Draft Program Environmental Impact Report

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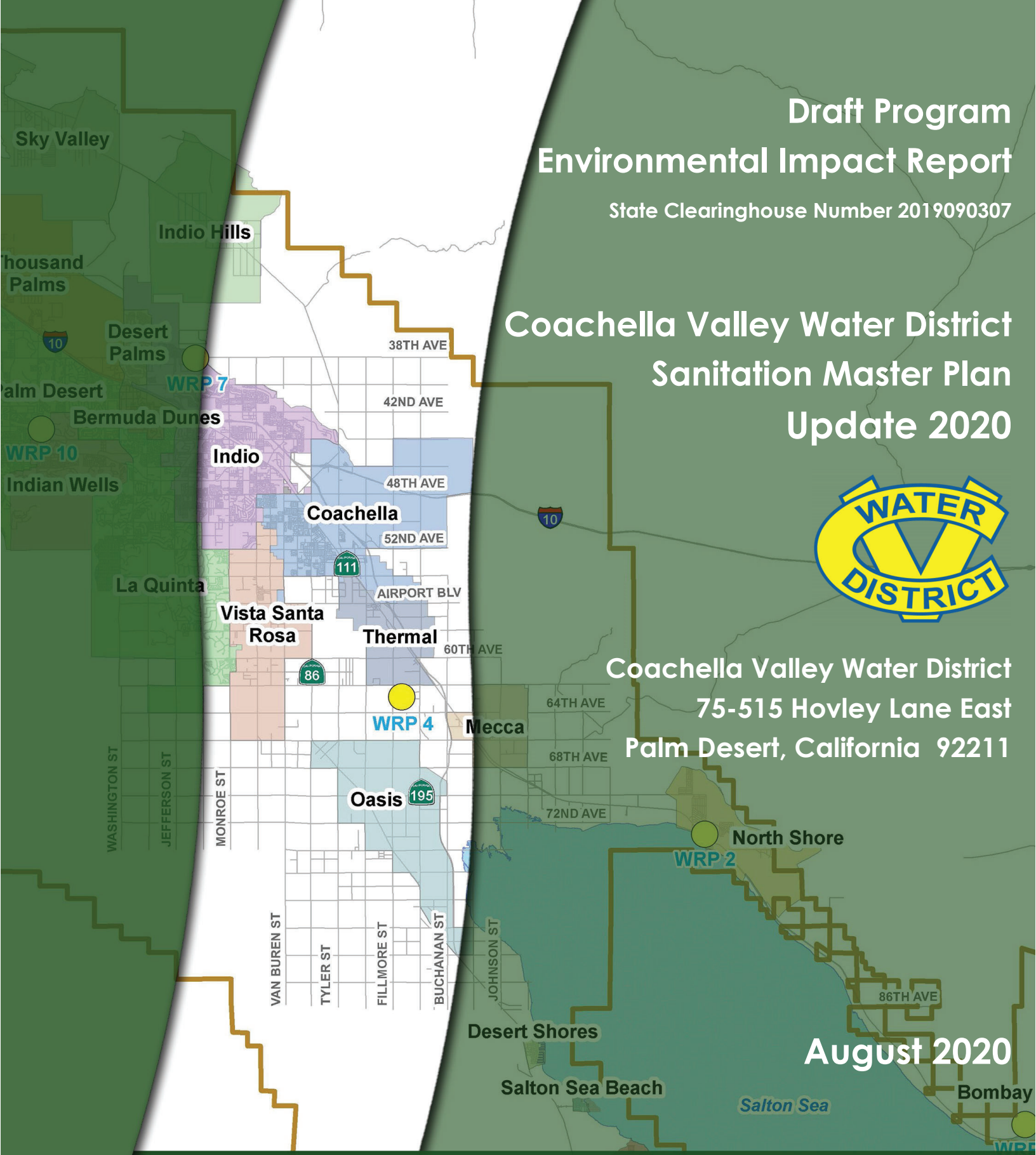
Coachella Valley Water District Sanitation Master Plan Update 2020



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ACRONYMS AND ABBREVIATIONS

Acronym	Definition
2015 RCGP	2015 Riverside County General Plan
2035 LQGP	2035 City Of La Quinta General Plan
AB	Assembly Bill
AOB	Areas of Benefit
AQMP	2016 Air Quality Management Plan
BC	Before Christ
BFE	Base Flood Elevation
BLM	Bureau of Land Management
BMPs	Best Management Practices
BSA	Biological Study Area
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAISO	California Independent System Operator
CAL FIRE	California Department of Forestry and Fire Protection
CalEEMod	California Emissions Estimator Model
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCGP	City of Cathedral City Comprehensive General Plan
CCMC	City of Cathedral City Municipal Code
CCR	California Code of Regulations
CCTV	Closed-circuit TV
CDCA	California Desert Conservation Area Plan
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CH_4	Methane
CHRIS	California Historical Resources Information System
CIP	Capital improvement program

Acronym	Definition
CLOMA	Conditional Letter of Map Amendment
CLOMR	Conditional Letter of Map Revision
CNDDB	California Natural Diversity Database
CNEL	Community noise equivalent level
CNPS	California Native Plant Society
CO	Carbon monoxide
CO_2	Carbon dioxide
CRHR	California Register of Historical Resources
CRWQCB	California Regional Water Quality Control Board
CSC	California Species of Concern
CVAG	Coachella Valley Association of Governments
CVCC	Coachella Valley Conservation Commission
CVMSHCP	Coachella Valley Multiple Species Habitat Conservation Plan
CVSC	Coachella Valley
CVWD	Coachella Valley Water District
CVWMP	Coachella Valley Water Management Plan
CWA	Clean Water Act
dBA	Weighted-level decibels
DDE	Dichlorodiphenyldichloroethylene
DDT	Dichlorodiphenyltrichloroethane
DHSGP	City of Desert Hot Springs General Plan
DHSMC	City of Desert Hot Springs Municipal Code
DO	Dissolved Oxygen
DOC	Department of Conservation
DPM	Diesel particulate matter
DPR	Department of Parks and Recreation
DRECP	Desert Renewable Energy Conservation Plan
DTSC	Department of Toxic Substances Control
DWA	Desert Water Agency
ECVAP	Eastern Coachella Valley Area Plan
EIC	Eastern Information Center
EIR	Environmental Impact Report
EO	Executive Order
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Maps
FLPMA	Federal Land Policy and Management Act
FMMP	Farmland Mapping and Monitoring Program

Acronym	Definition
GHG	Greenhouse Gas
GIS	Geographic Information Systems
GRF	Groundwater replenishment facilities
GRP	Groundwater replenishment programs
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
HCP	Habitat Conservation Plan
HVAC	Heating ventilation and air conditioning
ICAPCD	Imperial County Air Pollution Control District
ICGP	Imperial County General Plan
ID	Improvement District
IGP	Interim Final Draft General Plan
IID	Imperial Irrigation District
IMC	Indio Municipal Code
IPCC	Intergovernmental Panel on Climate Change
IWMC	Indian Wells Municipal Code
JPR	Joint Project Review
LF	Linear feet
LOS	Level of service
LQMC	La Quinta Municipal Code
LST	Localized significance thresholds
LUP	Linear Undergrounding Project
MBTA	Migratory Bird Treaty Act
MCC	Motor control center
MCL	Maximum Contaminant Level
MG	Million gallons
MLD	Most Likely Descendants
MPN	Most Probable Number
MS4	Municipal separate storm sewer systems
MSWD	Mission Springs Water District
MWD	Metropolitan Water District
N_2O	Nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NAL	Numeric action levels
NCCP	Natural Community Conservation Planning
NFIP	National Flood Insurance Program
NGVD	National Geodetic Vertical Datum
NHPA	National Historic Preservation Act
NO	Nitrogen oxide

Acronym	Definition
NO_2	Nitrogen oxide
NOI	Notice of Intent
NOP	Notice of Preparation
NO_X	Nitric oxide
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NPW	Non-potable water
NTU	Nephelometric Turbidity Unit
NWI	National Wetlands Inventory
NWP	Nationwide permit
O&M	Operational and Maintenance
OHWM	Ordinary high-water mark
PCB	Polychlorinated biphenyls
PDGP	Palm Desert General Plan
PDMC	Palm Desert Municipal Code
PEIR	Program Environmental Impact Report
PLC	Programmable logic controller
PM	Particulate matter
PM_{10}	Coarse particulate matter
$PM_{2.5}$	Fine particulate matter
PPV	Peak particle velocity
PRC	Public Resources Code
QSD	Qualified SWPPP Developer
RAS	Return activated sludge
RCPG	Regional Comprehensive Plan and Guide
REAP	Rain Event Action Plan
RMGP	Rancho Mirage General Plan
RMMC	Rancho Mirage Municipal Code
ROG	Reactive Organic Gases
ROW	Right-of-way
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCADA	Supervisory control and data acquisition
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
SFHA	Special Flood Hazard Area
SGMA	Sustainable Groundwater Management Act
SIP	State Implementation Plan

Acronym	Definition
SMARA	Surface Mining and Reclamation Act
SNMP	Salt and Nutrient Management Plans
SO_2	Sulfur dioxide
SO_x	Sulfur oxides
SP	Service Population
SRA	Source receptor area
SRF	State Revolving Fund
SRT	Solids retention time
SSAB	Salton Sea Air Basin
SSO	Sanitary sewer overflows
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic air contaminant
TCR	Tribal Cultural Resource
TDS	Total dissolved solids
THCP	Tribal Habitat Conservation Plan
TMDL	Total Maximum Daily Load
TSS	Total suspended solids
USACE	United States Army Corps of Engineers
USC	U.S. Code
USEPA	United States Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VDE	Visible dust emissions
VOC	Volatile organic compound
WCVAP	Western Coachella Valley Area Plan
WDR	Waste Discharge Requirements
WQ	Water quality
WRP	Water Reclamation Plant

1.0 EXECUTIVE SUMMARY

1.1 Introduction

The Coachella Valley Water District (CVWD) has prepared this Program Environmental Impact Report (Program EIR or PEIR) to evaluate the potential environmental impacts related to implementation of the Sanitation Master Plan Update 2020 (Proposed Project or Master Plan). CVWD is the lead agency under the California Environmental Quality Act (CEQA) for the Proposed Project (State CEQA Guidelines §§ 15050 and 15367).

