1: Construction Noise Reduction Measures. The City shall develop and submit a Construction Noise Reduction Plan to the building official prior to initiating construction activities during hours that are not included in the exemption under the Morro Bay Municipal Code. The City or its contractor shall implement the Construction Noise Reduction Plan. A disturbance coordinator shall be designated for the project to implement the provisions of the Plan. At a minimum, the Construction Noise Reduction Plan shall implement the following measures:

- Distribute to the potentially affected residences and other sensitive receptors within 150 feet of project construction boundary a "hotline" telephone number, which shall be attended during active construction working hours, for use by the public to register complaints. The distribution shall identify a noise disturbance coordinator who would be responsible for responding to any local complaints about construction noise. The

disturbance coordinator would determine the cause of the noise complaints and institute feasible actions warranted to correct the problem. All complaints shall be logged noting date, time, complainant's name, nature of complaint, and any corrective action taken. The distribution shall also notify residents adjacent to the project site of the construction schedule.

- All construction equipment shall have intake and exhaust mufflers recommended by the manufacturers thereof, to meet relevant noise limitations.
- Maintain maximum physical separation, as far as practicable, between noise sources (construction equipment) and sensitive noise receptors. Separation may be achieved by locating stationary equipment to minimize noise impacts on the community.
- Impact tools (e.g., jack hammers, pavement breakers) used during construction activities will be hydraulically or electrically powered where feasible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used.
- Use construction noise barriers such as paneled noise shields, blankets, or enclosures adjacent to noisy stationary equipment. Noise control shields, blankets or enclosures shall be made featuring a solid panel and a weather-protected, sound-absorptive material on the construction-activity side of the noise shield.

Significance Determination

Less than Significant with Mitigation.

Impact 3.11-2: Operation of the proposed injection wells in close proximity to sensitive receptors could generate noise in excess of standards established in the Morro Bay Municipal Code. A qualified noise consultant will determine the noise reduction measures to be incorporated into project design to ensure noise levels would not exceed the City's daytime and nighttime noise standards. This would be a Class II impact, Less than Significant with Mitigation.

As discussed in Chapter 2, *Project Description*, operation of the proposed WRF and associated O&M buildings could result in approximately 14 vehicular worker trips per day and 13 heavy truck trips per month, which represents the highest operational traffic volumes out of all of the project components. Using traffic noise prediction equations developed by FHWA and conservatively assuming all 13 haul trips occur in one day, sensitive receptors located 50 feet from roadways leading to the proposed WRF and associated O&M buildings would be exposed to a traffic noise level of 47 dBA L_{dn}. These sensitive receptors would be exposed to project-related operational traffic noise levels that are below the City and County's noise standards. Therefore, for all project components, impacts associated with traffic-related noise during project operations would be less than significant.

Operational activities associated with the proposed WRF, lift station, conveyance pipelines, and injection/monitoring wells could result in the exposure of nearby off-site sensitive receptors to noise levels that could exceed local noise standards. Noise sources associated with the proposed

project include vehicular traffic from worker and truck trips and stationary sources such as pump stations, emergency generators and transformers. **Table 3.11-9** presents the highest L_{eq} noise level sensitive receptors could be exposed to during the operation of stationary noise sources at each of the proposed facilities. A summary of impact per project component is provided below.

TABLE 3.11-9
SUMMARY OF NOISE AT SENSITIVE RECEPTORS DURING OPERATION - STATIONARY SOURCES

Project Facility	Loudest Noise Source	Combined Source Noise Level at 50 feet (dBA L_{eq})[1, 2, 3]	Distance to nearest Sensitive Receptor (feet)	Attenuated Noise Level (dBA L_{eq})[4, 5]
WRF	Pump, Generator	83	360	32[6]
Lift Station				
Option 1A	Pump, Generator, transformer	83	260	45
Option 5A	Pump, Generator, transformer	83	270	45
Conveyance Pipelines				
Discharge Pipeline	None	N/A	N/A	N/A
IPR West	None	N/A	N/A	N/A
IPR East	None	N/A	N/A	N/A
Injection/Monitoring Wells	Pump, Generator	83	50	63
Decommissioning of Current WWTP	None	N/A	N/A	N/A

Notes:
N/A = No operational activities.
1 Assumed a transformer with a power rating between 100 to 5,000 kVA would be installed at the lift station, which can generate a noise level of 67 dBA from a distance of 25 feet (Bies, 2009).
2 Assumed a pump motor can generate a noise level of 76 dBA from a distance of 50 feet (FTA, 2006).
3 Assumed a generator can generate a noise level of 82 dBA from a distance of 50 feet (FHWA, 2006).
4 Assumed an attenuation rate of 7.5 dB per doubling of distance (i.e., soft site)
5 Assumed that all stationary sources would be fully enclosed and benefit from an interior to exterior attenuation of 20 dB.
6 Assumed 10 dB of attenuation due to intervening hill blocking line-of-sight between the preferred WRF site and nearest sensitive receptor.

Source: ESA, 2017; Bies, 2009; FTA, 2006; FHWA, 2006

WRF

As described in the Section 3.11.3, *Regulatory Framework*, the County of San Luis Obispo General Plan Policy 3.3.5, sensitive receptors exposed to noise levels from a stationary source that exceeds those shown in Table 3.11-4 would result in a significant impact. The stationary noise sources associated with the proposed WRF are the two 15 or 30 horse power (HP) recycled water pumps (one on standby) and emergency backup generator. The recycled water pumps would be used to convey water to offsite injection wells. For this analysis it is assumed that the pump motors and emergency backup generator are operating at the same time and are fully enclosed. As shown in Table 3.11-9, the nearest sensitive receptor to the WRF could be exposed to a noise level of 32 dBA L_{eq} during the operation, which is below the County's daytime and nighttime noise standards. There would be a less than significant impact with respect to exposure of persons to, or generation of, noise levels in excess of standards found in the local general plan.

Lift Station

As described in the Section 3.11.3, *Regulatory Framework*, the City's General Plan Policy N-4.5, sensitive receptors exposed to noise levels from a stationary source that exceeds those provided in Table 3.11-3 would result in a significant impact. The stationary noise sources associated with the proposed lift station are the pump motors, emergency backup generator and transformer. For this analysis it is assumed that the pump motors, transformer and emergency backup generator are operating at the same time and are fully enclosed. As shown in Table 3.11-9, the nearest sensitive receptor to the proposed lift station located at either Option 1A or Option 5A could be exposed to a noise level of 45 dBA L_{eq} during operation, which is below the City's daytime and nighttime noise standards. There would be less than significant impact with respect to exposure of persons to, or generation of, noise levels in excess of standards found in the General Plan.

Conveyance Pipelines

All proposed conveyance pipelines would be underground and would not involve the installation of stationary noise sources such as pumps and emergency generators. There would be no impact with respect to exposure of persons to, or generation of, noise levels in excess of standards found in the local general plan.

Injection and Monitoring Wells

As described in the Section 3.11.3, *Regulatory Framework*, the City's General Plan Policy N-4.5, sensitive receptors exposed to noise levels from a stationary source that exceeds those showing in Table 3.11-4 would result in a significant impact. As previously discussed, the exact locations of the three to five proposed inject/monitoring wells in either the IPR West and IPR East areas are currently unknown. Due to the high density of residential development in both proposed areas, it is conservatively assumed that proposed injection/monitoring wells would be located within 50 feet of a sensitive receptor.

The stationary noise sources associated with the proposed injection wells in either the IPR West or IPR East areas would include the pump motors and emergency backup generators. For this analysis it is assumed that the pump motors and emergency backup generator are operating at the same time and are fully enclosed. As shown in Table 3.11-9, during operation of the WRF the nearest sensitive receptor to one of the proposed injection wells could be exposed to a noise level of 63 dBA L_{eq} during operation, which would exceed the City's daytime and nighttime noise standards. There would be a potentially significant impact with respect to exposure of persons to, or generation of, noise levels in excess of standards found in the General Plan.

Prior to final design of the proposed injection wells, the City would prepare an Operational Noise Reduction Plan demonstrating that the proposed wells would not expose the nearest sensitive receptor to noise levels that would exceed the City's daytime and nighttime noise standards (see Table 3.11-4). The Operational Noise Reduction Plan would be prepared by a qualified noise consultant. Once all noise reduction measures outlined in the Operational Noise Reduction Plan are implemented, the City would measure noise at the nearest sensitive receptor property line to validate the effectiveness of the measures and to demonstrate that operational noise levels are below the City's noise standards. Implementation of the Operational Noise Reduction Plan, as

required by **Mitigation Measure NOISE-2,** would reduce the project's impact to a less than significant level.

Decommissioning of Current WWTP

After the existing WWTP is fully decommissioned, no new stationary noise sources would be built or installed within the former WWTP area. Future plans for potential reuse of that site are speculative. There would be no impact with respect to exposure of persons to, or generation of, noise levels in excess of standards found in the General Plan.

Mitigation Measures

> **NOISE-2: Operational Noise Reduction Measures.** Prior to final design of the proposed injection wells, the City shall prepare an Operational Noise Reduction Plan demonstrating that the proposed injection wells will not expose the nearest sensitive receptor to noise levels that would exceed the City's daytime and nighttime noise standards (see Table 3.11-4). The operational noise reduction plan shall be prepared by a qualified noise consultant. Once all noise reduction measures outlined in the Operational Noise Reduction Plan are implemented, the City shall measure noise at the nearest sensitive receptor property line to validate the effectiveness of the measures and to demonstrate that operational noise levels are below the City's noise standards.

Significance Determination

Less than Significant with Mitigation.

Groundborne Vibration

> **Impact 3.11-3: The proposed project would not expose people to excessive groundborne vibration either during construction or operation. This would be a Class III impacts, Less than Significant.**

Operation

None of the proposed facilities would expose people to, or generate, groundborne vibration during routine maintenance and project operations. Groundborne noise occurs when vibrations transmitted through the ground result in secondary radiation of noise. Groundborne noise is generally associated with underground railway operations and with construction activities such as blasting, neither of which would result from project implementation. Operation of the Project would not involve equipment that would produce ground borne vibration; therefore, no impacts related to the exposure of people or structures to, or the generation of, excessive groundborne noise levels would occur in connection with project operations.

Construction

Human annoyance and building damage are typically the primary issues concerning temporary construction impacts from vibration. Construction activities that may result in temporary vibration impacts include the use of large bulldozers, loaded trucks and auger drills. Impact pile driving is not proposed under any of the project components.

For adverse human reaction, the analysis applies the "strongly perceptible" threshold of 0.9 in/sec PPV for transient sources (Caltrans, 2013b). For risk of architectural damage to historic buildings and structures, this analysis applies a threshold of 0.12 in/sec PPV (Caltrans, 2013b). A threshold of 0.3 in/sec PPV is used for all other buildings. A discussion of temporary vibration impacts by project component is provided below.

WRF

Construction of the proposed WRF would require the use of a large bulldozer during site grading. As shown in **Table 3.11-10**, the nearest sensitive receptor to the project area would be exposed to vibration level of 0.002, well below the applied human annoyance and historic building thresholds of 0.9 and 0.12 in/sec PPV, respectively. There would be a less than significant impact with respect to exposure of persons to excessive groundborne vibration.

TABLE 3.11-10
SUMMARY OF VIBRATION LEVELS AT SENSITIVE RECEPTORS DURING CONSTRUCTION

Project Facility	Highest Vibration Source	PPV a 25 feet (inch/second)[1]	Distance to nearest Sensitive Receptor (feet)	Attenuated Vibration Level (PPV inch/second)
WRF	Large Bulldozer	0.089	360	0.002
Lift Station				
Option 1A	Loaded Trucks	0.076	260	0.002
Option 5A	Loaded Trucks	0.076	270	0.002
Conveyance Pipelines				
Discharge Pipeline	Loaded Trucks	0.076	50	0.027
IPR West	Loaded Trucks	0.076	50	0.027
IPR East	Loaded Trucks	0.076	50	0.027
Injection/Monitoring Wells	Auger Drill	0.076	50	0.027
Decommissioning of Current WWTP	Loaded Trucks	0.076	250	0.0024

Source: ESA, 2017; FTA, 2006

Lift Station

Construction of the proposed lift stations at Option 1A and Option 5A would require the use of heavy trucks. As shown in Table 3.11-10, the nearest sensitive receptor to the project area would be exposed to a vibration level of 0.002, well below the applied human annoyance and historic building thresholds of 0.9 and 0.12 in/sec PPV, respectively. There would be a less than significant impact with respect to exposure of persons to excessive groundborne vibration.

Conveyance Pipelines

The proposed conveyance pipelines would require the use of heavy trucks, which when fully loaded can generate noticeable groundborne vibration at close distances. As shown in Table 3.11-10, the nearest sensitive receptor to the project area would be exposed to a vibration level of 0.027, well below the applied human annoyance and historic building thresholds of 0.9 and 0.12

in/sec PPV, respectively. There would be a less than significant impact with respect to exposure of persons to excessive groundborne vibration.

Injection and Monitoring Wells

Construction of the injection/monitoring wells would require 24-hour drilling for a one-month period. The exact location of where the three to five injection/monitoring wells would be installed are unknown at this time. It is conservatively assumed that the nearest sensitive receptors would be located within 50 feet from where wells would be drilled. As shown in Table 3.11-10, the nearest sensitive receptor to the project area would be exposed to a vibration level of 0.027 in/sec PPV, well below the applied human annoyance and historic building thresholds of 0.9 and 0.12 in/sec PPV, respectively. There would be a less than significant impact with respect to exposure of persons to excessive groundborne vibration.

Decommissioning of Current WWTP

Decommissioning of the current WWTP would require the use of heavy trucks to transport material from the project site. As shown in Table 3.11-10, the nearest sensitive receptor to the project area would be exposed to a vibration level of 0.0024 in/sec PPV, well below the applied human annoyance and historic building thresholds of 0.9 and 0.12 in/sec PPV, respectively. There would be a less than significance impact with respect to exposure of persons to excessive groundborne vibration.

Mitigation Measures

None Required

Significance Determination

Less than Significant.

Permanent Increases in Ambient Noise Levels

> **Impact 3.11-4: Operation of the proposed injection wells in close proximity to sensitive receptors could result in a substantial permanent increase in ambient noise levels. A qualified noise consultant will determine the noise reduction measures to be incorporated into project design to ensure operational noise levels do not exceed the City's daytime and nighttime noise standards. This would be a Class II impact, Less than Significant with Mitigation.**

As described in Section 3.11.4, *Impacts and Mitigation Measures*, above, this evaluation uses a 5-dBA increase in noise exposure—which is considered a readily perceptible increase in noise levels (Caltrans, 2013a)—to assess the significance of operational noise increases in ambient noise levels in the proposed project vicinity

As discussed in Chapter 2, *Project Description*, operation of the proposed WRF and associated O&M buildings could result in approximately 14 vehicular worker trips per day and 13 heavy truck trips per mouth, which represents the highest operational traffic volumes out of all of the project components. This increase, compared to existing conditions, would not contribute

incrementally to traffic noise along local roadways. It takes a doubling of traffic to increase noise levels by only 3 dB, which is considered barely perceptible to the average person (Caltrans, 2013a). Since the increase in vehicular traffic during operations would not result in the doubling of traffic, it is unlikely that the project-related traffic noise levels would exceed the applied substantial increase threshold of 5-dB.

Operational activities associated with the proposed WRF, lift station, conveyance pipelines, and injection/monitoring wells could substantially increase the existing ambient noise level at the proposed project sites. Noise sources associated with the proposed project include stationary sources such as pump stations, emergency generators and transformers. **Table 3.11-11** presents how the proposed stationary noise sources would affect the existing ambient at each of the project sites. A summary of impact per project component is provided below.

TABLE 3.11-11
OPERATIONAL STATIONARY NOISE SOURCES – INCREASE OF OVER AMBIENT

Project Facility	Loudest Noise Source	Attenuated Noise Levels (dBA L_{eq})[1, 2, 3, 4, 5]	Attenuated Noise Levels (dBA L_{dn})[6]	Ambient (dBA L_{dn})[7]	Project plus Ambient (dBA L_{dn})	Increase Over Ambient (dB)
WRF	Pump, Generator	32	38[8]	55	55	0
Lift Station						
Option 1A	Pump, Generator, transformer	45	51	55	56	1
Option 5A	Pump, Generator, transformer	45	51	55	56	1
Conveyance Pipelines						
Discharge Pipeline	None	N/A	N/A	N/A	N/A	N/A
IPR West	None	N/A	N/A	N/A	N/A	N/A
IPR East	None	N/A	N/A	N/A	N/A	N/A
Injection/Monitoring Wells	Pump, Generator	63	69	55	69	14
Decommissioning of Current WWTP	None	N/A	N/A	N/A	N/A	N/A

Notes:
N/A = No operational noise sources.
1 Assumed a transformer with a power rating between 100 to 5,000 kVA would be installed at the lift station, which can generate a noise level of 67 dBA from a distance of 25 feet (Bies, 2009).
2 Assumed a pump motor can generate a noise level of 76 dBA from a distance of 50 feet (FTA, 2006).
3 Assumed a generator can generate a noise level of 82 dBA from a distance of 50 feet (FHWA, 2006).
4 Assumed an attenuation rate of 7.5 dB per doubling of distance (i.e., soft site)
5 Assumed that all stationary sources would be fully enclosed and benefit from an interior to exterior attenuation of 20 dB.
6 Assumed that all stationary noise sources would operate continuously for a 24-hour period.
7 The existing ambient at each of the project sites is based on a relationship between ambient noise levels and population density researched by the U.S. Environmental Protection Agency (EPA, 1974).
8 Assumed 10 dB of attenuation due to intervening hill blocking line-of-sight between the preferred WRF site and nearest sensitive receptor.

Source: ESA, 2017; Bies, 2009; FTA, 2006; FHWA, 2006

WRF

The stationary noise sources associated with the proposed WRF are the two 15 or 30 HP recycled water pumps (one on standby) and emergency backup generator. The recycled water pumps

would be used to convey water to offsite injection wells. For this analysis it is assumed that the pump motors and emergency backup generator are operating at the same time and are fully enclosed. As shown in Table 3.11-11, the nearest sensitive receptor to the preferred WRF would not be exposed to operational noise that would exceed the applied 5-dB substantial increase threshold. There would be a less than significant impact with respect to substantial permanent increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project.

Lift Station

The stationary noise sources associated with the proposed lift station are the pump motors, emergency backup generator and transformer. For this analysis it is assumed the pump motors, transformer and emergency backup generator are operating at the same time and are fully enclosed. As shown in Table 3.11-11, the nearest sensitive receptor to the proposed lift station (Option 1A and Option 5A) would not be exposed to operational noise that would exceed the applied 5-dB substantial increase threshold. There would be a less than significant impact with respect to substantial permanent increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project.

Conveyance Pipelines

The proposed conveyance pipelines would be underground and would not involve the installation of stationary noise sources such as pumps and emergency generators. There would be no impact with respect to substantial permanent increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project.

Injection and Monitoring Wells

The stationary noise sources associated with the proposed injection wells in either the IPR West or IPR East wellfield areas would include the pump motors and emergency backup generators. For this analysis it is assumed that the pump motors, and emergency backup generator are operating at the same time and are fully enclosed. As shown in Table 3.11-11, the nearest sensitive receptor to the proposed injection/monitoring wells would be exposed to operational noise that would exceed the applied 5-dB substantial increase threshold. There would be a potentially significant impact with respect to substantial permanent increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project.

As described above, prior to final design of the proposed injection wells, the City would prepare an Operational Noise Reduction Plan demonstrating that the proposed wells would not expose the nearest sensitive receptor to noise levels that would exceed the City's daytime and nighttime noise standards (see Table 3.11-4). The Operational Noise Reduction Plan would be prepared by a qualified noise consultant. Once all noise reduction measures outlined in the Operational Noise Reduction Plan are implemented, the City would measure noise at the nearest sensitive receptor property line to validate the effectiveness of the measures and to demonstrate that operational noise levels are below the City's noise standards, which would mitigate any increases in ambient noise. Implementation of the Operational Noise Reduction Plan, as required by Mitigation Measure NOISE-2, would reduce the project's impact to a less than significant level.

Decommissioning of Current WWTP

After the existing WWTP is fully decommissioned, no new stationary noise sources would be built or installed with the former WWTP area. There would be no impact with respect to substantial permanent increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project.

Mitigation Measure

Implement Mitigation Measure NOISE-2

Significance Determination

Less than Significant after Mitigation.

Impact 3.11-5: Construction of the proposed injection and monitoring wells would require continuous drilling for 24-hour periods, which would result in temporary increases in ambient noise levels. Implementation of a Construction Noise Reduction Plan approved by the City's building official would reduce noise levels to acceptable levels. This would be a Class II impact, Less than Significant with Mitigation.

As described in Section 3.11.4, *Impacts and Mitigations*, above, this evaluation uses the adverse community reaction threshold of 90 dBA L_{eq} established by the FTA to assess whether construction-related noise levels would have the potential to cause a substantial temporary or periodic increase in ambient noise levels at sensitive receptor locations (FTA, 2006).

Table 3.11-12 compares the highest L_{eq} noise level sensitive receptors could be exposed to during the construction of the proposed facilities to the applied 90 L_{eq} temporary substantial increase threshold. A summary of impact per project component is provided below.

WRF

The sensitive receptors nearest to the preferred WRF site consists of residences at the Bayside Care Center located approximately 360 feet from the project site's southernmost boundary. A crane and backhoe are the two loudest pieces of off-road equipment that will be operating during project construction. As shown in Table 3.11-12, the people living at the Bayside Care Center would be exposed to noise levels of 49 dBA L_{eq}, well below the applied 90 dBA L_{eq} temporary substantial noise increase threshold. There would be less-than-significant impacts with respect to temporary substantial increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project.

TABLE 3.11-12
SUMMARY OF CONSTRUCTION NOISE LEVELS
COMPARED TO THE APPLIED TEMPORARY SUBSTANTIAL INCREASE OVER AMBIENT THRESHOLD

Project Facility	Loudest two Pieces of Construction Equipment	Distance to nearest Sensitive Receptor (feet)	Attenuated Noise Level (dBA L_{eq})	Exceed 90 dBA L_{eq} (yes or no)?
WRF	Crane, Backhoe	360	49[3]	No
Lift Station				
Option 1A	Excavator, Backhoe	260	64	No
Option 5A	Excavator, Backhoe	270	64	No
Conveyance Pipelines				
Discharge Pipeline	Excavator, Auger Drill Rig	50	83	No
IPR West	Excavator, Auger Drill Rig	50	83	No
IPR East	Excavator, Auger Drill Rig	50	83	No
Injection/Monitoring Wells	Backhoe, Auger Drill Rig	50	80	No
Decommissioning of Current WWTP	Excavator, Backhoe	250	65	No

Notes:
1 Reference construction equipment noise levels were obtained from Caltrans' Roadway Construction Noise Level (RCNM) (FHWA, 2006).
2 Assumed an attenuation rate of 7.5 dB per doubling of distance (i.e., soft site).
3 Assumed 10 dB of attenuation due to intervening hill blocking line-of-sight between the preferred WRF site and nearest sensitive receptor.

Source: ESA, 2017; FHWA, 2006

Lift Station

Lift Station Option 1A

The sensitive receptors nearest to the proposed lift station alternative designated as Option 1A consists of people at the Morro Strand RV Park located approximately 260 feet south-east of the project site. As shown in Table 3.11-12, the people staying at the Morro Strand RV Park would be exposed to noise levels of 64 dBA L_{eq} during project construction, well below the applied 90 dBA L_{eq} temporary substantial noise increase threshold. There would be less-than-significant impacts with respect to temporary substantial increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project.

Lift Station Option 5A

The sensitive receptors nearest to the proposed lift station alternative designated as Option 5A consists of people at the Morro Bay High School located approximately 270 feet north of the project site. As shown in Table 3.11-12, the students and staff at the Morro Bay High School would be exposed to noise levels of 64 dBA L_{eq} during project construction, well below the applied 90 dBA L_{eq} temporary substantial noise increase threshold. There would be a less-than-significant impact with respect to temporary substantial increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project.

Conveyance Pipelines

Proposed Raw Wastewater and Brine/Wet Weather Discharge Pipeline

The nearest sensitive receptors to the proposed raw wastewater and brine/wet weather discharge pipeline alignment consist of the Morro Dune RV Park, single-family residences along Main Street and Quintana Road and Bayside Care Center. All of these sensitive receivers would be located within 50 feet from the proposed conveyance pipeline alignment. As shown in Table 3.11-12, the sensitive receptors located within 50 feet of the proposed discharge pipeline would be exposed to noise levels of 83 dBA L_{eq} during construction, well below the applied 90 dBA L_{eq} temporary substantial noise increase threshold. There would be a less-than-significant impact with respect to temporary substantial increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project.

Proposed Recycled Water Pipeline (IPR West)

The proposed IPR West pipeline would be nearly identical to the proposed raw wastewater and brine/wet weather discharge pipeline. Consequently, sensitive receptors located adjacent to the proposed recycled water pipeline alignment would be similar to those already discussed under the proposed raw wastewater and brine/wet weather discharge pipeline above.

Proposed Recycled Water Pipeline (IPR East)

Sensitive receptors located near the proposed recycled water distribution system IPR East alignment alternative consist of the Bayside Care Center, single-family residences along Bolton Drive and Radcliff Avenue, and Tratel-Morro Bay mobile home park. All of these land uses will be located within approximately 50 feet from the proposed recycled water distribution system IPR East alignment alternative. As shown in Table 3.11-12, the sensitive receptors located within 50 feet of the proposed IPR East pipeline would be exposed to noise levels of 83 dBA L_{eq} during construction, well below the applied 90 dBA L_{eq} temporary substantial noise increase threshold. There would be a less-than-significant impact with respect to temporary substantial increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project.

Injection and Monitoring Wells

Since the exact locations of the proposed injection/monitoring wells are unknown at this time, it is conservatively assumed that the nearest sensitive receptors are located approximately 50 feet of construction areas. As shown in Table 3.11-12, the sensitive receptors located within 50 feet of the proposed injections/monitoring wells would be exposed to noise levels of 80 dBA L_{eq} during construction. Although construction noise levels would not exceed the applied 90 dBA L_{eq} temporary substantial noise increase threshold, nighttime drilling at the proposed well sites could expose nearby sensitive receptors to levels that would interfere with sleep or result in human annoyance. There would be a potentially significant impact with respect to temporary substantial increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project.

To reduce noise levels during drilling of the proposed injection and monitoring wells, the City would prepare and implement a Construction Noise Reduction Plan, that would be submitted and approved by the City's building official in accordance with Subdivision 9.28.030 I. of the Morro

Bay Municipal code. The Construction Noise Reduction Plan would demonstrate that no loss or inconvenience would result to any party of interest, such as neighboring sensitive receptors. Measures to be implemented would include a noise disturbance coordinator responsible for fielding noise complaints and instituting feasible corrections; locating construction equipment as far away from sensitive receptors as possible; and using noise barriers such as acoustic shields, blankets or enclosures. Implementation of the Plan as required by Mitigation Measure NOISE-1 would reduce temporary construction noise and minimize disturbance to sensitive receptors. Therefore, this impact would result in a less than significant impact after mitigation.

Decommissioning of Current WWTP

The Morro Dunes RV Park is the nearest sensitive land use to the existing WWTP. People staying at the Morro Dune RV Park could be located as close as 25 feet from the existing WWTP outermost property boundary. As shown in Table 3.11-12, the sensitive receptors located within 25 feet of the existing WWTP facility would be exposed to noise levels of 65 dBA L_{eq} during demolition, which would not exceed the applied temporary substantial noise increase threshold of 90 dBA L_{eq}. Under CEQA, the proposed project would not result in a potentially significant impact with respect to temporary substantial increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project.

Mitigation Measures

Implement Mitigation Measure NOISE-1

Significance Determination

Less than significant after mitigation.

Impact 3.11-6: The proposed project would not be located within an airport land use plan area or in the vicinity of a private airport. There would be no impact associated with noise levels at airports or airstrips.

There are no public airports or private airstrips within the proposed project area. The proposed project would not result in the placement of workers in areas where they would be exposed to excessive noise levels associated with airports or airstrips. There would be no impact.

Mitigation Measures

None required

Significance Determination

No Impact

References

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U.S. Environmental Protection Agency, 1974. Information of Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. March 1974.

3.12 Environmental Justice

According to Section 15382 of the *CEQA Guidelines*, "An economic or social change by itself shall not be considered a significant impact on the environment." Socioeconomic characteristics should be considered in an EIR only to the extent they create adverse impacts on the physical environment. The *CEQA Guidelines* do not contain thresholds of significance for issues related to environmental justice. An environmental justice analysis is performed in order to meet the criteria to fulfill the CEQA Plus (State Revolving Fund) guidelines and address the federal standards and orders (see Chapter 1). Specifically, this chapter also discusses the potential for the proposed project to disproportionately affect minority and low-income populations.

The analysis presented below focuses on the aboveground components of the proposed project, primarily the WRF. The proposed pipelines would run underground throughout various communities in San Luis Obispo County (County) and the City of Morro Bay (City) and would not have long-term effects on any one community once constructed. Data presented was obtained from the U.S. Census Bureau: 2011-2015 American Community Survey (ACS) five-year estimates, the California Department of Finance, and the California Department of Housing and Community Development.

3.12.1 Environmental Setting

Regional Setting

Population

Portions of the proposed project are located within unincorporated areas of the County. The County has a current population of 280,101. Between 2016 and 2017, the County's population grew approximately 0.6 percent (CDOF, 2017).

The remainder of the proposed project is located in the City. The City's current population is 10,762. Between 2016 and 2017, the City's population grew approximately 0.4 percent (CDOF, 2017).

Demographics

According to the 2011- 2015 ACS five-year estimates, the racial breakdown of the County's population is as follows:

- 69.8 percent White
- 21.8 percent Hispanic or Latino of any race
- 3.6 percent Asian
- 1.9 percent Black/African American
- 0.4 percent American Indian and Alaska Native
- 0.1 percent Native Hawaiian and Other Pacific Islander
- 0.1 percent Some Other Race
- 2.4 percent Two or More Races

Income

The 2015 median household income in the County was $60,691 (US Census, 2015). In 2010, the median household income was $57,335, which shows the income level has increased approximately 5 percent over the past 5 years. **Table 3.12-1** shows the median household incomes for 2-person, 3-person, and 4-person households.

TABLE 3.12-1
2017 SAN LUIS OBISPO COUNTY AREA MEDIAN HOUSEHOLD INCOME CLASSIFICATION IN US DOLLARS

	2-person household	3-person household	4-person household
Extremely low income	19,600	22,050	24,600
Very low income	32,700	36,800	40,850
Low Income	52,300	58,850	65,350
Median Income	66,550	74,900	83,200
Moderate Income	79,900	89,850	99,850

SOURCE: CDHCD, 2017

Project Area Setting

The proposed project facilities would be located within three census tracts within San Luis Obispo County (Tract 106.03, 106.02, and 105.03). All three census tracts span the jurisdiction of the City and unincorporated census-designated places (CDPs) within the County. The proposed lift station, conveyance pipelines, injection and monitoring wells, and the decommissioning of the WWTP would be located within the City, while the proposed WRF site would be located within unincorporated area of the County.

It should be noted the decommissioning of the WWTP is an existing structure and would not have any effects on the surrounding communities because it would be demolished and the land would ultimately be developed for another use to be determined at a later time. Because such a use would be speculative and the timing unknown, that site was not analyzed further.

Population

The total population of individuals within the three census tracts in the City is 10,550, comprising the vast majority of the population of the City. **Table 3.12-2** lists all census tracts affected by the proposed project using data from the 2011-2015 ACS five-year estimates and breaks down the population per tract.

TABLE 3.12-2
POPULATION DISTRIBUTION BY CENSUS TRACT

City/Census Tract	Population
Tract 105.03	5,224
Tract 106.02	3,926
Tract 106.03	1,400
Census Tract Total	**10,550**
City of Morro Bay Total	**10,762**

Demographics

The demographic characteristics of the census tracts affected by proposed project components have been reviewed and summarized (see **Table 3.12-3**). The demographic data provided by the U.S. Census has been organized into four categories: Black (individuals identifying primarily with a Black ethnicity), Hispanic (individuals identifying primarily with a Hispanic ethnicity), White (individuals identifying primarily with a Non-Hispanic, White ethnicity), and Other (individuals identifying primarily with all other ethnicities not aforementioned, as well as those identifying with more than one ethnicity). According to the U.S. Census, "minorities" are defined as all individuals that identify as a race other than White or are Hispanic.

TABLE 3.12-3
DEMOGRAPHIC DISTRIBUTION BY CITY AND CENSUS TRACT

City/Census Tract	Hispanic	White	Black	Other
City of Morro Bay Total	**19%**	**64.8%**	**1.3%**	**14.9%**
Tract 105.03	13%	81.9%	3.2%	1.9%
Tract 106.02	20.2%	74.4%	0%	5.4%
Tract 106.03	19.3%	73.6%	0.4%	6.7%
Average	*17.5%*	*76.6%*	*1.2%*	*4.7%*
County of San Luis Obispo Total	**21.8%**	**69.8%**	**1.9%**	**6.5%**
Tract 105.03	13%	81.9%	3.2%	1.9%
Tract 106.02	20.2%	74.4%	0%	5.4%
Tract 106.03	19.3%	73.6%	0.4%	6.7%
Average	*17.5%*	*76.6%*	*1.2%*	*4.7%*

SOURCE: Data obtained from US Census Survey, ACS 2011-2015 5-Year Estimates.

For purposes of this analysis, an area is considered to have a significantly greater minority population if the affected census tract or group of tracts has a minority population at least 10 percent greater on average than the overall city or CDP. Table 3.12-3 includes the demographic data for City and census tracts affected by the proposed project components.

The tracts affected by the proposed project within the City have relatively smaller minority populations on average than the overall City and County themselves. The City affected tracts have a 0.1% lower Black population (1.2%) compared to that of the overall City (1.3%) and a 1.5% lower Hispanic population (17.5%) than the overall City (19%). The affected tracts have a 4.3% lower Hispanic population (17.5%) compared to that of the overall County (21.8%) and a 0.7% lower Black population (1.2%) compared to the overall County (1.9%).

Income

Low income is classified by the California Department of Housing and Community Development (DHCD) using population and income distribution within each county. For the purposes of the proposed project, the affected census tracts must have an average median household income at least $10,000 below that of the overall city or CDP to be considered significantly lower income. Furthermore, as household income classification is dependent on household size, the income

amount must be equal to or below the low-income threshold designated for the average family size within the city or CDP. Table 3.12-1 shows the County median household income level classifications for two-, three- and four-person households. **Table 3.12-4** shows the income data and poverty status within all affected cities and census tract sets. According to the U.S. Census Bureau, the national poverty threshold in 2015 for a three-person household is $18,871.