This Program EIR has been prepared in accordance with CEQA (as amended) (Public Resources Code §§21000-21189.3), the 2020 State CEQA Guidelines (California Code of Regulations [CCR], Title 14, Chapter 3, §§15000-15387), and CVWD's Local CEQA Guidelines (2019).

Pursuant to State CEQA Guidelines §15121 (Informational Document):

> An EIR is an informational document which will inform public agency decision makers and the public generally of the significant environmental effect of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project. The public agency shall consider the information in the EIR along with other information which may be presented to the agency.
>
> While the information in the EIR does not control the agency's ultimate discretion on the project, the agency must respond to each significant effect identified in the EIR by making findings under Section 15091 and if necessary by making a statement of overriding consideration under Section 15093.
>
> The information in an EIR may constitute substantial evidence in the record to support the agency's action on the project if its decision is later challenged in court.

Under State CEQA Guidelines §15123, this Executive Summary presents a brief summary of the Proposed Project and the potentially significant impacts and required mitigation measures. Also identified in this section is a summary of the alternatives to the Proposed Project evaluated in this Program EIR, including those that would avoid potentially significant effects; issues of concern/areas of controversy known to the Lead Agency; and issues to be resolved including the choice among alternatives and how best to mitigate the potentially significant effects.

CEQA requires that the Lead Agency, in this case CVWD, consider the information contained in the Program EIR prior to taking any discretionary action. This Program EIR may also be used by other public agencies that must make discretionary actions related to the Proposed Project (CEQA Guidelines §15357).

The reader should review, but not rely exclusively on, the Executive Summary as the sole basis for judgment of the Proposed Project and alternatives. The complete Program EIR should be consulted for specific information.

1.2 Project Location

CVWD's service area covers approximately 1,000 square miles from the San Gorgonio Pass to the Salton Sea, mostly within the Coachella Valley in Riverside County, California. CVWD's service boundary also extends into small portions of Imperial and San Diego counties. The Proposed Project is located in the Coachella Valley in southern California, within CVWD's service area, located approximately 130 miles east of the City of Los Angeles and 140 miles northeast of the City of San Diego. The topography of the service area is valley-centered, with a mild slope generally following the Coachella Valley Stormwater Channel (also known as the Whitewater River Stormwater Channel in CVWD's western service area) which bisects the Coachella Valley as it flows from the west to the east/southeast, discharging to the Salton Sea. The Salton Sea generally forms the southern boundary of the service area, with the Chocolate Mountains on the east and the Santa Rosa Mountains on the west. The southern tip of the San Bernardino Mountains forms the northern extent of the service area.

1.3 Project Description

The Master Plan provides a comprehensive, long-term capital improvement project to be implemented in a phased program from 2021 through 2040 consisting of recommendations to refurbish existing assets, optimize operations, and satisfy projected capacity needs of all CVWD sanitation facilities. The Master Plan consists of recommendations to refurbish existing assets, optimize operations, and satisfy projected capacity needs of all CVWD sanitation facilities (collection system including gravity pipelines, force mains, lift stations, and the five water reclamation plants [WRPs]). These projects are planned to be implemented in a phased program from 2021 through 2040 within CVWD's service area. Each of the project components is described in detail in Section 3.6, Project Summary, of this PEIR. The Master Plan is summarized below.

1.3.1 The Sanitation Master Plan Update 2020

The purpose of the Master Plan is to plan the expansion and upgrades of the CVWD sanitation system within the boundaries of CVWD service area in order to provide sustainable, cost-effective service to CVWD's current and future customers. The Sanitation Master Plan Update 2020:

- Adjusts the actual-population-to-date estimates, accounting for the slowdown in growth that occurred after 2007
- Updates the flow and loading projections to the WRPs and evaluates capacity
- Collects operational and water quality data and BioWin models each Water Reclamation Plant (WRP) to identify loading capacity and opportunities for process improvements
- Updates the system and pump station hydraulic modeling and evaluates capacity
- Addresses current regulatory requirements and addresses potential future regulatory orders for nutrient and salinity controls of discharges to receiving waters and infiltration basins
- Provides marketing options and a strategy for implementing a recycled water program at WRP 4

- Provides condition-based horizontal and vertical asset replacement projects for the collection system and WRPs
- Updates the biosolids management plan and describes potential legislative changes and implications for CVWD
- Baselines performance of the WRPs and proposes improvements to optimize process operations and reduce energy and Operational & Maintenance (O&M) costs
- Presents a plan for CVWD to be able to convert septic-to-sewer areas to CVWD's centralized system as grant funding opportunities materialize

The proposed Collection System improvements include adding approximately 174 miles of gravity and force main pipelines to increase system capacity, upsizing of gravity pipelines, cleaning and inspecting pipelines, trenchless rehabilitation of pipelines and manholes, replacement of electrical equipment and wiring at lift stations, replacement of lift stations, and a new non-potable distribution system in the service area. The proposed Capital Improvement Programs for the Collection System can be separated into the following categories:

- Projects required for replacing pipelines to address deficiencies or to accommodate future growth
- Projects required for adding pipelines to expand system and accommodate future growth
- Projects required for replacing or adding lift stations to address deficiencies or to accommodate future growth
- Projects that are for risk mitigation of the existing sewer that runs parallel and crosses the Whitewater Canal
- Projects required for asset management (replacement of pipelines, manholes, lift stations) to address aging infrastructure
- Projects for converting septic-to-sewer areas that will seek grant funding

The proposed improvements at the Water Reclamation Plants (WRPs) include plant and process equipment capacity upgrades/expansion, replacement of assets, addition of process monitoring and controls, improvements to reduce energy consumptions, safety and security upgrades, addition of solar power, backup power generation, floating covers, addition of tanks and reservoirs, primary treatment and tertiary treatment, replacement of liners, and pilot projects. The Proposed Project also includes biosolids management plans for a regional facility, and standardization of O&M improvements across all WRPs.

1.4 Project Drivers and Goals

1.4.1 Project Drivers

The drivers of the Master Plan Update are:

- **Asset management** – sustainable reinvestment in public infrastructure

- **Capacity and regulatory** – build or adapt infrastructure to meet predicted growth and anticipated permit requirements
- **Level of service** – deliver customer-focused, cost effective service through improved operational strategies, automation, and expansion of economical, beneficial reuse (recycled water and biosolids)

1.4.2 Project Goals

The main goal of the Sanitation Master Plan Update 2020 is to create a comprehensive Capital Improvement Program to be implemented between 2021 and 2040. The four service-level goals of the Proposed Project are:

1. **Improve Water Quality Performance** – Reduce/eliminate the potential for sanitary sewer overflows (SSOs) and upsets within the plant process.

2. **Improve Treatment Plant Process and Efficiency** – Achieve optimal operation of the treatment processes where equipment is operating near best efficiency, and process performance is as expected.

3. **Maximize Beneficial Reuse** – Increase water recycling and biosolids reuse through expanding the water recycling market, and alternative option for biosolids reuse rather than disposal.

4. **Minimize the Impacts to Operations and Maintenance** – Reduce maintenance and operational needs that over-stretch the staff by looking at replacing problematic equipment, remote monitoring and controls to check and clear alarms, improvements to the process that will addresses the causes of alarm conditions, frequent checks and fixes.

1.5 Areas of Controversy and Issues to be Resolved

CEQA requires the EIR to identify areas of controversy or public interest (CEQA Guidelines §15123(b)(2)). Prior to the preparation of this PEIR, a Notice of Preparation (NOP) was prepared for the Proposed Project (Appendix A). CVWD circulated an NOP for the Draft PEIR to the State Clearinghouse and other interested parties on September 13, 2019. A notice advising of the availability of the NOP was posted by the Riverside County Clerk on September 12, 2019 and by the Imperial County Clerk on September 13, 2019. Pursuant to Section 15082 of the State CEQA Guidelines, recipients of the NOP were requested to provide responses within 30 days after their receipt of the NOP. Copies of the NOP, the NOP distribution list, and written comment letters received are located in Appendix A.

CVWD held a public scoping meeting on September 24, 2019 at CVWD's Steve Robbins Administrative Building located at 75-515 Hovley Lane East in Palm Desert, pursuant to the requirements of Section 15082(c)(1) of the State CEQA Guidelines.