TABLE 3.12-4
MEDIAN HOUSEHOLD INCOME AND POVERTY STATUS BY CITY AND CENSUS TRACT

City/Census Tract	Median Household Income	Percent Below Poverty Level (Individuals)
City of Morro Bay	**$51,338**	**12.9%**
Tract 105.03	$48,625	14.3%
Tract 106.02	$53,299	10%
Tract 106.03	$51,406	15%
Average	*$51,110*	*13.1%*
County of San Luis Obispo	**$60,691**	**14.8%**
Tract 105.03	$48,625	14,3%
Tract 106.02	$53,299	10%
Tract 106.03	$51,406	15%
Average	*$51,110*	*13.1%*

The affected tracts within the City show a slightly lower average median household income level ($51,110) compared to the respective overall city data ($51,338). The affected tracts' average median household income differs by $228 compared to the rest of the City. With an average household size of three persons in the City, that income level is considered "very low income" (DHCD, 2017; see Table 3.12-1). The affected tracts have $9,581 less than the overall County's median household income ($60,691). Compared to the national poverty threshold, the affected tract's income level is $32,239 above the three-person household poverty level.

The tract sets mentioned above also show they do not have a significantly higher percent of population living below poverty level than the City or County. The national poverty level or threshold is determined every year by the US Census Bureau. The City affected tracts have a percent of population living below the poverty level that is 0.2% higher than the overall city. The affected tracts have a percent of population living below poverty level that is 1.7% lower than the overall County.

3.12.2 Regulatory Framework

Federal

NEPA and CEQA-Plus procedures outlined in the State Revolving Fund (SRF) financing guidelines include compliance with Executive Order 12898, which outlines federal actions to address environmental justice in minority populations and low-income populations.

Executive Order 12898 states agencies shall identify and address disproportionately high and adverse human health or environmental effects on minority and low-income populations. A new working group was created to develop strategies for programs and policies regarding minority and low-income populations to: promote enforcement of all health and environmental statutes, improve research and data collection in relation to health and environment, identify different patterns of consumption of natural resources, and ensure greater public participation.

3.12.3 Impacts and Mitigation Measures

Significance Criteria

Appendix G of the *CEQA Guidelines* recommends significance criteria for the evaluation of impacts related to environmental justice in the project area. To maintain consistency with CEQA Plus Guidelines, the proposed project would have significant impact to environmental justice if it would:

- Affect the health or environment of minority or low-income populations disproportionately.

Methodology

The potential impacts related to environmental justice associated with the proposed project were evaluated on a qualitative and quantitative basis. The evaluation of impacts is based on professional judgment, the significance criteria established by the CEQA Plus Guidelines, and an analysis of the data provided by the U.S. Census Bureau, the California Department of Finance, and the California Department of Housing and Community Development.

Impact Analysis

Impact 3.12-1: The aboveground facilities of the proposed project would not be located near communities that are disproportionately comprised of low income or minority populations. This impact would be Class III, Less than Significant.

Based on all census data presented above, the proposed project components in the City and the County would not be located in areas with significantly large minority and low-income populations on average, relative to the overall characteristics of the City and County. The County and the City do not have substantially large low-income or minority populations. The County is made up of 69.8% white population and a median household income of $60,691, while the City is comprised of 64.8% white population with a median household income of $51,338. Both median household incomes are well above the national poverty threshold of $18,871. The project components are located within three out of the four tracts located in the City, with a portion also in the County. The three City tracts have similar socioeconomic characteristics, all with 10% to 15% of the population below the poverty level, which also mirrors that for the County (Table 3.12-4). As shown in Table 3.12-3, two of the tracts (Tract 106.02 and Tract 106.03) are within a one percent difference of the Hispanic population for the overall City, while Tract 105.03 has six percent less than the City's Hispanic population of 19 percent. Similarly, two of the tracts are well below the Black population for the overall city while Tract 105.03 has two percent higher than the City's population (1.3 percent). Those data show each tract is equally diverse and there is not a significant minority population living near the proposed project components. As such, none

of the proposed project components could be located within a tract that would be substantially different with respect to income and poverty level. Generally, implementation of the proposed project would not disproportionately affect the health or environment of a minority or low-income population.

Viewed as specific proposed project components, the proposed raw wastewater and brine/wet weather discharge pipeline and the proposed IPR West pipeline would traverse residential areas along Main Street and Quintana Road and the proposed IPR East pipeline would traverse residential areas along Bolton Drive, Radcliff Avenue, Main Street, and Errol Street. Impacts from the construction of those pipelines would be short-term, temporary, and would not cause any permanent impacts to the residents. Once constructed, the pipelines would be below ground with the surface disturbance restored to pre-construction conditions. As such, the land value of the surrounding neighborhoods would not be affected, regardless of demographics or socioeconomic status.

The permanent aboveground facilities include the proposed WRF, lift stations, and injection wells. The proposed WRF would not cause a significant impact to a nearby residential community. The proposed WRF site is surrounded by agricultural rangeland and is approximately 360 feet from the Bayside Care Center. Farther south of the proposed WRF site, approximately 0.25 mile across Highway 41, there is a church, mobile home park, and mortuary. The land uses surrounding the proposed WRF site are not characterized by low-income or minority populations. The construction and operation of the proposed WRF would have no significant impacts to the environment and as such would not have adverse impacts to the health of neighboring residents. The neighboring land uses would be minimally impacted from the implementation of the proposed WRF.

The proposed lift station would be located adjacent to Morro Bay High School and existing Corporation Yard, while the proposed injection well sites would be located near either a closed power plant, an RV park, a mobile home park, or commercial sites. The proposed project facilities would small in scale and would not substantially alter the character of the neighborhood in which they would be located.

In addition, the locations for the proposed WRF site and proposed lift station, and pipelines have been based on criteria such as elevation and proximity and connectivity to existing facilities. The proposed pipeline routes have been determined based on preliminary screening criteria to minimize the distance between the proposed WRF site, lift station, and existing outfall and to locate facilities within existing utility easements or public right-of-ways. Those proposed locations allow for the efficient transport of water throughout the urbanized areas to be distributed to the service area. Therefore, the locations of the proposed facilities are constrained to some degree. When considered together with the demographic and income data presented above, the proposed project would not disproportionately affect the health or environment of a minority or low-income population.

Mitigation Measures

None required.

Significance Determination

Less than Significant

References

California Department of Finance (CDOF), 2017. E-1 Population Estimates for Cities, Counties and the State with Annual Percent Change — January 1, 2016 and 2017, May 2017.

California Department of Housing and Community Development (DHCD), 2017. State Income Limits for 2017, June 9, 2017.

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U.S. Census Bureau, 2015. Poverty Thresholds for 2015 by Size of Family and Number of Related Children Under 18 Years, Available online at: https://census.gov/data/tables/time-series/demo/income-poverty/historical-poverty-thresholds.html, Accessed on December 6, 2017.

3.13 Public Services

This section identifies existing public services within the project area, analyzes potential impacts to these services associated with the development of the proposed project, and identifies mitigation measures that would avoid or reduce the significance of any identified impacts.

3.13.1 Environmental Setting

Fire Protection

County of San Luis Obispo

The California Department of Forestry and Fire Protection (CAL FIRE) is a state agency that functions as the County Fire Department under a contract with the County of San Luis Obispo (County). The County Fire Department provides emergency services including planning for and taking actions to prevent and reduce the impact from emergencies, coordinating regional emergency response efforts, and educating the communities served for the unincorporated areas of the County (CAL FIRE, 2017a). Additionally, the County Fire Department provides fire services to the communities of Los Osos and Avila Beach and provides local contract fire services to the City of Pismo Beach and Cayucos community. The County Fire Department operates 21 fire stations throughout the County (CAL FIRE, 2017b). South Bay Fire Station is the closest fire station to the project located at 2135 Bayview Heights Drive in Los Osos which is approximately 3.95 miles south of the preferred WRF site.

City of Morro Bay

The Morro Bay Fire Department is responsible for providing fire protection and emergency services to the City of Morro Bay (City). The Fire Department has one fully staffed fire station, Fire Station 53, and one non-staffed fire station, Fire Station 54 (City of Morro Bay, 2017a). Fire Station 53 located at 715 Harbor Street is the closest fire station to the preferred WRF site, which is approximately 1.25 miles west of the preferred WRF site.

Police Protection

County of San Luis Obispo

The County Sheriff's Office provides law enforcement services to the unincorporated areas of the County. The County Sheriff's Office operates a County jail and provides coroner-public administrator duties, court services, and law enforcement services via one main office and three patrol stations across the county (SLO County Sheriff's Office, 2017). The Sheriff's Patrol Division is responsible for the first line law enforcement in the unincorporated areas of San Luis Obispo. The Coast Station located at 2099 10th Street in Los Osos is the nearest patrol station to the preferred WRF site, which is approximately 3.6 miles south of the preferred WRF site.

City of Morro Bay

The Morro Bay Police Department (MBPD) provides law enforcement services to the City. The MBPD operates from one police station located at 850 Morro Bay Boulevard which is approximately 1 mile west of the preferred WRF site (City of Morro Bay, 2017b).

Schools

County of San Luis Obispo

The County Office of Education promotes student success by supporting the work of local school districts, delivering specialized student services, and providing county-wide leadership and advocacy for the needs of all children (SLOCOE, 2017a). There are currently 10 school districts, three charter schools, and one community college within the County (SLOCOE, 2017b).

City of Morro Bay

San Luis Coastal Unified School District (SLCUSD) serves nearly 8,000 students in the City and the communities of Avila Beach, Edna Valley, Los Osos and San Luis Obispo (SLCUSD, 2017). SLCUSD consists of 16 schools for students from kindergarten through high school, as well as adult night school. The closest school to the proposed project is Morro Bay High School located at 235 Atascadero Road, which is adjacent to the proposed lift station Option 5A.

Parks

The Morro Bay Recreation Services Department provides recreational services to the City and manages the 12 parks located throughout the City (City of Morro Bay, 2017c). Lila Keiser Park is the closest park to any aspect of the proposed project, located at 1 Park Street in Morro Bay, approximately 850 feet southeast of the proposed lift station Option 1A and along the proposed raw wastewater pipeline route.

Other Public Facilities

Hospitals

Hospitals within the area of the proposed project include the Urgent Care Facility, located at 783 Quintana Road in Morro Bay, approximately two miles west of the preferred WRF site and the Sierra Vista Regional Medical Center is located at 1010 Murray Avenue in San Luis Obispo, approximately 10 miles southeast of the preferred WRF site. The Sierra Vista Regional Medical Center offers a wide variety of inpatient and outpatient services, from cancer care, high-risk pregnancy, trauma, laboratory tests and screening, to wound care (Sierra Vista Regional Medical Center, 2017).

Libraries

One public library is located within the City of Morro Bay and two public libraries are located nearby within unincorporated areas of the County. Morro Bay Library is located at 625 Harbor Street in Morro Bay, approximately 1.3 miles west of the preferred WRF site and 1.2 miles southeast from the proposed lift station sites. Cayucos Library is located at 310 B Street in Cayucos in unincorporated area of the County, approximately 5.7 miles northwest of the proposed lift station sites and Los Osos Library is located at 2705 Palisades Avenue in Los Osos in unincorporated areas of the County, approximately 3.7 miles south of the preferred WRF site.

3.13.2 Regulatory Framework

State

California Fire Code and California Building Code

The California Fire Code and various building trades codes, as adopted by the State Legislature, prescribe performance characteristics and materials to be used to achieve acceptable levels of fire protection. The City and County have also adopted those codes are required by state law.

California Occupational Safety and Health Administration

In accordance with 8 California Code of Regulations sections 1270 "Fire Prevention" and 6773 "Fire Protection and Fire Equipment," the California Occupational Safety and Health Administration (Cal OSHA) has established minimum standards for fire suppression and emergency medical services. The standards include but are not limited to guidelines on the handling of highly combustible materials, fire hosing sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance, and use of all firefighting and emergency medical equipment.

California Health and Safety Code

State fire regulations are set forth in Section 13000, *et seq*. of the California Health and Safety Code, which include regulations for building standards (as set forth in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers, smoke alarms, high-rise building, childcare facility standards, and fire suppression training.

Leroy F. Greene School Facilities Act of 1998

The California State Legislature enacted the Leroy F. Green School Facilities Act of 1998 (Senate Bill 50), which made significant amendments to existing state law governing school fees. Senate Bill 50 prohibited state or local agencies from imposing school impact mitigation fees, dedications, or other requirements in excess of those provided in the statute. The legislation also prohibited local agencies from using the inadequacy of school facilities as a basis for denying or conditioning approvals of any project.

The County prepared a Public Facilities Financing Plan (PFFP) for the unincorporated portions of the County. The PFFP was most recently updated in 2011. In general, it addresses the link between new development and public infrastructure financing and sets fees to mitigated impacts associated with parks, law enforcement, fire protection, and other County services.

This 2011 PFFP documents the amount and cost of new capital facilities required to serve new development in unincorporated areas through the year 2025. One potential source of funding is public facilities fees, or impact fees, paid by new development to fund its fair share of facilities' needs. The PFFP documents the maximum justified level of those fees, and is structured to address the following specific topics:

- Public Facilities Financing in California
- Fee Determination

- Facilities Costs and Fee Schedules
- Implementation and Administration
- Collection and Disbursement

As described in the PFFP, the public facilities fees are collected at time of building permit issuance, unless deferred to final building permit inspection according to an agreement pursuant to the Public Facilities Fees Ordinance. The fees will not be collected on vacant land until development occurs. Fees will only be collected on developed land if the existing structures are being expanded or otherwise modified to allow more intense use of the property.

Fee revenues for each facility area are collected in a separate trust account, and interest earned on fund balances are credited to that account. Funds will be transferred from that account to specific accounts for construction as needed to finance the facilities required to serve new development. These facilities are summarized in their respective chapters of this plan and in greater detail in specific master plans prepared by each department. The proposed facilities for each type of service are reflected as an attachment to the Resolution adopting the Public Facilities Financing Plan and will be reviewed and revised as needed through the annual review of the Public Facilities Fee program. The County uses the Capital Improvement Program to indicate the actual phasing and location of new facilities.

Local

City of Morro Bay General Plan Safety Element

Policy S-3: The City will protect people and structures from injury and destruction from fire within the fiscal and physical limitations of the City.

3.13.3 Impacts and Mitigation Measures

Significance Criteria

Appendix G of the *CEQA Guidelines* recommends significance criteria for the evaluation of impacts related to public services in the project area. This Draft EIR assumes implementation of the proposed project would have a significant impact related to public services if it would:

1. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government 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:
    a. Fire and Police protection
    b. Schools
    c. Parks or other public facilities

Methodology

City and County General Plans, fire and police department websites, local school annual reports and websites, and State, city and County websites were consulted to obtain the information required for the environmental and regulatory setting. This impact analysis considers the potential public services impacts associated with the construction, operation, and maintenance of the proposed project.

Impact Analysis

Fire and Police Protection

Impact 3.13-1a: The number of workers required to construct and operate the proposed project would not be large enough to significantly affect the demand for housing. Thus, the proposed project would not affect service ratios or other performance objectives for fire and police protection. This impact would be Class III, Less than Significant.

The proposed project does not include any new fire departments, police stations, or expansion of existing fire and police protection facilities. The proposed project would not significantly increase the need for public services such as fire and police protection. As discussed in greater detail in Chapter 5, *Growth Inducement*, the facilities would not induce substantial population growth in the City or County that would require expanded fire or police protection facilities. Construction of the proposed project would require construction workers ranging from 20 to 30 employees for the preferred WRF site, 15 to 20 employees for the pipeline installation, and four to eight employees for the injection wells. Operation of the proposed project would require about four new employees. However, employment opportunities associated with the construction and operation are assumed to be filled by the local workforce, and would not result in increased housing demand. Therefore, implementation of the proposed project would not require new fire or police facilities to maintain response ratios, service ratios, or other measures of performance.

In addition, the proposed project is replacing the existing WWTP with the new proposed WRF, moving the treatment plant facility to a new location. The closest police and fire stations are 1 and 1.25 miles, respectively, from the WRF site. In the event of a fire or other emergency at a project facility, existing fire protection and police services within the City and County would be able to sufficiently respond to emergency events with existing equipment and staffing capacities. Because the proposed project components would not result in the permanent increase in residences or population, no increase in the need for new fire or police protection facilities would occur. As a result, impacts would be considered less than significant to fire and police services.

Mitigation Measures

None required.

Significance Determination

Less than Significant

Schools

Impact 3.13-1b: The proposed project would not induce population growth and would not require the construction of new schools. There would be no impact.

The San Luis Coastal Unified School District (SLCUSD) serves the City. The proposed project includes the WRF, a lift station, groundwater injection wells, a raw wastewater and brine/wet weather discharge pipeline, and a recycled water pipeline. As mentioned above under Impact 3.13-1a, the construction and operation of those facilities would not result in population growth within the City or County. No new schools would need to be constructed in order to maintain acceptable performance objectives. As a result, the proposed project would not require the construction of new schools, and no impacts would occur.

Mitigation Measures

None required.

Significance Determination

No Impact

Parks and Public Facilities

Impact 3.13-1c: The proposed project would not induce population growth and would not require the construction of new parks or other public facilities. There would be no impact.

There are several parks, three libraries, and two hospitals/urgent care facilities located within the City and surrounding unincorporated areas of the County. The proposed project is a wastewater treatment project and does not propose any new housing units or a substantial increase in new employment opportunities within the City; nor does the potential water that might be supplied by the WRF increase opportunities for additional residents or businesses in the City or County. As such, the proposed project would not induce population growth and would not necessitate the construction of additional parks, libraries, or hospitals within the City or County in order to meet performance objectives. Therefore, the proposed project would have no impacts associated parks, libraries, or hospitals.

Mitigation Measures

None required.

Significance Determination

No Impact

References

CALFIRE, 2017a. San Luis Obispo County Fire Department, Available online at: http://www.calfireslo.org/index.html, Accessed on December 13, 2017.

CALFIRE, 2017b. Fire Stations, Available online at: http://www.calfireslo.org/operationsstations.html, Accessed on December 13, 2017.

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SLOCOE, 2017b. San Luis Obispo County School Districts, Available online at: https://www.slocoe.org/resources/employee-resources/san-luis-obispo-county-school-districts/, Accessed on December 13, 2017.

San Luis Obispo County Sheriff's Office (SLO County Sheriff's Office), 2017. About the SLO County Sheriff's Office, Available online at: http://www.slosheriff.org/about.php, Accessed on December 13, 2017.

Sierra Vista Regional Medical Center, 2017. Our Locations in Your Area, Available online at: https://www.sierravistaregional.com/our-locations/sierra-vista-regional-medical-center, Accessed on December 13, 2017.

3.14 Transportation and Traffic

This section assesses potential impacts related to transportation and traffic that could result from project construction and implementation. Potential impacts addressed in this section are related to conflicts with applicable traffic plans, congestion management programs, and alternative traffic plans, air traffic patterns, transportation design hazards, and inadequate emergency access. Information used in this section is from the Traffic Impact Study (TIS) prepared by Central Coast Transportation Consulting (CCTC) for the proposed project (CCTC, 2018), which is included as **Appendix H**.

3.14.1 Environmental Setting

Local Circulation System

The City of Morro Bay (City) is located along the coast in the western portion of San Luis Obispo County (County). Regional access to the City is provided via State Route 1 (SR 1), also known as Cabrillo Highway in this area of the state, and State Route 41 (SR 41), which turns into Morro Road in the City. Local access to or through the City is provided via collector or arterial roadways, Main Street, Morro Bay Boulevard, Beach Street, Quintana Road, and South Bay Boulevard. The following describes the roadways that provide access to the various project components:

SR 1 is a major north-south state highway running along the Pacific coastline of California. It separates from the US 101 on Santa Rosa Street in San Luis Obispo and continues as a four-lane arterial known as the Cabrillo Highway. In the traffic study area, SR 1 is a four-lane freeway, with two lanes in each travel direction.

SR 41 is a major east-west state highway that connects SR 1 in the City with Fresno and Yosemite Valley via the San Joaquin Valley. Within and around the City, SR 41 is a two-lane highway, one travel lane in each direction, with a central turning lane.

South Bay Boulevard is a north-south minor arterial with two travel lanes that connects Los Osos and Morro Bay. The SR 1 northbound and southbound on- and off-ramps connect to this road and provide access to the southern end of the city.

Quintana Road is an east-west major collector with two travel lanes. It parallels SR 1 and allows access to the residential and commercial areas from the highway.

Existing Conditions at Study Area Intersections and Freeway Ramps

The study area established in the TIS included the following three study intersections and two freeway on- and off-ramps:

Study Intersections

1. SR 1 North Bound (NB) Ramps / South Bay Boulevard
2. SR 1 South Bound (SB) Ramps / South Bay Boulevard
3. Quintana Road / South Bay Boulevard

Freeway Ramps

1a. SR 1 NB Off-Ramp / South Bay Boulevard

1b. SR 1 NB On-Ramp / South Bay Boulevard

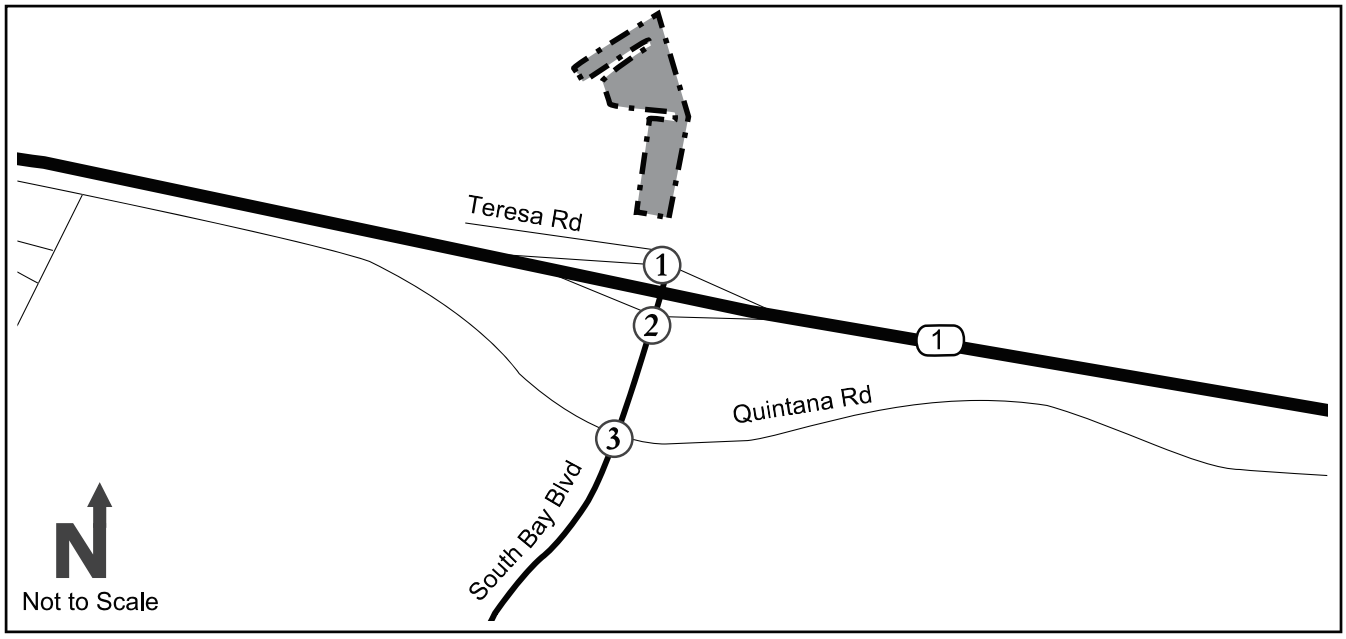
2a. SR 1 SB Off-Ramp / South Bay Boulevard

2b. SR 1 SB On-Ramp / South Bay Boulevard

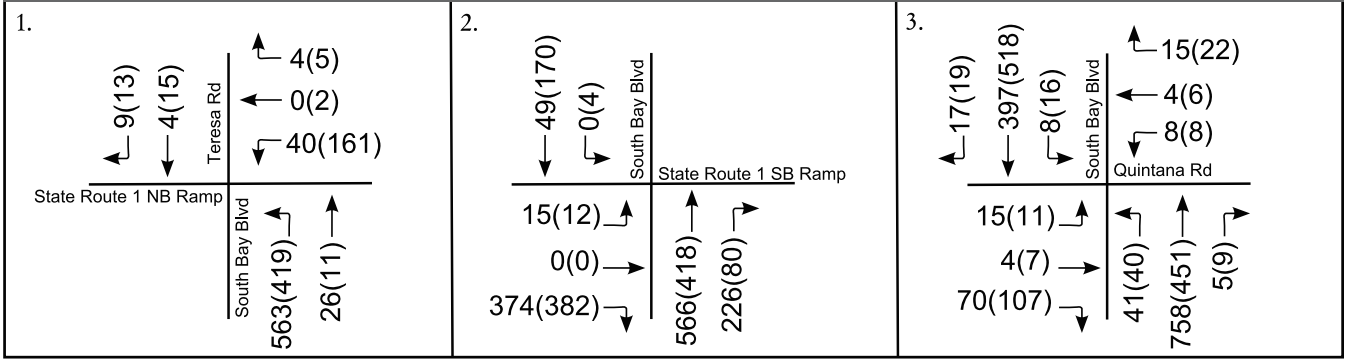
Existing weekday AM (7:00 a.m. to 9:00 a.m.) and PM (4:00 p.m. to 6:00 p.m.) peak-hour traffic counts were collected for the study area in February 2018. Mainline counts for SR 1 in both directions were conducted in 2016 and obtained from Caltrans (Campbell, 2018). In addition to the traffic counts, field observations were also conducted during the AM and PM peak hours to confirm the traffic counts accurately represented on-the-ground conditions. Based on the results of the field observations, queuing and delay levels are consistent with the traffic counts.

Figure 3.14-1 shows the traffic study area, the lane configurations, and existing traffic volumes for the study intersections and freeway on- and off-ramps. **Table 3.14-1** shows the existing Level of Service (LOS) during the AM and PM peak hours for the three study intersections and four freeway on- and off-ramps. LOS is a qualitative measure that describes operational conditions within a traffic stream, generally in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. LOS is described as a range between A and F, where LOS A represents a free-flowing system, and LOS F represents a highly congested, slow-moving system. Since the City has not established a minimum acceptable LOS for intersection operations within its jurisdiction, Caltrans LOS thresholds have been applied to the study intersection and freeway on- and off-ramps. Caltrans has established a minimum acceptable LOS of LOS C for intersections during peak-hour operations (*i.e.*, LOS D, LOS E or LOS F are unacceptable service levels). Additionally, Caltrans' guidance states, if an intersection is already operating at a deficient LOS (*i.e.*, LOS D, LOS E, or LOS F), then the existing service level should be maintained.

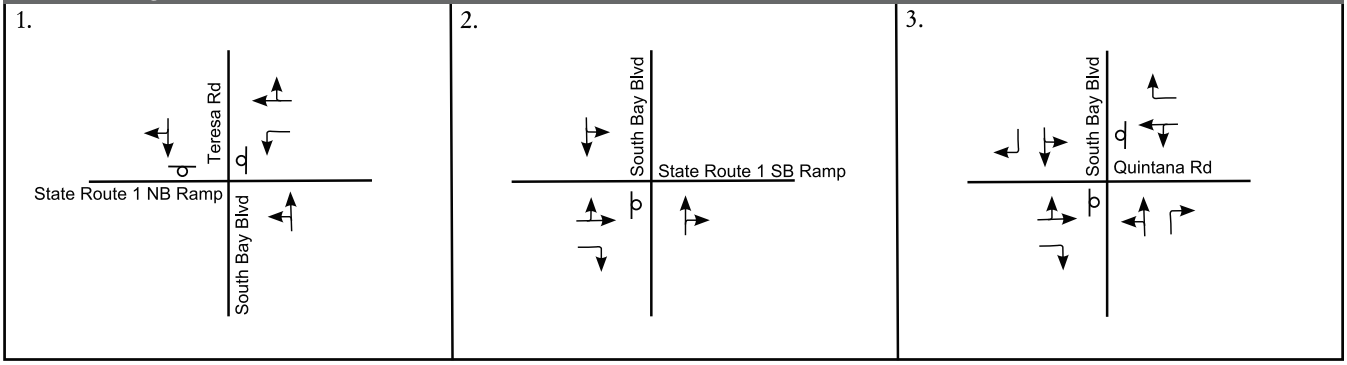
As shown in Table 3.14-1, below, all study intersections and freeway on- and off-ramps currently operate at LOS C or better in existing conditions, with the exception of the intersection of Quintana Road / South Bay Boulevard. The intersection of Quintana Road / South Bay Boulevard currently operates at LOS E during the AM peak hour, but operates at an acceptable LOS C during the PM peak hours.



Existing Peak Hour Volumes



Lane Configuration



Legend:

xx(yy) - AM(PM) Peak Hour Traffic Volumes

(x) - Study Intersection

- Project Site

- Stop Sign

SOURCE: Central Coast Transportation Consulting

Figure 3.14-1

Existing Conditions Peak-Hour Volumes – AM & PM

TABLE 3.14-1
EXISTING LEVEL OF SERVICE CONDITION

		AM Peak Hour		PM Peak Hour	
		Delay[1] (sec/veh) or Density[2]	LOS	Delay[1] (sec/veh) or Density	LOS
Intersections					
1	SR 1 NB Ramps / South Bay Boulevard	1.9 (7.9)	A	3.2 (8.9)	A
2	SR 1 SB Ramps / South Bay Boulevard	3.8 (12.0)	B	4.8 (12.8)	B
3	Quintana Road / South Bay Boulevard	**3.1 (46.1)***	**E**	2.6 (20.3)	C
Freeway On- and Off-Ramps					
1a	SR 1 NB Off-Ramp / South Bay Boulevard	1.5	A	2.4	A
1b	SR 1 NB On-Ramp / South Bay Boulevard	10.5	B	8.7	A
2a	SR 1 SB Off- Ramp / South Bay Boulevard	1.0	A	0.6	A
2b	SR 1 SB On-Ramp / South Bay Boulevard	6.3	A	4.4	A

Notes:
***Bold** indicates unacceptable operations
[1] HCM 6th average control delay in seconds per vehicle. For side-street-stop controlled intersections the worst approach's delay is reported in parentheses next to the overall intersection delay.
[2] Density in Ramp Influence Area reported in passenger cars per mile per lane.
Source: CCTC, 2018.

Public Transportation

The San Luis Obispo Regional Transit Authority (SLORTA), in coordination with Morro Bay Transit (MBT), provide transit services within the City via Routes 12 and 15. Route 12 runs north to south along South Bay Boulevard, connecting Baywood Park in Los Osos to Morro Bay while Route 15 runs north to south from the north end of the City to the town of San Simeon (SLORTA, 2018). According to the Morro Bay Transit Map, there are numerous bus stops in the vicinity of the proposed project components primarily along Quintana Road, between Morro Bay Boulevard and Main Street, and Atascadero Road, between SR 1 and Embarcadero. Route 12 provides public transit service to the proposed WRF and O&M Facilities; the nearest bus stop is located south of the Quintana Road/South Bay Boulevard intersection.

Bicycles and Pedestrian Facilities

As described in the City's Bicycle and Pedestrian Master Plan, there are many different types of bike paths and sidewalks for cyclists and pedestrians to use within the City. Bicycle transportation facilities are categorized into three different classes: Class I, II, and III. Class I bike paths provide a completely separated right of way for the exclusive use of bicycles and pedestrians with crossflow by motorists minimized. Class II bike lanes provide a striped lane for one-way bike travel on a street or highway. Class III bike routes provide for shared use with pedestrian and/or motor vehicle traffic. According to the City's Bike Map, Class II bike lanes are provided along the entire lengths of Quintana Road and South Bay Boulevard, a recreational bike route is provided along Atascadero Road and Embarcadero, a Class I bike path is located off of Main Street north along SR 1 to Atascadero Road, and a Class II bike path is located along Main

Street north of Quintana Road within the vicinity of the proposed project components (see **Figure 3.14-2)**. In addition, the Pacific Coast Bike Route is located along SR 1. In addition to the bicycle facilities near the project components, there are also sidewalks along Atascadero Road, near the existing WWTP and the proposed lift station and IPR injection and monitoring well areas.

3.14.2 Regulatory Framework

Federal

Highway Capacity Manual

The Highway Capacity Manual (HCM), prepared by the Transportation Research Board, is the result of a collaborative multi-agency effort between the Transportation Research Board, Federal Highway Administration, and American Association of State Highway and Transportation Officials. The HCM contains concepts, guidelines, and procedures for computing the capacity and level of service of various transportation facilities, including freeways, signalized and unsignalized intersections, and rural highways, and the effects of transit, pedestrians, and bicycles on the performance of these systems.

Moving Ahead for Progress in the 21st Century Act

The Moving Ahead for Progress in the 21st Century Act (MAP-21) revised the policy and programmatic framework for investments meant to guide the nation's surface transportation system's growth and development. MAP-21 establishes a streamlined and performance-based surface transportation program, which builds upon many of the highway, transit, bike, and pedestrian programs and policies established by the Intermodal Surface Transportation Efficiency Act of 1991.

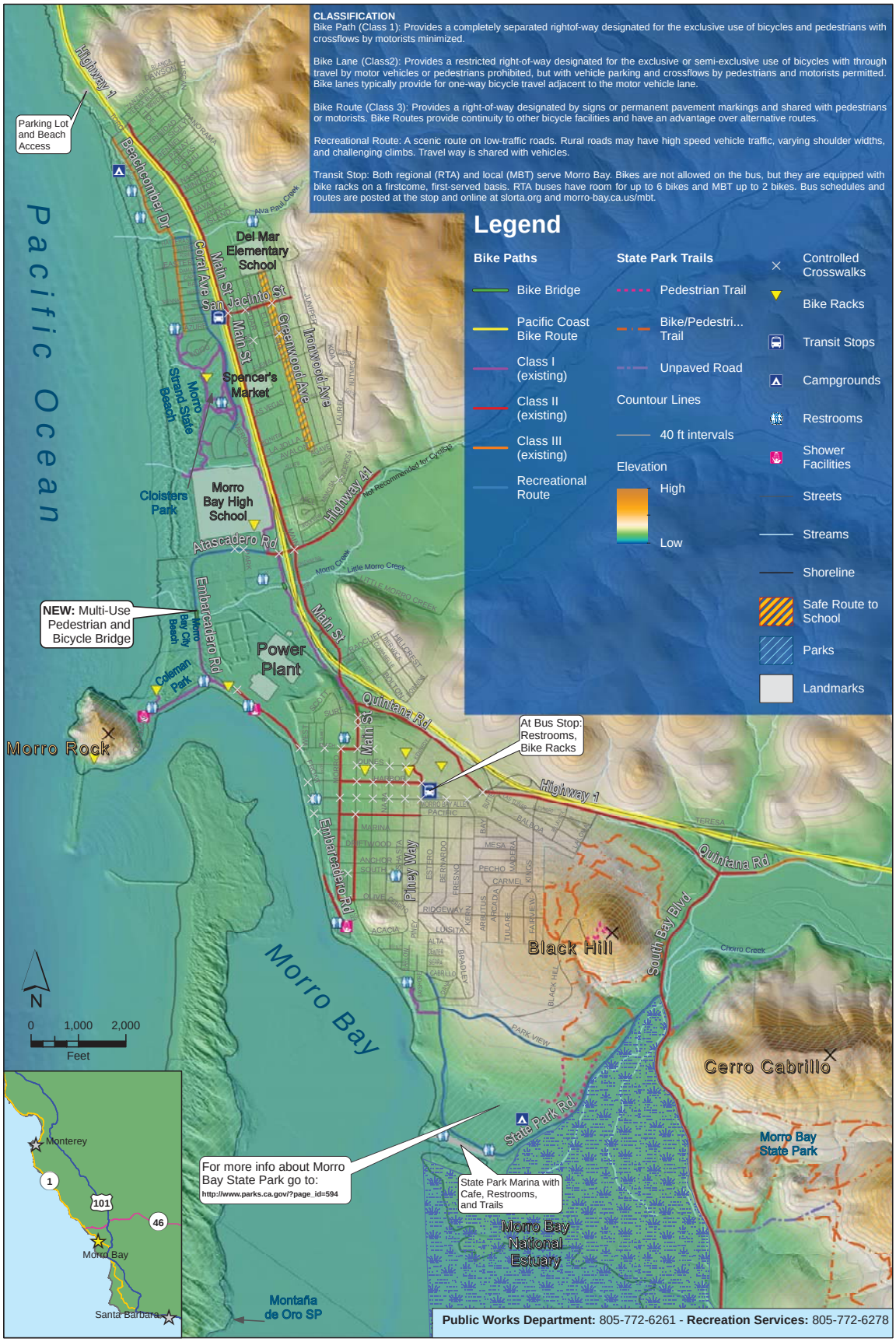
State

California Department of Transportation

California Department of Transportation (Caltrans) is responsible for planning, designing, building, operating, and maintaining California's transportation system. Caltrans sets standards, policies, and strategic plans that aim to do the following: 1) provide the safest transportation system for users and workers, 2) maximize transportation system performance and accessibility, 3) efficiently deliver quality transportation projects and services, 4) preserve and enhance California's resources and assets and 5) promote quality service. Caltrans has the discretionary authority to issue special permits for the use of State highways for other than normal transportation purposes. Caltrans also reviews all requests from utility companies, developers, volunteers, nonprofit organizations, and others desiring to conduct various activities within the State Highway right-of-way.

The following California regulations apply to potential transportation and traffic impacts associated with the proposed project:

California Vehicle Code (CVC), division 15, chapters 1 through 5 (Size, Weight, and Load). Includes regulations pertaining to licensing, size, weight, and load of vehicles operated on highways.



SOURCE: City of Morro Bay

Morro Bay Water Reclamation Facility Project . 150412

Figure 3.14-2

Existing Bicycle and Pedestrian Facilities

California Street and Highway Code (S&HC) sections 660-711. Caltrans encroachment regulations would apply to construction of the proposed pipelines within and immediately adjacent to roadways, as well as the transportation of construction crews and construction equipment throughout the proposed project area. Caltrans requires permits be obtained for transportation of oversized loads, certain materials, and construction-related traffic disturbance.

Statewide Transportation Improvement Program

The California Statewide Transportation Improvement Plan (STIP) is a multiyear, intermodal program of transportation projects that is consistent with the statewide transportation planning processes, metropolitan plans, and Title 23 of the Code of Federal Regulations (CFR). The STIP is prepared by Caltrans in cooperation with the Metropolitan Planning Organizations (MPOs) and the Regional Transportation Planning Agencies. In San Luis Obispo County, the MPO and Regional Transportation Planning Agency is the San Luis Obispo Council of Governments (SLOCOG). The STIP contains all capital and non-capital transportation projects or identified phases of transportation projects for funding under the Federal Transit Act and Title 23 of the CFR, including federally funded projects.

Regional

San Luis Obispo Council of Governments

SLOCOG is a joint powers authority with a goal of facilitating cooperative regional and subregional planning, coordination, and technical assistance on issues of mutual concern. SLOCOG is the County's designated Regional Transportation Planning Agency and thereby responsible for all regional transportation planning and programming activities, including developing a Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) to guide transportation policy which is updated every five years.

Regional Transportation Plan/Sustainable Communities Strategy

SLOCOG, in coordination with the cities of Arroyo Grande, Atascadero, Grover Beach, Morro Bay, Paso Robles, Pismo Beach, and San Luis Obispo, prepares and updates the RTP/SCS every five year. Currently SLOCOG is in the process of preparing the 2019 RTP, which is anticipated to be adopted in June 2019; however, since the 2019 RTP has not been publically released, the 2014 RTP/SCS is the applicable regulatory traffic document for the region. The 2014 RTP/SCS delineates a set of regional transportation goals, policies, and actions intended to guide development of the multimodal transportation systems in the region. Further, the 2014 RTP/SCS integrates the new requirements of Senate Bill 375 in order to address the interrelationship of land use and transportation policies and practices.

San Luis Obispo County General Plan

The County most recently updated its General Plan in 2011. The General Plan's Circulation Element works in conjunction with the Circulation Chapters of the Land Use Element Area Plans. The proposed WRF site would be located within a portion of the Estero Planning Area in the County of San Luis Obispo which occupies a narrow strip along the coast north of the City of Morro Bay and south of the unincorporated community of Los Osos. The County has established

the Level of Service (LOS) standard on roads serving urban areas of the unincorporated county as LOS "D" and LOS "C" in urban areas of the incorporated county.

Local

City of Morro Bay General Plan

The City Council adopted its General Plan in 1988, which is currently in the process of being updated. The General Plan's Circulation Element is a long-range plan that addresses the attributes and issues associated with automobiles, trucks, transit, bicycles, and pedestrian travel within the City. The Circulation Element includes goals and policies to help guide the City in its transportation planning efforts for all modes of travel. The Circulation Element does not include a formal LOS threshold for assessing the adequacy of roadway operations and does not designate any specific roadways as construction haul routes.

2011 Morro Bay Bicycle and Pedestrian Master Plan

The Morro Bay Bicycle and Pedestrian Master Plan (Bicycle and Pedestrian Master Plan) provides the City's vision to increase bicycle and pedestrian facilities within the City to enhance the quality of life for residents and tourists alike. The Bicycle and Pedestrian Master Plan includes a variety of strategic approaches, goals, and objectives to improve the experience of bicycling and walking around the City.

3.14.3 Impacts and Mitigation Measures

Significance Criteria

Appendix G of the *CEQA Guidelines* recommends significance criteria for the evaluation of impacts related to transportation and traffic in the project area. Those same criteria are provided below. This Draft EIR assumes implementation of the proposed project would have a significant impact related to transportation and traffic if it would:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;
- Conflict with an applicable congestion management program including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment);
- Result in inadequate emergency access; or
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Methodology

This impact analysis considers the potential transportation impacts associated with the construction, operation, and maintenance of the proposed project. The analysis is based on the information provided in the TIS prepared by CCTC for the proposed project (CCTC, 2018), which is included as Appendix H of this draft EIR, as well as from data obtained from the County, SLORTA, and the City's General Plan and transportation plans, as appropriate.

Intersection Level of Service Analysis Methodologies

The LOS thresholds for intersections and freeway merge/diverge segments, based on the 6th Edition Highway Capacity Manual (HCM), are presented in **Table 3.14-2** below. The study intersections were analyzed with the Synchro 10 software package applying the 6th Edition HCM methodology. However, operations at Intersection #1 (SR 1 NB Ramps/South Bay Boulevard) could not be analyzed using HCM methodologies due to its stop sign configuration. The SimTraffic microsimulation software was used to estimate delay at this intersection. In addition, the freeway merge and diverge segments are analyzed with Highway Capacity Software version 7, using the 6th Edition HCM methodology.

TABLE 3.14-2
LEVEL OF SERVICE THRESHOLDS

Stop Controlled[1]		Freeway Merge/Diverge Segments[2]	
Control Delay (sec/veh)	LOS	Density[2]	LOS
≤ 10	A	≤ 10	A
>10-15	B	>10-20	B
>15-25	C	>20-28	C
>25-35	D	>28-35	D
>35-50	E	>35	E
>50 or v/c >1	F	v/c > 1	F

1 Source: Exhibits 20-2 and 21-8 of the 6th Edition Highway Capacity Manual.
2 Source: Exhibit 14-3 of the 6th Edition Highway Capacity Manual.
3 Demand in units of passenger car/mile/lane.
SOURCE: CCTC, 2018.

Impact Analysis

Circulation System and Congestion Management

Impact 3.14-1: Construction of the proposed project would result in partial lane closures, which could significantly impact the operations of the local and regional circulation systems. However, implementation of a Traffic Control Plan would reduce impacts to a less than significant level. This impact would be Class II, Less than Significant with Mitigation.

WRF

In order to evaluate the proposed project's impacts to the traffic study area, the TIS analyzed the addition of truck trips generated from construction and operation of the WRF with the existing local and regional circulation system in two scenarios: Existing plus Construction Conditions and Existing plus Project Conditions. Each scenario is based on three factors: trip generation, trip distribution, and trip assignment. Trip generation refers to the total number of trips generated by the site; trip distribution identifies the general origins and destinations of these trips; and trip assignment specifies the routes taken to reach these origins and destinations. Further detail on trip generation, trip distribution, and trip assignment is provided in Appendix H.

Existing plus Construction Conditions

Table 3.14-3 shows the trip generation used to assess the proposed project's traffic impacts during construction of the WRF. The construction trip generation assumed a worst case scenario where construction phases and operational activities overlap, with multiple types of deliveries arriving and departing during the same hour periods. Trip distribution and assignment for the construction trips were estimated based on observed traffic patterns, the locations of complementary land uses, and knowledge of local traffic patterns. Typical traffic volumes would likely be lower than what are shown in Table 3.14-3**.**

TABLE 3.14-3
PROJECT CONSTRUCTION TRIP GENERATION

	AM Peak Hour			PM Peak Hour		
	In	**Out**	**Total**	**In**	**Out**	**Total**
Deliveries						
Truck Deliveries	*8*	*8*	*16*	*8*	*8*	*16*
Truck Deliveries PCE[1]	21	21	42	21	21	42
Total	***21***	***21***	***42***	***21***	***21***	***42***
Worker Commutes						
Employee Commutes	30	0	30	0	30	30
Total	***30***	***0***	***0***	***0***	***30***	***30***
Total PCE	**51**	**21**	**72**	**21**	**51**	**72**

Notes:
[1] PCE - Passenger Car Equivalent of 2.67 used. Actual PCE varies by intersection based on existing heavy vehicle percentage.
Source: CCTC, 2018.

Table 3.14-4 shows the study intersection and freeway on- and off-ramps operations throughout the AM and PM peak hours during construction of the WRF. **Figure 3.14-3** also illustrates the peak hour traffic volumes for Existing plus Construction Conditions. As shown in Table 3.14-4, all study intersections and freeway on- and off-ramps would operate at an acceptable LOS in the Existing plus Construction Conditions scenario, with the exception of the intersection at Quintana Road / South Bay Boulevard. However, as shown in Table 3.14-1, this intersection is already operating at LOS E in existing conditions in the AM peak hours, where the project's contribution to traffic volumes would increase delay by less than one second per vehicle, which is considered insignificant. In addition, to further minimize the proposed project's effects on the local and regional circulation systems, heavy truck trips during construction would aim to be scheduled to occur outside of the AM and PM peak hours. Therefore, the proposed project's contribution to traffic volumes during construction of the WRF would not create a significant impact to the local or regional circulation systems. Impacts would be less than significant under the Existing plus Construction Conditions scenario.

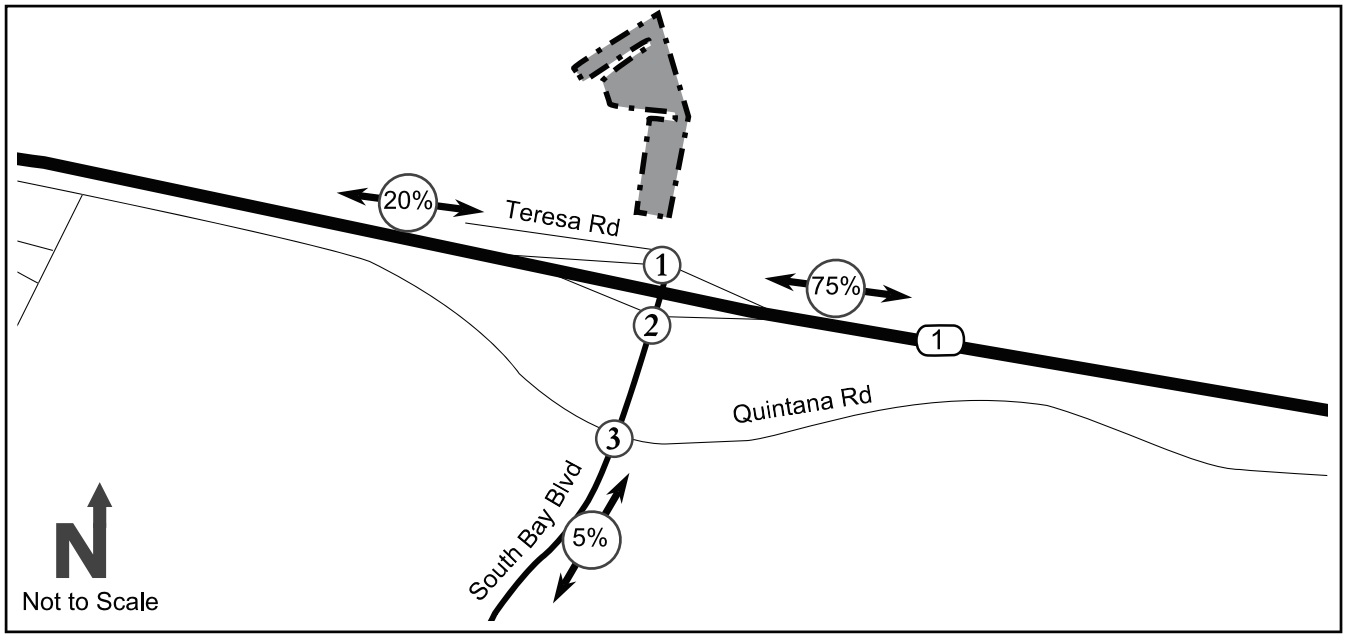
TABLE 3.14-4
EXISTING PLUS CONSTRUCTION LEVEL OF SERVICE CONDITIONS

		AM Peak Hour		PM Peak Hour	
		Delay[1] (sec/veh) or Density[2]	LOS	Delay[1] (sec/veh) or Density	LOS
Intersections					
1	SR 1 NB Ramps / South Bay Boulevard	2.2 (6.8)	A	3.0 (7.8)	A
2	SR 1 SB Ramps / South Bay Boulevard	4.0 (12.3)	B	5.0 (13.0)	B
3	Quintana Road / South Bay Boulevard	**3.1 (46.9)***	**E**	2.6 (20.5)	C
Freeway On- and Off-Ramps					
1a	SR 1 NB Off-Ramp / South Bay Boulevard	1.5	A	2.4	A
1b	SR 1 NB On-Ramp / South Bay Boulevard	10.5	B	8.8	A
2a	SR 1 SB Off- Ramp / South Bay Boulevard	1.0	A	0.6	A
2b	SR 1 SB On-Ramp / South Bay Boulevard	6.4	A	4.7	A

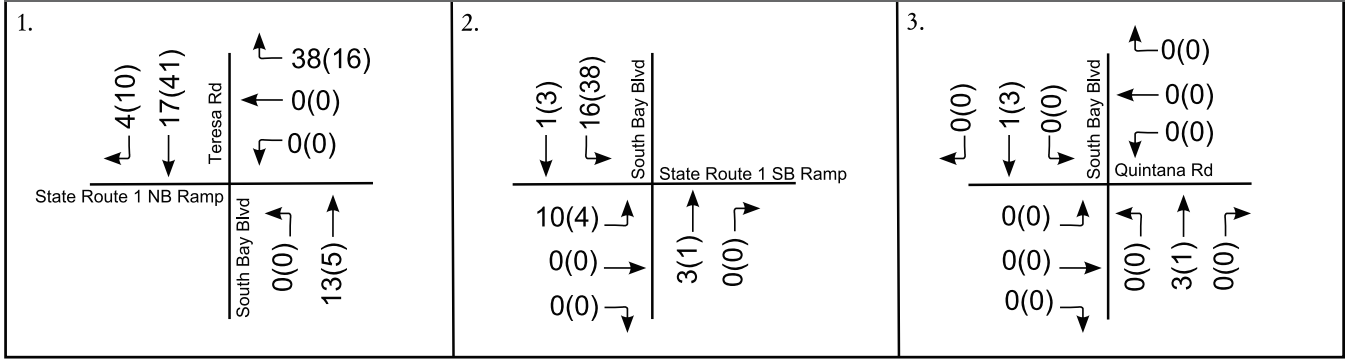
Notes:
*__Bold__ indicates unacceptable operations
[1] HCM 6th average control delay in seconds per vehicle. For side-street-stop controlled intersections the worst approach's delay is reported in parentheses next to the overall intersection delay.
[2] Density in Ramp Influence Area reported in passenger cars per mile per lane.
Source: CCTC, 2018.

Existing plus Project Conditions

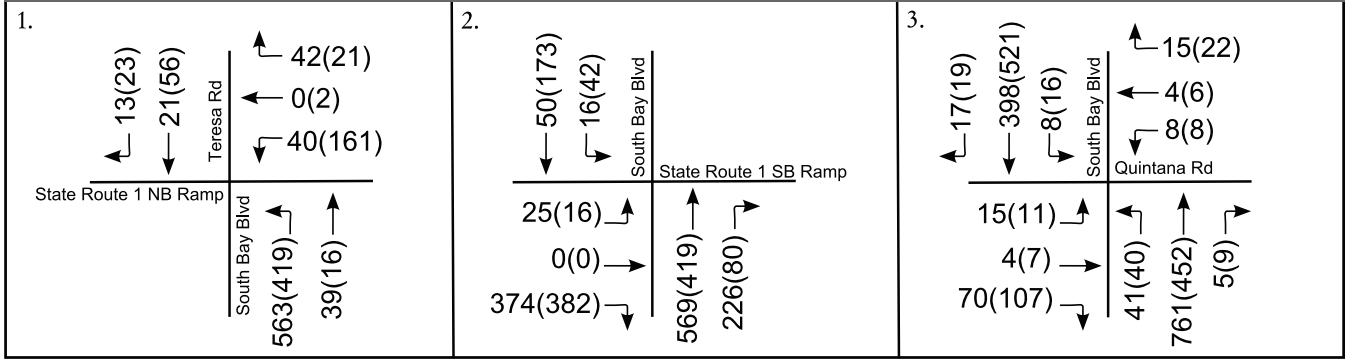
Table 3.14-5 shows the trip generation used to assess the proposed project's traffic impacts during operation of the WRF. The operational trip generation assumed a worst case scenario where multiple types of deliveries occur during the same hour periods. Typical traffic volumes during operation of the WRF would be lower than what's included in Table 3.14-5**.**



Construction Trip Assignment



Existing Plus Construction Peak Hour Volumes



Legend:

xx(yy) - AM(PM) Peak Hour Traffic Volumes

(x) - Study Intersection

- Project Site

3% - Project Trip Distribution Percentage

SOURCE: Central Coast Transportation Consulting

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Figure 3.14-3

Existing Conditions Plus Construction Peak-Hour Volumes – AM & PM

TABLE 3.14-5
PROJECT OPERATION TRIP GENERATION

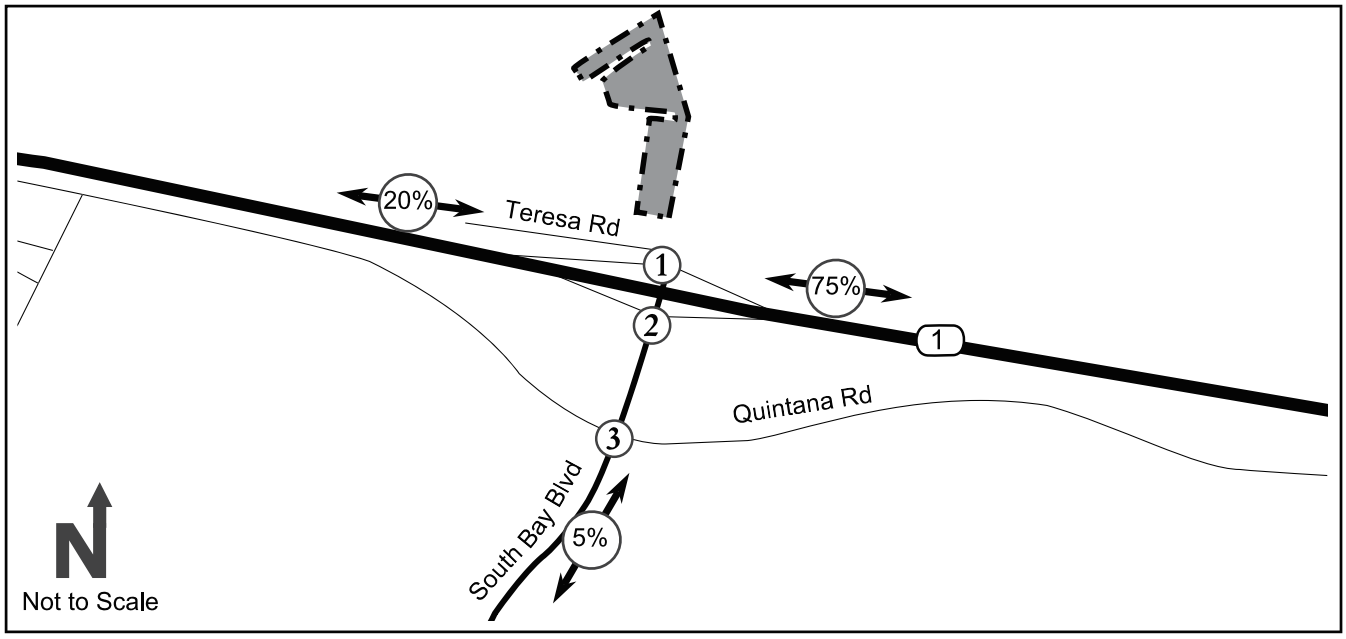
	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
WRF						
Truck Deliveries	*3*	*3*	*6*	*3*	*3*	*6*
Truck Deliveries PCE[1]	8	8	16	8	8	16
Employee Commutes	4	0	4	0	4	4
Maintenance Vehicles	0	2	2	2	0	2
Total	***12***	***10***	***22***	***10***	***12***	***22***
O&M Buildings						
Employee Commutes	3	0	3	0	3	3
Maintenance Vehicles	0	3	3	3	0	3
Total	***3***	***3***	***6***	***3***	***3***	***6***
Total PCE	**15**	**13**	**28**	**13**	**15**	**28**

Notes:

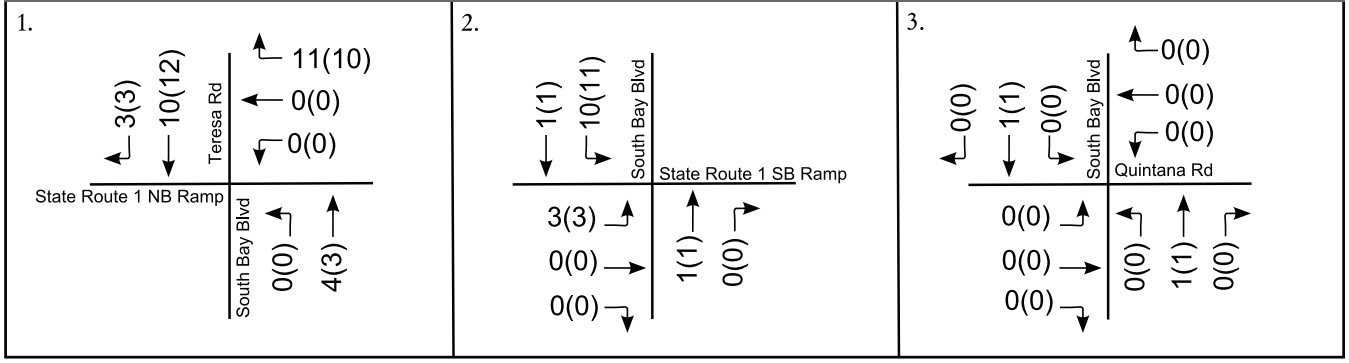
[1] PCE - Passenger Car Equivalent of 2.67 used. Actual PCE varies by intersection based on existing heavy vehicle percentage.

Source: CCTC, 2018.

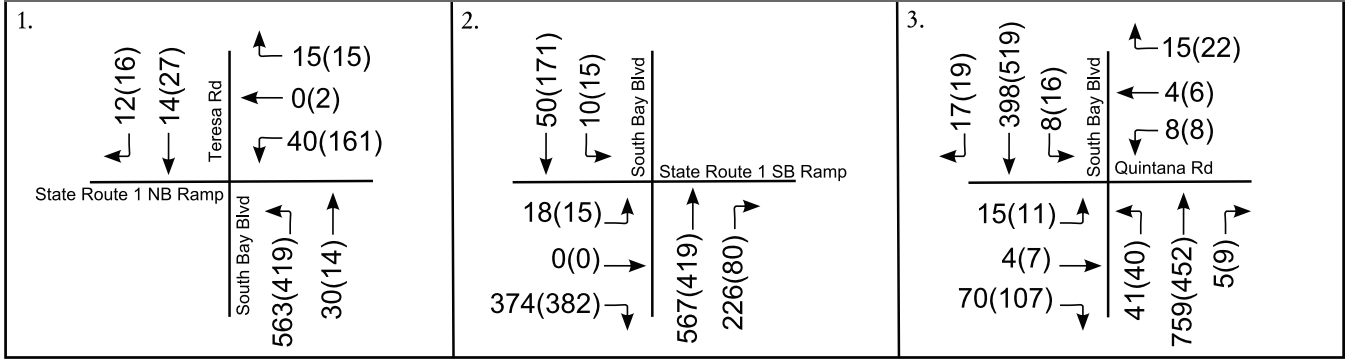
Table 3.14-6 shows the study intersection and freeway on- and off-ramps operations throughout the AM and PM peak hours during operation of the WRF. **Figure 3.14-4** also illustrates the peak hour traffic volumes for Existing plus Project Conditions. As shown in Table 3.14-6, all study intersections and freeway on- and off-ramps would operate at an acceptable LOS in the Existing plus Project Conditions scenario, with the exception of the intersection at Quintana Road / South Bay Boulevard. However, as shown in Table 3.14-1, this intersection is already operating at LOS E in existing conditions in the AM peak hours, where the project's contribution to traffic volumes would increase delay by less than one second per vehicle, which is considered insignificant. In addition, to further minimize the proposed project's effects on the local and regional circulation systems, heavy truck trips during operation would be scheduled to occur outside of the AM and PM peak hours, to the extent feasible. Therefore, the proposed project's contribution to traffic volumes during operation of the WRF would not result in a significant impact to the local or regional circulation systems. Impacts would be less than significant under the Existing plus Project Conditions scenario.



Project Trip Assignment



Existing Plus Project Peak Hour Volumes



Legend:

xx(yy) - AM(PM) Peak Hour Traffic Volumes

(x) - Study Intersection

- Project Site

(3%) - Project Trip Distribution Percentage

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SOURCE: Central Coast Transportation Consulting

Figure 3.14-4

Existing Conditions Plus Project Peak-Hour Volumes – AM & PM

TABLE 3.14-6
EXISTING PLUS PROJECT LEVEL OF SERVICE CONDITIONS

		AM Peak Hour		PM Peak Hour	
		Delay[1] (sec/veh) or Density[2]	LOS	Delay[1] (sec/veh) or Density	LOS
Intersections					
1	SR 1 NB Ramps / South Bay Boulevard	2.0 (6.9)	A	3.1 (8.2)	A
2	SR 1 SB Ramps / South Bay Boulevard	3.9 (12.1)	B	4.9 (13.0)	B
3	Quintana Road / South Bay Boulevard	**3.1 (46.9)***	**E**	2.6 (20.5)	C
Freeway On- and Off-Ramps					
1a	SR 1 NB Off-Ramp / South Bay Boulevard	1.5	A	2.4	A
1b	SR 1 NB On-Ramp / South Bay Boulevard	10.5	B	8.8	A
2a	SR 1 SB Off- Ramp / South Bay Boulevard	1.0	A	0.6	A
2b	SR 1 SB On-Ramp / South Bay Boulevard	6.4	A	4.5	A

Notes:
***Bold** indicates unacceptable operations
[1] HCM 6th average control delay in seconds per vehicle. For side-street-stop controlled intersections the worst approach's delay is reported in parentheses next to the overall intersection delay.
[2] Density in Ramp Influence Area reported in passenger cars per mile per lane.
Source: CCTC, 2018.

In summary, construction and operation of the WRF would not significantly increase existing traffic volumes and would not cause a significant increase in delay times. Impacts to the local and regional circulation system would be less than significant.

Collection System and IPR Injection and Monitoring Wells

The proposed project would construct a new lift station near the existing WWTP, a raw wastewater and brine/wet weather discharge pipeline from the proposed lift station to the proposed WRF site, and IPR injection and monitoring wells with a proposed recycled water pipeline to the preferred WRF site. Construction of those project components would not substantially increase traffic levels or travel times on the surrounding circulation systems, as construction trips would be generated by trucks bring materials to and from the construction sites and daily construction worker vehicle trips over an approximately three-year period. Although construction of those proposed project components would temporarily generate additional truck and vehicle trips within the local and regional circulation systems, traffic levels would be temporary in nature as traffic levels would return to pre-construction conditions once construction is complete. While local drivers could experience increased travel times if they were traveling behind a heavy truck due to slower movement and turning radii compared to passenger vehicles, those delays would be intermittent throughout the day and would cease once construction activities are completed. Further, all construction trucks traveling on Caltrans facilities would be required to comply with CVC, division 15, chapters 1 through 5 (Size, Weight, and Load) and S&HC sections 660-711, as applicable, to minimize impacts to roadway operations.

Even though construction of these project components would not significantly increase the number of trucks and vehicles on the local and regional circulation systems, construction activities within roadways may require partial closure of traffic lanes, which could significantly impact the performance of applicable roadways. This would be a potentially significant impact.

In order to reduce impacts to roadway performance during construction of the lift station, conveyance facilities, and the IPR injection and monitoring wells, the City would be required to prepare and implement a Traffic Control Plan. The Traffic Control Plan would include, but not be limited to, signage, striping, delineated detours, flagging operations, changeable message signs, delineators, arrow boards, and K-Rails that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the City Traffic Engineer. Approximately two to four construction workers would be required to implement the traffic control plan during construction. With implementation of the Traffic Control Plan, as required by **Mitigation Measure TRAF-1**, impacts to the local and regional circulation systems during construction of the lift station, conveyance facilities, and the IPR injection and monitoring wells would be reduced to less-than-significant levels.

Once constructed, the conveyance pipelines and IPR injection and monitoring wells would be contained entirely underground and would require minimal maintenance. In addition, the lift station would require occasional maintenance, which could generate a few vehicle trips annually. Thus, operation of the lift station, conveyance facilities, and the IPR injection and monitoring wells would not affect the performance of the local or regional circulation systems and impacts would be less than significant.

Decommissioning of Current WWTP

The decommissioning of the existing WWTP would include the shutdown, demolition, and complete removal of all WWTP facilities and infrastructure such as the piping located four to five feet below grade. Based on preliminary estimates for material haul-off and backfill import, approximately 6,519 cubic yards of material would be required to be hauled off and 5,726 cubic yards of import would need to be brought on site for backfilling. Assuming an average truck capacity of 10 cubic yards, approximately 652 truck trips would be required for hauling demolished materials offsite and approximately 573 truck trips would be needed to import material for backfilling the site over a three-month period. The average daily number of trucks trips generated would be approximately 14 truck trips, which would not substantially increase traffic levels on the local and regional circulation systems. Although decommissioning the existing WWTP would temporarily generate additional truck and vehicle trips within the local and regional circulation systems, traffic levels would be temporary in nature as traffic levels would return to pre-construction conditions once the decommissioning process is complete. While local drivers could experience increased travel times if they were traveling behind a heavy truck due to slower movement and turning radii compared to passenger vehicles, these delays would be intermittent throughout the day and would cease once construction activities are completed. Further, all construction trucks traveling on Caltrans facilities would be required to comply with CVC, division 15, chapters 1 through 5 (Size, Weight, and Load) and S&HC

sections 660-711, as applicable, to minimize impacts to roadway operations. Thus, impacts to the local and regional circulation systems during decommissioning would be less than significant.

Upon completion of demolition work and upgrades to facilities, which are to remain, the WWTP site would be graded to fit the basic drainage pattern of the surrounding facility and would be surfaced with a thin layer of gravel. The WWTP site would remain vacant and undeveloped until the City's approves a new use of the site; however, at this time there is no substantial evidence that the City has any planned uses for the site in the foreseeable future. Since the site would remain undeveloped, no vehicle trips would be generated from this site and no impact would occur to the local and regional circulation systems.

Mitigation Measure

> **TRAF-1: Traffic Control Plan.** Prior to the start of construction of project components that would occur within a roadway right-of-way, the City shall require the construction contractor to prepare a Traffic Control Plan. The Traffic Control Plan will show all signage, striping, delineated detours, flagging operations and any other devices that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the City's Public Works Director and Fire and Police Chiefs. When construction activities disrupt travel on major collectors or arterials, electronic signing shall be used to provide the public, on all transportation modes, with current construction information and the availability of alternate travel routes.
>
> The Traffic Control Plan will be prepared in accordance with the City's traffic control guidelines and will be prepared to ensure that access will be maintained to individual properties, and that emergency access will not be restricted. Additionally, the Traffic Control Plan shall also include a scheduling plan showing the hours of operation to minimize congestion during the peak hours and special events. The scheduling plan will ensure that congestion and traffic delay are not substantially increased as a result of the construction activities. Further, the Traffic Control Plan will include detours or alternative routes for bicyclists using on-street bicycle lanes as well as for pedestrians using adjacent sidewalks.
>
> In addition, the City shall provide written notice at least two weeks prior to the start of construction to owners/occupants along streets to be affected during construction. During construction, the City will maintain continuous vehicular and pedestrian access to any affected residential driveways from the public street to the private property line, except where necessary construction precludes such continuous access for reasonable periods of time. Access will be reestablished at the end of the workday. If a driveway needs to be closed or interfered with as described above, the City shall notify the owner or occupant of the closure of the driveway at least five working days prior to the closure.
>
> The Traffic Control Plan shall include provisions to ensure that the construction of the lift station, conveyance pipelines, and the IPR injection and monitoring wells do not interfere unnecessarily with the work of other agencies such as mail delivery, school buses, and municipal waste services.
>
> The City shall also notify local emergency responders of any planned partial or full lane closures or blocked access to roadways or driveways required for construction of the

proposed project facilities. Emergency responders include fire departments, police departments, and ambulances that have jurisdiction within the proposed project area. Written notification and disclosure of lane closure location must be provided at least 30 days prior to the planned closure to allow for emergency response providers adequate time to prepare for lane closures.

Significance Determination:

Less than Significant with Mitigation.

Air Traffic Patterns

Impact 3.14-2: Since there are no public or private airports within the City limits, implementation of the proposed project would not result in a change in air traffic patterns, including either an increase in air traffic levels or a change in location that results in substantial safety risks. There would be no impact.

There are no public or private airports in the City; the closest public airport is the San Luis County Regional Airport, located approximately 14.5 miles to the southeast. Therefore, construction and operation of the proposed project would not result in a change in air traffic patterns at this airport, including either an increase in air traffic levels or a change in location that results in substantial safety risks. No impact would occur.

Mitigation Measure

None required.

Significance Determination

No impact.

Hazardous Design Features

Impact 3.14-3: Construction of the proposed project would require temporary partial lane closures, which could affect roadway safety or create a hazardous design feature. However, implementation of the Traffic Control Plan would minimize the effects of the partial lane closures on roadway safety to a less than significant level. This impact would be Class II, Less than Significant with Mitigation.