Based on information and comments received from the general public and other public agencies in response to the NOP and during scoping, the following issues are considered to be either controversial or require further resolution prior to making an informed decision on the Proposed Project:

- Potential damage to plugged, abandoned, or unrecorded wells (geothermal and/or oil and gas exploration), during excavation or grading
- Conversion of agricultural land and a reduction to California's agricultural land resources
- Discretionary review and approval by Caltrans and an encroachment permit for work performed within Caltrans' right-of-way
- Air quality, health risk, and greenhouse gases
- Population projections
- Projected water supply and availability
- Water conservation
- Energy requirements and carbon emissions
- Treatment of personal care products and pharmaceuticals
- Downstream uses

The major issues identified during public scoping and which were resolved by CVWD in its Lead Agency capacity include the following:

- Whether the PEIR adequately describes the environmental impacts of the Proposed Project
- Whether the recommended mitigation measures should be modified/adopted
- Which among the Proposed Project and its Alternatives should be selected for approval

1.6 CEQA Review Process

When preparing an EIR, the CEQA review process consists of the following components, in chronological order:

1. Public circulation of the NOP and a 30-day public scoping period
2. Preparation of the Draft EIR
3. Draft EIR review by the CVWD Environmental Assessment Committee
4. Public circulation of the Notice of Completion/Notice of Availability and Draft EIR for a 45-day public review period
5. Preparation of the Final EIR and Response to Comments received on the Draft EIR
6. CVWD Board of Directors public hearing of the Final EIR materials
7. Filing of a Notice of Determination (NOD), once EIR is approved

1.7 Summary of Project Alternatives

CEQA requires an evaluation of the comparative effects of a reasonable range of alternatives to the Proposed Project that would feasibly attain most of the project's basic objectives and that would avoid or substantially lessen any of the significant impacts of the Proposed Project. Two alternatives were evaluated within the Program EIR document:

- Alternative 1 (Regional Biosolids Facility at WRP 4) and
- Alternative 2 (Addition of TDS Removal at WRPs 4, 7, and 10).

Both alternatives were deemed feasible and reasonable alternatives to the Proposed Project. As required by CEQA the No Project Alternative was also evaluated. Please refer to Section 6.0 Alternatives for this analysis.

1.7.1 No Project Alternative

CEQA requires that the No Project Alternative be analyzed in an EIR. In accordance with Section 15126.6(e)(3)(B), the No Project Alternative consist of an analysis of the circumstance under which the project does not proceed. With the No Project Alternative, the proposed Sanitation Master Plan Update 2020 would not be implemented, and its goals would not be fully achieved.

Per CEQA Guidelines Section 15126.6(e)(3)(A), when the project is the revision of an existing plan, policy, or operation, the "no project" alternative will be the continuation of the existing plan into the future. Following this guidance, the No Project Alternative is continuance of the 2009 Sanitation Master Plan. The planning horizon for the 2009 Sanitation Master Plan is the year 2030.

The No Project Alternative would continue the beneficial reuse of biosolids, including distribution. The 2009 Sanitation Master Plan does not include projects to address potential regulatory changes to existing permits and total dissolved solid (TDS) limits that could be imposed on WRPs 4, 7, and 10. No additional sanitation facility improvements (collection system including gravity pipelines, force mains, lift stations, and improvements at the five WRPs) would occur as described in the Master Plan.

1.7.2 Alternative 1 (Regional Biosolids Facility at WRP 4)

To meet Goal 3: Maximize Beneficial Reuse, this alternative includes the Proposed Project plus additional construction of a Regional Biosolids Facility at WRP 4 that consists of digesters, solar drying facility, solids handling, and an operations building. This alternative also includes addition of primary clarifiers at WRPs 4, 7, and 10, and a sludge pump station and force main between WRPs 10 and 4.

By comparison, the Proposed Project would continue biosolids disposal and implement dewatering improvements and pilot of drying technology to reduce the cost of transport. All other Proposed Project components would be the same under this alternative.

1.7.3 Alternative 2 (Addition of TDS Removal at WRPs 4, 7, and 10)

To meet the Capacity and Regulatory driver of anticipating regulatory changes (potential TDS limits), this alternative includes the Proposed Project plus additional construction of treatment processes at WRPs 4, 7, and 10 to lower TDS below 500 mg/L. This alternative would allow the continued effluent discharge to the existing percolation ponds and National Pollutant Discharge Elimination System (NPDES) outfall at WRP 4. The improvements would include a reverse osmosis treatment plant, large evaporation ponds, and brine disposal.

By comparison, the Proposed Project includes tertiary filter process improvements at WRPs 7 and 10 to increase to 100-percent recycled water capacity and the addition of recycled water capacity at WRP 4. All other Proposed Project components would remain the same under this alternative.

1.7.4 Comparison of Project Alternatives

Table 1-1 provides a comparison of anticipated impacts of the alternatives with the Proposed Project per State CEQA Guidelines Section 15126.6(d). It also provides a determination of **(✚)** *Impacts would be greater than the Proposed Project*; **(=)** *Impacts would be similar to the Proposed Project*; and **(–)** *Impacts would be less than the Proposed Project* with respect to each environmental issue area.

Table 1-1. Comparison of Impacts for Alternatives with Proposed Project

Category	No Project Alternative	Alternative 1 (Regional Biosolids Facility at WRP 4)	Alternative 2 (Addition of TDS Removal at WRPs 4, 7, and 10)
Air Quality	–	=	✚
Biological Resources	–	=	✚
Cultural Resources	–	=	=
Energy	✚	–	=
Greenhouse Gas Emissions	–	=	✚
Hydrology and Water Quality	–	=	–
Land Use, Planning, and Agriculture	–	=	=
Noise	–	=	=
Tribal Cultural Resources	–	=	=

Notes:
✚ = Impacts would be greater than the Proposed Project
= = Impacts would be similar to the Proposed Project
– = Impacts would be less than the Proposed Project

1.8 Summary of Environmental Impacts and Mitigation Measures

Table 1-2 presents a summary of potential environmental impacts analyzed and identified in this PEIR (Section 4.0), the mitigation measures proposed for those impacts (if required), and the level of significance after mitigation (residual impact).

Table 1-2. Impact and Mitigation Summary

Environmental Impacts	Mitigation Measures	Residual Impact
AIR QUALITY		
Impact AQ-1: Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard. The Master Plan sanitation projects would not exceed the South Coast Air Quality Management District (SCAQMD) or the Imperial County Air Pollution Control District (ICAPCD) emissions thresholds. The Master Plan would not result in any significant construction-related or operational impacts and thus would not 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. This impact is less than significant.	None required.	Less than significant.
Impact AQ-2: Conflict with or obstruct implementation of the applicable air quality plan. **SCAQMD.** The SCAQMD is required, pursuant to the Clean Air Act (CAA), to reduce emissions of criteria pollutants for which the project area is in nonattainment. In order to reduce emissions for which the Coachella Valley is in nonattainment, the SCAQMD has adopted the 2016 Air Quality Management Plan (AQMP) and Coachella Valley PM_{10} State Implementation Plan (SIP). These air quality plans establish programs of rules and regulations directed at reducing air pollutant emissions and achieving state (California) and national ambient air quality standards. The determination of SCAQMD air quality plan consistency is primarily concerned with the long-term influence of a project on air quality. The Master Plan would not result in a long-term impact on the region's ability to meet state and Federal air quality standards. The Master Plan's long-term influence would also be consistent with the goals and policies of SCAQMD's 2016 AQMP and Coachella Valley PM_{10} SIP. A less than significant impact would occur. **ICAPCD.** The region's SIP constitutes the ICAPCD air quality plans: The Final 2017 State Implementation Plan for the 2008 8-Hour Ozone Standard, Final 24-Hour $PM_{2.5}$ Plan, Final Annual $PM_{2.5}$ Plan, and Final PM_{10} Plan. The WRP 1 Capital	None required.	Less than significant.

Table 1-2. Impact and Mitigation Summary

Environmental Impacts	Mitigation Measures	Residual Impact
Improvement Projects are considered Tier I projects as a result of their projected maximum daily pollutant emissions falling below the ICAPCD thresholds of significance. The WRP 1 Capital Improvement Projects will not conflict with the ICAPCD air quality plans. This impact is less than significant.		
Impact AQ-3: Result in emissions that exceed the USEPA General Conformity Thresholds. General Conformity ensures that the actions taken by federal agencies do not interfere with a state's plans to attain and maintain national standards for air quality. Projected emissions resulting from construction and operation of the Master Plan sanitation projects fall below the USEPA Conformity Determination thresholds. None of the projects would exceed the USEPA Conformity Thresholds for construction or operation. Impacts would be less than significant.	None required.	Less than significant.
Impact AQ-4: Expose sensitive receptors to substantial pollutant concentrations. Sensitive receptors are defined as facilities or land uses 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 these sensitive receptors are residences, schools, hospitals, and daycare centers. The nearest sensitive receptors to each project site vary, and there is potential for new sensitive receptors to be developed over the 2021 to 2040 planning period of the Master Plan. The emissions of pollutants on the peak day of construction would not result in significant concentrations of pollutants at nearby sensitive receptors. Thus, the fact that onsite Project construction emissions would be generated at rates below the localized significance thresholds (LSTs) for NO_x, CO, PM_{10}, and $PM_{2.5}$ demonstrates that the Master Plan would not adversely impact nearby sensitive receptors. The Master Plan projects would not be a major source of toxic air contaminants (TACs) and there would not be a significant impact as a result of the Master Plan during operations.	None required.	Less than significant.
Impact AQ-5: Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. During construction, the	None required.	Less than significant.

Table 1-2. Impact and Mitigation Summary

Environmental Impacts	Mitigation Measures	Residual Impact
Master Plan projects present the potential for generation of objectionable odors in the form of diesel exhaust in the immediate vicinity of the project sites. However, these emissions are short-term in nature and will rapidly dissipate and be diluted by the atmosphere downwind of the emission sources. Additionally, odors would be localized and generally confined to the construction area. The Master Plan involves the installation sewer mains and laterals, as well as improved treatment operations at its wastewater treatment plants. Implementation of the individual Master Plan projects would not result in the introduction of any new processes that are considered to have a high odor-generation potential beyond existing conditions, and would not result in substantial changes to treatment processes that are of primary concern with regard to odor generation (i.e., sludge handling or drying practices). CVWD's lift stations typically include odor control technology, such as scrubbers and/or chip beds. CVWD will continue to implement odor control measures at all its facilities for both liquid and solids treatment processes at locations with high potential for odors. In addition, CVWD regularly implements best operating practices and good housekeeping, which also serve to reduce odor generation at all their facilities. As such, the Master Plan would have a less than significant impact due to odors.		
Impact AQ-6: Result in an indirect increase in development that would cause an increase in air pollution. The Master Plan sanitation projects are intended to address current capacity needs, meet regulatory requirements, address deficiencies, or accommodate future population growth with implementation occurring on an as needed basis as population growth occurs. The Master Plan would accommodate this planned growth and not in itself induce population growth. As such, the Master Plan itself would not result in an indirect increase in development that would cause an increase in air pollution. This impact is less than significant.	None required.	Less than significant.
BIOLOGICAL RESOURCES		
Impact BIO-1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by	**BIO-1: Conservation Area Surveys**. Prior to the start of project activities within a CVMSHCP Conservation Area, a preconstruction survey shall be conducted by a qualified biologist familiar with the biological resources	Less than significant.