WRF

Construction of the proposed WRF would develop a new wastewater treatment plant in an area surrounded by open rangeland and at a distance from residential and commercial uses. The proposed WRF does not include the construction of a new public roadway; however, the WRF's driveway would be designed and constructed in compliance with all applicable City and County

codes to ensure traffic operations at that entry point are consistent with City and County standards to ensure it does not create a safety hazard. Therefore, compliance with applicable engineering and design standards would minimize the potential for the proposed WRF to create a hazardous design feature from its driveway with South Bay Boulevard. Impacts related to hazardous design features would be less than significant.

Collection System, Lift Station and IPR Injection and Monitoring Wells

Construction of the proposed project would develop water infrastructure facilities within the City and would be located within areas designated for such facilities. The proposed project does not include the construction of a new roadway or intersection, which could be determined to be a hazardous design feature. Additionally, construction of the proposed project would include the use of construction trucks to bring construction materials to and from the proposed project area. While local drivers could experience increased travel times, if they were traveling behind a heavy truck due to slower movement and turning radii compared to passenger vehicles, those delays would be intermittent throughout the day and would cease once construction activities are completed. Further, heavy trucks are typically present on public roadways and are not considered a roadway hazard. Construction of the lift station, conveyance facilities, and IPR injection and monitoring wells could require partial lane closures, which could introduce roadway hazards to passing motorists. This would be a potentially significant impact.

As described previously, implementation of a Traffic Control Plan as mitigation for roadways which require partial closures during construction would minimize the effects on roadway safety. The Traffic Control Plan would include signage, striping, delineated detours, flagging operations and other devices to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the City of Morro Bay Traffic Engineer. With implementation of the Traffic Control Plan, as required by Mitigation Measure TRAF-1, construction of the proposed project would not result in a hazardous design feature. Impacts during construction would be less than significant with mitigation.

Operation of the proposed project would not involve operation any new intersections or roadways and as such would not result in a hazardous design feature. Impacts during operation of the lift station, conveyance pipelines, and IPR injection and monitoring wells would be less than significant.

Decommissioning of Current WWTP

Decommissioning the existing WWTP would involve removing the facilities that are currently located onsite and would not include the construction of any additional roadways, or intersections. Upon completion of demolition work and upgrades to facilities which are to remain, the WWTP site would be graded to fit the basic drainage pattern of the surrounding facility and would be surfaced with a thin layer of gravel. The WWTP site would remain vacant and undeveloped until the City and Cayucos Sanitary District approves a new use of the site; however, at this time there is no substantial evidence there are any planned uses for the site in the foreseeable future. For those reasons, the decommissioning of the existing WWTP would not result in a hazardous design feature or an incompatible use. No impact would occur.

Mitigation Measure

Implementation of TRAF-1

Significance Determination:

Less than Significant with Mitigation.

Emergency Access

Impact 3.14-4: Construction of the proposed project would include temporary partial lane closures, which could significantly impact emergency access in proximity to the project components. However, implementation of the Traffic Control Plan would require coordination with emergency responders, which include the fire department, police department, and ambulances to ensure adequate emergency access is provided. This impact would be Class II, Less than Significant with Mitigation.

WRF

The WRF is proposed to be constructed at a preferred site that is near eastern terminus of South Bay Boulevard and would not be located around other developments. Construction trucks and vehicles would access the preferred WRF site intermittently throughout the day and would not interfere with the use of roadways for emergency access. Further, all construction trucks and vehicles would adhere to all applicable roadway regulations and standards related to emergency access. Therefore, adequate emergency access would be provided during construction of the proposed WRF.

After construction is completed and the facility is commissioned and operating, there would be operational traffic associated with worker commute, chemical deliveries, screenings removal, and biosolids removal. Approximately four workers could be working at one time at the facility, resulting in an estimated eight employee commutes per day, and assuming two workers utilize maintenance vehicles for offsite work, four maintenance vehicle trips per day. Employee commutes and maintenance vehicle trips are anticipated to result in approximately 320 vehicle trips per month. While these operational activities would generate additional truck trips on the surrounding local and regional circulation system, the addition of these trucks and vehicles would not be substantial. Further, all drivers would be required to comply all applicable roadway regulations and standards related to emergency access. Therefore, operation of the proposed WRF would not result in inadequate emergency access. Impacts would be less than significant.

Collection System and IPR Injection and Monitoring Wells

As described in Impact 3.14-1, construction of the conveyance pipelines would not substantially increase traffic levels or travel times on the surrounding circulation systems, as construction trips would be generated by trucks bring materials to and from the construction sites and daily construction worker vehicle trips. However, while construction of the collection system and IPR injection and monitoring wells wouldn’t significantly increase the amount of trucks and vehicles

on the local and regional circulation systems, construction activities within roadways would require partially closure of traffic lanes, which could interfere with emergency access.

In order to reduce impacts to emergency access during construction of the conveyance facilities, the City would be required to implement Mitigation Measure TRAF-1, which would require the preparation and implementation of a Traffic Control Plan. The Traffic Control Plan would include, but not limited to, signage, striping, delineated detours, flagging operations, changeable message signs, delineators, arrow boards, and K-Rails that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the appropriate local jurisdiction. Approximately two to four construction workers would be required to implement the traffic control plan during construction. The Traffic Control Plan would be coordinated with emergency responders, which include the fire department, police department, and ambulances that have jurisdiction within the proposed project area. Therefore, with implementation of Mitigation Measure TRAF-1, impacts to emergency access during construction of the collection system and IPR injection and monitoring wells would be reduced to less than significant.

Once constructed, all conveyance pipelines and the IPR injection and monitoring wells would be contained entirely underground and would not interfere with emergency access. In addition, the lift station would require occasional maintenance, which could generate a few vehicle trips annually. However, due to the relatively limited amount of vehicle trips associated with operation and maintenance of the lift station, it is reasonable to assume these trips would not interfere with emergency access. Thus, impacts to emergency access would be less than significant.

Decommissioning of Current WWTP

The decommissioning of the existing WWTP would occur over a three month period and would require approximately 652 truck trips for hauling demolished materials offsite and approximately 573 truck trips to import material for backfilling the site. The average daily number of trucks trips generated would be approximately 14 truck trips, which would not substantially increase traffic levels on the local and regional circulation systems. Construction trucks and vehicles would access the existing WWTP site via Atascadero Road intermittently throughout the day and would not interfere with the use of roadways for emergency access. Further, all construction trucks and vehicles would adhere to all applicable roadway regulations and standards related to emergency access. Therefore, adequate emergency access would be provided during the decommissioning of the existing WWTP.

Upon completion of demolition work and upgrades to facilities which are to remain, the WWTP site would be graded to fit the basic drainage pattern of the surrounding facility and would be surfaced with a thin layer of gravel. The WWTP site would remain vacant and undeveloped until the City's approves a new use of the site; however, at this time there is no substantial evidence that the City has any planned uses for the site in the foreseeable future. Since the site would remain undeveloped, no vehicle trips would be generated from this site which could interfere with emergency access. No impact to emergency access would occur.

Mitigation Measure

Implementation of TRAF-1

Significance Determination:

Less than Significant with Mitigation.

Public Transportation and Pedestrian Facilities

Impact 3.14-5: Construction of the proposed project would include temporary partial lane closures, which could significantly impact alternative transportation routes around the project components. However, implementation of the Traffic Control Plan would require include detours or alternative routes for transit, bicyclists using on-street bicycle lanes, and for pedestrians using adjacent sidewalks. This impact would be Class II, Less than Significant with Mitigation.

WRF

Figure 3.14-2 shows the bicycle and pedestrian facilities in proximity to the preferred WRF site. A Class II bicycle lane is located along South Bay Boulevard and the Pacific Coast Bike Route is located along SR 1. While construction and operation of the WRF would require heavy trucks and passenger vehicles to utilize the local and regional circulation systems, the presence of these heavy trucks and passenger vehicles would not interfere with the existing operation of the surrounding bicycle lanes and sidewalks. Furthermore, construction and operation of the WRF would not inhibit existing transit routes or block bus stops as all trucks and vehicles would be parked onsite or within designated loading and/or parking areas. Therefore, implementation of the WRF would not conflict with alternative transportation. Impacts would be less than significant.

Collection System and IPR Injection and Monitoring Wells

Figure 3.14-2 shows the bicycle and pedestrian facilities in proximity to the lift station, conveyance pipelines, and IPR injection and monitoring wells. Class II bike lanes are provided along the entire lengths of South Bay Boulevard, Quintana Road, and Main Street to Highway 41; a recreational bike route is provided along Atascadero Road and Embarcadero; a Class I bike path is located west of Highway 1 adjacent to the Power Plant and across Morro Creek to Atascadero Road. The Pacific Coast Bike Route is located along SR 1. In addition to the bicycle facilities near the project components, there are also sidewalks along Atascadero Road, near the proposed lift station and IPR injection and monitoring well areas. Further, there are numerous bus stops in the vicinity of these proposed project components primarily along Quintana Road, between Morro Bay Boulevard and Main Street, and Atascadero Road, between SR 1 and Embarcadero.

While construction of the lift station, conveyance pipelines, and IPR injection and monitoring wells wouldn't significantly increase the amount of trucks and vehicles on the local and regional circulation systems, construction activities within roadways would require partial closure of traffic lanes, which would significantly impact bicycle lanes within the ROW, sidewalks, and transit routes and bus stops. Construction of the raw wastewater/brine pipeline and IPR West pipeline would directly impact the Class I bike path that runs between Main Street and Morro

Creek to the west of SR 1. Pipelines would be installed at an average rate of 150 feet per day, as mentioned in Chapter 2, Project Description, so the length of time particular bike paths and pedestrian facilities would be affected would be short in duration. However, this would be a potentially significant impacts.

In order to reduce impacts to alternative transportation facilities during construction of the conveyance facilities, the City would be required to implement a Traffic Control Plan, which includes measures specifically for alternative transportation facilities. The Traffic Control Plan would include, but not limited to, signage, striping, delineated detours, flagging operations, changeable message signs, delineators, arrow boards, and K-Rails that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the appropriate local jurisdiction. In addition, the Traffic Control Plan would include detours or alternative routes for bicyclists using on-street and off-street bicycle lanes as well as for pedestrians using adjacent sidewalks. Therefore, with implementation of the Traffic Control Plan, as required by Mitigation Measure TRAF-1, impacts to alternative transportation facilities during construction of the lift station, conveyance pipelines, and IPR injection and monitoring wells would be reduced to less than significant.

Once construction is complete, alternative transportation facilities would return to pre-construction conditions as the conveyance pipelines and IPR injection and monitoring wells would be underground and the lift station would not be located within roadway rights-of-way. Operation and maintenance of these facilities would be minimal and would not interfere with alternative transportation facilities. Therefore, impacts to alternative transportation facilities during operation of the lift station, conveyance pipelines, and IPR injection and monitoring wells would be reduced to less than significant.

Decommissioning of Current WWTP

Figure 3.14-2 shows the bicycle and pedestrian facilities in proximity to the existing WWTP. A recreational bike route is provided along Atascadero Road and Embarcadero, a Class I bike path is located west of SR 1 between Main Street and Atascadero Road, and the Pacific Coast Bike Route is located along SR 1. In addition to the bicycle facilities, there are also sidewalks along Atascadero Road and bus stops along Atascadero Road, between SR 1 and Embarcadero. While decommissioning of the existing WWPT would require heavy trucks and passenger vehicles to utilize the local and regional circulation systems, the presence of these heavy trucks and passenger vehicles would not interfere with the existing operation of the surrounding bicycle lanes and sidewalks. Furthermore, decommissioning of the existing WWTP would not inhibit existing transit routes or block bus stops as all trucks and vehicles would be parked onsite or within designated loading and/or parking areas. Therefore, decommissioning of the existing WWPT would not conflict with alternative transportation. Impacts would be less than significant.

Upon completion of demolition work and upgrades to facilities which are to remain, the WWTP site would be graded to fit the basic drainage pattern of the surrounding facility and would be surfaced with a thin layer of gravel. The WWTP site would remain vacant and undeveloped until the City's approves a new use of the site; however, at this time there is no substantial evidence

that the City has any planned uses for the site in the foreseeable future. Since the site would remain undeveloped, no vehicle trips would be generated from this site which could interfere with alternative transportation. No impact to alternative transportation would occur.

Mitigation Measure

Implementation of TRAF-1

Significance Determination:

Less than Significant with Mitigation.

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3.15 Tribal Cultural Resources

This section provides an assessment of potential impacts related to tribal cultural resources that could result from implementation of the proposed project. Tribal cultural resources are analyzed in a standalone chapter of this Draft EIR, separate from other types of cultural resources (i.e., historical, archaeological, paleontological, human remains, which are addressed in Chapter 3.5 "Cultural Resources"), in accordance with the revisions to CEQA Guidelines Appendix G, as approved by the Office of Administrative Law on September 27, 2016. This chapter recognizes that California Native American Tribes have expertise concerning identification, evaluation, and mitigation of their tribal cultural resources.

"Tribal cultural resources" are defined as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" that are either included or determined to be eligible for inclusion in the California Register of Historical Resources (California Register) or included in a local register of historical resources, or a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant (Public Resources Code [PRC] subdivision 21074(a)). A cultural landscape that meets these criteria is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape. A historical resource, unique archaeological resource, or non-unique archaeological resource may also be a tribal cultural resources if it meets these criteria.

The analysis in this section is based, in part, on the results of Sacred Land Files (SLF) searches from the California Native American Heritage Commission (NAHC) and outreach with California Native American Tribes.

3.15.1 Environmental Setting

Ethnographic Setting

At the time of European contact, the preferred and proposed project sites were occupied by two Native American groups: the Chumash and the Salinan. Detailed descriptions of the Chumash and Salinan groups are provided in the following paragraphs.

Chumash

Kroeber (1925) identifies the Chumash as "predominantly a coast people" who "were more nearly maritime in their habits than any other Californian group." Chumash territory included the Topanga and Malibu areas in the south, north to the approximate location of Morro Bay and east across the coastal range toward the San Joaquin Valley. The Santa Barbara Channel Islands (San Miguel, Santa Rosa, Santa Cruz, and Anacapa) were also included within Chumash territory. Chumash living near the preferred and proposed project areas were known, by Europeans, as Obispeño Chumash, after the Mission San Luis Obispo to which many of them were relocated in the 18th century (Greenwood, 1978).

Chumash society consisted of tribal groups lead by a single chief who was responsible for the management and distribution of tribal resources. Chumash settlement sites included established village sites with large, circular residential huts of willow or pole construction and covered with tule mats or thatch. Also present within a Chumash village was a large ceremonial lodge or sweathouse. Along with more permanently settled villages, temporary short-term camps were established by the Chumash for use during resource foraging excursions.

The Chumash were a complex society with a strict social order, a well-established and prosperous system of trade, and standardized money exchange in the form of shell beads. With settlements along the Channel Islands, the Chumash were master maritime navigators, having developed the *tomol*, a wooden plank canoe, to ferry people and trade goods between the islands and the mainland. Other key cultural items representative of the Chumash are finely crafted basketry of all forms, sizes, and decorations. Chumash peoples made use of their diverse environment, capitalizing upon a wide range of natural and animal resources for food and as raw material for the crafting of function tools and non-functional, ornamental items (Kroeber, 1925). Burial practices of the Chumash involved mourning ceremonies and permanent cemeteries near to villages in which the remains were buried. Personal items of the deceased, as well as other offerings or objects, were placed into the grave, prior to the completion of burial.

Salinan

Far less studied than the Chumash are their northern neighbors, the Salinan. Salinan territory extended between the Pacific Ocean and the South Coast Ranges from the Salinas River Valley near the Mission Soledad on the north to the vicinity of Morro Bay on the south (Hester, 1978). There were two major divisions of Salinan: the Antoniaños on the north, and the Migueleños on the south, both named, by the Europeans, for the Spanish missions with which they became associated. The Salinan language had similarities to the Chumash language (as both are of Hokan stock), but is completely unrelated to neighboring Yokuts and Costanoan languages (Kroeber, 1925).

As with other central Californian groups, subsistence was based on the gathering of plant foods such as acorns, wild oats, sage seeds, berries, and fruits, and the hunting of small game. Material culture was typified by basketry, stone artifacts such as projectile points and grinding stones, bone and shell fishhooks, and some wooden implements. Houses were square, domed structures constructed of wooden poles and covered with tule or other grass. Autonomous villages were the primary sociopolitical unit, each ruled by a chief, and decent was primarily patrilineal. About 20 villages are known ethnographically; while many cannot be accurately mapped, the nearest known Salinan villages to the project area were located near Santa Margarita and San Simeon.

Juan Rodriguez Cabrillo's 1542 expedition, the first recorded visit by Europeans to the California coast, did not record the presence of Native Americans along the Salinan Coast. The first description of Chumash and Salinan villages comes some two centuries later, with the expeditions of Don Gaspar de Portolá in 1769. Records describe about 10 different towns along the coast between what are now the cities of San Luis Obispo and Monterey, with population estimates of between 30 and 400 residents per village. That territory would have included Salinan, Chumash, Esselen, and Costanoan villages (Kroeber, 1925).

After the arrival of the Spanish and the establishment of the missions, disease and hard labor took a toll on the native populations. The Salinan population, estimated at 3,000 at the time of Spanish contact, dropped to fewer than 700 by 1831, and the Chumash population fell from 8,000 to 2,500 in the same period (Hester, 1978). After secularization, populations dropped even faster, with only three Salinan families being reported by early 20th-century anthropologists. In addition, native economies were disrupted, trade routes were interrupted, and native ways of life were significantly altered.

Identification of Tribal Cultural Resources

Sacred Lands File Search

The NAHC conducted SLF searches for the proposed project on September 9, 2016 and February 15, 2017. The SLF search results indicated "sites" are present within the preferred and proposed project areas, but did not provide further details as to the location or types of sites identified. The NAHC indicated the San Luis Obispo County Chumash Council, and Salinan Tribe of Monterey and San Luis Obispo Counties should be contacted for additional information. The NAHC also included a list of Native American groups and individual affiliated with the proposed project area, and indicate that all groups on the list should be contacted. On March 6, 2018 an email was sent to the NAHC requesting an updated search of the SLF for the proposed project. To date, no response has been received.

Native American Outreach

Native American outreach was conducted with all groups identified by the NAHC. Letters were sent via certified mail, regular mail, and/or email in September 2016, February-March 2017, and March 2018. Follow-up phone calls were conducted in September-October 2016 and February-March 2017. **Table 3.15-1** summarizes the results of outreach conducted to date. Additional information from respondents who provided detailed responses follows the table.

TABLE 3.15-1
NATIVE AMERICAN OUTREACH

Name	Affiliation/Role	Date Letters Sent	Date Letters Received	Date Letter Emailed	Date of Follow-up Phone Calls	Response	Comments
Altarmirano, Gino	Coastal Band of the Chumash Nation	-	-	9/14/2016	-	None	-
Banuelos, Raudel Joe Jr.	Barbareno/Ventureno Band of Mission Indains	9/14/2016	9/17/2016	-	-	None	-
Castro, Gregg	Salinan Nation Cultural Preservation Association/Administrator	9/14/2016	9/16/2017	9/14/2016	-	None	-
Collins, Fred	Northern Chumash Tribal Council/Spokesperson	9/14/2016	9/19/2016	9/14/2016	-	None	-
		3/1/2017	3/6/2017	3/2/2017	-	Mr. Collins expressed concerns about the project, which are extremely sensitive. He requested a meeting with City and County representatives.	The City met with Mr. Collins on May 4, 2017.
		3/23/2018	-	3/26/2018	-	None	-
Duckworth, Robert	Salinan Nation Cultural Preservation Association/Environmental Coordinator	9/14/2016	9/15/2016	-	-	None	-
Dunton, Patti	Salinan Tribe of Monterey, San Luis Obispo Counties/Tribal Administrator	9/14/2016	9/19/2016	9/14/2016	9/16/2016	Indicated that no known sacred sites are within the project area. Expressed concerns about culturally sensitive areas, indicated preferences for locating components. Requested to be kept informed of project updates and that a tribal monitor be present for ground disturbance.	-
		3/1/2017	3/6/2017	2/21/2017	2/21/2017	Provided information about known burials and recommendations for avoiding resources.	-
		3/23/2018	-	3/26/2018	-	None	-

Name	Affiliation/Role	Date Letters Sent	Date Letters Received	Date Letter Emailed	Date of Follow-up Phone Calls	Response	Comments
Eddy, Johnny	Xolon-Salinan Tribe/ Council Chairperson	-	-	9/14/2016	-	None	-
Goldman, Matthew Darian	Chumash	9/14/2016	-	-	9/27/2016	None	Letter returned; unable to leave VM
Grindstaff, Judith Bomar	Salinan	9/14/2016	9/16/2016	-	-	None	-
Kahn, Kenneth	Santa Ynez Band of Mission Indians/Chairperson	9/14/2016	9/19/2016	9/14/2016	-	None	-
		3/1/2017	3/6/2017	3/2/2017	3/13/2017	Mr. Freddie Romero is the point of contact for the tribe.	See Freddie Romero
		3/23/2018	-	3/26/2018	-	None	-
Lopez, Mia	Coastal Band of the Chumash Nation/Chairperson	-	-	9/14/2016	-	None	-
		-	-	3/2/2017	3/13/2017	None	Left VM
		-	-	3/23/2018	-	None	-
Odom, Lei Lynn	Chumash	9/14/2016	9/17/2016	-	-	None	-
Odom, Peggy	Chumash	9/14/2016	9/17/2016	-	-	None	-
Pappo, Kathleen	Barbareno/Ventureno Band of Mission Indains	9/14/2016	9/20/2016	-	-	None	-
Romero, Freddie	Santa Ynez Band of Mission Indians	-	-	9/14/2016	9/27/2016	Stated that his group would defer to local Tribes, but requested to be notified of any project updates.	-
		-	-	3/2/2017	3/13/2017	No additional comments provided.	-
		-	-	3/23/2018	-	Deferred to local Tribes.	-
Salinan Nation Cultural Preservation Association	-	9/14/2016	-	-	-	None	Letter returned; no email/phone number provided
Santa Ynez Tribal Elders Council	-	9/14/2016	9/19/2016	-	-	None	See Freddie Romero

Name	Affiliation/Role	Date Letters Sent	Date Letters Received	Date Letter Emailed	Date of Follow-up Phone Calls	Response	Comments
Segobia, Fred	Salinan Tribe of Monterey, San Luis Obispo	9/14/2016	9/29/2016	-	10/4/2016	Expressed concerns about the project' potential to impact cultural resources. Recommended monitoring of ground disturbance.	-
Tucker, Mona Olivas	yak tityu tityu - Northern Chumash Tribe/Chairperson	9/2/2016	-	9/14/2016	-	None	Previously requested to be kept informed of the project.
		3/1/2017	-	3/2/2017	3/13/2017	None	Left VM
		3/23/2018	-	3/26/2018	-	None	-
Tunamait-Stennslie, Julie Lynn	Barbareno/Ventureno Band of Mission Indians/Chairperson	9/14/2016	-	9/14/2016	-	None	Letter returned
		3/1/2017	-	3/2/2017	-	Deferred to the Northern Chumash and Chairperson Tucker	-
		3/23/2018	-	3/26/2018	-	None	-
Vigil, Mark Steven	San Luis Obispo County Chumash Council/Chief	9/14/2016	-	-	-	None	Letter returned
		3/2/2017	3/4/2017	N/A	2/21/2017	None	Left VM
		3/23/2018	-	-	-	None	-
White, Karen	Xolon-Salinan Tribe/Chairperson	9/14/2016	9/16/2016	9/14/2016	-	None	-
		3/1/2017	3/6/2017	3/2/2017	-	Requested copies of CHRIS site records and link to the EIR	Sent site records and NOP on 3/13/2017
		3/23/2018	-	3/26/2018	-	None	-
Xielolixii	Salinan-Chumash Nation	9/14/2016	-	-	-	None	Letter returned

VM = Voicemail
Source: Far Western

Salinan Tribe of Monterey, San Luis Obispo Counties

Patti Dunton, the Tribal Administrator for the Salinan Tribe of Monterey and San Luis Obispo Counties, was contacted via telephone on September 16, 2016, and February 22, 2017. As part of the September 2016 contact, Ms. Dunton stated she knows of no sacred sites located in or adjacent to the preferred WRF site, but recommended the pipelines associated with the proposed facility be installed within the northern portion of the Highway 1 right-of-way where prior construction has been conducted to reduce the potential for encountering cultural deposits. Ms. Dunton indicated if the pipelines are placed south of Highway 1, then it would be a point of concern for her and the Tribe due to the high sensitivity for cultural resources in the vicinity of Chorro Creek and the Morro Bay Estuary. Ms. Dunton also requested she be updated as additional proposed project plans become available. In an email dated October 3, 2017, Ms. Dunton reiterated her concerns and stated she preferred the pipelines be placed in areas that have been previously disturbed to avoid disturbing potential human burials. She also requested all ground-disturbing activities be monitored by her Tribe's cultural monitor.

As part of the February 2017 contact regarding the pipeline alignment, Ms. Dunton stated a Native American cemetery is present in the vicinity of the proposed project and a known burial is within the project's proposed pipeline alignment. Ms. Dunton stated her group opposes the proposed project construction in Lila Keiser Park and adjacent portions of Morro Creek and recommended the pipeline alignment bypass the park by continuing north along the pedestrian walkway on the park's eastern margin to Atascadero Road.

Northern Chumash Tribal Council

Fred Collins, Spokesperson for the Northern Chumash Tribal Council, responded via a telephone call on March 21, 2017, and expressed concerns about potential impacts of the proposed pipeline alignment within and adjacent to Lila Keiser Park and suggested rerouting the alignment to avoid the park and Morro Creek. Mr. Collins requested an in-person meeting with the City and County.

A representative of the City, John Rickenbach, met with Mr. Collins and his representative, Barry Price of Applied Earthworks, on May 4, 2017. They discussed the proposed project and potential concerns Mr. Collins might have with the proposed project. Mr. Collins expressed concerns with proposed pipeline routes, which are near very sensitive areas with known resources. He recommended realigning the proposed pipeline to more closely follow the freeway in certain locations. He expressed preference for the western (roadway) alignment in Quintana Road, since it was more likely to avoid known and unknown resources, as well as avoidance of the area near the State Route 1 and State Route 41 interchange. He was unsure about the proposed eastern alignment, since it traverses undisturbed areas in places. Mr. Collins requested an update on the status of formal consultation under AB 52 and continued dialogue with the City.

Assembly Bill 52 Consultation

Mona Tucker, Chairperson of yak tityu tityu - Northern Chumash Tribe, has previously requested to be notified of City projects that have the potential to affect tribal cultural resources, in accordance with Assembly Bill (AB) 52. No other Native American groups or individuals culturally affiliated with the proposed project area have requested notification.

A notification letter was sent on September 2, 2016, inviting Chairwoman Tucker to consult with the City regarding the proposed project pursuant to PRC subdivision 21080.3.1(d). Additional outreach was also conducted in an attempt to reach Chairperson Tucker. Chairperson Tucker did not respond to request consultation pursuant to AB 52 within 30 days, nor has she responded to 2016 to 2018 outreach efforts to date.

3.15.2 Regulatory Framework

State

AB 52 was approved by California State Governor Edmund Gerry "Jerry" Brown, Jr. on September 25, 2014. The act amended California PRC section 5097.94, and added PRC sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 applies specifically to projects for which a Notice of Preparation (NOP) or a Notice of Intent to Adopt a Negative Declaration or Mitigated Negative Declaration (MND) will be filed on or after July 1, 2015. The primary intent of AB 52 was to include California Native American Tribes early in the environmental review process and to establish a new category of resources related to Native Americans that require consideration under CEQA, known as tribal cultural resources. PRC subdivisions 21074(a)(1) and (2) defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe" that are either included or determined to be eligible for inclusion in the California Register or included in a local register of historical resources, or a resource that is determined to be a tribal cultural resource by a lead agency, in its discretion and supported by substantial evidence. On July 30, 2016, the California Natural Resources Agency adopted the final text for tribal cultural resources update to Appendix G of the *CEQA Guidelines*, which was approved by the Office of Administrative Law on September 27, 2016.

PRC section 21080.3.1 requires, within 14 days after a lead agency determines an application for a project is complete, or a decision by a public agency to undertake a project, the lead agency must provide formal notification to the designated contact, or a tribal representative, of California Native American Tribes that are traditionally and culturally affiliated with the geographic area of the project (as defined in PRC section 21073) and who have requested in writing to be informed by the lead agency (PRC subdivision 21080.3.1(b)). Tribes interested in consultation must respond in writing within 30 days after receipt of the lead agency's formal notification and the lead agency must begin consultation within 30 days after receiving the tribe's request for consultation (PRC subdivisions 21080.3.1(d) and (e)).

PRC subdivision 21080.3.2(a) identifies the following as potential consultation discussion topics: the type of environmental review necessary, the significance of tribal cultural resources, the significance of the project's impacts on the tribal cultural resources, project alternatives or appropriate measures for preservation, and mitigation measures. Consultation is considered concluded when either: (1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource or (2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PRC subdivision 21080.3.2(b)).

If a California Native American tribe has requested consultation pursuant to PRC section 21080.3.1 and has failed to provide comments to the lead agency, or otherwise failed to engage in the consultation process, or if the lead agency has complied with PRC subdivision 21080.3.1(d) and the California Native American tribe has failed to request consultation within 30 days, then the lead agency may certify an EIR or adopt an MND without further requirements for consultation. (PRC subdivisions 21082.3(d)(2) and (3)).

PRC subdivision 21082.3(c)(1) states any information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public without the prior consent of the tribe that provided the information. If the lead agency publishes any information submitted by a California Native American tribe during the consultation or environmental review process, then that information shall be published in a confidential appendix to the environmental document, unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public.

3.15.3 Impacts and Mitigation Measures

Significance Criteria

Appendix G of the *CEQA Guidelines* recommends significance criteria for the evaluation of impacts related to tribal cultural resources in the project area. Those same criteria are provided below. This Draft EIR evaluates whether implementation of the proposed project would cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC 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 PRC subdivision 5020.1(k), or
- 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 section 5024.1. In applying the criteria set forth in subdivision (c) of PRC section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Impact Analysis

Historical Resources

Impact 3.15-1: The proposed project would not cause a substantial adverse change in the significance of a tribal cultural resource listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources. There would be no impact.

Construction

No tribal cultural resources as defined in PRC section 21074 were identified within the project area. Chairperson Tucker did not respond to the City's notification letter to request consultation

pursuant to AB 52. Other outreach with Native American representatives did not identify any tribal cultural resources. No impact would occur.

Operation

As noted under construction, no tribal cultural resources were identified within the project area. No impact would occur.

Mitigation Measure

None required.

Significance Determination

No Impact

Tribal Cultural Resources

Impact 3.15-2: The proposed project would not cause a substantial adverse change to a tribal cultural resource. There would be no impact.

Construction

No tribal cultural resources as defined in PRC section 21074 were identified within the preferred and proposed project areas. Chairperson Tucker did not respond to the City's notification letter to request consultation pursuant to AB 52. Other outreach with Native American representatives did not identify any tribal cultural resources. No impact would occur.

Operation

As noted under construction, no tribal cultural resources were identified within the project area. No impact would occur.

Mitigation Measure

None required.

Significance Determination

No Impact

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3.16 Utilities and Service Systems

This section provides an overview of the existing utility setting, regulatory framework, and analysis of potential impacts to the services that would result from implementation of the proposed project. Utility systems in the project area include water, wastewater, stormwater, and solid waste facilities.

3.16.1 Environmental Setting

Water Supply

According to the San Luis Obispo Integrated Regional Water Management Plan (IRWMP), the entire proposed and preferred project sites are located within the Morro Bay Water Planning Area (WPA) (SLORWMG, 2014). The WPA includes the City of Morro Bay (City), the Chorro Valley Water System (California Men's Colony, Cuesta College, Camp San Luis Obispo, County Operations Center/Office of Education), and agricultural and other rural overlying users. Groundwater supplies in the WPA include the Morro and Chorro Valley Groundwater Basins. Surface water supply sources include the State Water Project (SWP), Whale Rock Reservoir, and Chorro Reservoir (SLORWMG, 2014). Other water supply sources include future recycled water for irrigation from the proposed Cayucos WWTP (Firma, 2017) and proposed Morro Bay WRF, as well as ocean water desalination from the City of Morro Bay (SLORWMG, 2014). The existing and projected water supplies and demands in the WPA are shown in **Table 3.16-1**.

TABLE 3.16-1
EXISTING AND PROJECTED WATER SUPPLY AND DEMAND COMPARISON FOR THE MORRO BAY WATER PLANNING AREA (AFY)

	2010	2035*
Supplies		
Groundwater	328	4,193
Surface water	2,508	2,948
Reuse/Recycled water	200	200
Desalinated water	258	645
Supply Total	**3,294**	**7,896**
Demands		
Urban	2,747	3,532
Rural	120	205
Agricultural	1,923	2,065
Demand Total	**4,790**	**5,802**

*Projections for 2035 were made near the time of the IRWMP publication in 2014.

SOURCE: SLORWMG, 2014

As shown in **Table 3.16-1**, above, demand exceeded supply in 2010. Total water supplies in the Morro Bay WPA are projected to exceed water demand by 2,094 AFY in 2035. Water demand and supply projections were based on multiple assumptions, and do not represent guaranteed amounts of water (SLORWMG, 2014). The water supply portfolio demonstrates water supply reliability for the Morro Bay WPA due to the diversity of water sources.

For water supply, the City relies primarily on imported water purchased from the SWP per a contract with the San Luis Obispo Flood Control and Water Conservation District. The City also is able to receive water from groundwater and the Morro Bay Desalination Plant during SWP water shortages. The City has an entitlement to receive 1,313 AFY plus an additional 174 percent drought buffer of approximately 2,290 AFY from the SWP. The City also uses local groundwater for water supplies from the Chorro Valley and Morro Valley groundwater basins, from which the City has been assigned 1,142.5 AFY and 581 AFY in their groundwater permits, respectively (City of Morro Bay, 2016). Both Chorro Valley and Morro Valley groundwater basins have the management challenges regarding low storage, low recharge, salinity and nitrates, meeting demands, and basin levels (SLORMGW, 2014). Water from the Chorro Valley groundwater basin currently exceeds State maximum contaminant levels for nitrates; since the City does not treat pumped groundwater water for nitrates, Chorro Valley groundwater wells currently are not used for water supply (DWR, 2004a; GSI, 2017). The safe yields of Chorro Valley and Morro Valley groundwater basins are 2,210 AFY and 1,500 AFY, respectively; groundwater is used by urban agriculture and rural users (SLORWMG, 2014). (DWR, 2004b). **Table 3.16-2** provides the projected water supply within the City of Morro Bay through 2035 according to the City's Urban Water Management Plan.