Table 1-2. Impact and Mitigation Summary

Environmental Impacts	Mitigation Measures	Residual Impact
the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. **Special Status Plant and Wildlife Species** Riverside County Direct impacts to special-status species could occur as a result of grading, vegetation removal, or other ground disturbing activities that cause harm or loss of individual species, including nestlings and eggs of protected birds. Indirect impacts that could result from project activities include disturbance from increased human presence, dust, noise, and ground vibrations associated with construction activities, alteration and fragmentation of habitat, or the introduction of invasive exotic plant species that can replace native plants and habitat. Potential impacts will vary by project and the effects will be dependent on several factors including, the location, the project footprint, the timing and duration of the project, the location of modeled species habitat, and the species and habitats affected. Although there is no Coachella Valley Multiple Species Conservation Plan (CVMSHCP) modeled habitat for burrowing owl, this species also has the potential to occur throughout the Biological Study Area (BSA). For projects occurring within a Conservation Area, compliance with the provisions of the CVMSHCP requiring specific mitigation measures for each Conservation Area (included in **Mitigation Measures BIO-1 through BIO-3**), and implementation of **Mitigation Measures BIO-4 and BIO-5**, impacts to special-status species within Conservation Areas would be mitigated to a less than significant level. Outside of the Conservation Areas, implementation of **Mitigation Measures BIO-3 through BIO-6**, and payment of mitigation fees imposed by the responsible jurisdiction, would provide mitigation for impacts to special-status plant and wildlife species. Impacts would be less than significant with mitigation. Imperial County The proposed project activities are expected to occur entirely within the existing WRP 1 facility and, therefore, significant impacts to special-status species are not anticipated. However, implementation of **Mitigation Measures BIO-3 and BIO-5** would ensure that impacts remain less than significant.	associated with the associated Conservation Area. The preconstruction survey shall take place a maximum of 14 days prior to the start of ground disturbing activities and shall be conducted so that 100 percent coverage of the project site and surrounding areas is achieved or following the timing and protocol for relevant species, as appropriate. Surveys shall include the following species and associated actions as determined for each Conservation Area in Section 4.3 of the CVMSHCP. A Joint Project Review (JPR) will also be required to ensure the project is in compliance with the CVMSHCP and consistent with the Conservation Area Conservation Objectives and required conservation measures. • **Covered Riparian Bird Species:** CVMSHCP covered activities in riparian habitat (including southern arroyo willow riparian forest, Sonoran cottonwood-willow riparian forest, desert fan palm oasis woodland, and southern sycamore-alder riparian woodland) in the Thousand Palms, Coachella Valley Stormwater Channel and Delta, and Santa Rosa and San Jacinto Mountains Conservation Areas shall be conducted outside of the nesting season for least Bell's vireo (March 15 through September 15) and the nesting season for southwestern willow flycatcher, summer tanager, yellow warbler, and yellow-breasted chat, to the maximum extent feasible. If covered activities must occur during the nesting season, surveys shall be conducted to determine if any active nests are present. If active nests are identified, the covered activity shall not be conducted within 200 feet of an active nest or as otherwise determined in concurrence with CDFW. If surveys conducted during the nesting season document that covered nesting riparian bird species are not present, the covered activity may proceed. • **Crissal thrasher:** If covered activities intersect modeled crissal thrasher habitat in the Willow Hole, Thousand Palms, Indio Hills Palms, East Indio Hills, Dos Palmas, and Coachella Valley Stormwater Channel and Delta Conservation Areas, surveys will be conducted by a qualified biologist prior the start of construction activities during the breeding season (January 15 through June 15) to determine if active nest sites for this species occur in the	

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	project work area and/or within 500 feet of the project area (or to the edge of the property boundary if less than 500 feet). If nesting crissal thrashers are found, a 500-foot buffer (or a buffer to the edge of the property boundary if less than 500 feet) will be established around the nest site. The buffer will be staked and flagged. No construction activities will be permitted within the buffer during the breeding season or until the young have fledged.. • **Desert tortoise:** If covered activities within a Conservation Area intersect modeled desert tortoise habitat, a qualified biologist shall conduct a presence/absence survey of the project area and adjacent areas within 200 feet of the project area (or to the property boundary if less than 200 feet and permission from the adjacent landowner cannot be obtained) for fresh sign of desert tortoise, including live tortoises, tortoise remains, burrows, tracks, scat, or egg shells. The presence/absence survey must be conducted during the window between February 15 and October 31. Presence/absence surveys require 100 percent coverage of the survey area If fresh sign is identified, the project area must be enclosed in tortoise-proof fencing and a clearance survey will be required during the clearance window (February 15 through June 15 and September 1 through October 31) or in accordance with the most recent protocol. Clearance surveys must be conducted during different tortoise activity periods (morning and afternoon) and include 100 percent of the project area. If no sign is found, a clearance survey is not required. A presence/absence survey is valid for 90 days or indefinitely if tortoise-proof fencing is installed around the project site. • **Le Conte's Thrasher:** If covered activities occur in modeled Le Conte's thrasher habitat in a Conservation Area during the breeding season (January 15 through June 15), surveys will be conducted by a qualified biologist prior to the start of construction activities. Surveys will be conducted on the project site and within 500 feet of the site, or to the property boundary if less than 500	

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Environmental Impacts	Mitigation Measures	Residual Impact
	feet. If nesting Le Conte's thrashers are found, a 500-foot buffer (or to the property boundary if less than 500 feet) will be established around the nest site. The buffer will be staked and flagged. No construction will be permitted within the buffer during the breeding season or until the young have fledged. • **Palm Springs pocket mouse:** If covered activities are planned within the Willow Hole Conservation Area, ground disturbing activities and clearing of vegetation shall be avoided during the peak breeding season of the Palm Springs pocket mouse (approximately March to May), and activity shall be limited as much as possible during the rest of the breeding season (January to February and June to August) to avoid impacts to the species and its habitat. If disturbance to Palm Springs pocket mouse habitat occurs, activity shall be phased to the extent feasible and practicable so that suitable habitat islands are no farther than 300 feet apart at any given time to allow pocket mice to disperse between habitat patches across non-suitable habitat (i.e., unvegetated and/or compacted soils). Prior to project construction, a biological monitor familiar with this species shall assist construction crews in planning access routes to avoid impacts to occupied habitat as much as feasible (i.e., placement of preferred routes on project plans and incorporation of methods to avoid as much suitable habitat/soil disturbance as possible). Furthermore, during construction activities, the biological monitor will ensure that connected, naturally vegetated areas with sandy soils and typical native vegetation remain intact to the extent feasible and practicable. If native vegetation (e.g., creosote, rabbitbrush, burrobush, cheesebush) is cleared, cleared areas shall be revegetated through natural reestablishment and other means that result in habitat types of equal or superior biological value for Palm Springs pocket mouse. • If trapping or subsequent translocation between distinct population groups is determined necessary, the activities shall be conducted in accordance with accepted protocols and by a qualified biologist who possesses a Memorandum of Understanding with CDFW for	

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Environmental Impacts	Mitigation Measures	Residual Impact
	live trapping of the species in southern California. Translocation programs will be coordinated by or conducted by the CVCC to determine the appropriate trapping, holding, marking, and handling methods and potential translocation sites. • **Peninsular bighorn sheep habitat:** Covered activities in Peninsular bighorn sheep habitat in the Santa Rosa and San Jacinto Mountains Conservation Areas will be conducted outside of the lambing season (January 1 through June 30) unless otherwise authorized through a Minor Amendment to the CVMSHCP with concurrence from the USFWS and CDFW. For projects in this Conservation Area, no toxic or invasive plant species may be used for landscaping. • **Fluvial sand transport:** Covered activities in fluvial sand transport areas in the Whitewater Floodplain, Willow Hole, Long Canyon, Edom Hill, Thousand Palms, West Deception Canyon, and Indio Hills/Joshua Tree National Park Linkage Conservation Areas will be conducted in a manner to maintain the fluvial sand transport capacity of the system. • **Mesquite hummocks and mesquite bosque natural communities:** If covered activities occur in the Willow Hole, Thousand Palms, East Indio Hills, Coachella Valley Stormwater Channel and Delta, and Santa Rosa and San Jacinto Mountains Conservation Areas, mesquite hummocks and mesquite bosque habitat will be flagged or fenced under the direction of a biologist or botanist prior to ground-disturbing activities, and impacts will be avoided to the maximum extent feasible. **BIO-2: CVMSHCP Land Use Adjacency Guidelines**. Prior to final design approval for projects within or adjacent to a Conservation Area, compliance with Section 4.5 (Land Use Adjacency Guidelines) of the CVMSHCP shall be demonstrated. Such compliance shall include, but not necessarily be limited to, demonstrating the design of the project would not result in the release of toxins, chemicals, petroleum products, exotic plant materials, or other elements that might degrade or harm biological resources or ecosystem processes within or adjacent to a Conservation Area.	

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Environmental Impacts	Mitigation Measures	Residual Impact
	BIO-3: Focused Burrowing Owl Surveys. For covered activities in Conservation Areas, or other areas as designated in Section 4.4 of the CVMSHCP, preconstruction burrowing owl surveys will be conducted by a qualified biologist within 14 days and again 24 hours prior to the implantation of ground disturbing activities. The project area and within 500 feet of the project area (or to the edge of the property if less than 500 feet) will be surveyed for burrows that could be used by burrowing owl. If burrows are located, the biologist will determine if owls are present in the burrow. If the burrow is determined to be occupied, the burrow will be flagged and a 160-foot non-breeding season buffer or 250-foot breeding season buffer will be established around the burrow. No activities will be permitted within the buffer until the young are no longer dependent on the burrow. If unoccupied burrows are identified, then burrow excavation and collapse activities will be necessary; however, burrow excavation and collapse activities shall only be conducted during the non-breeding season for burrowing owls (September 1 through January 31). Coordination with CDFW on burrow excavation and collapse activities will need to occur, and methods will follow the specific protocols and guidance outlined in the CDFW Staff Report on Burrowing Owl Mitigation (2012). **BIO-4: Yuma Clapper (Ridgway's) Rail and California Black Rail Surveys**. If covered activities occur in modeled or potential habitat for Yuma Clapper (Ridgway's) rail and/or California black rail, surveys conducted by a qualified biologist will be required prior to the start of activities. If rails are found, the habitat must be avoided, and measures approved by the USFWS and CDFW will be taken to ensure that no take of an individual of these species occurs. **BIO-5: Preconstruction Survey for Nesting Birds**. Construction activities of projects shall be conducted during the non-breeding season for birds (September 16 through December 31). This will avoid violations of the MBTA and CFGC Sections 3503, 3503.5 and 3513. If activities with the potential to disrupt nesting birds are scheduled to occur during the bird breeding season (January 1 through July 31 for raptors and March 1 through September 15 for songbirds), a pre-construction nesting bird survey shall be conducted by a qualified biologist within the project area and adjacent areas where project activities have the potential to cause nest failure. If no nesting birds are	

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Environmental Impacts	Mitigation Measures	Residual Impact
	observed during the survey, implementation of project activities may begin. If nesting birds (including nesting raptors) are found to be present, then avoidance or minimization measures shall be undertaken in consultation with CDFW. Measures shall include establishment of an avoidance buffer until nesting has been completed. The width of the buffer will be determined by the biologist in consultation with CDFW. Typically, this is a minimum of 300 feet from the nest site in all directions (500 feet is typically recommended by CDFW for raptors), until the juveniles have fledged and there has been no evidence of a second attempt at nesting. **BIO-6: Avoidance of Jurisdictional Waters.** Prior to construction of a project that could affect riparian/riverine or wetland habitat, as defined by Section 404 of the CWA or Section 1600 et seq. of the CFGC, necessary authorizations will need to be obtained from regulatory agencies for proposed impacts to jurisdictional waters, as applicable. Project specific delineation may be required to determine the limits of USACE, RWQCB, and CDFW jurisdiction. Required authorizations could include a Section 404 permit from the USACE, a Section 401 Water Quality Certification from the RWQCB, and a Section 1602 Streambed Alteration Agreement from CDFW.	
Impact BIO-2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. **Sensitive Natural Communities** <u>Riverside County</u> Sixteen CVMSHCP modeled conserved natural communities are mapped within the Riverside County portion of the BSA. Direct impacts to sensitive natural communities would result from the direct destruction of sensitive natural communities from clearing, grubbing, grading, and other initial land disturbance activities. Indirect effects to these natural communities could result from degradation of vegetation due to increased erosion and modified surface hydrology in graded or developed areas and/or invasion by non-native and invasive weed species. Specific	Mitigation Measures BIO-1, BIO-2, and BIO 6.	Less than significant.

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Environmental Impacts	Mitigation Measures	Residual Impact
project-related impacts to sensitive vegetation communities would be identified during the individual project-specific review. The CVMSHCP provides for conservation of sensitive natural communities through the preservation of Conservation Areas and includes measures to avoid or minimize both direct and indirect impacts and prevent significant impacts to sensitive communities. These provisions of the CVMSHCP are included in **Mitigation Measures BIO-1 and BIO-2**. Additionally, projects planned in areas that support wetland or riparian habitats may require jurisdictional analysis and acquisition of regulatory permits from the U.S. Army Corps of Engineers (USACE) and/or California Department of Fish and Wildlife (CDFW), included as **Mitigation Measure BIO-6**. These regulatory permits would include mitigation measures to avoid or reduce impacts to the habitats. Impacts would be less than significant with mitigation. Imperial County Two CDFW-designated sensitive natural communities, four-wing saltbush Alliance and mesquite thickets Alliance, are mapped within the Imperial County portion of the BSA. Projects within the Imperial County are expected to be entirely within the footprint of the existing WRP 1 facility. The sensitive natural communities are mapped outside of the existing WRP 1 facility and no significant impacts to natural communities would occur.		
Impact BIO-3. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. **Jurisdictional Aquatic Resources** Wetlands and waters that are potentially under the jurisdiction of the USACE and the CDFW occur throughout the BSA. Additional aquatic resources may also occur throughout the BSA or may develop in the future due to changing hydrological conditions. Substantial impacts to federally and state protected aquatic resources would occur if construction of projects resulted in the direct removal, filling, or hydrological interruption of any jurisdictional wetlands or waters. Implementation of	Mitigation Measure BIO-6	Less than significant.

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Environmental Impacts	Mitigation Measures	Residual Impact
Mitigation Measure BIO-6 would reduce impacts to jurisdictional aquatic resources to less than significant levels.		
Impact BIO-4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. **Wildlife Corridors and Nursery Sites** <u>Riverside County</u> Direct impacts to wildlife corridors resulting from the implementation of some of the proposed projects would occur from blocking movement or removal of habitat leading to fragmentation. Indirect impacts could also result from increased human disturbance, noise, lighting, and other edge effects. Direct impacts to wildlife nursery sites from the implementation of the proposed projects would result from the removal of this habitat during project activities such as vegetation clearing, grading, or other ground disturbance. Indirect impacts to nursery sites could result from increased human disturbance, noise, lighting, change in hydrology, or introduction of non-native species. Compliance with the CVMSHCP, through implementation of **Mitigation Measures BIO-1 and BIO-2**, would conserve large blocks of native habitat within the Conservation Areas that serve as wildlife corridors and provide wildlife nursery sites. Additionally, implementation of **Mitigation Measure BIO-3** would protect burrowing owl burrows, **Mitigation Measures BIO-4 and BIO-5** would protect habitat of CDFW fully protected bird species and nests of birds protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFGC), and implementation of **Mitigation Measure BIO-6** would protect drainages that support wildlife movement. Implementation of these mitigation measures would reduce impacts to wildlife corridors and wildlife nursery sites to less than significant. <u>Imperial County</u> The open space and natural communities within the Imperial County portion of the BSA have the potential to support both wildlife movement and wildlife nursery sites. The proposed projects in the Imperial County portion of the BSA are expected to be limited to the existing WRP 1 facility and would not directly impact wildlife corridors	Mitigation Measures BIO-1 through BIO-6.	Less than significant.

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Environmental Impacts	Mitigation Measures	Residual Impact
or nursery sites in the vicinity. Indirect impacts from increased human disturbance, noise, lighting, or other edge effects could occur; however, based on the availability of habitat and open space surrounding the facility, impacts to wildlife movement and nursery sites would be less than significant.		
Impact BIO-5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. **Local Policies and Ordinances** Riverside County Local policies of relevant jurisdictions within Riverside County that protect biological resources are designed to support and adhere to the CVMSHCP. Compliance with the CVMSHCP, through the implementation of **Mitigation Measures BIO-1 through BIO-3**, and the implementation of **Mitigation Measure BIO-4** to avoid impacts to CDFW fully-protected bird species, **Mitigation Measure BIO-5** to minimize or avoid impacts to nesting birds, and **Mitigation Measure BIO-6** to minimize or avoid impacts to jurisdictional wetlands and riparian vegetation, would ensure that the Master Plan remains consistent with local policies. Imperial County The Imperial County General Plan Land Use Element and Conservation and Open Space Element contain objectives for the protection of biological resources. Although implementation of the Master Plan is not expected to impact biological resources in the Imperial County portion of the BSA, implementation of **Mitigation Measures BIO-3 through BIO-6** would ensure that impacts that would potentially conflict with Imperial County's objectives for the protection of biological resources would be less than significant.	Mitigation Measures BIO-1 through BIO-6.	Less than significant.
Impact BIO-6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. **Habitat Conservation Plans and (HCPs) and Natural Community Conservation Plans (NCCPs) – CVMSHCP**	Mitigation Measures BIO-1 through BIO-3.	Less than significant.