TABLE 3.16-2
EXISTING AND PROJECTED WATER SUPPLY AND DEMAND COMPARISON FOR THE CITY OF MORRO BAY – NORMAL WATER YEAR (AFY)

	2020	2025	2030	2035
Supplies				
Groundwater	1,724	1,724	1,724	1,724
Surface water	1,313	1,313	1,313	1,313
Recycled water	0	650	650	650
Desalinated water	645	645	645	645
Supply Total	**3,682**	**4,332**	**4,332**	**4,332**
Demands				
Single Family	683	699	718	738
Multi-Family	156	159	164	168
Commercial	304	311	320	328
Institutional/Governmental	118	121	124	127
Demand Total	**1,298**	**1,977**	**2,013**	**2,048**

SOURCE: City of Morro Bay, 2016

As shown in Table 3.16-1, above, total water supplies are estimated to exceed total water demand within the City through 2035. The water supply portfolio demonstrates water supply reliability for the Morro Bay WPA due to the diversity of water sources that can be used to meet demand during normal years and multiple dry years when imported water through the SWP is restricted. The City is estimated to have adequate water supply to meet demand in dry years through 2035 (City of Morro Bay, 2016).

Wastewater Collection

The proposed project is within the City's wastewater service area (SLORWMG, 2014). Currently, as described in Chapter 1, the City jointly owns a wastewater treatment plant (WWTP) with the Cayucos Sanitary District. The WWTP supplies wastewater collection services to approximately 13,300 people in both communities and has an average daily wastewater collection flow of 1.089 million gallons per day. The WWTP satisfies secondary treatment requirements for all constituents except suspended solids and biochemical oxygen demand during extreme wet weather events (City of Morro Bay, 2017a).

Stormwater Conveyance

The San Luis Obispo Flood Control and Water Conservation District (District) is responsible for managing, planning and maintaining drainage and flood control facilities in unincorporated areas of San Luis Obispo County (County) where no agency has assumed an active role in such activities. The District can also work with individual cities or communities to manage drainage and flood control facilities (SLOCWR, 2017).

Stormwater in the City is collected by storm sewer infrastructure installed throughout the City, including storm drains, culverts municipal storm sewer pipelines, private or highway storm sewer pipelines, and open channels (City of Morro Bay, 2015). The City's Public Works Department is responsible for storm drain maintenance (City of Morro Bay, 2011). The Engineering Division of the City's Public Works Department is responsible for ensuring storm drainage is designed and constructed in a manner consistent with City and other applicable codes and standards (City of Morro Bay, 2017b).

Solid Waste Collection

The San Luis Obispo County Integrated Waste Management Authority (IWMA) is the waste agency for the City and the County (SLOIWMA, 2017). The two closest landfills to the proposed project site that accept construction materials are the Chicago Grade Landfill and the Cold Canyon Landfill. The Chicago Grade landfill in Templeton has a ceased operation date of 2039 and a remaining capacity of 6,022,396 cubic yards (CalRecycle, 2017a). The Cold Canyon Landfill in San Luis Obispo has a ceased operation date of 2040 and a remaining capacity of 14,500,000 cubic yards (CalRecycle, 2017b).

3.16.2 Regulatory Framework

Federal

Title 40 of the Code of Federal Regulations Part 503 – Biosolids Rule

The federal biosolids regulations are contained at 40 Code of Federal Regulations (CFR) Part 503, as Standards for the Use or Disposal of Sewage Sludge. Known as the Part 503 Rule, those regulations apply to any person who prepares sewage sludge, applies sewage sludge to the land, or fires sewage sludge in a sewage sludge incinerator and to the owner/operator of a surface disposal site, as well as the exit gas from a sewage sludge incinerator stack. The regulations establish standards consisting of general requirements, pollutant limits, management practices, and operational standards for the final use or disposal of sewage sludge generated during the treatment of domestic sewage. Pathogen and alternative vector attraction reduction requirements for sewage sludge applied to the land or placed on a surface disposal site are also included. The regulations also detail monitoring and recordkeeping requirements when sewage sludge is applied to the land, placed on a surface disposal site, or fired in a sewage sludge incinerator. Also included are reporting requirements for Class I sludge management facilities, publicly owned treatment works (POTWs) with a design flow rate equal to or greater than one million gallons per day, and POTWs that serve 10,000 people or more (USEPA 2017).

State

Regulations Related to Recycled Water

Titles 17 and 22 of the California Code of Regulations (CCR) include regulations specific to recycled water. Those regulations detail the approved uses of recycled water, treatment requirements, and water system protection (SWRCB, 2014).

California Green Building Standards Code Construction Waste Management Requirements

California's Green Building Standards Code (CALGreen) requires the diversion of at least 65 percent of the construction waste generated during most permitted non-residential "new construction" projects. Submittal of a construction waste management plan or utilization of a waste management company may be required (CalRecycle, 2016).

Local

San Luis Obispo County Interim Biosolids Ordinance

To address the application of biosolids in the County, it created a Treated Sewage Sludge/Biosolids Land Application Task Force and interim ordinance pertaining to the land application of biosolids (SLOPHD, 2002). The County is currently in the process of creating a permanent ordinance to protect County lands and assure safety of County residents. Those regulations will manage and closely monitor the use of treated sewage sludge/biosolids on lands within the County as a soil amendment and prohibit biosolids use in areas with high public contact, on certain food crops such as carrots and potatoes, and on inappropriate or sensitive ecological areas. Each potential application site will have site-specific requirements including the testing of soils and biosolids before and after use, nutrient management plans, disclosure to the

public and land owner, detailed monitoring and reporting and county-led inspections (SLOPHD, 2017).

San Luis Obispo County Liquid Waste Hauler Vehicle Permit and Inspections

To haul liquid waste (including portable toilet waste), businesses must obtain a Liquid Waste Hauler Vehicle Permit from the County. That requires completion of an application that details information on the business, disposal sites, and vehicles to be used in accordance with San Luis Obispo County Code §8.12.501. Permits must be renewed every year (San Luis Obispo County, 2017a). Liquid waste collection vehicles must also pay a fee to be inspected annually in order to comply with annual health permit requirements (San Luis Obispo, 2017b).

City of Morro Bay Construction and Demolition Ordinance

The City includes a Construction and Demolition Debris Recycling Ordinance in the Morro Bay Municipal Code (MBMC) (Chapter 14.75) that applies to construction projects with a valuation of $50,000 or greater. A recycling plan must be submitted as part of the building permit application submitted to the City that specifies: 1) the estimated volume of construction and demolition debris, 2) how much can be diverted via reuse and recycling, 3) where the recycled material will be collected, and 4) how much construction and demolition debris will be landfilled.

3.16.3 Impacts and Mitigation Measures

Significance Criteria

Appendix G of the *CEQA Guidelines* recommends significance criteria for the evaluation of impacts related to utilities and service systems in the proposed project area. Those same criteria are provided below. This Draft EIR assumes implementation of the proposed project would have a significant impact related to utilities and service systems if it would:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects
- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects
- Not have sufficient water supplies available to serve the project from existing entitlements and resources, or if new or expanded entitlements are needed
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments
- Not be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs
- Not comply with federal, state, and local statutes and regulations related to solid waste

Methodology

Water district urban water management plans, and State, City and County websites were consulted to obtain the information required for the environmental and regulatory setting. This impact analysis considers the potential utilities and service systems impacts associated with the construction, operation, and maintenance of the proposed project.

Impact Analysis

Wastewater Treatment Requirements

Impact 3.16-1: Once operational, the proposed WRF would provide tertiary treatment and advanced treatment of wastewater, thereby exceeding the secondary treatment requirements mandated by the Central Coast Regional Water Quality Control Board. This would be a Class IV beneficial impact.

Construction

Wastewater generated by construction workers during the 24-month construction period would be collected by portable toilet facilities. All waste generated in portable toilets would be collected by a County-permitted portable toilet waste hauler and appropriately disposed of at pre-designated liquid waste disposal stations. Designated liquid waste disposal stations have been appropriately permitted by their RWQCB to receive and treat liquid waste. Therefore, there would be no impact to wastewater treatment exceedance requirements during proposed project construction.

Operation

The proposed project is intended to provide opportunities for the City to produce and beneficially reuse advanced treated recycled water and would meet or exceed all recycled water treatment requirements of Titles 17 and 22 of the CCR. Once operational, the proposed project would provide tertiary treatment and advanced treatment of wastewater, thereby exceeding the secondary treatment requirements mandated by the RWQCB and allowing the discontinuance of the Section 301(h) modified NPDES permit. Therefore, beneficial impacts would result during proposed project operation with regard to the compliance with wastewater treatment requirements.

Mitigation Measures

None required.

Significance Determination

Beneficial.

Construction of Treatment Facilities

Impact 3.16-2: The proposed project includes the construction of a new wastewater treatment facility, which has been evaluated throughout the Draft EIR. No additional water or wastewater treatment facilities would be required to operate the proposed project. This would be a Class III impact, Less than Significant.

The proposed project itself includes the construction and operation of a new WRF. The environmental effects associated with the proposed project have been evaluated throughout this Draft EIR. No water treatment facilities would be installed as part of the proposed project. The recycled water proposed to be used for groundwater replenishment would be extracted via existing production wells and would be treated at the City's existing Brackish Water Reverse Osmosis (BWRO) treatment plant. The City may evaluate whether improvements to the BWRO treatment plant are necessary once the proposed project is operational. No improvements are currently planned or required to operate the proposed project. Therefore, there would be no additional impacts associated with construction of new water or wastewater treatment facilities.

Mitigation Measures

None required.

Significance Determination

Less than Significant

Stormwater Facilities

Impact 3.16-3: Proposed project construction and operation would not generate excessive stormwater runoff such that new or expanded stormwater drainage facilities are required. This impact would be Class III, Less Than Significant.

New or expanded stormwater drainage facilities would be required if the proposed project would generate excessive stormwater runoff. As described in **Impact 3.9-4** in Chapter 3.9, Hydrology and Water Quality, the proposed project would not generate stormwater runoff during its construction or operation that would exceed the capacity of existing stormwater drainage systems. The proposed WRF would be required under the NPDES General Industrial Permit for WWTPs and the City's SWMP to implement BAT and BCT design measures to control both the quality and quantity of stormwater runoff from the site. The City would be required to submit a new Notice of Intent to comply with the General Industrial Permit for the proposed new facility following completion of the proposed project. Prior to proposed project approval, the WRF design would be required to include drainage control features that would minimize the potential for erosion or siltation and provide the volume control to ensure that post-project flows do not exceed existing runoff volumes. The other proposed facilities, such as the lift station, injection and monitoring wells, and pipelines, would not affect significantly stormwater runoff due to their size and/or design. As such, the proposed project would not require the construction of additional offsite stormwater drainage facilities. Impacts would be less than significant.

Mitigation Measures

None required.

Significance Determination

Less than Significant

Water Supply Entitlements

Impact 3.16-4: Operation of the proposed project would allow for the development of 650 to 825 AFY of advanced treated recycled water for indirect potable reuse, thereby enhancing water supplies in the project area and providing water supply reliability with a new local renewable water supply. This would be a Class IV beneficial impact.

Construction

Water needs during construction of the proposed project facilities would be relatively minor and temporary, limited to only the period of construction. Construction of all of the proposed facilities would require approximately 22 AF (4.2 AF for the lift station and associated pipelines, 2.6 AF for wells and the recycled water pipelines, and 15 AF for the WRF). Water would be used for activities including dust control and testing of hydraulic structures and pipelines. Since water supply is expected to be adequate to meet demand during normal and dry years through 2035 within both the Morro Bay WPA and the City, existing local water resources would be sufficient to meet the proposed project's construction water needs. Therefore, impacts related to sufficient water supplies during project construction would be less than significant.

Operation

The proposed WRF facility would require very little water to operate. The proposed lift station, wells, recycled water distribution system, and conveyance pipelines would move water, but would be unmanned and would not generate water demand during operation. At the preferred WRF site, the proposed Operations and Maintenance buildings would require potable water for sinks, showers, and toilet flushing, minor laboratory use, and emergency eyewash stations. The existing WWTP, which has a similar operational potable water demand to the proposed WRF facility, would be decommissioned concurrently with commencement of operation of WRF facility operation. That would result in approximately a zero net increase in water demand in the area of the proposed project. Recycled water produced during operation of the proposed WRF facility would be used for onsite landscape irrigation and the majority of the process water needs, thereby further offsetting the operational water demand of the proposed project. Operation of the proposed project would enable the use of 650 to 825 AFY of advanced treated recycled water for indirect potable reuse, thereby enhancing water supplies in the project area and providing water supply reliability with a new local renewable water supply. The new water supply would more than offset the water requirements of the proposed project at the WRF. Therefore, impacts to existing water supplies or entitlements during proposed project operation are considered beneficial.

Mitigation Measures

None required.

Significance Determination

Beneficial

Wastewater Treatment Capacity

Impact 3.16-5: The proposed WRF will be designed to accommodate the City's projected wastewater treatment capacity needs in the future based on buildout projections under the General Plan Update. The proposed WRF infrastructure would be more reliable than the existing WWTP, thereby reducing potential service interruptions. This would be a Class IV beneficial impact.

Construction

Construction of the proposed project facilities would result in the generation of wastewater associated with construction workers; such waste would be disposed of through the use of portable toilets. Given the relatively small construction workforce (approximately 20-30 workers onsite daily for the 24-month construction period), this amount of waste would be minimal, and as discussed in Impact 3.16-1, liquid waste would be disposed of at a designated liquid waste disposal facility approved by the RWQCB for liquid waste treatment. Other than portable toilet waste, construction of the proposed project facilities is not anticipated to result in wastewater requiring treatment. Therefore, impacts would be less than significant.

Operation

The proposed project includes the construction of the WRF, which would provide advanced treatment to wastewater generated within the City's service area. The proposed WRF would treat a maximum peak daily flow of 2.75 million gallons per day (MGD) and maximum average annual daily flow rate of 0.97 MGD. That treatment capacity is based on current and projected population growth rates in the City's service area. The draft Facility Master Plan assumed a population growth rate of 0.62 percent per year for the years 2016 to 2040 and an estimated population of 12,000 at buildout in 2040 (Black & Veatch, 2016). Those population projections are consistent with estimates made by SLOCOG and the City as part of its 2014-2019 Housing Element Update and its General Plan Update (See Chapter 5, Growth Inducement, for additional discussion about population projections). Accordingly, the size of the proposed WRF treatment facilities were designed to be commensurate with anticipated population projections and associated waste streams. Therefore, the proposed project itself would provide the City and its future growth-related projects with sufficient wastewater treatment capacity. Newer wastewater treatment facilities would also be more modern and reliable, thereby reducing the chance of interruptions in wastewater treatment services caused by equipment malfunctions. Impacts from project operation would be beneficial.

Mitigation Measures

None required.

Significance Determination

Beneficial

Landfill Capacity and Solid Waste Regulation

Impact 3.16-6: The proposed project would generate solid waste that could require disposal at a landfill, including construction debris and biosolids during WRF operation. Existing landfills have sufficient remaining capacity to accommodate construction-related solid waste; biosolids would be reused by a biosolids management firm rather than disposed at a landfill. The proposed project would comply with all federal, state, and local statutes and regulations related to solid waste. This impact would be Class III, Less Than Significant.

Construction

Construction of the proposed WRF and other project facilities would generate construction debris requiring disposal. As stated in Chapter 2, Project Description, construction of the proposed WRF would require disposal of approximately 26,650 cubic yards of soil that would be disposed onsite or hauled offsite to an acceptable disposal location, which may include a landfill. Project construction would occur within the County. Although there are no County-related waste diversion requirements, construction of the proposed WRF would require a building permit; therefore, WRF construction would comply with CALGreen requirements by diverting a minimum of 65 percent of construction-related waste from landfill disposal via reuse or recycling. In addition, the proposed lift station, conveyance pipelines, and wells would be located within the City, and as such, would comply with the City's Construction and Demolition Debris Recycling Ordinance, which requires preparation of a recycling plan that identifies materials to be diverted from landfills via recycling and reuse. Further, the nearby Chicago Grade and Cold Canyon landfills would continue to operate until 2039 and 2040, respectively, and both have sufficient remaining capacity to accommodate waste from project construction. Therefore, impacts would be less than significant.

Operation

During operation, the proposed lift station, conveyance pipelines, and wells would not generate solid waste. The primary solid waste associated with the proposed WRF operation would be biosolids as byproducts of wastewater treatment. After biosolids are dewatered, they would be reused by a contracted biosolids management firm. A third-party would haul the proposed WRF biosolids to offsite facilities for composting; therefore, landfills would not be required for biosolids disposal. The proposed WRF would comply with federal regulations pertaining to the use and disposal of sewage sludge (40 CFR Part 503) when disposing biosolids offsite. Impacts related to compliance with all applicable solid waste regulations during project operation would be less than significant.

The proposed WRF would also generate a minimal solid waste associated with the personal trash of WRF workers. Based on the continued operation of nearby landfills through 2039 and 2040

and their remaining capacity levels, worker waste generated during WRF operation would be accommodated. Impacts would be less than significant.

Mitigation Measures

None required.

Significance Determination

Less than Significant

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CHAPTER 4
Cumulative Impacts

4.1 Introduction

CEQA requires an EIR assess the cumulative impacts of a project with respect to past, current, and probable future projects within the region. The *CEQA Guidelines* (Section 15355) define cumulative effects as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The cumulative impact from several projects is the change in environment, which results from the incremental impact of the proposed project when added to other closely related and reasonably foreseeable future projects. Pertinent guidance for cumulative impact analysis is given in Section 15130 of the *CEQA Guidelines*:

- An EIR shall discuss cumulative impacts of a project when the project's incremental effect is "cumulatively considerable," (*i.e.*, the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of current projects, and the effects of probable future projects, including those outside the control of the lead agency, if necessary).
- 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, and thus not significant, if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact.
- The discussion of impact severity and likelihood of occurrence need not be as detailed as for effects attributable to the project alone.

The analysis of cumulative effects in this Draft EIR focuses on the effects of concurrent construction and operation of the proposed project with other spatially and temporally proximate projects as described below. As such, this cumulative analysis relies on a list of related projects that have the potential to contribute to cumulative impacts in the proposed project areas.

4.2 Related Projects

4.2.1 Geographic Scope

The geographic area affected by cumulative projects varies depending on the environmental topic. For example, construction noise impacts would be limited to areas directly affected by construction noise, whereas the area affected by a project's air emissions generally includes the entire air basin, and impacts associated with aesthetics would include the affected viewshed.

Geographically, the proposed project is located in the Estero Bay planning area of unincorporated San Luis Obispo County (County) and the City of Morro Bay (City). This chapter considers the potential cumulative effects of the project in combination with development and public works projects occurring in and around Estero Bay, in the City, and the unincorporated communities of Cayucos, Los Osos and other nearby unincorporated County areas. Those projects are listed in **Table 4-1**.

4.2.2 Project Timing

As noted, projects considered in this analysis include those that have recently been completed, are currently under construction, or were recently approved. A project's schedule is particularly relevant to the consideration of cumulative construction-related impacts because construction impacts tend to be relatively short-term. However, for probable future projects, construction schedules are often broadly estimated and can be subject to change. Although the timing of the probable future projects described in Chapter 4.2.4 are likely to fluctuate because of schedule changes or other unknown factors, this analysis assumes these projects would be implemented concurrently with construction of the proposed project, between 2019 and 2022.

4.2.3 Types of Projects Considered

As described in Chapter 3 of this Draft EIR, some impacts associated with implementation of the proposed project are short-term and related to construction, while others are long-term and related to operation. Therefore, the proposed project could contribute to cumulative effects when considered in combination with impacts of other construction projects in the region. For this analysis, other past, present, and reasonably-foreseeable future construction projects, particularly other infrastructure and commercial projects, in the area have been identified. Long-term cumulative impacts due to operation of the proposed project in conjunction with the other projects in the area are assessed as well.

4.2.4 Description of Select Cumulative Projects

Table 4-1 lists current and future projects that could potentially result in impacts similar to the proposed project, contribute to similar cumulative impacts within the project area. **Figure 4-1** displays the locations of the 27 projects listed in the table below in relation to the proposed project facilities.

TABLE 4-1
CUMULATIVE PROJECTS LIST

Project Number	Project Name	Project Location	Project Type	Project Description	Status
City of Morro Bay					
1	Tank Demolition - 3300 Panorama Drive, #CP-500 & UP0-440	3300 Panorama Drive	Demolition	Demolition and removal of two large holding tanks used to store jet fuel, one 131,600 gal. water tank, all piping attached, pumps, and approx. 24 yards of shot-crete. Residential land use and single family zoning could accommodate 25 potential homes.	In environmental review process
2	Sonic Restaurant	1840 Main Street	Commercial Development	Construction of a 1,400 sf drive-thru, drive-up restaurant with canopied parking and associated site improvements and removal of major vegetation.	Under building Plan Check. Anticipated construction to begin August 2018.
3	Morro Bay High School	235 Atascadero Road	Upgrade to existing facilities, removal of buildings, new buildings, and landscape improvements	Modernization of various facilities through 52-acre high school campus including, new pool facility building, new student services building and landscaping, addition to Performing Arts Center, new entry tower features, upgraded to running track and bleachers, remodeling of building interiors, and upgrades to parking areas and paths.	Construction of short-term facilities including pool and upgraded facilities completed. Construction of other facilities planned for future.
4	Black Hill Villas	485 & 495 South Bay Blvd	Residential Development	Development of 16 single family homes. Grading has been completed and the home in Plan Check. The first 10 homes will be built in Phase 1 then the remaining 6 homes in Phase 2.	Under building Plan Check. Anticipated construction to begin May to June 2018. Grading currently in progress.
5	Sunset Townhomes	1899 Sunset	Residential development	Six townhomes, each 1,500 – 1,800 SF	Under construction. Anticipated occupancy May 2018
6	Morro Bay Landing	1215 Embarcadero	Commercial Development	Demolition and reconstruction of a 7,000 SF visitor-serving commercial building.	Under building Plan Check. Anticipated construction to begin April 2018.

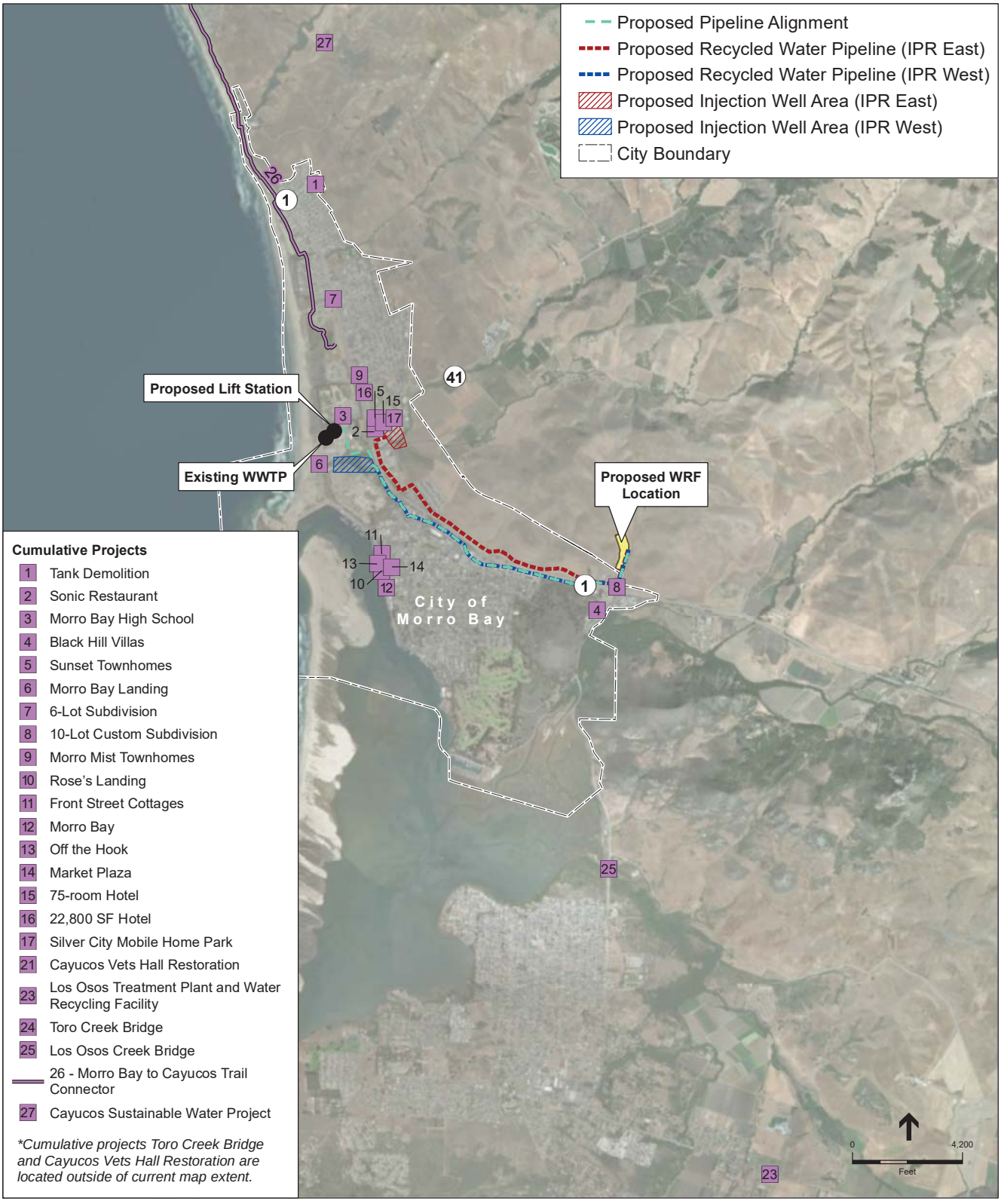
Project Number	Project Name	Project Location	Project Type	Project Description	Status
7	6-Lot Subdivision	Southwest corner of Highway 1 and San Jacinto Street	Residential Development	Construction of single family homes on a 6-lot subdivision	In planning process
8	10- Lot custom subdivision	1305 Teresa Drive/Subdivision street name is 361 Sea Shell Cove	Residential development	Single family homes.	Lot 1 in Planning Permit stage. No anticipated timeline for other 9 lots.
9	Morro Mist Townhomes	2400 Main St.	Residential development	Subdivision 23 lot community housing project	Grading permit issued. Anticipated construction to begin April to May 2018
10	Rose's Landing	725 Embarcadero	Commercial development	Conversion of second floor restaurant to 10-unit hotel lodging.	In Planning permits process. Anticipated construction to begin in 2019.
11	Front Street Cottages	1170 Front Street	Hotel	Construction of 6 unit hotel.	Permitted and building permit recently issued. Under construction (grading stage).
12	Morro Bay Aquarium	595 Embarcadero	Commercial development	Demolition and reconstruction of new 2 story expanded aquarium, visitor serving facility.	Not yet applied for Planning permit, but consent of landowner received from City for Embarcadero lease site location. Applying for USDA small communities funding grant.
13	Off the Hook	833 Embarcadero	Commercial development	Demolish existing visitor-serving commercial retail two-story building and reconstruct as 1500 SF restaurant, 1500 SF retail, and 7-unit second-story boutique hotel.	In planning process. Permit has not been approved.
14	Market Plaza	781 Market Street	Commercial development	100 room hotel, 2000 SF restaurant, and 2000 SF retail space	In planning process.
15	75-room Hotel	Atascadero Road/Hwy 1/Hwy 41	Hotel	Potential 75-room hotel at northeast corner of intersection of Hwy 41 and Hwy 1.	In planning process.
16	22,800 SF Hotel	2130 Main Street	Commercial development	Approx. 22,800 SF new hotel with potential 34 suites	In design phase.
17	Silver City Mobile Home Park	500 Atascadero	RV park	32 RV spaces added	Planning permit received.
18	One Water Plan		Management Plan	Integrated approach for the City's water, wastewater, and stormwater master planning.	

Project Number	Project Name	Project Location	Project Type	Project Description	Status
County of San Luis Obispo					
19	Airport Land Use Plan Update	County of San Luis Obispo	Plan Update	Update Airport Land Use Plan for the San Luis Obispo County Regional Airport	In planning process
20	Los Osos Community Plan Update	County of San Luis Obispo	Community Plan Update	Update the Los Osos Community Plan of the County's General Plan and Local Coastal Plan which is the official plan for land use and transportation in Los Osos.	Draft Environmental Impact Report in progress but not completed
21	Cayucos Vets Hall Restoration	10 Cayucos Drive Cayucos, California	Restoration	Reconstruction and restoration of the existing Cayucos Vets Hall to update safety standards.	Project design and environmental review in progress. Anticipated construction to begin in 2019.
22	Los Osos Wastewater Project	Throughout Los Osos	Wastewater Treatment System	Develop a wastewater treatment system in Los Osos to solve Level III water resource shortage and groundwater pollution	Implementation and construction of Phase 2 of Lateral Connections and Septic System Reuse
23	Los Osos Treatment Plant and Water Recycling Facility	2270 Los Osos Valley Road, Los Osos, CA 93402	Wastewater Treatment Plant		Built
24	Toro Creek Bridge	Toro Creek Road and Toro Creek	Bridge	Replace 1-lane bridge with 2-lane bridge over Toro Creek	In design process.
25	Los Osos Creek Bridge	South Bay Blvd over Los Osos Creek	Bridge	Replacement of 2-lane bridge.	In right of way stage
San Luis Obispo County Parks					
26	Morro Bay to Cayucos Trail Connector	Route between Morro Bay and Cayucos along Highway 1	Bicycle Path and Pedestrian corridor	Construction of a scenic and safe bicycle and pedestrian corridor separate from highway traffic. Includes new bridge over Toro Creek.	In final design and engineering phase

Project Number	Project Name	Project Location	Project Type	Project Description	Status
Cayucos Sanitary District					
27	Cayucos Sustainable Water Project	8 acre parcel on Toro Creek Road and within public right of ways	Wastewater treatment project – tertiary treatment	Construction of an 8-acre Water Resource Facility and related conveyance infrastructure to serve Cayucos. Project will provide recycled water for municipal irrigation and future direct potable reuse.	Beginning construction

SOURCES:

Beard, 2017; Cayucos Sanitary District, 2017; County of San Luis Obispo, 2017; County of San Luis Obispo Parks & Recreation, 2017; County of San Luis Obispo Department of Planning & Building, 2017a; County of San Luis Obispo Department of Planning & Building, 2017b; County of San Luis Obispo Department of Planning & Building, 2017c; Immel, 2017; Kavanagh, 2017; Jacinth, 2017a; Jacinth, 2017b; Jacinth, 2018a; Jacinth, 2018b.



SOURCE: ESRI

Morro Bay Water Reclamation Facility Project. 150412

Figure 4-1
Cumulative Projects

4.3 Impacts and Mitigation Measures

Aesthetics

Impact 4-1: Concurrent construction and operation of the proposed project and related projects in the vicinity of the WRF, lift station, and wells would not result in cumulatively considerable impacts to aesthetics. This impact would be Class III, Less than Significant.

The geographic scope for potential cumulative impacts to aesthetics includes foreground views immediately surrounding project components, as well as the long-distance viewshed of the volcanic Morros (including Morro Rock), and the Pacific Ocean adjacent to the City. In open space areas, such as the vicinity of the proposed project, the texture of landscape features such as hilly and coastal areas as well as built elements may be noticeable and appear prominent depending on the vantage point. The proposed project area includes the City and unincorporated areas of the County, which include urbanized areas surrounding Highway 1, and undeveloped portions of the County in the east and northern portions of the proposed project areas. Proposed project components would be constructed within both developed and undeveloped areas as shown on **Figure 2-2**.

Construction activities associated with development of the proposed project facilities and nearby cumulative projects (see **Table 4-1** above) would temporarily alter the visual character and quality of the construction areas. Temporary visual impacts would be associated with construction of those cumulative projects, which could include exposed building pads, staging areas, onsite storage, use of large equipment, temporary storage areas, and stockpiles. Because these effects would be temporary, they would not significantly degrade the visual character or quality of the area. Therefore, impacts of the proposed project would not combine with those of cumulative projects to result in a significant impact associated with aesthetics during construction activities.

As described in Chapter 3.1, Aesthetics, proposed pipelines would be underground and would have no long-term visual impacts. The existing WWTP facilities would be demolished, removing built features from the landscape. No new aboveground facilities are planned for the existing WWTP at this time. The proposed lift station and groundwater wells would be constructed within areas that are already developed and therefore would not substantially contrast with the visual character of the area. However, those facilities would be located adjacent to areas with scenic views depending on the vantage point of motorists or pedestrians. While visible in the foreground, those facilities would not impact distant views of the surrounding hillsides and Morro Rock. The proposed WRF would be constructed on a preferred site in undeveloped open space along a hillside within an unincorporated area of the County. Local hills make up the viewshed along the outskirts of the City. However, with the application of architectural treatments that would apply rural agricultural building design themes to the proposed WRF buildings, the view of the proposed WRF from public vantage points and motorists traveling along Highway 1 would not significantly alter scenic vistas or visual character.

Cumulative projects listed above (**Table 4-1**) have the potential to affect key views and sensitive aesthetic resources in the geographic scope. One example is cumulative project 8, which includes a residential subdivision occurring along the undeveloped low-lying hillside within the proposed project area, just south of the preferred WRF site. The nature of a residential project in an undeveloped area would be visible to affected viewers in the geographic scope. Depending on the proposed project element and viewing location, mitigating landscape elements, and other factors, such as the presence of vegetation, screening could minimize the actual visibility. Given the pace and extent of planned development within the proposed project area within the last 20-30 years, those visual changes could result in a significant cumulative visual impact because the City is primarily built-out and the City and County have strict development standards in order to preserve open spaces and the overall aesthetic of the project area. For those reasons, the combined visual effects from cumulative projects within the geographic scope would be considered cumulatively considerable.

When added to the cumulative scenario described above, however, the effects of the proposed project would not contribute incrementally to cumulative impacts on aesthetic resources. The WRF would blend in the agricultural aesthetic of built structures along the Highway 1 corridor, and be largely shielded from view or otherwise be subordinate to foreground development when viewed from major public transportation corridors such as Highway 1. The effects of the proposed project would not combine with other development to compound and create cumulative impacts to visual resources. Impacts would be less than significant.

Mitigation Measures

None required.

Significance Determination: Less than Significant

Agriculture and Forestry Resources

Impact 4-2: Concurrent implementation of the proposed project and related projects in the geographic scope would not result in cumulatively considerable impacts to agriculture. This impact would be Class III, Less than Significant.

As described in Chapter 3.2, forest land would not be impacted by the proposed project. The proposed project components would be built primarily on land designated as Urban and Built-up Land, while some parcels are designated as important farmland such as Prime Farmland, Unique Farmland, Farmland of Local Potential, and Grazing land. The preferred WRF site is located on Farmland of Local Potential and Grazing Land. In addition, portions of the proposed recycled water pipeline (IPR East) would traverse Farmland of Local Potential and Grazing Land and portions of the proposed recycled water pipeline (IPR West) and proposed raw wastewater pipeline would traverse Farmland of Local Potential when it exits the preferred WRF site. The proposed IPR East wellfield area also includes a small area of Prime Farmland. However, siting up to five wells and monitoring wells within 1.26 acres of Prime Farmland would be a less than

significant impact according to the LESA model. The proposed project would construct and operate the WRF as a Public Utility Facility on lands designated for Agriculture, in accordance with the requirements of the County Coastal Land Use Ordinance. The proposed WRF would be designed to minimize the facility footprint and would only affect approximately 4% of the parcel currently used as rangeland for cattle grazing. The remainder of the parcel would continue to be available for agricultural uses, such as grazing. Impacts related to conversion of agricultural lands would be less than significant.