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Environmental Impacts	Mitigation Measures	Residual Impact
Riverside County The Riverside County portion of the Master Plan is within the boundary of the CVMSHCP, which includes an NCCP. Portions of the BSA for the Master Plan are within Conservation Areas and will be subject to a Joint Project Review (JPR) process and compliance with applicable avoidance, minimization, and mitigation measures in Section 4.4 of the CVMSHCP and the Land Use Adjacency Guidelines in Section 4.5 of the CVMSHCP. Through implementation of **Mitigation Measures BIO-1 through BIO-3**, impacts to resources covered under the CVMSHCP would be less than significant. Imperial County The BSA does not occur within any HCP or NCCP areas in Imperial County; no impact would occur.		
CULTURAL RESOURCES		
Impacts CUL-1, -2, -3. Create a substantial adverse change in the significance of a historical resource as defined in Section 15064.; Cause a substantial adverse change in the significance of an archeological resource pursuant to Section 15064.5; Disturb any human remains, including those interred outside of formal cemeteries. The Master Plan sanitation projects were assessed for their location within archeological and architectural history sensitivity areas. The sensitivity areas were divided into three categories: High, Assumed High, and Low. If specific sanitation projects would damage or materially impair a historical resource or archaeological resource as defined by CEQA they may result in a significant impact to those resources. The impacts of specific proposed projects within the project area will need to be determined through project-specific studies completed in compliance with the applicable state and federal laws. For all projects, regardless of sensitivity level, if cultural resources are found within a project area, they need to be evaluated using California Register of Historical Resources criteria to determine whether they are Historical Resources for the purposes of CEQA. In order to reduce or avoid impacts to archaeological and historical resources, future projects will need to implement Mitigation Measures CUL-1 and CUL-2. Implementation of these mitigation measures would reduce impacts to a less than	**CUL-1:** For projects located within Known High-Sensitivity Areas and Assumed High Sensitivity Areas, a qualified archaeologist shall conduct a project-specific CEQA-compliant Phase I Cultural Resources Study for inclusion in the project-specific CEQA document. The study shall include a records search at the applicable archaeological Information Center, a search of the Sacred Lands File by the NAHC, and a field survey using standard archaeological methods. These studies shall occur during the project-specific CEQA process. For projects located within Low Sensitivity Areas a project-specific CEQA-Compliant Phase I Cultural Resources Study shall be conducted by a qualified archaeologist. However, because these areas have been subject to previous assessment, the CVWD may be able to utilize data from previous studies to reduce the effort necessary for a proposed project. Whether or not data from previous studies can be used to reduce study efforts will be dependent on the scope, methods, and age of the previous studies. These studies shall occur during the project-specific CEQA process.	Less than significant.

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significant level. For projects receiving funding from the State Revolving Fund, Federal law and State Water Resources Control Board regulations will also need to be implemented.	**CUL-2:** If subsurface deposits believed to be cultural or human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for pre-contact and historic archaeologist, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find: • If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately, and no agency notifications are required. • If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, he or she shall immediately notify the Lead Agency, and applicable landowner. The agencies shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines; or 2) that the treatment measures have been completed to their satisfaction. • If the find includes human remains, or remains that are potentially human, he or she shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the appropriate County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California Public Resources Code, and Assembly Bill 2641 will be implemented. If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the project (§ 5097.98 of the Public Resources Code). The designated MLD will have 48 hours	

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	from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (§ 5097.94 of the Public Resources Code). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 5097.98 of the Public Resources Code). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.	
ENERGY		
Impact E-1. Result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operations. The energy impact analysis focuses on the two sources of energy that are relevant to the Master Plan: the equipment-fuel necessary for construction and electricity for the increased pumping of wastewater. Electricity Usage The increase in electricity usage as a result of the Master Plan's improvements would constitute an approximate 0.0175 percent increase in the Imperial Irrigation District service area and no increase in the Southern California Edison service area compared to total electricity consumption in those respective areas. However, these estimates are conservative as they do not consider likely increases in electrical generation that will occur over the course of the 2021 to 2040 planning period. Additionally, California is shifting away from nonrenewable sources of energy in exchange for renewable sources, which by their very nature make them difficult to waste. For instance, in August of 2018 the California Legislature passed Senate Bill 100, the California 100 Percent Clean Energy Act, which sets the goal of powering	None required.	Less than significant.

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the state with 100-percent clean and carbon-free electricity by 2045. The proposed addition of solar at the WRP facilities, as well as infrastructure improvements that will reduce energy consumption, will help the Master Plan achieve this goal along with other state and local mandates. Additionally, one of the main drivers for the Master Plan is capacity. The proposed infrastructure improvements are necessary in order to accommodate the projected growth of the region. For these reasons, the Master Plan would not result in the inefficient, wasteful, or unnecessary consumption of energy. Fuel Consumption The Master Plan's gasoline fuel consumption during the construction period is estimated to be 1,675 gallons of fuel in Imperial County, resulting in an increase in the annual gasoline fuel use in the county by 0.0008 percent, and 180,690 gallons of fuel in Riverside County, resulting in an increase in the annual gasoline fuel use in the county by 0.0166 percent. However, this estimate is very conservative as the comparison was done as if all Master Plan sanitation projects would be constructed at the same time over the course of one year. In actuality, the Master Plan would be implemented over the 2021 to 2040 planning period. As such, construction would have a nominal effect on local and regional energy supplies. Construction fuel consumption associated with the Master Plan would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature. A less than significant impact would occur.		
Impact E-2. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency. The Master Plan sanitation projects would be designed in a manner that are consistent with relevant energy conservation plans designed to encourage development that results in the efficient use of energy resources. All development in the cities and or counties, including future components of the Master Plan, would be required to adhere to all jurisdictional-adopted policy provisions, including those related to energy conservation. The Master Plan would not conflict or obstruct any local or state plans for renewable energy or energy efficiency. This impact is less than significant.	None required.	Less than significant.

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GREENHOUSE GAS EMISSIONS		
Impact GHG-1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment or conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. A source of GHG emissions associated with the Master Plan would be combustion of fossil fuels during construction activities. The construction phases of the individual sanitation projects are temporary but would result in GHG emissions from the use of heavy construction equipment and construction-related vehicle trips. Once construction is complete, the generation of GHG emissions would cease. The operational phase would also result in GHG emissions, predominately from vehicle trips to the project sites and from the electricity consumed for wastewater pumping. The Master Plan would produce GHG emissions that fall far below the SCAQMD annual 3.0 metric tons of CO_2e per service population threshold for construction and operation resulting in a less than significant impact. One of the four service goals of the Master Plan is to minimize the impacts to operations and maintenance by reducing maintenance and operational needs that over-stretch the staff by looking at replacing problematic equipment, remote monitoring and controls to check and clear alarms, improvements to the process that will addresses the causes of alarm conditions, frequent checks and fixes. Thus, the Master Plan includes characteristics aimed at reducing future maintenance needs and subsequently reducing emissions associated with staff needing to more frequently drive to a location and perform maintenance activities which may themselves produce emissions. In addition, beneficial reuse, reusing byproducts or waste material, is a goal of the Master Plan. Beneficial reuse would help further reduce the GHG emissions of all projects. Furthermore, the WRP 10 Capital Improvement Projects include the installation of solar panels, which would offset some of the GHG emissions attributable to that Project component.	None required.	No impact.

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Environmental Impacts	Mitigation Measures	Residual Impact
HYDROLOGY AND WATER QUALITY		
Impact HYD-1. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. <u>Erosion, Sedimentation, and Interference with Shallow Groundwater During Construction</u> The Master Plan includes upgrades to existing underground and above ground infrastructure and new infrastructure which would require grading activities during implementation of the various projects. Construction activities would require the use of heavy equipment, hazardous chemicals and other potential pollutants to water quality that would be used and stored onsite. Construction activities could result in the release of pollutants such as sediment, construction materials, and hazardous materials to surface waters and/or groundwater. Other potential sources of pollutants would be the accidental spill or release of hazardous materials from leaking equipment, unsecured stored materials, and stockpiling and staging areas. Grading activities during construction would result in the temporary removal of impervious surfaces, landscaping, and soil excavation to access areas to replace or construct new pipeline and other underground improvements. Areas temporarily disturbed during construction would be restored to existing or improved stabilized conditions. Site restoration activities would include re-paving and replacement of impervious surfaces, backfilling of trenches and excavations with native or new material, and replanting of landscaping or native vegetation. Temporary staging areas would also be restored once construction is completed. CVWD would require each contractor to comply with all applicable National Pollutant Discharge Elimination System (NPDES) regulations and water quality standards including Municipal and General Permits. The contractor will be directed to implement sediment and erosion control, post-construction best management practices (BMPs) for permanent disturbance, and restoration standard practices and requirements. Areas temporarily disturbed during construction would be restored to existing conditions and stabilized. Therefore, impacts to water quality from erosion,	None required.	Less than significant.

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Environmental Impacts	Mitigation Measures	Residual Impact
sedimentation, or interference with shallow groundwater during construction of the proposed projects would be less than significant. Jurisdictional Waters and Wetlands Some areas proposed for construction of new or replacement pipelines and WRP improvements have potential for the presence of wetlands or jurisdictional waters, However, due to changing regulatory policy, definitions, and legal court challenges, forecasting regulatory jurisdiction into the future can be difficult granted the unique climate and ephemeral watershed features of the Coachella Valley. Disturbance to wetlands and jurisdictional waters are regulated by the State Water Resources Control Board (SWRCB) and the USACE in accordance with the Clean Water Act Section 404, as well as, the CDFW. As each Master Plan project is undertaken, a review of potential impacts to wetlands and/or other federal jurisdictional waters will be conducted to determine if Section 404 or Section 401 permits are required. If permits are required, then CVWD will work with the USACE Los Angeles District for CWA Section 404 permitting and the Colorado River Regional Water Quality Control Board (RWQCB) for CWA Section 401 permit acquisition and compliance during project planning and prior to construction. Nationwide Permit (NWP) and State Water Quality Certification conditions will address construction controls and BMPs to be implemented during construction to minimize impacts to water quality in addition to other resource impacts. Therefore, impacts to water quality during construction of the proposed projects in jurisdictional waters and wetlands would be less than significant. Current or Future Waste Discharge Requirements or Water Quality Standards CVWD has been granted separate waste discharge permits from the Colorado RWQCB for each WRP discharging treated effluent to percolation ponds and/or recycled water use systems. Each permit identifies Waste Discharge Requirements (WDRs) and limits for various pollutants for discharge. It is possible that some future discharge limitations have not been anticipated since the Master Plan implementation timeframe is 19 years. CVWD may not discharge effluent to a surface water, percolation ponds, or allow re-use of recycled water unless the treated effluent complies with the pollutant limitations described in each permit. CVWD must also comply with inflow requirements as well and inflow amounts at each WRP which may change over a 19-year period as the area population or		

Table 1-2. Impact and Mitigation Summary

Environmental Impacts	Mitigation Measures	Residual Impact
number and makeup of industrial dischargers to the sanitary sewer system changes. The CVWD is considering reuse of 100 percent of all effluent at WRPs 4, 7, and 10 in the future, which would reduce the amount of water discharged to percolation ponds and provide more water for re-use for irrigation in-lieu of groundwater. Separate environmental documentation would be prepared should these projects move forward in the future and are not covered in this PEIR. All planned improvements at the WRPs would require review by the Colorado River RWQCB and possible changes or amendments to their individual Waste Discharge Permits. CVWD will work with the RWQCB to modify the permits and comply with the new WDRs. Therefore, the impact to water quality from implementation of operational changes at the WRPs would be less than significant because CVWD would comply with mandated WDRs.		
Impact HYD-2. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. During future operations, conversion of some or all treated wastewater at WRPs 4, 7, and 10 from percolations pond discharge to recycled water use could change the amount of groundwater supply impacting sustainable groundwater management of the basin. CVWD and other area water districts submitted the 2010 Coachella Valley Water Management Plan and 2013 Mission Creek-Garnet Hill Water Management, with associated Bridge Documents, as Alternative Plans to comply with the Sustainable Groundwater Management Act (SGMA). Groundwater management to prevent overdraft conditions in the region's groundwater subbasins includes percolation of imported surface water as well as in-lieu replenishment. In-lieu replenishment is defined as the use of imported surface water or recycled water for irrigation to reduce or eliminate the use of pumped groundwater. Future groundwater management projects are described in the Alternative Plans and include CVWD's continued prioritization to convert golf courses from using pumped groundwater and using more recycled and imported surface water for irrigation. These future water recycling operations and water source substitution projects are also described in the CVWD Sanitation Master Plan Update 2020. Therefore, the planned conversion of some or all treated wastewater at the WRPs from percolations pond discharge to recycled water use would decrease groundwater pumping and would not negatively	None required.	Less than significant.

Table 1-2. Impact and Mitigation Summary

Environmental Impacts	Mitigation Measures	Residual Impact
impact sustainable groundwater management of the subbasins. A less than significant impact would occur.		
Impact HYD-3. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would: • result in substantial erosion or siltation on or off-site; • substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; • create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; and/or • impede or redirect flood flows. <u>Erosion of Siltation On- or Off-site</u> The Master Plan includes improvements at the WRPs and along new and existing linear underground infrastructure routes that would add impervious surfaces that could affect the existing drainage patterns in the region increasing onsite erosion and sediment transport during storm events. CVWD would comply with Municipal, Industrial, and Construction General permits for stormwater management. Post-construction BMPs constructed at each site would reduce or eliminate the potential for substantial erosion or siltation to be transported offsite. Stormwater drainage at the individual WRPs will be managed onsite. A less than significant impact would occur. <u>Surface Runoff Resulting in Flooding On- or Off-site or Exceedance of the Capacity of Existing or Planned Stormwater Drainage Systems</u> The proposed addition of impervious surfaces at each project site would contribute to the amount of surface runoff that could potentially create additional flooding on or off-site. The area of new impervious surfaces would be relatively small within each of the individual project areas. There would be some changes to site drainage patterns, surface runoff, and flood management. Impacts to drainage patterns from these new structures and impervious surfaces could cause flooding on or off-site	**HYD-1: Stormwater Management Facilities**. To mitigate for Impact HYD-3, CVWD will consider surface water runoff increases from new impervious surfaces and drainage patterns during planning and design phases of each project. Each site would include design of improved stormwater management facilities onsite to avoid offsite discharge that would exceed the capacity of the stormwater system or cause flooding. A grading and drainage plan will be included in each improvement plan set for construction. The plan will identify and implement temporary and permanent BMPs and other construction controls to ensure that increases in stormwater flows off-site are minimized. **HYD-2: Prepare Drainage Study and Revise FEMA FIRM Maps as Needed**. During planning and design phases for project improvements to be located within designated 100-year floodplain and to mitigate for Impact HYD-3, CVWD shall prepare a drainage study prior to final design of facilities improvements to accurately determine a site's potential for flooding during a 100-year event and drainage improvements around new facilities to minimize changes to direction of flood flows. CVWD will work with FEMA to revise FIRM maps as needed through their Conditional Letter of Map Revision (CLOMR)/Conditional Letter of Map Amendment (CLOMA) processes..	Less than significant.

Table 1-2. Impact and Mitigation Summary

Environmental Impacts	Mitigation Measures	Residual Impact
which could be a significant impact. However, with implementation of **Mitigation Measure HYD-1**, impacts to drainage and flooding would be reduced to a less than significant level. Construction at WRPs Located Within the 100-year Floodplain Some of the WRPs are either partially or fully located within designated 100-year floodplain as depicted on the most recent Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM). Project improvements proposed to be constructed within the 100-year floodplain, if all are constructed, will be phased over a 19-year period. Many of the improvements discussed may not be implemented and their implementation depends on future studies and pilot tests which will inform the need for future planned capital improvements. Constructed improvements may cause flood flows to be redirected around new improvements. Improvements constructed within the 100-year floodplain could impede or redirect flood flows during flood events which could be a significant impact to hydrology and water quality. However, these impacts would be reduced to a less than significant level with implementation of **Mitigation Measure HYD-2**.		
Impact HYD-4. Risk release of pollutants due to project inundation for projects in flood hazard, tsunami, or seiche zones. The improvements proposed at the WRPs include new basins and other above ground improvements for water treatment. New facilities could include exposed ponds or tanks containing untreated water and chemicals used for water treatment. Improvements constructed within the 100-year floodplain at WRPs 4 and 7 could be damaged during extreme flood events which could be a significant impact to public wastewater treatment services and water quality of receiving waters from the potential release untreated wastewater or treatment chemicals. However, these impacts would be reduced to a less than significant level with implementation of **Mitigation Measure HYD-3**.	**HYD-3:** During planning and design phases for project improvements to be located within designated 100-year floodplain and to mitigate for Impact HYD-4, CVWD shall consider the risk to public facilities being located within the 100-year floodplain. Project designs shall include measures to floodproof new or modified structures and systems so service can continue during flood events and protect human life for workers present during flood events. Flood proofing measures could include the construction of a new dike around new structures or raising the ground elevations under new structures to elevate them above the floodplain. CVWD will work with FEMA to revise FIRM maps as needed through their Conditional Letter of Map Revision/Amendment (CLOMR/CLOMA) processes..	Less than significant.
Impact HYD-5. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Under each of the regulatory permits for the WRPs, changes made to the WRPs through construction of new improvements and operational changes must be approved by the RWQCB with modified or amended permits. CVWD will work with the RWQCB to modify or	None required.	No impact.

Table 1-2. Impact and Mitigation Summary

Environmental Impacts	Mitigation Measures	Residual Impact
amend permits as needed which would then comply with implementation of the Colorado River Basin Water Quality Control Plan. Many of the proposed improvements would allow for additional use of treated wastewater for irrigation. New underground conveyance improvements at areas with no current sewer systems would encourage a reduction in septic systems and connection to the CVWD sanitary sewer system reducing impacts to groundwater quality from on-site systems. The increase in recycled water supplied by the WRPs for irrigation use from the Proposed Project improvements would help meet the objectives of the sustainable groundwater management plans by reducing reliance on pumped groundwater for golf course irrigation and other irrigation users. Therefore, the Master Plan would have no impact to implementation of the Colorado River Basin Water Quality Control Plan nor the sustainable groundwater management plans.		
LAND USE, PLANNING, AND AGRICULTURE		
Impact LU-1. Physically divide an established community. Proposed improvements to existing sanitation facilities are not expected to divide established communities. New sewer pipelines would primarily be located within the existing right-of-way of existing roadways. There are locations where sewer pipelines would need to traverse open land; however, sewer pipelines would be located underground which would not divide an established community. New lift stations would be sited directly adjacent to existing or proposed sewer pipelines. Lift stations have a relatively small footprint (approximately one acre) compared to other sanitation infrastructure and would not present a physical barrier to surrounding areas. For these reasons the construction of new lift stations is not expected to divide established communities. No impact would occur.	None required.	No impact.
Impact LU-2. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. The proposed infrastructure improvements would support existing and future land uses in the project area. Improvements to existing facilities would continue the current use of each facility; as such, these improvements would be compatible and not conflict with land use plans, policies, or regulations. The Master Plan also includes the construction and operation of new	None required.	No impact.