The geographic scope for potential cumulative impacts related to agriculture and forestry resources includes all lands directly affected by, or adjacent to, projects listed in Table 4-1, as well as agricultural resources within the City and adjacent unincorporated areas. The proposed project included in the cumulative scenario (see **Table 4-1**) that has the potential to affect agricultural resources is the Cayucos Sustainable Water Project. The Final EIR for the Cayucos Sustainable Water Project included a significant and unavoidable impact for the conversion of 8 to 9 acres of Prime Farmland to non-agricultural use. The proposed site for the Cayucos Sustainable Water Project is Prime Farmland, and mitigation commitments included an agricultural conservation easement at a 2:1 ratio. The Final EIR also concluded a cumulatively considerable impact due to the permanent loss of important agricultural soils in the County, where trends in agricultural crop production has been declining and approximately 4,411 acres of important farmland was lost between 2008 and 2012 due to urbanization (Firma Consultants, 2017).

The proposed project would not convert prime farmland or important farmland to non-agricultural uses, with the potential exception of wells to be located in the IRP East wellfield area. That potential conversion of farmland would be negligible, since the proposed wells would occupy small footprints of 200 square feet, and less than significant. The proposed project would be located primarily within the City with the exception of the preferred WRF site, which is rangeland that is used for cattle grazing. Approximately 96% of the preferred WRF site would continue to be available as rangeland for cattle grazing. As such, the proposed project's contribution to cumulative impacts to agricultural resources or the conversion of farmland to non-agricultural resources would be less than significant.

Mitigation Measures

None required.

Significance Determination: Less than Significant

Air Quality

Impact 4-3: Concurrent construction of the mitigated proposed project and related projects in the South Central Coast Air Basin would not result in cumulatively considerable impacts to air quality. This impact would be Class III, Less than Significant.

Cumulative air quality impacts are both localized as well as regional. For localized impacts such as health risk from exposure to diesel exhaust and nuisance impacts from fugitive dust, the geographic scope would be the immediate vicinity of the project site. Because the geographic scope includes the South Central Coast Air Basin and air shed, cumulative regional impacts could also be realized as the project would be constructed and operated concurrent with other projects in the area which together contribute to the air quality of the South Central Coast Air Basin and its attainment status with respect to the state and federal ambient air quality standards. So, as long as the area is designated as non-attainment with respect to ozone and particulate matter standards, all air pollutants emissions generated in the air basin could be considered to be contributing to a significant cumulative impact. However, just like the project, all cumulative projects would also be subject to analysis as detailed in the Air Quality Handbook (SLOAPCD 2012) and required mitigation measures would be implemented to reduce the impact to the extent feasible. Mitigation measures include SLOAPCD recommended standard mitigation measures as well as off-site mitigation which identifies improvements that will help reduce some of the cumulative air quality impacts. All cumulative projects must comply with SLOAPCD rules and regulations that include air emission reduction strategies for the basin. These, in concert with individual project mitigation measures, will help reduce both local and regional air quality impacts.

As discussed in Section 3.3, *Air Quality,* the proposed project would result in less than significant air quality impacts with the implementation of mitigation measures during construction as the mitigated emissions would be below the applicable SLOAPCD thresholds. The proposed project would also result in less than significant operational impacts. A project that does not exceed applicable SLOAPCD thresholds and is consistent with the 2001 CAP would not be considered to significantly contribute to a cumulative impact on the air shed. Conversely, a project that exceeds applicable SLOAPCD significance thresholds or is found to be inconsistent with the CAP would result in significant cumulative impacts. As discussed in Section 3.3, *Air Quality*, the proposed project is consistent with the 2001 CAP and would not exceed SLOAPCD construction (with mitigation) and operational thresholds. The implementation of Mitigation Measure AQ-1a, AQ-1b, AQ-1c, and AQ-1d would reduce the project's contribution to cumulative air quality impacts. As such, the mitigated proposed project's contribution to cumulative impacts on air quality of the region would be less than significant.

Mitigation Measures

None required.

Significance Determination: Less than Significant

Biological Resources

Impact 4-4: Concurrent construction and operation of the mitigated proposed project and related projects in the geographic scope would not result in cumulatively considerable impacts to biological resources. This impact would be Class III, Less than Significant.

The geographic scope for potential cumulative impacts to biological resources includes the open-space areas within the City and surrounding environs that support native habitats and plant and wildlife species. The region is located where the Santa Lucia range meets the Pacific Ocean and the region as a whole has historically supported numerous special status, or rare, plant communities and species of plants and animals.

Development and grazing in the region has substantially altered native habitats and adversely affected native plant and wildlife. Those disturbances have resulted in the loss of open space and the degradation of natural areas that historically supported populations of unique or rare species and habitats. The majority of projects listed in **Table 4-1** are located in areas that are already substantially developed, or the sites have previously been altered due to grading or agricultural practices, and would not contribute significantly to direct impacts to biological resources. Project 22, the Cayucos Sustainable Water Project, is the only other major project that is occurring in undeveloped habitat. However, design features and mitigation measures for that project would reduce impacts to special-status species, such as California red-legged frog, nesting and migratory birds, and the club-haired mariposa lily (Firma Consultants, 2017). As such, the collective impact of those projects would not be considered cumulatively considerable.

When added to the cumulative scenario described above, the effects of the proposed project would contribute incrementally to the cumulative impacts on biological resources. Only the WRF treatment facility would represent a permanent incremental change that would alter the existing natural habitat in the hillsides surrounding Morro Bay. The majority of the other proposed project components would be constructed within developed areas and consist of pipelines that would be constructed underground and would have no long-term impacts. The proposed pipeline along Morro Creek could have temporary impacts to riparian habitat. The proposed injection and monitoring wells could have relatively small impacts to wetland and riparian habitat that could be avoided with implementation of siting criteria or mitigated with compensatory restoration. The implementation of **Mitigation Measures BIO-1** through **BIO-10** would reduce the proposed project's contribution to cumulative biological resources impacts. Therefore, when the mitigated proposed project is considered in addition to the anticipated impacts of other projects in the cumulative scenario, the proposed project's incremental contribution to biological resources impacts would be less than significant.

Mitigation Measures

None required.

Significance Determination: Less than Significant

Cultural Resources

Impact 4-5: Concurrent construction and operation of the proposed project and related projects in the geographic scope could result in cumulative long-term impacts to cultural resources. This impact would be Class I, Significant and Unavoidable.

The geographic scope for potential cumulative impacts to prehistoric cultural resources and human remains includes the proposed project area and the coastal portions of the ethnographic territory of the Salinan and Northern Chumash (from a point just south of Lucia, California to the southern boundary of the County), which contains similar resources to those found within and near the proposed project area. The geographic scope for potential cumulative impacts to historic-era cultural resources includes the proposed project area, the City, and general vicinity, which share a common history and heritage. The geographic scope for potential cumulative impacts to paleontological resources includes the proposed project area, the City, and general vicinity, which contains similar geologic units and has similar paleontological sensitivity. The temporal scope for cumulative impacts to cultural resources encompasses both short-term and long-term cumulative impacts of the proposed project, in conjunction with other cumulative projects in the area.

The proposed project area is located in the City and an unincorporated area of the County. The proposed project area and surrounding vicinity have been inhabited by Native Americans since at least the Paleo-Indian Period (ca. 10,000 years ago) and contains a significant archaeological record with a number of important resources that represent the cultural traditions of Native American Tribes. Those resources include village sites, aboriginal cemeteries, house floors, well-developed middens, lithic procurement stations/quarries, and flaked and ground stone scatters, and contribute to our understanding of substance, settlement, and ecology in prehistoric times. Human burials recovered from a site on the Pecho Coast represent some of the oldest human remains encountered in California. Historic-era exploration of the central coast and Morro Bay began in 1542 with permanent occupation of Morro Bay beginning in 1864. Historic-era resources include those related to historical land uses of the region and the founding of Morro Bay. Resources related to early settlement, agricultural grazing, sea-faring commerce, commercial fishing, tourism, and military uses contribute to our understanding of historic-era exploration and occupation of the region. Geologic units underlying the project area and vicinity have low or no paleontological sensitivity, however, some sediments (alluvial gravel [Qa] and beach and dune sand [Qs]) increase in sensitivity at depth where older fossil-bearing sediments could be encountered.

Many of the cultural resources within the geographic scope have already been subjected to impacts as a result of past projects, including the introduction of residential and commercial development; energy, military, and recreational facilities; and wastewater treatment and other infrastructure. Projects undertaken before environmental laws such as CEQA were in place may not have considered, or mitigated, significant impacts to cultural resources, and may have resulted in damage to important cultural resources, including prehistoric, historic-era, and paleontological

resources, and human remains. Projects that have recently been completed, are currently under construction, or are foreseeable at or near the project area, may impact cultural resources. The majority of projects listed in **Table 4-1** would include some level of ground disturbance and would have the potential to impact cultural resources. A number of prehistoric archaeological resources have been documented within the geographic scope of this analysis. The coastline contains known prehistoric resources with significant cultural constituents and human remains, some of which may be impacted by past, present, and future projects. There is also the potential for unknown prehistoric, historic-era, and paleontological resources, and human remains, to be disturbed during project-related ground disturbance of past, present, and future projects. Those projects may also bring additional people (*e.g.*, work crews, residents, tourists) into the area that may result in increased rates of vandalism that may directly or indirectly impact resources.

When considered in combination with the impacts of other projects in the cumulative scenario, the proposed project's incremental contribution to impacts on historical resources, unique archaeological resources, and human remains would be cumulatively considerable and therefore significant. Although **Mitigation Measures CUL-1** through **CUL-9** and **CUL-14**, which are described in detail in Section 3.5, "Cultural Resources," would reduce the significance of the impacts to the degree feasible, the only method to fully mitigate those impacts would be complete avoidance of any future project activity; therefore, no feasible mitigation exists that would reduce the proposed project's contribution to less than significant.

Impacts to unique paleontological resources or geologic features would be reduced to less than significant with the implementation of **Mitigation Measures CUL-10** through **CUL-13**, which require retention of a Qualified Paleontologist, construction worker paleontological resources sensitivity training, and paleontological resources monitoring below 5 feet within paleontologically sensitive sediments. Since it can reasonably be presumed other current and foreseeable projects would be subject to CEQA and would have similar mitigation measures, the proposed project's contribution to cumulative impacts to paleontological resources would not be cumulatively considerable. However, for the reasons outlined in the preceding paragraphs, the overall combined impacts on cultural resources in the geographic scope would be cumulatively considerable even after implementation of mitigation. The proposed project's contribution to this significant cumulative cultural impact would remain significant and unavoidable.

Mitigation Measures

Implement Mitigation Measures CUL-1 through CUL-14.

Significance Determination: Significant and Unavoidable

Geology, Soils, and Seismicity

Impact 4-6: Concurrent construction and operation of the proposed project and related projects in the geographic scope would result in site-specific impacts related to geology, soils, and seismicity, however, when considered together, would not combine to create cumulatively considerable impacts. This impact would be Class III, Less than Significant.

The geographic scope for potential cumulative impacts to geology, soils, and seismicity includes the proposed project area and areas immediately adjacent. The proposed project area is located in the City and an unincorporated area of the County. The topography of the proposed project area varies from relatively flat near the coast and Highway 1 within the City with occasional drainages, to the foothill and open hillside areas within the unincorporated County portions of the proposed project area. The proposed project area is considered a seismically active region. The Cambria Fault is the dominant seismic feature in the project area; however, this fault is not designated as active (see **Figure 3.6-1**). The proposed WRF site is located in a State-identified landslide hazard zone (see **Figure 3.6-2**) and all other proposed components are located in liquefaction zones. As described in Chapter 3.6, *Geology, Soils, and Seismicity,* construction of the proposed facilities involves excavation and grading that would disturb soils and potentially expose them to erosion or topsoil loss. The proposed facilities may also be located on expansive soils, which could damage aboveground structures.

Projects in the cumulative scenario listed above (Table 4-1) are similarly subject to the same seismic hazards as the proposed project, such as ground shaking and liquefaction, and other geologic hazards associated with soil instability such as landslides. Based on a comparison of the project locations identified on **Figure 4-1** and the geological hazards within the proposed project area identified on **Figure 3.6-2**, many of the projects located within the geographic scope for geology would be located within a State-identified liquefaction zone. However, the impacts associated with geology, soils and seismicity are site-specific and only affect the site itself and the immediately adjacent areas; as such impacts associated with geology, soils and seismicity for related projects would not combine to create greater cumulative impacts.

Similarly, the impacts of the proposed project associated with geologic conditions are site specific. Preparation of site-specific geotechnical investigations for the proposed project and each cumulative project, as required by the California Building Code, would result in recommendations for structural design criteria to be incorporated into the design of each project facilities, such that geologic hazards would not result in damage to buildings or risk of injury to employees at manned facilities such as the proposed WRF. When considered together with related projects, these site-specific impacts would not combine to create greater cumulative impacts due to geology, soils, or seismicity. Therefore, the proposed project's impacts to geology and soils would not be cumulatively considerable. Impacts would be less than significant.

Mitigation Measures

None required

Significance Determination: Less than Significant

Greenhouse Gases and Energy

Impact 4-7: Concurrent construction and operation of the proposed project and related projects would not result in global cumulative impacts to greenhouse gas emissions and energy. This impact would be Class III, Less than Significant.

The geographic scope for greenhouse gas emissions is global. The geographic scope for energy includes the service areas for the energy providers within the proposed project area. Please refer to Chapter 3.7, Greenhouse Gas Emissions and Energy, for a cumulative analysis of GHG impacts, which are by definition cumulative. Regarding energy usage, the proposed project would result in minimal demand for gasoline and diesel resources relative to the State's annual fuel usage for construction.

When combined, all of the projects identified within **Table 4-1** could contribute to the geographic scope for energy. All of the projects in the geographic scope would require energy for construction and/or operation. For these reasons, the combined effects from all projects within the geographic scope related to energy could be cumulatively considerable.

When added to the cumulative scenario, the effects of the proposed project would not contribute incrementally to cumulative impacts on energy. Although the proposed project would involve the use of increased electricity and fuel during construction and operation, the amounts would be accommodated by existing service providers and would result in a minimal increase in gas and diesel demand compared to the State's annual fuel usage program. The Proposed Program would be consistent with State and federal energy standards and would not result in wasteful, inefficient, and unnecessary consumption of energy or transportation fuel. Therefore, impacts would not be cumulatively considerable. Impacts would be less than significant.

Mitigation Measures

None required.

Significance Determination: Less than Significant.

Hazards and Hazardous Materials

Impact 4-8: Concurrent construction and operation of the mitigated proposed project and related projects in the geographic scope would not result in cumulatively considerable impacts to emergency response plans. This impact would be Class III, Less than Significant.

The geographic scope for potential cumulative impacts related to hazards and hazardous materials includes the existing WWTP site, the preferred WRF site, and the areas for the potential alignments for the collection and distribution systems; the immediate area surrounding these locations; and the area within 0.25 mile of a school that would also be within 0.25 mile of one of the listed above facilities. Asbestos-containing materials (ACM) and lead-based paint (LBP) have been determined to present in the existing WWTP facility and would be required to be removed prior to demolition in accordance with 8 CCR sections 1529 and 1532.1. Based on the results of the database searches, there are 13 Leaking Underground Storage Tank (LUST) sites designated as completed; one military evaluation site undergoing annual inspection; and one completed cleanup program site (SWRCB, 2017; DTSC, 2017a). There are currently no open active cases within the proposed project are or within 0.25-mile of the proposed project area. Six schools and five daycares are located within 0.25-mile of the proposed project facilities, with the closest school being Morro Bay High School and the closest daycare being the Morro Bay United Methodist Center. The City does not have a local airport or private airstrip within its boundaries and, as such, is not included in an airport land use compatibility plan. Further, the City is not located in a very high fire hazard severity zone and does not contain the type of vegetation the present a fire risk; therefore, the potential for wildfire is relatively low. The City, in coordination with the County, has the Multi-Hazard Emergency Response Plan in place, which include emergency evacuation plans and routes, to be implemented in the event of an emergency.

As described in Chapter 3.8, Hazards and Hazardous Materials, compliance with applicable hazardous material laws and regulations during construction, and implementation of a hazardous materials business plan (HMBP) during operation would reduce potential impacts related to the transport, use and disposal of hazardous materials, as well as the accidental release of hazardous materials resulting from the proposed project to a less than significant level. During construction, the proposed project would comply with all pertinent hazardous waste regulations to avoid potential hazardous material releases that could be harmful to nearby schools and daycares, especially to Morro Bay High School and the Morro Bay United Methodist Center. Since the City is not included in an airport compatibility land use plan nor located in a designated very high fire hazard severity zone, implementation of the proposed project would not result in significant impacts related to airports or wildfires. However, construction of the proposed project facilities would occur within or adjacent to roadways, which could affect ingress and egress such that an emergency response plans are impacted. Implementation of **Mitigation Measure TRAF-1** would require the preparation and implementation of a Traffic Control Plan, where construction contractors would be required to notify emergency responders including the City's fire department, police department and ambulances of planned road closures and roadway blockages.

Projects in the cumulative scenario listed above in Table 4-1 have the potential to be affected by

or compound the effects of hazards and hazardous materials within the geographic scope. Projects that would be located directly adjacent to the proposed project facilities and could result in cumulative hazards impacts include cumulative projects 2, 3, 5, 6, 8, 15, 17, and 22. Similar to the proposed project, construction of those projects in the cumulative scenario would temporarily require the transport, use, and disposal of hazardous materials including gasoline, diesel fuel, hydraulic fluids, paint, and other similarly related materials, which could occur within 0.25-mile of a school or daycare. However, those cumulative projects would be required to comply with the same applicable federal, State and local regulations regarding the handling, storage, transportation, and disposal of hazardous materials and proper handling of such materials near schools and daycares. In addition, since the City is not included in an airport compatibility land use plan nor located in a designated very high fire hazard severity zone, implementation of these cumulative project in combination would not result in significant cumulative impacts related to airports or wildfires. However, given the urban nature of the proposed project area and the close proximity of the listed above projects, construction of those projects have the potential to require roadway closures or block roadways and/or driveways and collectively interfere with emergency response plans. When considered together, the related projects' contribution to the cumulative scenario could be cumulatively considerable.

When added to the cumulative scenario described above, the effects of the proposed project would contribute incrementally to the cumulative impacts related to hazards and hazardous materials. Construction of some of the proposed project facilities would require lane closures and could block roadway or driveway access. However, **Mitigation Measures TRAF-1** would require timely notification of local emergency responders regarding any planned lane closures or blocked access to roadways or driveways. That mitigation measure would ensure construction of the proposed project facilities does not significantly interfere with an existing emergency response plan and would reduce the proposed project's contribution to the cumulative scenario to less than significant.

Mitigation Measures

None required.

Significance Determination: Less than Significant

Hydrology and Water Quality

Impact 4-9: Concurrent construction and operation of the proposed project and related projects in the Morro Creek and Morro Bay watersheds and Morro Valley Groundwater Basin would not result in cumulatively considerable impacts. This impact would be Class III, Less than Significant.

The geographic scope for the cumulative analysis of hydrology and water quality is the Morro Creek and Morro Bay Watersheds for surface water and the Morro Valley Groundwater Basin for groundwater. Concurrent construction of the proposed project with the identified cumulative

projects located within this hydrologic basin could result in temporary impacts to hydrology and water quality through increased erosion and subsequent sedimentation, with impacts to local drainages and/or storm drain capacity, or to groundwater supply or water quality, if not managed appropriately. Affects to surface water quality from construction activities that result in the inadvertent release of fuels or other hazardous materials to stream channels or storm drains, or discharge from excavation dewatering activities are discussed above in Hazards and Hazardous Materials. Other ground disturbing projects in the watershed that could impact hydrology and water quality during construction activities include the various residential and commercial development projects listed in **Table 4-1,** above, as well as the Morro Bay High School modifications and projects associated with the Cayucos Sustainable Water Project.

As described in Chapter 3.9, Hydrology and Water Quality, the City would be required to develop and implement a SWPPP in compliance with the SWRCB NPDES General Construction Permit for construction storm water runoff and comply with SWRCB Low-Threat General WDRs for discharge of construction dewatering, including development of a discharge monitoring plan (DMP). The SWPPP, General WDRs, and DMP would include BMPs to reduce the impact of construction of the proposed project to surface water and groundwater quality to less than significant levels. Similarly, the current and future projects that would disturb more than one acre, would also be required to comply with the NPDES General Construction Permit requirements and any applicable WDRs to mitigate the effects of construction activities to surface water and groundwater. In addition, the proposed project and all other ground disturbing projects in Morro Bay would be subject to the BMPs contained in the City's Storm Water Management Plan (SWMP). Those construction permit requirements are designed to protect water quality on a watershed basis and as such, the contribution of the proposed project to short-term hydrology and water quality impacts is not cumulatively considerable.

Likewise, once constructed, all of the cumulative projects would be subject to the same drainage control requirements as the proposed project to ensure any potential sources of stormwater runoff pollution are addressed through onsite drainage control features which could include treatment prior to offsite discharge. Implementation of those drainage control requirements, which include the regionally based SWMP to comply with the NPDES MS4 permit, would ensure new or replaced impervious surfaces associated with the cumulative projects would require drainage control requirements that effectively reduce water quality impacts to less than significant levels. Therefore, the proposed project's contribution would not be considered cumulatively considerable.

The proposed project includes the injection of advanced treated recycled water into the aquifer in the Morro Valley Groundwater Basin. Cumulative Project 22, Los Osos Wastewater Project, is not located in the Morro Valley Groundwater Basin and, therefore, could not result in cumulative impacts when combined with the proposed project. Cumulative Project 27, Cayucos Sustainable Water Project, is located within the Morro Valley Groundwater Basin and does include treating and recycling wastewater. However, the Cayucos Sustainable Water Project would use the water for surface irrigation and does not include the subsurface injection of treated water into the aquifer. Therefore, the Cayucos Sustainable Water Project could not result in cumulative impacts when combined with the proposed project. None of the other cumulative projects include the

injection of water into the aquifer. Therefore, when considered in addition to the anticipated impacts of other projects in the cumulative scenario, the proposed project's incremental contribution to impacts related to the injection of treated water would not be cumulatively considerable.

The proposed project would reduce the volume of wastewater from the current levels discharged to the ocean outfall. In addition, in the event wet weather conditions prevent the injection of the advanced treated recycled water into the aquifer and require discharge to the ocean outfall, the discharge water would be tertiary treated recycled water. The water discharged by the proposed project would be of better water quality than the currently discharged wastewater that is treated only to secondary levels, and at peak flows a blend of primary and secondary treated wastewater. Therefore, the proposed project would result in a beneficial impact related to discharge to the outfall and cannot contribute to cumulatively considerable impacts when considered in addition to the anticipated impacts of other projects in the cumulative scenario.

Mitigation Measures

None required.

Significance Determination: Less than Significant

Land Use and Planning

Impact 4-10: Concurrent construction and operation of the proposed project and related projects in the geographic scope would not result in cumulatively considerable impacts to land use and planning. This impact would be Class III, Less than Significant.

The geographic context for the cumulative analysis of impacts to land use and planning is the City and County and generally within the immediate vicinity of the proposed project. In order to contribute to a cumulative impact that would physically divide an established community, the other projects would need to be immediately adjacent and constructed in a way that would create a linear physical barrier that would divide the community. While there are a variety of cumulative projects identified in **Table 4-1**, very few are located within the immediate vicinity of the proposed project sites and none are located immediately adjacent or in a configuration that would create any physical barriers that would divide an established community.

In addition, development projects would be required to be consistent with the existing General Plan and Local Coastal Program land use designations and applicable zoning designations. The City and the County would review each cumulative project as part of their individual development review processes to ensure there is no conflict with the applicable policies of their General Plan, Local Coastal Program and Zoning Ordinances unless there is a proposed amendment to the General Plan, Local Coastal Program or Zoning Ordinance submitted with the project application. At the time an amendment to the General Plan, Local Coastal Program or

Zoning Ordinance is submitted, the City and County would need to evaluate if the proposed change would result in environmental impacts. With the safeguard of the development review process, the cumulative projects, in conjunction with the proposed project, would not result in foreseeable environmental impacts associated with creating conflicts with applicable land use plans, policies or regulations. Impacts would be considered less than significant.

Mitigation Measures

None Required.

Significance Determination: Less Than Significant.

Noise and Vibration

Impact 4-11: Concurrent construction and operation of the mitigated proposed project and adjacent related projects would not combine to create cumulatively considerable impacts to noise and vibration. This impact would be Class III, Less than Significant.

The geographic context for changes in the noise and vibration environment due to development of the proposed project would be localized in urban, commercial and industrial areas of the City and open space in the County. In order to contribute to a cumulative construction noise and vibration impact, another project in close proximity would have to be constructed at the same time as the proposed project. There are numerous projects in several locations near the proposed project, currently in the planning stages that could be constructed in the foreseeable future. The largest projects near the proposed project area are the Morro Bay High School Project, Sonic Restaurant Project, Sunset Townhomes Project, Morro Creek Bridge Project and 10-Lot Subdivision Project.

As discussed in Chapter 3.11, Noise and Vibration, construction activities related to the proposed project would not expose off-site sensitive receptors to vibration levels that would result in either human annoyance or building damage. In order for a cumulative vibration impact to occur, equipment used to construct the proposed project would have to operate within at least 100 feet of a neighboring project's construction equipment. The proposed project construction areas are not within 100 feet of any known cumulative projects and by itself would not expose nearby sensitive receptors to excessive vibration levels. Therefore, the proposed project would result in a less than significance cumulative impact related to construction vibration.

As discussed in Chapter 3.11, Noise and Vibration, construction activities associated with the construction of the proposed injection wells in IPR East and IPR West could expose nearby sensitive receptors to noise levels that could exceed noise standards found in the City's code or result in a substantial, temporary or periodic noise increase. If project-related activities were to coincide with construction of another cumulative project shown in **Figure 4-1** development, then the combined effect could result in the exposure of off-site sensitive receptors to higher noise levels than what was predicted under each of the proposed project components. As shown in

Figure 4-1, the Sonic Restaurant, Sunset Townhomes, 75-Room Hotel, Silver City Mobile Home Park Morro Bay Landing project could be under construction in the vicinity of the injection well areas (*i.e.*, IPR East and IPR West). Although construction noise is temporary in nature, it is reasonably foreseeable those cumulative projects could occur in the vicinity of the proposed project areas simultaneously. Noise resulting from simultaneous construction of those projects could be a potentially significant cumulative impact. Given the size and scale of the proposed project, construction activities associated with the proposed project could have a cumulative considerable contribution to the impact, and the cumulative impact could be potentially significant.

However, with implementation of **Mitigation Measure 3.11-1** the project's impact would be reduced to a less than significant level by requiring the City to prepare a Construction Noise Reduction Plan. In addition, as discussed in Chapter 3.11, construction of injection and monitoring wells require 24/7 drilling. None of the proposed cumulative projects shown in **Figure 4-1** are expected to require 24-hour construction. As such the proposed project's impacts would not combine to create cumulatively considerable impacts due to 24-hour construction.

The proposed project components are either located underground or distant from sensitive receptors, with the exception of the lift station and injection/monitoring wells. Those facilities would be designed to meet the City's standards for operational daytime and nighttime noise levels at the property boundary. In addition, implementation of **Mitigation Measure 3.11-2** would ensure testing is conducted to ensure the injection wells do not exceed such applicable noise standards. With that mitigation, the proposed project would not have a considerable contribution to the cumulative noise environment. Impacts would be considered less than significant.

Mitigation Measures

None required

Significance Determination: Less than Significant

Public Services

Impact 4-13: Concurrent construction and operation of the proposed project and related projects in the geographic scope would not result in cumulatively considerable impacts to public services. This impact would be Class III, Less than Significant.

The geographic scope for the proposed project is the City and an unincorporated area of the County and associated fire and police protection, schools, hospitals, and parks. The proposed project would construct and operate a WRF, lift station, groundwater injection wells, and conveyance pipelines within the City and an unincorporated area of the County. As described in Chapter 3.13 Public Services, implementation of the proposed project would not involve the construction or operation of new residential or commercial uses, where those uses could directly

or indirectly generate population growth within the City or County and, therefore, would not increase the need for fire or police protection services or increase the usage of schools, libraries, hospitals, and parks. Therefore, development of the proposed project would not cause an adverse effect on public services within the City and unincorporated areas of the County.

When combined, projects in the cumulative scenario listed above in Table 4-1 have the potential to increase demand and usage of public services and recreational facilities in the City. Development of residential uses, such as Projects 4, 5, 7, 8, and 9, within the proposed project area would generate population growth, which in turn would increase the need and usage of fire and police protection, schools, hospitals, parks and recreational facilities. Development of commercial uses would not directly result in population growth, which would increase the need for additional schools, hospital, and parks, but may require additional fire and police protection services to ensure the safety of the facilities. Thus, impacts to public services due to related projects could be cumulatively considerable. However, given the proposed project would not involve construction or operation of new residential or commercial uses and would not increase the need or usage of public services and recreational facilities, the proposed project's contribution to cumulative impacts to public services would not be cumulatively considerable. Impacts would be considered less than significant.

Mitigation Measures

None required

Significance Determination: Less than Significant.

Traffic and Transportation

Impact 4-14: Concurrent construction of the mitigated proposed project and related projects in the geographic scope would not result in cumulatively considerable impacts to traffic and transportation. This impact would be Class III, Less than Significant.

The geographic scope for potential cumulative impacts to traffic and transportation is the regional circulation system and local roadways within the City. That includes public rights-of-way and bicycle facilities, including bike paths, lanes, and trails. The geographic scope includes regional roadways, consisting of SR 1 and SR 41 and the local roadways within the City, which pass through the proposed project area. The primary local roadways which serve the proposed project area include South Bay Boulevard, Quintana Road, and Atascadero Road. Additionally, a network of bicycle lanes extends throughout the geographic scope and provides travel corridors for alternative transportation and pedestrians, as shown on **Figures 3.14-2**. The proposed project includes the construction and operation of a new WRF, collection and conveyance facilities, a lift station, IPR injection and monitoring wells, and the decommissioning of the existing WWTP, where some of those features would affect or intersect with the local and regional transportation networks. As discussed in Section 3.4, Transportation and Traffic, while construction activities

associated with the proposed WRF and the decommission of the WWTP would generate additional truck and vehicle trips on the regional and local roadways, the increase to existing traffic volumes would not be substantial and would not cause a significant increase in delay times. However, construction of proposed project's collection and conveyance facilities and IPR injection and monitoring wells would occur within public rights-of-way, which would temporarily impede traffic flow through road closures. With required lane closures, construction of the proposed project collection and conveyance facilities and IPR injection and monitoring wells could introduce roadway hazards to passing motorists, as well as delay emergency vehicle response times or otherwise disrupt delivery of emergency services that use the regional and local roadways. Furthermore, regarding public transit and bicycle transportation, construction of the proposed project's collection and conveyance facilities and IPR injection and monitoring wells could also disrupt the existing public transit routes and could result in bicycle lane closures within the City.

Similar to the proposed project, the projects listed in **Table 4-1** would also have the capability to generate additional truck and vehicle trips on the regional and local circulation systems within the City. The amount of traffic that could be generated depends on the type and size of the project. The majority of the cumulative projects listed in **Table 4-1** consist of residential and commercial projects, which would consistently contribute large amounts of additional vehicles to the regional and local circulation systems during construction and operation. Given the different types and size of the projects included in the cumulative scenario, it is reasonable to assume that when considering the amounts of additional truck and vehicle trips generated by all of the cumulative projects during construction and operation, a potentially significant cumulative impact could occur to the local and regional circulation systems. In addition, with the contribution of additional trips added by each project, existing transit routes could experience increased congestion and slower overall travel times. Furthermore, if any of the listed cumulative projects involve partial or full lane closures, then a significant cumulative impact could occur if multiple projects required simultaneous lane closures, which would adversely affect traffic volume levels resulting in increased congestion, and could restrict or block emergency responders, transit routes, and bicycle lanes within the City. As a result, the combined effects from the construction or operation of projects within the City related to traffic and transportation would be considered cumulatively significant.

When added to the cumulative scenario described above, construction and operation of the proposed project would not substantially increase traffic volumes within the City. While the proposed project would temporarily generate additional truck and vehicle trips within the regional and local circulation systems during construction of the proposed project facilities, traffic levels would not substantially increase and would be temporary in nature as traffic levels would return to pre-construction conditions once construction is complete. Although operational activities would generate additional truck trips on the surrounding local and regional circulation system, the number of truck trips during operation would be minimal and would not cause a significant impact, as described in Section 3.14, Transportation and Traffic. Since the number of truck trips would be minimal during operation of the proposed project, the effects on the surrounding circulation system would be negligible and would not cause existing roadway levels of operation to decrease. Additionally, the proposed project would be required to implement **Mitigation**

Measure TRAF-1 to reduce all effects to the regional and local circulation system, including existing transit routes, bicycle lanes, and emergency response access, during lane closures to the lowest extent feasible. Therefore, the proposed project's contribution to cumulative impacts to traffic and transportation would not be cumulatively considerable. Impacts would be less than significant.

Mitigation Measures

None required

Significance Determination: Less than Significant

Tribal Cultural Resources

Impact 4-15: The proposed project would not affect a Tribal Cultural Resource and when considered together with related projects, would not result in a cumulatively considerable impact to Tribal Cultural Resources. There would be no impact.

The geographic scope for potential cumulative impacts to tribal cultural resources includes the project area and the coastal portions of the ethnographic territory of the Salinan and Northern Chumash (from a point just south of Lucia, California to the southern boundary of San Luis Obispo County), which contains similar resources to those found within and near the project area. The temporal scope for cumulative impacts to cultural resources encompasses both short-term and long-term cumulative impacts of the proposed project, in conjunction with other cumulative projects in the area.

As discussed in Chapter 3.15, Tribal Cultural Resources, no tribal cultural resources as defined in Public Resources Code Section 21074 were identified within the project area. No impact would occur and the proposed project would not cause or contribute to any potential significant cumulative impact to such resources.

Mitigation Measures

None required

Significance Determination: No Impact

Utilities and Service Systems

Impact 4-16: Concurrent construction and operation of the proposed project and related projects in the geographic scope would not result in cumulatively considerable impacts to utilities and service systems. This impact would be Class III, Less than Significant.

The geographic scope for potential cumulative impacts related to utilities and service systems includes all projects within same utility service areas as the proposed project. The proposed project is located within Morro Bay Water Planning Area (WPA) and the City wastewater service area. The San Luis Obispo Flood Control and Water Conservation District and City handle storm drains in the project area. The County Integrated Waste Management Authority (IWMA) collects solid waste in the area; the Chicago Grade Landfill and Cold Canyon Landfill are the closest landfill facilities to the proposed project site. The proposed project would result in less than significant impacts to wastewater treatment; all portable toilet waste generated during construction would be appropriately collected and treated; and the proposed WRF would comply with all wastewater treatment regulations during operation. The proposed project would not result in significant impacts to stormwater drainage facilities; the WRF would be designed to minimize stormwater runoff during operation in accordance with CCRWQCB post-construction stormwater management requirements (R3-2013-0032) and the City's SWMP. The proposed project would require minimal water demand during construction, which would be offset by the new water supply provided by the WRF. Compliance with CalGreen and City of Morro Bay construction waste diversion requirements would result in less than significant impacts to landfill capacity and solid waste regulation.

When combined, projects in the cumulative scenario listed above (**Table 4-1**) have the potential to affect utilities and service systems in the geographic scope. All projects in **Table 4-1** except Project 23, 25, and 27 would be located within the Morro Bay WPA. All projects would be located within the service area of the San Luis Obispo IWMA and in vicinity of the Chicago Grade and Cold Canyon landfills. Similar to the proposed project, all portable toilet waste generated during construction would be appropriately collected and treated, and projects would be required to secure an agreement from the City to ensure their wastewater demand would be accommodated. Project 27 is the only cumulative project that would involve future construction of a wastewater treatment facility, the impacts of which have been analyzed per CEQA requirements. Similar to the proposed project, all development projects could have a substantial impact on stormwater drainage facilities but be designed to minimize stormwater runoff during operation in accordance with CCRWQCB post-construction stormwater management requirements (R3-2013-0032). With the exception of the proposed bridges (Projects 24 and 25) and the bicycle path and pedestrian corridor (Project 26), all projects, especially construction and residential projects, would likely generate operational water demand. However, supplies in both the Morro Bay WPA and the City are expected to exceed demand in the future. Estimated water demand was calculated with the accommodation of anticipated future development, some of which is represented by the projects in Table 4-1. Similar to the proposed project, compliance with applicable solid waste regulations including CalGreen and City construction waste diversion requirements would result in less than significant impacts to landfill capacity and solid waste regulations. Thus, the combined utility and service system effects from other projects within the geographic scope of the utilities and service systems analysis would not be cumulatively considerable.

When added to the cumulative scenario described above, the effects of the proposed project would not contribute incrementally to the cumulative impacts on utilities and service systems. Impacts would be considered less than significant.

Mitigation Measures

None required.

Significance Determination: Less than significant

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CHAPTER 5
Growth Inducement

5.1 Introduction

Subdivision 15126.2(d) of the *CEQA Guidelines* requires an EIR evaluate the growth inducing impacts of a proposed action. The subdivision states:

> *Discuss the way in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.*

A project can have direct or indirect growth inducement potential. Direct growth inducement would result if a project involved construction of new housing. A project can have indirect growth inducement if it would establish substantial new permanent employment opportunities (*e.g.*, commercial, industrial or governmental enterprises) or if it would involve a substantial construction effort with substantial short-term employment opportunities and indirectly stimulate the need for additional housing and services to support the new employment demand. A project would also have an indirect growth inducement effect if it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service.

The proposed project does not include the construction of new housing. As such, the proposed project would not have direct growth inducement potential. The proposed project does have the potential to result in indirect growth inducement effects based on the removal of an obstacle to growth, either wastewater treatment capacity or water supply, both of which are required public services. As such, based on the CEQA definition above, assessing the growth-inducement potential of the proposed project involves answering the question: "Will implementation of the proposed project indirectly support economic or population growth, or the construction of additional housing?"

Water supply and wastewater treatment capacity are two of the chief, though not the only, public services needed to support growth and development. A water or wastewater treatment service

capacity limitation could constrain future development, particularly if coupled with strong community policy. The proposed project would provide wastewater treatment services for the City of Morro Bay (City) and potentially, though not anticipated, additional surrounding communities or customers. The existing wastewater treatment facility, the Morro Bay-Cayucos WWTP, would be replaced by the proposed project, the WRF. The WRF would treat a maximum peak daily flow of 2.75 million gallons per day (MGD) and maximum average annual daily flow rate of 0.97 MGD. The WRF would produce recycled water to be used for replenishment of the groundwater basin in the Morro Valley, and could be used to augment existing water supplies to serve future development under the City's General Plan. The size of the proposed project has been designed to meet the future needs of development under the General Plan, and would not be oversized to accommodate additional unplanned growth. While adequate wastewater treatment capacity and water supply play a role in supporting growth in the City, it would not be the single impetus to such growth. Factors such as the General Plan and policies of the City and the availability of public schools and transportation services also influence business and residential or population growth in the planning area. Economic factors, in particular, greatly affect development rates and locations. The proposed project is not anticipated to promote growth beyond what is already described and accounted for in the City's current General Plan or the completely revised General Plan being processed by the City.

5.2 Methodology

As indicated in the *CEQA Guidelines* excerpt above, growth inducement itself is not necessarily an adverse impact. Rather, it is the potential consequences of growth, the secondary effects of growth, which may result in environmental impacts. Potential secondary effects of growth include increased demand on other public services, increased traffic and noise, degradation of air quality, loss of plant and animal habitats and the conversion of agriculture and open space to developed uses. Growth inducement may result in adverse impacts if the growth is not consistent with local land use plans and growth management plans and policies for the area; this "disorderly" growth could indirectly result in additional adverse environmental impacts. Thus, it is important to assess the degree to which the growth accommodated by a project would or would not be consistent with applicable land use plans.

This section analyzes the nature and extent of growth inducement potential for the proposed project. The analysis includes an assessment of existing and projected population levels, existing and projected water supply and demand, and existing and projected wastewater flows and treatment capacity, as well as a discussion of conformance with pertinent general plans and City policies. Growth inducement potential is then assessed.

5.3 Population Projections

5.3.1 City of Morro Bay Measure F

In 1984, the City passed Measure F, a voter initiative that limited residential building permits to 70 permits a year and set a population limit of 12,200. Under the measure, development was subject to availability of water resources both in quantity and quality, through the adoption of an

Urban Water Management Plan (UWMP). If water and wastewater treatment capacities become available, then the measure allowed for population increases beyond 12,200, subject to a vote. The measure was passed under the belief the population limit would be reached by the year 2000. The City's population reached 10,350 residents in 2000 and slightly increased to approximately 10,380 residents in 2015 (City of Morro Bay, 2016).

5.3.2 San Luis Obispo Council of Governments Projections

The proposed project is located within the City and in unincorporated area of the County of San Luis Obispo (County) adjacent to the City boundaries. The proposed project is located within the jurisdiction of the San Luis Obispo Council of Governments (SLOCOG), which is comprised of the County and the cities of Arroyo Grande, Atascadero, Grover Beach, Morro Bay, Paso Robles, Pismo Beach, and San Luis Obispo. The most recent comprehensive regional planning document SLOCOG adopted was the 2014 Regional Transportation Plan/Sustainable Communities Strategy (2014 RTP/SCS) in April 2015. The 2014 RTP/SCS serves as the blue print for the region's transportation system and strives to further enhance the quality of life, promote sustainability, and offer more mobility options for people and goods within the region over the next 20 years. In preparation for the 2019 update of the 2014 RTP/SCS, SLOCOG conducted and published the 2050 Regional Growth Forecast for the County in June 2017, which includes three growth scenarios (low, medium/most likely, and high) for the individual member jurisdictions and the county overall. In order to forecast the individual member jurisdictions' anticipated population growth, the County's anticipated population growth was first modeled, then portions were allocated to each city within the County using autoregressive forecast models. That method allows a city's shares of that growth to be estimated as a system, as opposed to estimating each city's share of countywide population independently. Table 5-1 lists the medium/most likely scenario population projections for the City, unincorporated portions of the County, and the County overall over the next 30 years.

According to the 2050 Regional Growth Forecast for the County, the County's total population grew by 31,296 persons from 2000 to 2016, from 246,681 people to 277,977 people, a 12.7 percent increase during that time. That represents an approximate annual growth rate of 0.79 percent. As shown in Table 5-1, the County's total population is anticipated to experience a slightly higher growth rate from 2015 through 2050, with a forecasted total growth of 16 percent over the period. That translates to an increase of approximately 44,110 residents within the region over the next 30 years. As shown on Table 5-1, unincorporated areas of the County are forecasted to experience a slightly higher percentage of growth compared to the City over the next 30 years.

According to the 2050 Regional Growth Forecast for the County, the City experienced minimal growth from 2000 with a population of 10,350 people to a population of 10,722 people in 2016, which represents a 3.6 percent increase. As shown in Table 5-1, the City is projected to continue to experience slow growth until 2050, with a forecasted total growth of 15.2 percent over the period, where annual growth would be around 0.5 percent. The growth anticipated for the City is slightly lower than the County overall.

TABLE 5-1
SLOCOG POPULATION PROJECTIONS (MEDIUM/MOST LIKELY SCENARIO)

	2015	2020	2025	2030	2035	2040	2045	2050	% Change 2015-2050
City of Morro Bay	10,640	11,025	11,401	11,715	11,961	12,092	12,169	12,261	15.2%
Unincorporated San Luis Obispo County	118,950	123,597	128,279	132,066	134,975	136,539	137,461	138,534	16.5%
San Luis Obispo County	276,375	286,657	297,095	305,692	312,346	315,922	318,025	320,482	16.0%

SOURCE: Beacon Economics and SLOCOG Staff, 2017.

5.3.3 City of Morro Bay Population Projections

City of Morro Bay General Plan Update

The City's is currently in the process of updating its General Plan and has produced various baseline reports to support the General Plan Update. As part of the baseline reports, the Community Vulnerability and Resilience Assessment (CVRA) includes the most current baseline and future population projections for the City (Michael Baker International, 2017). As shown in **Table 5-2**, the CVRA anticipates the City's population will increase by 13 percent to a total population of 12,015 residents by 2040, which could be reached by as early as 2035. The CVRA also states while Measure F caps the City's population at 12,200 residents, which can only be exceeded by a popular vote, there is the possibility that population growth may exceed these projections and approach or meet the Measure F cap within the next few decades (Michael Baker International, 2017).

Draft Master Water Reclamation Plan

The proposed project is located within the City's Water and Wastewater System service area, which generally corresponds to the City's boundaries, approximately four square miles, and approximately ten residences outside the City limits in the Chorro Valley (City of Morro Bay, 2016). The Public Works Department manages the potable water and wastewater systems, which serve a mix of residential and commercial customers with a small portion of industrial customers. The City provides water treatment and distribution, as well as wastewater collection, treatment, and disposal services to residential and commercial customers within its service area. According to the 2015 City of Morro Bay Water and Sewer Rate Studies, prepared by Bartle Wells Associates, the City provides wastewater collection and disposal services to approximately 5,468 residential and 494 commercial units (Bartle Wells Associates, May, 2015). In addition, the City also has a high vacancy rate of 23.3 percent, which suggests many residential units are used as vacation rentals with inconsistent occupation throughout the year. Since tourism usually peaks during the summer months, increased wastewater services is anticipated primarily during the months of July, August, and September.

The draft Master Water Reclamation Plan (MWRP) was prepared in preparation of implementing the proposed project and to fulfill requirements related to planning recycled water infrastructure within the City. Population projections for the City's water and wastewater system service area

for the next 20 years were obtained from the MWRP, also shown in Table 5-2. The MWRP took into consideration the population projections included in the General Plan Update, where the WRF was designed to accommodate that population growth within the City. In addition, the MWRP population growth forecasts refine and supersede the population growth forecasts included in the City's 2015 Urban Water Management Plan (UWMP). An UWMP takes into account projected population growth for the water supplier's service area when determining future available water supply and future anticipated water demand.

TABLE 5-2
2017 CITY OF MORRO BAY POPULATION PROJECTIONS

	2015	2020	2025	2030	2035	2040	% Change 2015-2040
2017 CVRA Population Projections[1]	10,640	11,005	11,384	11,615	12,006	12,015	13.0%
2017 MWRP Population Projections[2]	10,284	10,606	10,939	11,282	11,636	12,000	16.7%

SOURCES:
[1] Michael Baker International, 2017
[2] MKN & Associates, 2017

As shown in Table 5-2, the MWRP projects that the City will experience a population increase of 11.3 to 16.7 percent between 2015 and 2040 (City of Morro Bay, 2016). The County's plans project a similar growth rate for the City as the updated projections stated in the 2050 Regional Growth Forecast for San Luis Obispo County.

5.4 Existing and Future Wastewater Capacity

The existing WWTP provides wastewater treatment for both the City and the unincorporated community of Cayucos. The existing WWTP has a daily wastewater collection flow of 1.089 MGD. In support of the City's decision to construct a new wastewater facility, a draft Facilities Master Plan (FMP) and the MWRP were prepared to evaluate the design and operations of the proposed WRF to determine the necessary capacity of the facility. The FMP and MWRP for the proposed project took into consideration the planned population projections in the City's General Plan and UWMP and sized the plant to accommodate wastewater flows associated with the expected population of 12,000 in 2040 (see Table 5-2). Based on a future population of 12,000 in 2040, the proposed WRF was designed to treat a maximum average annual daily flow rate of 0.97 MGD, which is a slight decrease in treatment capacity from the existing WWTP. Since the CSD is also building a separate treatment plant, which will allow the current WWTP to be decommissioned once the proposed WRF is built by the City, the proposed WRF has a slightly reduced capacity to reflect that reduction in influent from its service area that would require treatment. With construction and operation of the proposed project, the City would be able to ensure adequate wastewater treatment could be provided through 2040.

5.5 Existing and Future Water Supply and Demand

The City's water system relies on three sources of water supply, which include 1) imported water from the State Water Project (SWP) via a contract with the County, 2) groundwater from the Chorro Basin and Morro Valley groundwater basins and 3) the City's desalination facility (City of Morro Bay, 2016). Imported water from the SWP is the primary source of water in the City's water system and consisted of 87.3 percent of the City's water supply in 2015. The City has two existing contracts with the San Luis Obispo County Flood Control and Water Conservation District, both executed in 1992, to receive SWP water limited to 1,313 acre-feet per year (AFY). The availability of imported water supplies is dependent on the amount of precipitation in the watershed, the amount of that precipitation that runs off into the watershed, water use by others in the watershed and the amount of water in storage in the SWP's Lake Oroville at the beginning of the year. Variability in the location, timing, amount and form (rain or snow) of precipitation, as well as how wet or dry the previous year was, produces variability from year to year in the amount of water that is available for the SWP.

Locally, the City's groundwater supplies are pumped from the Chorro and Morro Valley groundwater basins, where the City is limited by their existing groundwater permits to 1,142.5 AFY and 581 AFY, respectively (for a total of 1,723.5 AFY). Groundwater sources comprised 12.7 percent of the City's water supply in 2015. The groundwater basins are currently in overdraft conditions due to the extended drought. Additionally, the nitrate concentrations in both basins exceed the Primary Maximum Contaminant Levels for drinking water. The City has a water treatment system that can remove nitrates from Morro Valley groundwater. However, there is no treatment process in place at the Chorro Valley wells. However, the 2015 UMWP assumes treatment would be provided at the Chorro Valley wells to meet potable water quality requirements. The City has entitlement to an additional drought buffer of 174 percent which allows the City to receive deliveries up to its full allocation of 1,313 AFY when SWP water deliveries are reduced due to drought conditions. In addition to imported water and groundwater, the City's desalination plant could supplement the water supply during SWP shutdowns and emergencies.

The 2015 UWMP accounted for the development of a recycled water project that would provide water to meet demand for municipal or agricultural irrigation. The MWRP evaluated various end uses for recycled water, including irrigation, and determined that indirect potable reuse had the highest water supply benefit for the City. According to the MWRP, the City could produce as much as 825 AFY of recycled water from the WRF for indirect potable reuse in the future. By utilizing indirect potable reuse to increase existing groundwater supplies, the City would be able to produce more potable water from its own controlled water source to be used within the City and decrease its dependency on the water supplied by the SWP. In addition, by utilizing indirect potable reuse with implementation of the proposed project, the City projects adequate water supply would be available during normal, single-dry, and multiple-dry years to meet anticipated demand within the service area through the planning horizon of 2040. Therefore, implementation of the proposed WRF would not increase the projected amount of water supply anticipated for the City in the future, but would rather increase the percentage of the City's water supply supplied by

groundwater and decrease dependency on water supplied by the SWP. That change would allow the City to increase the reliability of its water supply.

5.6 Growth Inducement Potential

5.6.1 Direct Growth Inducement Potential

Implementation of the proposed project would not directly induce growth, as it does not propose development of new housing that would attract additional population to the City. Further, implementation of the proposed project would not result in substantial permanent employment that could indirectly induce population growth. Construction activities would create some short-term construction employment opportunities over three years from 2019 to 2022; approximately 120 construction workers would be required for construction of the entire project, where each component would require approximately 12 to 20 construction workers depending on the facility. Construction workers would be drawn from the local and regional work force. The City's existing seasonal and occasional housing stocks would be sufficient to house temporary construction workers, if needed, in addition to local hotel establishments. On a long-term basis, a maximum of four new employees would be required to operate the WRF, while existing City staff would operate the remaining O&M facilities. Thus, operation of the proposed project would be accommodated by the existing work force within the City and surrounding unincorporated areas of the County.

5.6.2 Indirect Growth Inducement Potential

The objectives of the proposed project include, but are not limited to, the following:

- Produce tertiary disinfected wastewater in accordance with the 22 California Code of Regulations (CCR) requirements for unrestricted urban irrigation
- Design to produce reclaimed wastewater to augment the City's water supply, by either direct or indirect means, as described in a master water reclamation plan and to maximize funding opportunities

The proposed project aims to achieve these objectives by constructing a new WRF and associated collection and conveyance systems for the City to produce and beneficially reuse advanced treated recycled water per 22 CCR, while meeting or exceeding all wastewater treatment requirements of the State Water Resources Control Board. Further, the proposed project would build groundwater injection wells and associated conveyance systems to allow for the advanced treated recycled water to augment the City's water supply through indirect potable reuse.

Water Supply

The local jurisdictions that govern land use and development within the proposed project area include the City and County (for unincorporated areas). Those jurisdictions' adopted General Plan documents guide the type, location, and level of land use and development within each respective jurisdiction (see Section 3.10 for land use goals and policies). Those jurisdictions have assessed the growth-related impacts associated with planned land use and growth allowed under their General Plans and the CEQA EIRs they have prepared for those plans. Specifically, the City has already accounted for the development of the proposed project within the 2015 UWMP,

which used the same growth projections as the City's 2014-2019 Housing Element Update, as well as within the FMP and MWRP, which took into account the population projections of the General Plan Update. Thus, the City has taken into account the potential for indirect growth associated with implementation of the proposed project and has assessed and mitigated, as necessary, any growth-related impacts associated with the proposed project in the 2014-2019 Housing Element Update and its CEQA EIR as well as the General Plan Update and its CEQA EIR.

In addition, SLOCOG, the regional authority charged with providing a framework for coordination of orderly regional growth and development, has prepared the 2014 RTP/SCS, which serves as a long-term planning and management plan for the regional transportation system, providing mitigation measures to off-set the impacts of growth projected in the region. The 2014 RTP/SCS was prepared in coordination with the City and has also accounted for any indirect growth associated with the development of the proposed project. Therefore, the proposed project would provide future water system infrastructure within the City, which would support planned population growth that has been identified for the service area.

As stated above, the City has already accounted for the proposed project's additional recycled water supply within the 2015 UWMP, and is required in the City's General Plan, and, therefore, does not represent an additional unanticipated source of supply. The proposed project would allow the City to increase the amount of groundwater used for potable water distribution and decrease its dependency on water supplied from the SWP. The addition of potable water resulting from the proposed project's indirect potable reuse component would reallocate the percentages of the water sources used by the City, but would not exceed the total amount of water supply the City has planned for in the 2015 UMWP. Thus, implementation of the proposed project would not create a new or expanded water supply that could create an indirect growth inducement potential.

Wastewater Treatment

In regards to wastewater treatment, the proposed WRF would treat a maximum average annual daily flow rate of 0.97 MGD, which is a slight decrease in treatment capacity from the existing WWTP, which has average daily wastewater collection flow of 1.089 MGD. The FMP and MWRP for the proposed project took into consideration the planned population projections in the 2015 UWMP and General Plan Update and sized the plant to accommodate wastewater flows associated with the expected population of 12,000 in 2040 (see Table 5-2). In addition, Measure F provides a cap on the City's population at 12,200 residents until increased by the voters. Thus, implementation of the proposed project would not result in additional growth greater than the City has already planned for within its land use planning documents. For those reasons, the proposed project would not remove any obstacles to growth and would not indirectly have a significant impact on growth inducement. As a result, impacts to growth inducement would be less than significant.

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CHAPTER 6
Alternatives Analysis

6.1 Introduction

According to the *CEQA Guidelines*, an EIR must describe a reasonable range of alternatives to a project that could feasibly attain most of the basic project objectives, and would avoid or substantially lessen the project's significant environmental effects. This alternatives analysis summarizes the alternatives screening process conducted to identify feasible alternatives that meet project objectives. As required by CEQA and the *CEQA Guidelines*, this analysis first considers which alternatives can meet most of the basic project objectives, and then to what extent those remaining alternatives can avoid or reduce the environmental impacts associated with the project. Information used to select an "environmentally superior alternative" is also provided in this chapter.

6.1.1 CEQA Requirements

Section 15126.6(f) of the *CEQA Guidelines* provides direction on the required alternatives analysis:

> *The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making.*

The alternatives may include a different type of project, modification of the project, or suitable alternative project sites. An EIR need not consider every conceivable alternative to a project. Rather, the alternatives must be limited to ones that meet the project objectives, are feasible, and would avoid or substantially lessen at least one of the significant environmental effects of the project. "Feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors. Section 15126.6(b) of the *CEQA Guidelines* states an EIR:

> *must identify ways to mitigate or avoid the significant effects that a project may have on the environment, the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these*

> *alternatives would impede to some degree the attainment of the project objectives, or would be more costly.*

Section 15126.6(d) of the *CEQA Guidelines* provides further guidance on the extent of the alternatives analysis required:

> *The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed.*

The EIR must briefly describe the rationale for selection and rejection of alternatives and the information the Lead Agency can rely on when making the selection. It also should identify any alternatives considered but rejected as infeasible by the Lead Agency during the scoping process and briefly explain the reasons for the exclusion. Alternatives may be eliminated from detailed consideration in the EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid any significant environmental effects.

Section 15126.6(e) (1) of the *CEQA Guidelines* also requires the No Project Alternative must be addressed in this analysis. The purpose of evaluating the No Project Alternative is to allow decision-makers to compare the potential consequences of the project with the consequences that would occur without implementation of the project.

Finally, an EIR must identify the environmentally superior alternative. The No Project Alternative may be the environmentally superior alternative to the project based on the minimization or avoidance of physical environmental impacts. However, the No Project Alternative must also achieve the project objectives in order to be selected as the environmentally superior alternative. *CEQA Guidelines* (Section 15126.6(e) (2)) require if the environmentally superior alternative is the No Project Alternative, then the EIR shall identify an environmentally superior alternative among other alternatives.

6.1.2 Project Objectives

The primary objectives of the proposed project are as follows:

- All aspects of the proposed project shall be completed ensuring economic value with a special emphasis on minimizing rate payer and City expense
- Communicate proposed project progress including general project status, milestones, and budget/cost information to our community members regularly
- Produce tertiary disinfected wastewater in accordance with the California Code of Regulations (CCR) Title 22 requirements for unrestricted urban irrigation

- Design to produce reclaimed wastewater to augment the City's water supply, by either direct or indirect means, as described in a master water reclamation plan and to maximize funding opportunities
- Include features in the proposed project to maximize the City's opportunities to secure funding and maximize efficiencies, including energy generation and recovery.
- Design to minimize the impacts from contaminants of emerging concern in the future
- Ensure compatibility with neighboring land uses

6.1.3 Review of Significant Environmental Impacts

Based on the *CEQA Guidelines*, several factors need to be considered in determining the range of alternatives to be analyzed in this Draft EIR and the level of analytical detail that should be provided for each alternative. Those factors include (1) the nature of the significant impacts of the proposed project; (2) the ability of alternatives to avoid or lessen the significant impacts associated with the proposed project; (3) the ability of the alternatives to meet the objectives of the proposed project; and (4) the feasibility of the alternatives.

The alternatives examined in this chapter could lessen the significant impacts associated with implementation of the proposed project, but would not meet all of the proposed project's objectives. It is important to note significant effort has been made to identify feasible alternatives to study in this Draft EIR that would still meet the proposed project's objectives to the same degree as the proposed project. Prior to the release of the NOP, extensive vetting of alternative sites, potential design approaches, and various environmental considerations led to the project described and being analyzed in this Draft EIR. In effect, that preliminary screening process already considered many alternatives prior to the preparation of this Draft EIR, narrowing the possibility of finding other alternatives that might equally or better meet the proposed project's objectives.

As the Lead Agency, the City will decide whether to proceed with the proposed project or whether to accept or reject any of the alternatives identified in this chapter. As required by the *CEQA Guidelines*, if the City ultimately rejects an alternative, then the rationale for that rejection will be presented in the findings that are required to be made before the Final EIR is certified and action is taken on the proposed project.

This Draft EIR indicates implementation of the proposed project could result in significant and unavoidable impacts to cultural resources that cannot be reduced to less than significant levels, even with mitigation measures. Those are described, as follows:

- **Impact 3.5-1:** The proposed project could cause a substantial adverse change in the significance of a historical or archaeological resource, as defined in *CEQA Guidelines* Section 15064.5. This would be a Class I impact, Significant and Unavoidable.

- **Impact 3.5-3**: The proposed project could disturb human remains during construction, including those interred outside of formal cemeteries. This would be a Class I impact, Significant and Unavoidable.

6.2 Alternatives Considered but Rejected

CEQA requires this Draft EIR briefly describe the rationale for selection and rejection of alternatives. The City may make an initial determination as to which alternatives are potentially feasible and, therefore, merit in-depth consideration, and which are clearly infeasible. Alternatives that are remote and speculative, or the effects of which cannot be reasonably predicted, need not be considered (*CEQA Guidelines*, section 15126.6(f)(3)).

6.2.1 WRF Location Alternatives

WRF Location Screening Process

An extensive alternative screening process was conducted between 2011 and 2016, in which various potential WRF sites were considered. A 2011 Rough Screening Evaluation examined 17 potential sites (**Figure 6-1**), and several siting comparative studies followed to narrow down the site options:

- *City of Morro Bay and Cayucos Sanitary District Wastewater Treatment Plant Upgrade Project, Rough Screening Alternative Sites Evaluation*. Prepared by Dudek for the City of Morro Bay, September 2011.

- *City of Morro Bay and Cayucos Sanitary District Wastewater Treatment Plant Upgrade Project, Fine Screening Alternative Sites Evaluation.* Prepared by Dudek for the City of Morro Bay, November 2011.

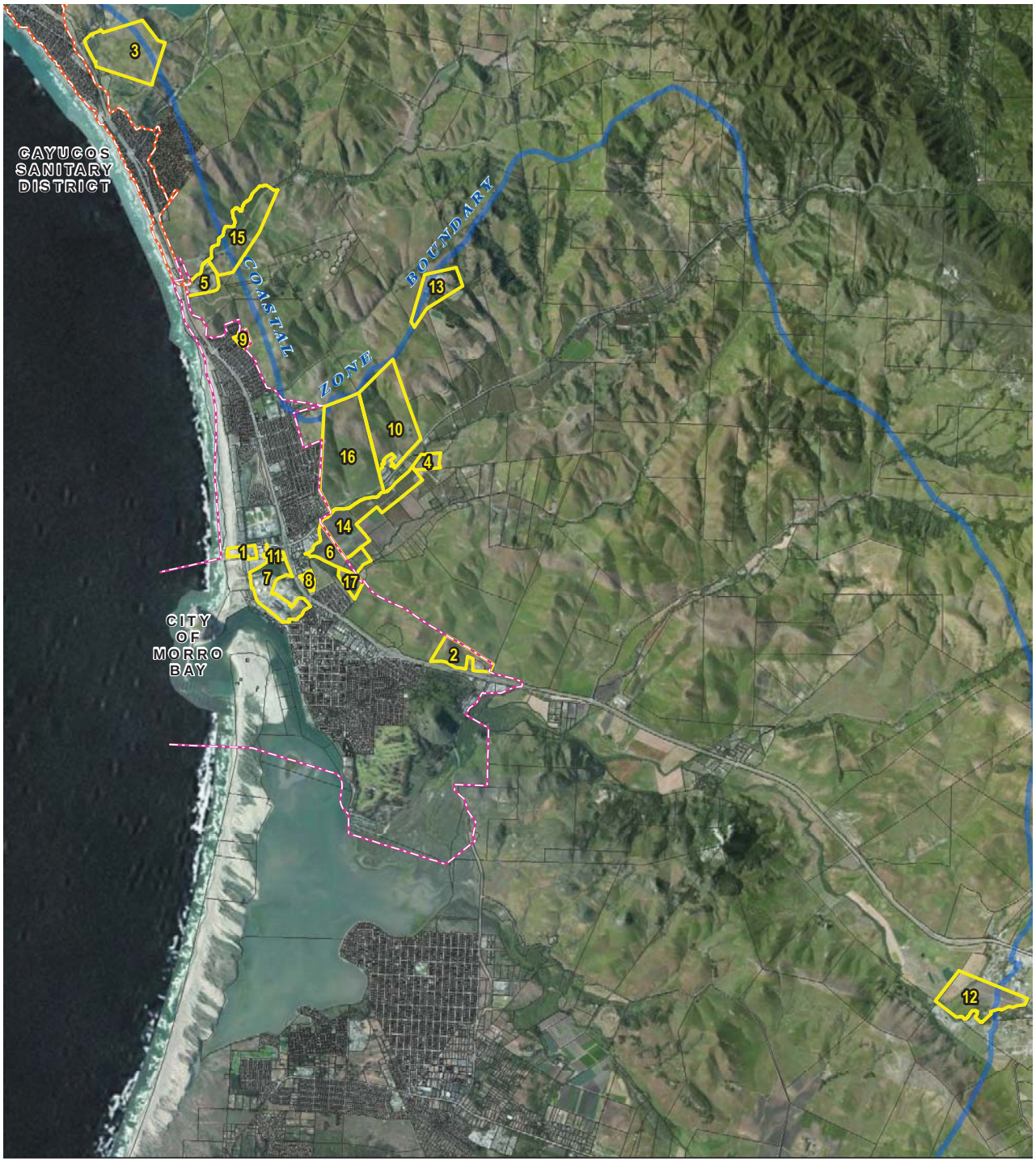
- *New Water Reclamation Facility Project, Second Public Draft Options Report*. Prepared by JFR Consulting for the City of Morro Bay Department of Public Services, December 5, 2013.

- *New Water Reclamation Facility Project, Report on Reclamation and Council Recommended WRF Sites*. Prepared by JFR Consulting for the City of Morro Bay Department of Public Services, May 8, 2014.

- *New Water Reclamation Facility Project, Comparative Site Analysis: Regional CMC Facility vs. Rancho Colina*. Prepared by JFR Consulting for the City of Morro Bay Department of Public Services, December 9, 2014.

- *New Water Reclamation Facility Project, Report to City Council on Potential WRF Sites.* Prepared by JFR Consulting for the City of Morro Bay Department of Public Services, April 29, 2016.

- *City of Morro Bay Water Reclamation Facility Project, Updated Site Comparison Report*. Prepared by MKN & Associates, Inc. for the City of Morro Bay, September 2017.



Map #	Site Name	Map #	Site Name
1	Current WWTP Site	9	Panorama Street Site
2	Chorro Valley Site	10	Rancho Colina Site
3	Whale Rock Site	11	Lila Keiser Park Site
4	Highway 41 / Madonna Property	12	California Men's Colony (CMC) Wastewater Facility Site
5	Chevron Oil Facility	13	Power Plant Hillside Tank Farm Site
6	Hayashi or Giannini Properties	14	Additional Highway 41 Properties (Multiple APNs)
7	Power Plant Site	15	1/2 Mile Up Toro Creek Road (Chevron Facility Hillside Site)
8	PG&E / City Property	16	1 Mile Up Atascadero Road (Righetti Property)
		17	APN 068-401-011 (Additional Giannini Property)

N
W E
S

0 0.5 1 Miles

City of Morro Bay Sanitary District Service Area

Cayucos Sanitary District Service Area

SOURCE: Dudek, 2011

Morro Bay Water Reclamation Facility Project . 150412

Figure 6-1

WRF Alternative Site Locations

Those siting comparative studies considered a combination of environmental, economical, logistical, and engineering factors for each potential site. Factors included: minimizing City and ratepayer costs, avoidance of coastal hazards, minimizing visual impacts, enhancing sustainable use of public resources, complying with the NPDES Permit requirements, providing for a range of treatments and technologies. Those factors were identified and prioritized in part through a public outreach process that included stakeholder interviews and a public workshop.

Public outreach was conducted through stakeholder meetings, stakeholder interviews, and public workshops, which gathered input related to cost, environmental concerns, engineering and design issues, site-related issues, and logistics and process issues. Through that public outreach program, criteria were determined for the siting process, and various studies were conducted to examine the suitability of each site. Some of the criteria included, but was not limited to, compliance with NPDES Permit requirements, distance to the City sewer collection system, avoidance of coastal hazards, minimal visual impacts, and sustainable use of public resources. In order to ensure public involvement during that process, the WRFCAC was created in July 2014 to help oversee and evaluate the siting process.

Five comparative siting studies were performed between 2013 and 2017. Starting with the results of the Rough Screening Evaluation, 17 study sites were first examined for the potential location of the WRF. By December 2013, it was narrowed down to seven study sites (Chevron, Morro Valley, Chorro Valley, CMC Wastewater Treatment Plant site, Power plant – southern portion, Panorama, and Giannini), which ranged in size and number of properties included in each. Finally, the City Council narrowed the sites down to focus on the Morro Valley, Chorro Valley, and Giannini Property in May 2014. Within those three general areas, there were four specific locations: Rancho Colina and Righetti (both in Morro Valley), Tri-W (now called the "South Bay Boulevard" site, in Chorro Valley) and Giannini. Since each site was generally suitable for the proposed WRF, the site study focused on several key issues related to the property ownership, regulatory and permitting, cost and timing, proximity to residential neighbors, and environmental and physical site issues. The conclusion of that study resulted in Rancho Colina having the highest location potential. It should be noted there was also a feasibility analysis performed for a regional facility at the CMC site that could serve the needs of the City and partner agencies; however, it concluded that would not be feasible. Although the CMC Facility would combine all of the regional key agencies including the State, County, City and CSD into a single facility, it was unclear whether such a project could commence operation to meet the required timeline for closing the current WWTP, and there were numerous advantages of the Rancho Colina site. In April 2016, after direction to investigate other potential sites, the list of potential sites was revised to include Rancho Colina, Righetti, Tri-W, Chevron/Toro Creek, and Madonna (another site in Morro Valley). After the 2016 comparative study was completed, the Tri-W site, which became known as the South Bay Boulevard site, was found to be the final site preference, and preliminary planning efforts began at that location based on City Council direction at that time. The CCC staff supports locating the new WRF at the South Bay Boulevard site and has been supportive in the concept of working with the City and, as needed, the County, on a CDP for this facility.

In July 2017, the City Council requested a final site comparison to confirm, from a cost and regulatory perspective, the South Bay Boulevard site would be the preferred site to meet the

City's goals. The 2017 Updated Site Comparison Report included the South Bay Boulevard site, Giannini site, Righetti site, and a site west of Highway 1, such as the existing WWTP site. At the City Council meeting on September 27, 2017, the Council decided to move forward with the South Bay Boulevard site as the preferred site due to the following conclusions:

> *there was Council consensus that the Coastal Commission would not permit a project west of Highway 1, the Giannini site had too many issues and no cost advantages, and due to the risk of litigation, the Righetti site was not feasible. There was stated support to proceed with planning and permitting at South Bay Blvd. as the preferred site.* (Minutes – Morro Bay City Council Regular Meeting – September 26, 2017).

Joint Venture between CSD and Morro Bay

The existing WWTP is jointly owned and operated by the City and CSD. Following the denial of the CDP to upgrade the existing WWTP in its current location, the City's City Council and CSD Board of Directors worked together to pursue a new location that would be suitable to each agency's goals. However, in April 2015, the CSD Board decided to pursue an independent project (CSD Board Resolution No. 2015-1, April 30, 2015). Reasons cited for that decision included:

- Controlling costs and minimizing sewer service rate increases
- Maintaining operational control and efficiency
- Autonomy over management and use of recycled water, a local resource that is critically important to the future sustainability of the region.

Although the City remained open to working with CSD on a joint project after that date, it was clear that idea was not reciprocated by CSD. Subsequently, CSD chose its own site, developed a preliminary project design to meet its more limited needs, and prepared an EIR studying that concept. Subsequent discussions with CSD staff have been cooperative, but have focused on how the two agencies' new projects can best be coordinated in the context of the ultimate decommissioning of the existing WWTP they currently share. CSD staff has also stated the CSD is open to the concept of the City building its own facility adjacent to the CSD's planned facility, if determined to be feasible, but it would be an independent venture the City would need to pursue by itself.

Subsequent analysis by City staff and its technical team determined the pursuit of an independent project at that location would not be cost-effective, primarily because of its distance from the City's wastewater collection system, distance from reclamation opportunities that would benefit the City, and because of potential uncertainties in securing and controlling the site for such a facility.

As such, there is no feasible alternative that includes continuation of the existing joint venture between Morro Bay and CSD to own and operate one combined treatment plant. Similarly, an independent project located adjacent to the CSD's planned facility would require further pipelines to and from the facility when compared to the South Bay Boulevard site, so this option was rejected from further consideration.

Joint Venture with Los Osos

In the adjacent community of Los Osos, the County recently completed the majority of the connections to the new Los Osos Water Recycling Facility (LOWRF). The LOWRF is receiving less flow than anticipated and may have excess capacity. The feasibility of sending wastewater from the City to the LOWRF for treatment was reviewed. Under this alternative, the City would send its wastewater to the new LOWRF, and the existing WWTP could be decommissioned without building the WRF. The City met with County staff to review information and discuss strategies to connect the City to the LOWRF and considered several factors in this preliminary assessment. Those included: the distance to the LOWRF, capacity of the LOWRF to receive flows and loads from the City and recycled water usage.

The assessment concluded the LOWRF does not have sufficient capacity to treat full wastewater flows from City. While it is possible a portion of the City's flows could be treated at the LOWRF, it would require five miles of additional raw wastewater pipeline and an additional treatment facility with the same organic load capacity as the LOWRF with the full equalization storage initially proposed for the WRF Project. That would either be located at the South Bay Boulevard site or at the LOWRF site, requiring additional property acquisition and would not be more cost effective than the proposed Project. Further, the distance back to the proposed City injection well sites is over 7 miles, so the City would not be able to reuse their effluent per the current plan for recycled water. Therefore, this potential alternative was rejected from further consideration.

6.2.2 Corporation Yard Alternative

In October 2017, the City Council refined the proposed project goals to reflect concerns related to cost and the ability to implement the proposed project effectively and in a timely manner. As a result, the proposed project was refined not to include moving the City's Corporation Yard to the preferred WRF location, a concept that had been part of the facility design in the Facility Master Plan. That aspect of the proposed project was removed from the project goals – that is, to design the proposed WRF to allow for other City functions (Minutes – Morro Bay City Council Regular Meeting – October 24, 2017). Thus, the footprint of the proposed project was reduced accordingly with elimination of the Corporation Yard.

This alternative analysis does not consider a WRF design alternative that includes the Corporation Yard, because it would have greater impacts due to a greater footprint and operational activities, and is not required to meet the project objectives.

6.2.3 Lift Station Alternatives

A total of eight potential lift station sites were evaluated as part of the offsite facilities for the proposed project. Each of those sites were located along Atascadero Road with two located adjacent to Highway 1 on the north and south of side of Atascadero Road (Alternative Site No. 2 and No. 7), a site located northwest of Lila Keiser Park (Alternative Site No. 3), one within the existing WWTP site (Alternative Site No. 1), one north of the existing WWTP site along Atascadero Road (Alternative Site No. 5) and two east of Highway 1 north and south of Atascadero Road (Alternative Site No. 8 and Site No. 4, respectively).

A set of ten evaluation criteria was established to compare those sites which included, (1) parcel size, location, and availability, (2) parcel ownership, (3) land acquisition, (4) parcel zoning information, (5) potential for community impacts, (6) reuse of existing facilities, (7) benefit to future Capital Improvement Program (CIP) projects, (8) support for WWTP site redevelopment, (9) gravity sewer evaluation and (10) cost and constructability. Each of those eight sites were chosen because they were capable of meeting the City's objective of capturing and conveying flows from the existing wastewater collection system to the proposed project. The potential sites have various zoning designations, including commercial, government, industrial, visitor-serving commercial (motels), and single-family residence and all but Alternative Site No. 1 required parcel land acquisition. Alternative Site No. 1 and No. 5 could possibly reuse existing facilities while the other options could not. Alternative Sites No. 3, 6, and 7 had higher impacts to the surrounding community since they were adjacent to motels, a high school, or a mobile home park. The analysis also determined Alternative Sites No. 2, 4, and 8 could potentially benefit future CIP projects since it would eliminate the length of deficient sewer pipes. Overall, based on a qualitative ranking of each of the 10 criteria, Sites No. 1 and No. 5 ranked highest.

After completion of the screening analysis, a workshop was conducted in September 2015. The City technical staff were able to narrow down the list to the two preferred lift station sites (Alternative Sites No. 1 and No. 5) discussed in this Draft EIR, based on the screening analysis criteria described above. Alternative Site No. 1 (Option 1A) consists of constructing the new lift station on the site of an existing shed located near the City's desalination facility, on the site of the City's Corporation Yard, located on Atascadero Road. This revised location is intended to maximize the opportunity for redevelopment of the existing WWTP site and avoid the need to acquire property by using City owned property. Alternative Site No. 5 (Option 5A) consists of constructing the lift station directly adjacent to Atascadero Road within public right-of-way for all of the facilities. This alternative site shares the benefit of Alternative Site No. 1; it avoids the need and potential risk to the schedule associated with acquiring private property. The other sites would be more expensive due to a requirement for deeper excavation and more pipeline construction, which would lead to potentially greater environmental impacts.

6.2.4 Recycled Water Reuse Alternatives

From the beginning of the WRF planning process, there were multiple recycled water reuse alternatives considered for the City customers. Those included urban irrigation, commercial uses, agricultural irrigation, and augmenting groundwater supplies.

Based on the market assessment and hydrogeological screenings conducted, the following four potential recycled water reuse alternatives were analyzed in the 2017 Master Water Reclamation Plan: (1) urban reuse, (2) agricultural exchange, (3) indirect potable reuse – East, and (4) indirect potable reuse – West (MKN & Associates, 2017).

The urban reuse end use would provide recycled water to urban commercial and landscape irrigation uses in the City and to the Morro Bay Golf Course. The reuse end users include City Maintenance Yard, Morro Bay High School, Lila Keiser Park, Morro Bay High School Bus Facility, and south side of Highway 1. All of the end users are located along or near the proposed western pipeline alignment, south and west of Highway 1. The conveyance of the recycled water

would include installation of a 12-inch, 19,140 linear-foot recycled water pipeline and two 30-horsepower (HP) pumps. One of the pumps would be a standby pump.

Agricultural exchange involves the delivery of recycled water to agricultural properties in exchange for groundwater pumped and delivered to the City. There are 43 potential agricultural exchange users in the Morro Valley, primarily along the south side of Highway 41, Morro Creek, and Little Morro Creek, and some along the north side of Highway 41. The majority of crops in the immediate vicinity of the City are avocado with limited orange groves, all of which are sensitive to salts (MKN, 2017). A new well pump would be installed at the landowner's existing well, and a new potable water pipeline would lead back to the City's system. If groundwater is extracted from the upper Morro Valley, then the quality may not require additional treatment. Even though agricultural irrigation is a promising recycled water opportunity due to a number of irrigated agricultural properties concentrated along Highway 41, it was not evaluated further because there is general unwillingness on the part of growers to enter into recycled water contracts with the property owners to reduce groundwater pumping, because of the relative high cost of recycled water compared to pumping. In addition, this alternative did not provide a substantial direct water supply benefit to the City. Other rejected alternatives included groundwater injection for seawater intrusion barrier, streamflow augmentation, and direct potable reuse.

According to the Master Water Reclamation Plan evaluation, rejection of injection for seawater intrusion barrier would take too much water to accomplish and would lose the ability to recapture the groundwater. In addition, it concluded the groundwater recharge and extraction system could also accomplish the same goal of preventing seawater intrusion. Streamflow augmentation did not prove to be a preferred alternative from both the regulatory and water supply benefit perspectives. Because there is little percolation in the Morro and Chorro Creeks, most of the water exist to the ocean and little would be recaptured in the groundwater basin for reuse. The Master Water Reclamation Plan concluded indirect potable reuse had the highest water supply benefit as it could support the majority of the City's current water demand. Indirect potable reuse is evaluated in this Draft EIR as the preferred end use of the WRF. No other alternative would be as effective in meeting the City's project objectives with respect to water reclamation, nor would they reduce one or more identified environmental impacts. For this reason, no alternative reclamation concepts are examined in this Draft EIR.

6.3 Project Alternatives

Because of the previous years of studies and evaluations of a large variety of alternatives, the City has found that there are only three viable alternatives, including the No Project Alternative required by CEQA. As described above in Section 6.1.4.1, the City Council determined there is no feasible alternative location for the proposed WRF because the CCC would not permit a project west of Highway 1, the Giannini site had no cost advantages, and due to risk of litigation the Righetti site is not feasible. As described above in Sections 6.1.4.2 to 6.1.4.4, the Council removed the Corporation Yard from the proposed project in response to public input, alternative lift station alternatives have already been screened, and alternate beneficial end uses of recycled water also have already been considered.

The goal for evaluating alternatives is to identify alternatives that would avoid or lessen the significant environmental effects of the proposed project, while attaining most of the project objectives. Significant impacts of the proposed project include unavoidable direct and cumulative impacts to historic and archaeological resources and human remains due to construction of the proposed conveyance pipelines and the IPR injection and monitoring wells. Under the No Project Alternative (Alternative 1), minor upgrades to the WWTP would be implemented to meet the minimum NPDES permit requirements for full secondary treatment and the pipelines and wells would not be constructed. Under Alternative 2, an alternative pipeline alignment has been considered between the proposed WRF and the lift station and IPR West wellfield to determine if significant impacts can be reduced or avoided. Although not required to avoid significant impacts, alternative WRF design and treatment options are also considered under Alternative 3.

The following sections provide a general description of each alternative, its ability to meet the project objectives, and a qualitative discussion of its comparative environmental impacts. As provided in Section 15126.6(d) of the *CEQA Guidelines*, the significant effects of these alternatives are identified in less detail than the analysis of the project in Chapter 3 of this Draft EIR.

6.4 Impact Analysis

Alternative 1: No Project Alternative

Pursuant to Section 15126.6(e) of the *CEQA Guidelines*, the No Project Alternative shall be evaluated to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The No Project Alternative shall:

> *discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time the environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.*

The No Project Alternative would result in the continued operation and maintenance of the existing WWTP and associated wastewater treatment infrastructure. Given the CSD is moving forward with its own treatment project, under the No Project Alternative the WWTP would provide treatment for influent wastewater only from the City's service area. However, operating the WWTP in accordance with the status quo would not comply with the effluent water quality criteria and the SWRCB/RWQCB order to upgrade the plant to meet discharge water quality criteria, resulting in increased costs associated with fines. As required to be considered by CEQA, what would be reasonably expected to occur in the foreseeable future if the project were not approved would be upgrades to the existing plant to provide full secondary treatment to meet the State's minimum water quality criteria for all discharges through the existing outfall.

Upgrade of the WWTP was considered in the September 2007 WWTP Facility Master Plan Report (Carollo Engineers, 2007). The Report recommended new headworks, oxidation ditch and secondary clarifiers, biosolids handling facilities, disinfection, and electrical and control

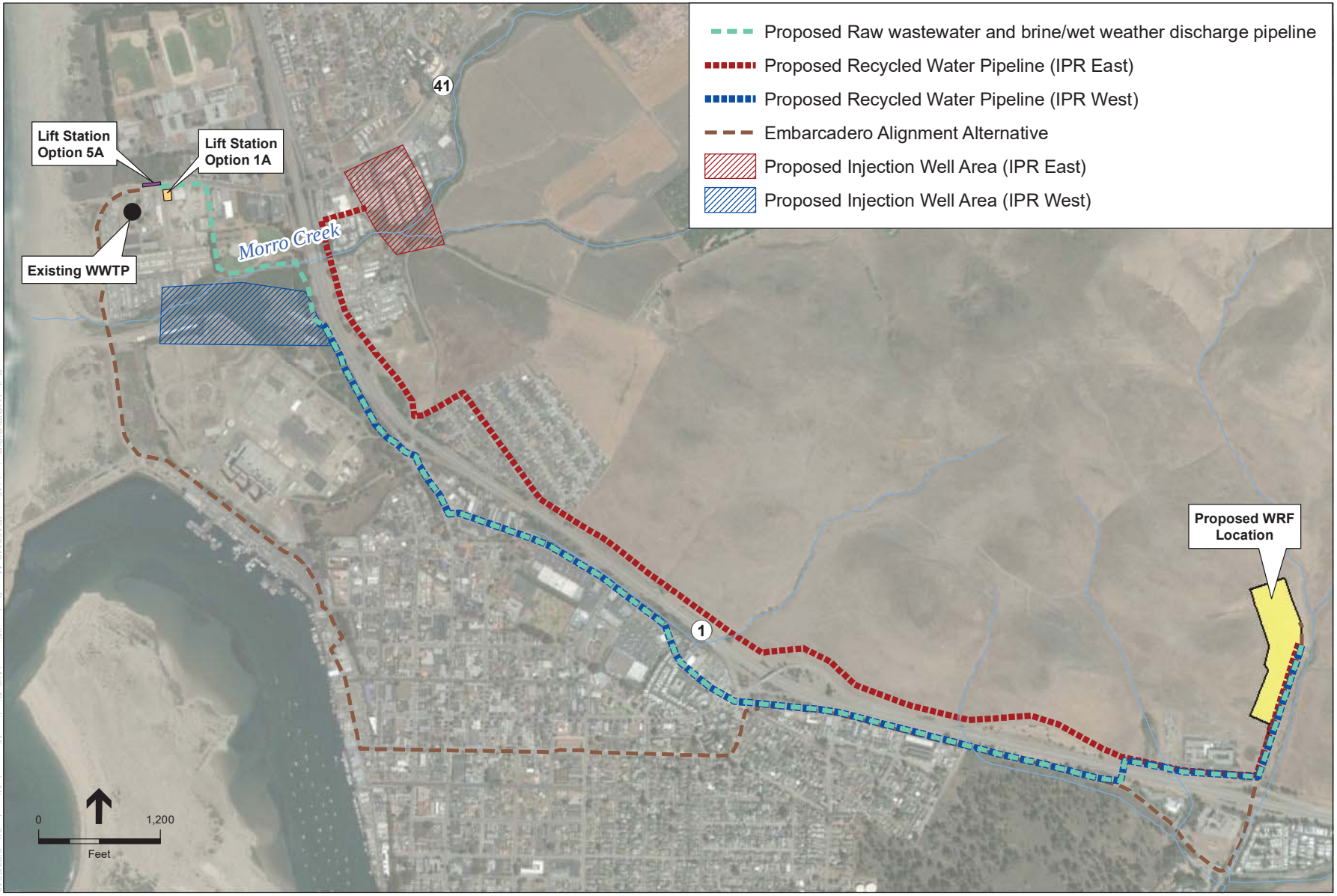
facilities. Construction of those facilities would occur within the existing WWTP footprint and would provide full secondary treatment for influent at a capacity that meets the projections of the City's future wastewater generation without participation of the CSD. To mitigate for potential inundation during a 100-year flood event, the new facilities would be elevated at least one foot above the flood depth, which could be as great as six feet.

Under the No Project Alternative, the proposed project would not be constructed, nor would the lift station, associated conveyance pipelines, or injection and monitoring wells. As a result, the significant impacts to historic and archaeological resources, as well as human remains, would not occur. The No Project Alternative would avoid those significant and unavoidable impacts associated with the proposed project. However, the No Project Alternative also would not achieve the benefits of the proposed project, including removing critical community infrastructure from a coastal hazard area subject to flooding and sea level rise. In addition, the No Project Alternative would not meet any of the project objectives, including the ability to provide reclaimed wastewater to augment the City's water supply or to meet wastewater effluent conditions that reduce impacts from contaminants of emerging concern.

The No Project Alternative is not feasible because it would require a CDP from the CCC, which previously denied the same permit for an upgrade to the WWTP. The basis for that denial included the CCC's assessment such upgraded facilities would be inconsistent with the City's Local Coastal Plan's zoning provisions, would fail to avoid coastal hazards and would fail to include a sizeable reclaimed water component; and the project location would be within an LCP-designated sensitive view area. It is expected the CCC would similarly deny a CDP for the proposed No Project Alternative.

Alternative 2: Pipeline Alignment Alternative

Alternative 2 would result in construction of all the same facilities as the proposed project, except for a segment of the raw wastewater pipeline that would have a different alignment and result in the construction of approximately 2,500 linear feet of additional pipeline (see **Figure 6-2**). The additional pipeline construction would be along Embarcadero Road to the west of the existing WWTP and proposed lift station, traveling south and then east along Pacific Street, and meeting with the currently proposed raw wastewater pipeline at Butte Street. This segment under Alternative 2 would result in construction near two different and known cultural resources sites, may result in geotechnical challenges along the waterfront, and would result in a significant increase of construction impacts related to traffic, air quality and noise due to the location of construction within higher traffic corridors (residential and commercial), and the location of construction equipment relative to sensitive receptors (residences). Further, this segment of pipeline under Alternative 2 would require additional rights of way through residential property. While there would be an increase in the severity of impacts related to the additional linear feet of construction, all impacts would be reduced to less than significant using the same mitigation measures presented for the proposed project. However, impacts to cultural resources, while



SOURCE: ESRI 2016

Morro Bay Water Reclamation Facility Project. 150412

Figure 6-2

Alternative 2: Pipeline Alignment Alternative

reduced in number of impacted sites, would remain significant and unavoidable under Alternative 2, even with mitigation. Additionally, Alternative 2 would result in higher cost due to the additional length of construction and rights of way compensation.

Alternative 3: WRF Design Alternative

During preparation of the draft Facility Master Plan and MWRP, alternative treatment technologies and associated site plan configurations were considered. Under Alternative 3, the proposed level of treatment would be changed to either remove advanced treatment or implement full secondary treatment only. Removing advanced treatment would reduce the proposed WRF footprint by approximately 7,000 square feet (0.16 acres). Implementing full secondary treatment would be achieved by either proceeding with the sequencing batch reactor (SBR) treatment train, but removing the filters or changing to the treatment process to a more traditional secondary treatment process, such as an activated sludge or oxidation ditch process. Proceeding with the SBR treatment train and removing the filters would have a small incremental reduction to the proposed WRF footprint in addition to removing advanced treatment. The footprint associated with a traditional secondary treatment process would be greater than that currently planned for the proposed WRF.

The current preliminary design at the preferred South Bay Boulevard WRF site is intended to minimize the proposed WRF footprint, while still providing the facilities required to provide the level of treatment that would meet the proposed project goals. As documented in this Draft EIR, the preliminary design for the proposed project would not have significant effects to:

- **scenic resources** due to architectural treatments to be included in the design and the restricted line of sight from Highway 1 and public vantage points to the low- lying WRF site which is partially screened by the hillside topography.
- **agriculture** due to the small percentage of rangeland within the 396-acre parcel that would be occupied by the facilities.
- **neighboring land use** due to the small percentage of rangeland within the 396-acre parcel that would be occupied by the facilities allowing the majority of the site to continue to be used for grazing.
- **riparian habitat** due to the distance of the proposed WRF from jurisdictional features.
- **water quality** in downstream drainages due to compliance with the requirements of the City's Storm Water Management Plan and NPDES General Construction Permit that require retention and control of storm water onsite during both construction and operation

As documented in this Draft EIR, the preferred WRF site would have benefits to:

- **coastal hazards** and flooding due to the removal of the WWTP from the flood hazard zone and location of the WRF in an area that is not a flood hazard zone.

Implementation of alternative treatment technologies at the preferred WRF site would have similar impacts and benefits as the proposed project. For example, removing advanced treatment would lessen the WRF footprint by 7,000 square feet or 0.16 acres, which is roughly 1% of the 10- to 15-acre area of disturbance for the proposed project. Although a smaller footprint would

have relative fewer impacts to agricultural lands, scenic resources, neighboring land use, and water quality, no impacts would be eliminated or avoided and the same mitigation measures and regulatory requirements would apply. Implementation of a traditional full secondary treatment process at the preferred WRF site may require a larger footprint; as such, relatively greater impacts to agricultural lands, scenic resources, neighboring land use, and water quality would occur. A greater footprint would have potential to encroach on riparian habitat, and could result in potentially significant impacts that would be greater than the proposed project. Otherwise, however, with application of the same mitigation measures and regulatory requirements as the proposed project, there would likely be no other significant impacts.

With regard to energy use, removing advanced treatment and the filters would lessen the amount of energy required during the treatment process; standard full secondary treatment also would use less energy relative to the proposed project. However, the proposed project would not result in significant impacts to energy or GHGs as a result of operational energy use.

Alternative 3 would preclude the City from meeting key project objectives, including production of tertiary treated recycled water and augmenting the City's water supply. Removing advanced treatment would still produce recycled water that could be used for municipal and agricultural irrigation; however, the MWRP found that such urban and agricultural demands are not great enough to substantially offset potable water supply end uses, which limits the benefits of Alternative 3.

6.5 Environmentally Superior Alternative

The analysis of alternatives presented in this chapter, taken together with the analysis of the proposed project in Chapter 3 of this Draft EIR, provide a basis to identify the environmentally superior alternative under CEQA (*CEQA Guidelines* section 15126.6). The environmentally superior alternative is the alternative identified as meeting most of the basic project objectives and resulting in the fewest or least severe combination of significant environmental impacts. *CEQA Guidelines* section 15126.6 provides, if the No Project Alternative is the environmentally superior alternative, then the EIR shall also identify an environmentally superior alternative among the other alternatives. Here, the No Project Alternative may in some respects qualify as the environmentally superior alternative because it would avoid the significant and unavoidable impacts to historic and archaeological resources, and human remains. However, it would not meet any of the basic project objectives; it would have considerable economic and regulatory consequences in the future (e.g., mounting number of fines from the SWRCB/RWQCB or infeasibility due to CDP denial), and could result in different or more severe impacts than the proposed project or other possible alternatives given the failure of the No Project Alternative to meet water quality discharge criteria, to produce recycled water to augment the City's supply, and to move critical public infrastructure out of the coastal hazard zone. For that reason, the discussion below focuses on selecting another environmentally superior alternative from among Alternative 2, Alternative 3 and the proposed project presented in this Draft EIR.

It is important to recognize the selection of the environmentally superior alternative is not always a straightforward and formulaic exercise. In some cases, including here, no alternative can eliminate

all significant and unavoidable, long-term environmental effects. There are environmental tradeoffs among the alternatives and even within resource issue areas or topics, making it difficult to summarize the net effect of the alternatives. As such, considerable weighing among the severity of impacts of the alternatives and professional judgment as to the relative importance of topical impact areas is necessary. Such judgment, while based on reasoning grounded in the scientific study that comprises this Draft EIR, can be subjective. Comparison of Alternative 2 impacts to the proposed project impacts, above, indicate Alternative 2 would meet the proposed project's objectives, and would result in a reduction in impacts on number of cultural resources sites. However, Alternative 2 would increase the costs to the City related to construction and would result in more severe impacts on air quality, noise, and traffic. Alternative 3 overall would result in similar impacts to the proposed project, and would not avoid any potentially significant impacts. Depending on the alternate treatment process chosen, the relative impacts would be incrementally smaller or greater, and require similar mitigation measures. Under Alternative 3, many of the City's key project objectives would not be met. Therefore, this Draft EIR identifies the proposed project as the environmentally superior alternative.

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MKN & Associates, 2017. Master Water Reclamation Plan. Prepared for the City of Morro Bay, March 2017.

CHAPTER 7
CEQA Plus Considerations

As described in Chapter 1, the proposed project is eligible for SRF funding. The USEPA sponsors the SRF Loan Program to provide funding for construction of publicly-owned treatment facilities and water reclamation projects. That funding for capital improvements to wastewater treatment and water recycling facilities is authorized under the federal Clean Water Act. In order to comply with requirements of the SRF Loan Program, which is administered by SWRCB in California, this Draft EIR must fulfill additional requirements known as CEQA-Plus. The CEQA-Plus requirements have been established by the USEPA and are intended to supplement the *CEQA Guidelines* with specific requirements for environmental documents acceptable to the SWRCB when reviewing applications for wastewater treatment facility loans. They are not intended to supersede or replace *CEQA Guidelines*.

In order to qualify for the SRF Loan Program, the proposed project must comply with the following federal cross-cutting regulations:

- Clean Air Act
- Coastal Barriers Resources Act
- Coastal Zone Management Act
- Endangered Species Act
- Environmental Justice
- Farmland Protection Policy Act
- Floodplain Management
- Magnuson-Stevens Fishery Conservation and Management Act
- Migratory Bird Treaty Act
- National Historic Preservation Act
- Protection of Wetlands
- Safe Drinking Water Act
- Wild and Scenic Rivers Act

Compliance with the aforementioned federal laws and relevant executive orders are described below in Section 7.1 and 7.2. In summary, the proposed project complies with those laws and executive orders, with further evidence provided in other sections of this Draft EIR as cross-referenced below.

7.1 Federal Regulations

Clean Air Act

Clean Air Act compliance is described in Chapter 3.3.2 Air Quality.

Coastal Barriers Resources Act

The Coastal Barriers Resources Act (CBRA) was enacted in 1982 to designate relatively undeveloped coastal barriers along the Atlantic, Gulf of Mexico, Great Lakes, U.S. Virgin Islands, and Puerto Rico coasts as part of the John H. Chafee Coastal Barrier Resources System (CBRS). Those areas became ineligible for most new federal expenditures and financial assistance in order to discourage development such as federal flood insurance (USFWS, 2018). The goals of the CBRA are to minimize loss of human life by discouraging development in high risk areas, to reduce wasteful expenditure of federal resources, and to protect the natural resources associated with coastal barriers (USFWS, 2017). There are no designated Coastal Barrier Resources System in California. As such, no project impacts are expected. Furthermore, the proposed project does not propose any development associated with coastal barriers.

Coastal Zone Management Act

Section 307 of the Coastal Zone Management Act (CZMA) requires activities approved or funded by the federal government that affect any land or water use or natural resource of a state's coastal zone, must be consistent with the enforceable policies of the state's federally approved coastal management program.

Under Section 307 of the CZMA (16 U.S.C. §1456), activities that may affect coastal uses or resources that are undertaken by federal agencies, require a federal license or permit, or receive federal funding must be consistent with a State's federally approved coastal management program. California's federally approved coastal management program consists of the California Coastal Act, the McAteer-Petris Act, and the Suisun Marsh Protection Act. The California Coastal Commission (CCC) implements the California Coastal Act and the federal consistency provisions of the CZMA for activities affecting coastal resources outside of San Francisco Bay. Subparts D and F of the federal consistency regulations govern consistency review for activities involving a federal permit and federal funding, respectively. Those sections generally require the applicant to provide the subject state agency (e.g., the Coastal Commission) with a brief assessment of potential coastal resources impact and project conformity with the enforceable policies of the management program.

The CCC considers an application for a coastal development permit to satisfy the Subpart D and F conformity assessment requirements. Typically, the CCC will provide its response (concurrence, conditional concurrence, or objection) in its staff report for the coastal development permit. In cases where the coastal development permit is issued by a local government with a certified local coastal program (LCP), the CCC will typically provide its response in a letter, following the permit issuance and the completion of any appeals process.

The City has been in ongoing consultation with CCC staff. In addition, a preliminary assessment of project consistency with applicable policies of the CCC's coastal management program (as represented in the LCPs of the jurisdictions in which the project is proposed) is provided in some of the resource sections within Chapter 3 of this Draft EIR to facilitate the analysis of potential impacts in these resource areas. The CCC will make the final determination as to whether the proposed project is fully consistent with its policies.

Endangered Species Act

Endangered Species Act compliance is described in Chapter 3.4 Biological Resources.

Environmental Justice

Environmental Justice compliance is described in Chapter 3.12 Environmental Justice.

Farmland Protection Policy Act

Farmland Protection Policy Act compliance is described in Chapter 3.2 Agriculture and Forestry Resources.

Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) is the principal law governing marine fisheries in the U.S. First enacted in 1976, it was adopted to create a U.S. fishery conservation zone out to 200 nautical miles off the U.S. coast, to phase out foreign fishing activities within this zone, to prevent overfishing, to allow overfished stocks to recover, and to conserve and manage fishery resources. The MSA created the regional fishery management councils and the national standards for the contents of fishery management plans. The MSA has been revised and amended several times since 1976 with the most recent occurring in 2006. This revision called the Fishery Conservation and Management Reauthorization Act of 2006 did not add any new National Standards but it did make a number of changes related to establishment of annual catch limits, the National Environmental Policy Act review process, rebuilding provisions, and other areas (MAFMC 2018).

MSA requires federal agencies to consult with the National Oceanic and Atmospheric Administration (NOAA) Fisheries when their actions or activities may adversely affect habitat identified by federal regional management councils as Essential Fish Habitat (EFH). The MSA defines EFH as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" (NOAA Fisheries, 2018). Regional fishery management councils are responsible for determining what habitats meet the definition of EFH for fish and shellfish species managed under their jurisdiction and describing EFH in their fishery management plans. The proposed project is within the Pacific Fishery Management Council jurisdiction. The waters off the coast of California include EFH for various species, including but not limited to groundfish. Groundfish are fish such as rockfish, sablefish, flatfish, and Pacific whiting that are often (but not exclusively) found on or near the ocean floor or other structures. The Pacific Fishery Management Council identified groundfish EFH as all waters from the high tide line (and parts of estuaries) to 3,500 meters in depth (Pacific FMC, 2018).

The proposed project would have no adverse impact on the marine environment or EFH in the Pacific Ocean. As described in Chapter 3.9 Hydrology and Water Quality, the proposed project would continue to discharge through the existing ocean outfall that runs approximately 2,900 feet offshore through Estero Bay, and the water quality of proposed discharges would be improved to tertiary-treated recycled water, exceeding the requirements of the existing WWTP NPDES permit that will also apply to the new WRF. The NPDES permit establishes water quality objectives for receiving waters based on the California Ocean Plan; the water quality objectives would protect beneficial uses including marine habitat. (See Chapter 3.9 Hydrology and Water Quality for additional discussion about water quality impacts.) As such, the proposed project would be in compliance with MSA.

Migratory Bird Treaty Act

Migratory Bird Treaty Act (MBTA) compliance is described in Chapter 3.4 Biological Resources.

National Historic Preservation Act

National Historical Preservation Act compliance is described in Chapter 3.5 Cultural Resources.

Safe Drinking Water Act

The Safe Drinking Water Act (SDWA) was established to protect the quality of drinking water in the U.S. SDWA focuses on all waters actually or potentially designed for drinking uses, whether from above ground or underground sources. The principal federal agency involved in drinking water regulation is the USEPA. USEPA is responsible for implementing federal drinking water law, setting national drinking water requirements, and overseeing the SWRCB enforcement of the federal law. The proposed project would replenish potable aquifers in the Morro Valley that are the source for drinking water in the City. The proposed project would be regulated and permitted by the SWRCB's Division of Drinking Water (DDW), which has the primary responsibility for regulating drinking water in California. Refer to Chapter 3.9 Hydrology and Water Quality for a discussion on project impacts to groundwater and regulatory requirements of SWRCB DDW that ensure compliance with SDWA.

SDWA also regulates sole source aquifers, which are aquifers that supply at least 50 percent of the drinking water for its services area and has no reasonably available alternative drinking water sources should the aquifer become contaminated. The aquifers in the project area are not designated as sole source aquifers by the USEPA.

Wild and Scenic Rivers Act

The Wild and Scenic Rivers Act was created in 1968 to protect and preserve the special character of certain rivers with outstanding natural, cultural and recreational values and recognize their appropriate use and development (National Wild and Scenic River System, 2018). Section 5(d)(1) of the Wild and Scenic Rivers Act lists interim protection measures for eligible or suitable rivers. For a river to be eligible for designation in the National Wild and Scenic River System, it must have one or more outstandingly remarkable river values. There is no Wild and Scenic River

located within the project area (National Wild and Scenic River System, 2018). Therefore, this Act is not applicable to the proposed project.

7.2 Executive Orders

Floodplain Management, Executive Order No. 11988

Executive Order 11988 requires federal agencies to avoid to the extent possible the long and short-term adverse impacts associated with the occupancy and modification of flood plains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative (FEMA 2018). If a project has potential impact to or within a floodplain, then there is an eight-step process that agencies can carry out during their decision-making on the project. The eight-step process includes: (1) determine if a proposed action is in the base floodplain or area which has a one percent or greater chance of flooding in any given year, (2) conduct early public review, (3) identify and evaluate practicable alternatives to locating in the base floodplain, (4) identify impacts of the proposed action, (5) develop measures to minimize the impacts and restore and preserve the floodplain if impacts cannot be avoided, (6) re-evaluate the alternatives, (7) present the findings and a public explanation, and (8) implement the action (FEMA 2018).

The proposed project would reduce potential existing impacts within existing floodplains. The proposed project would include decommissioning and demolition of the existing WWTP, which is located within the Morro Creek 100-year and 500-year floodplain. In response to the CCC's directive to move the existing WWTP away from the coast, as described in Chapter 1 Introduction and Chapter 6 Alternatives Analysis, the City considered at least 17 potential locations for the proposed WRF, with most locations being away from the coast and outside of a floodplain zone. The proposed project would move the proposed WRF to a new location that is no longer within a coastal floodplain.

However, the proposed project would also construct a new lift station and potentially new injection/monitoring wells within the Morro Bay 100-year and 500-year floodplain. The lift station location is necessitated by the concept that efficient wastewater collection relies on a relatively low-elevation location to maximize gravity flow. The need for such a location was acknowledged by CCC staff during the City's site investigation efforts, in the course of staff-to-staff meetings held (August 2017). The alternatives screening for the lift station location is also described in Chapter 6 Alternatives Analysis. The proposed injection/monitoring well locations were informed by soil and aquifer properties conducive to replenishment. Refer to Chapter 3.9 Hydrology and Water Quality for further discussion of the proposed project components in the floodplain and potential impacts and mitigation measures.

Protection of Wetlands, Executive Order No. 11990, as amended by Executive Order No. 12608

Under this Executive Order No. 11990, each Federal agency takes action to minimize the destruction, degradation, or modification of wetlands and enhance the natural and beneficial values of wetlands. The Executive Order (EO) also directs the avoidance of direct or indirect support of new construction in wetlands and public involvement throughout the wetlands

protection decision-making process (HUD 2018). Impacts to wetlands in the project area are described in Chapter 3.4 Biological Resources.

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CHAPTER 8
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