Table 1-2. Impact and Mitigation Summary

Environmental Impacts	Mitigation Measures	Residual Impact
sewer pipelines and lift stations. New sewer pipelines would primarily be located underground within the existing right-of-way of existing roadways. Lift stations would be sited adjacent to sewer pipelines. Infrastructure uses, such as sewer pipelines, are generally an allowed use in land use designations as these facilities provide support for other land uses. Therefore, the Master Plan is not anticipated to conflict with the land use plans, policies, or regulations set forth by the various agencies located in CVWD's service area. No impact would occur.		
Impact AG-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. Complete build-out of the Master Plan projects would temporarily affect 325.7 acres of farmland during construction over the 19-year planning period, which represents less than 0.01 percent of the total farmland in the CVWD service area. Temporary impacts include approximately 167.6 acres (0.35%) of Prime Farmland, 2.2 acres (0.29%) of Farmland of Statewide Importance, and approximately 3.0 acres (0.03%) of Unique Farmland. These acreages represent farmland mapped by the FMMP in 2016, the latest farmland data available during the preparation of this Draft PEIR. The Master Plan would be implemented over a 19-year planning period and it is possible for farmland to change from one category to another during this implementation period. It should be noted that the potentially affected farmland within the impact footprint does not represent a permanent conversion of agricultural land to non-agricultural uses. Above-ground components, such as new lift stations, if located within state designated farmland, could result in permanent conversion. Proposed pipelines would be located underground and predominantly within the right-of-way of existing roadways (including unpaved access roads in agricultural areas) or the edge areas of agricultural fields. Agricultural operations on adjacent fields would continue. Proposed sewer pipelines would not permanently convert existing farmland. Existing surface conditions would be restored to pre-project uses upon completion of construction. 5.9 acres (less than 0.02%) of farmland would be permanently converted. This does not represent a significant conversion of farmland within the CVWD service area and a less than significant impact would occur.	None required.	Less than significant.

Table 1-2. Impact and Mitigation Summary

Environmental Impacts	Mitigation Measures	Residual Impact
Impact AG-2. Conflict with existing zoning for agricultural use, or a Williamson Act contract. Zoning for Agricultural Use Proposed facilities and proposed improvements to existing facilities located within the cities of Desert Hot Springs, Cathedral City, Rancho Mirage, Palm Desert, Indian Wells, La Quinta, and Indio are generally located within the right-of-way of existing streets or within lands zoned for urban, industrial, commercial, public, open space, or residential uses, which reflects the suburban nature of those cities. As such, the Master Plan would not conflict with existing zoning for agricultural use within these respective cities. No impact would occur. The majority of proposed facilities within unincorporated areas of Riverside County would be located along the right-of-way of existing roadways or consist of improvements to existing sanitation facilities. However, there are instances where some of the proposed facilities located within unincorporated areas of Riverside County would traverse lands designated and zoned for agricultural use. Specifically, in the southeast portion of the CVWD's service area, where agricultural uses are more prevalent. While some facilities would traverse lands designated for agricultural use in unincorporated Riverside County, the construction, operation, and maintenance of facilities included in the Master Plan is an activity that is exempt from Riverside County's zoning regulations per Ordinance No. 348, *Providing for Land Use Planning and Zoning Regulations and Related Functions of the County of Riverside*, Section 18.2. B. Public Projects. As such, the Master Plan would not conflict with existing zoning for agricultural use within unincorporated Riverside County. No impact would occur. Williamson Act Contract The proposed sewer pipelines and lift stations are generally located near roadways or edge areas of agricultural fields and other properties. Existing surface conditions would be restored to pre-project uses upon completion of construction. Lift stations would be sited directly adjacent to sewer pipelines near roadways or edge areas of agricultural fields. As set forth in Riverside County Ordinance 509.2, Section A (3), sanitation facilities are considered compatible uses within an agricultural preserve. The Master Plan is the construction, operation, and maintenance of public service facilities by a public	None required.	No impact.

Table 1-2. Impact and Mitigation Summary

Environmental Impacts	Mitigation Measures	Residual Impact
agency (CVWD); therefore, the proposed facilities would be considered a compatible use with agricultural preserves. No impact to parcels under Williamson Act contract would occur.		
Impact AG-3. Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use. Proposed improvements to existing facilities (e.g., WRPs) would not result in changes that would result in the conversion of farmland to non-agricultural use as these improvements would be located within land currently used for sanitation infrastructure. The majority of proposed facilities within the incorporated cities in the northwest area of the CVWD's service area would occur within developed areas and/or within the existing rights-of-way of existing roadways. Based on the current conceptual locations and sizing of proposed sanitation facilities, construction of new facilities in the southeastern portion of the CVWD's service area, where agricultural uses are more prevalent, could potentially result in the conversion of existing farmland to a non-agricultural use. The proposed sewer pipelines and lift stations are located mainly near roadways or edge areas of agricultural fields and other properties. Therefore, the construction, operation, and maintenance of these proposed facilities would not significantly affect existing or future agricultural operations. Impacts would be less than significant.	None required.	Less than significant.
NOISE		
Impact NOI-1. Result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. <u>Construction</u> Construction noise associated with the Master Plan would be temporary and would vary depending on the nature of the activities being performed. Noise generated would primarily be associated with the operation of off-road equipment for onsite construction activities as well as construction vehicle traffic on area roadways. Construction noise typically occurs intermittently and varies depending on the	**NOI-1:** Construction shall be limited to the hours specified by the County of Riverside, Imperial County, the City of Rancho Mirage, the City of Palm Desert, the City of Indian Wells, the City of La Quinta, City of Desert Hot Springs, City of Cathedral City, City of Indio, and City of La Quinta, where appropriate. The appropriate limits shall be determined by the location of the affected receptors. For instance, construction affecting receptors in the City of La Quinta shall adhere to that jurisdiction's prohibitions.	Less than significant.

Table 1-2. Impact and Mitigation Summary

Environmental Impacts	Mitigation Measures	Residual Impact
nature or phase of construction (e.g., building construction, paving). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. Other primary sources of acoustical disturbance would be random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts). During construction, exterior noise levels could negatively affect sensitive receptors in the vicinity of the construction site. Noise generated during construction activities would be limited to the hours specified in the city or county noise standards. With implementation of Mitigation Measure NOI-1 construction noise would not exceed the respective city or county noise standards and impacts would be less than significant. Operation The Master Plan proposes to refurbish existing assets, optimize operations, and satisfy projected capacity needs of sanitation facilities (collection system including gravity pipelines, force mains, lift stations, and the five WRPs) in the CVWD service area. It would not be a substantial source of mobile or stationary noise sources beyond what is already experienced for current operations. Therefore, the Master Plan would not be a source of new operational noise. Impacts would be less than significant.		
Impact NOI-2. Result in the generation of excessive vibration or groundborne noise levels. Construction Construction-related ground vibration is normally associated with impact equipment such as pile drivers, jackhammers, and the operation of some heavy-duty construction equipment, such as dozers and trucks. It is not anticipated that pile drivers would be necessary during Project construction. Vibration decreases rapidly with distance and it is acknowledged that construction activities would occur throughout the service area and would not be concentrated at the point closest to sensitive receptors. None of the jurisdictions affected by construction of the Master Plan sanitation projects regulate vibrations associated with construction. However, a discussion of construction vibration is included for full disclosure purposes. For comparison	None required.	Less than significant.

Table 1-2. Impact and Mitigation Summary

Environmental Impacts	Mitigation Measures	Residual Impact
purposes, the Caltrans (2013) recommended standard of 0.2 inch per second peak particle velocity (PPV) with respect to the prevention of structural damage for older residential buildings is used as a threshold. This is also the level at which vibrations may begin to annoy people in buildings. The component of the Master Plan with the nearest structures of concern to construction activity are the buildings located adjacent to infrastructure improvements that are proposed to occur on area roadways. The closest buildings were found to be approximately 25 feet away. Ground vibration generated by heavy-duty equipment would not be anticipated to exceed approximately 0.170 inch per second PPV at 25 feet. Thus, the structure located 25 feet away would not be negatively affected. Predicted vibration levels at the nearest structures would not exceed recommended criteria. However, it is acknowledged that future development in the area could result in sensitive land uses located even closer than 25 feet. As such, prior to implementation, it may be necessary to reevaluate vibration impacts. Construction-related noise impacts would be less than significant. <u>Operation</u> Project operations would not include the use of any stationary equipment that would result in excessive groundborne vibration levels. No impact would occur.		
Impact NOI-3. Expose people residing or working in the project area to excessive noise levels due to its location within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport. Implementation of the Master Plan would not affect airport operations nor result in increased exposure of noise-sensitive receptors to aircraft noise. This impact is less than significant.	None required.	Less than significant.

Table 1-2. Impact and Mitigation Summary

Environmental Impacts	Mitigation Measures	Residual Impact
TRIBAL CULTURAL RESOURCES		
Impact TCR-1. Cause a substantial adverse change in the significance of a Tribal Cultural Resource as defined in CEQA Guidelines Section 21074. Assembly Bill 52 (AB 52) consultation is ongoing as of the release of this Draft PEIR (August 2020). The results of the AB 52 consultation will be included as part the Final PEIR.	Any mitigation measures that result from the consultation will be made part of the Final PEIR.	Less than significant.

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2.0 INTRODUCTION

2.1 Purpose and Scope of Program EIR

This PEIR was prepared in accordance with CEQA (Public Resources Code §§ 21000-21177), the 2020 Guidelines for the Implementation of CEQA (California Administrative Code §§ 15000 et seq.), and CVWD's Local CEQA Guidelines (2019).

CEQA requires that the potential environmental impacts of a project be identified and that mitigation measures be implemented to reduce, avoid, or offset a significant impact. CEQA requires the Lead Agency, in this case CVWD, to consider the information contained in this PEIR prior to taking any discretionary action. This PEIR may also be used by other public agencies that must take discretionary actions related to the Sanitation Master Plan Update 2020 Project (Proposed Project or Master Plan).

This PEIR is intended to provide information to CVWD and its Board of Directors, other public agencies, and the general public regarding the potential significant direct, indirect, and cumulative environmental impacts associated with the Proposed Project. The PEIR process also requires investigation and development of feasible mitigation measures to reduce significant adverse environmental effects of the Proposed Project to a level below significance. CEQA requires a Lead Agency neither approve nor implement a project unless significant environmental impacts have been reduced (CEQA Guidelines §15091), or, if a Lead Agency approves the project even though significant impacts identified in the PEIR cannot be fully mitigated, the Lead Agency must state in writing the reasons for its action by adopting Findings of Fact and a Statement of Overriding Considerations.

The Sanitation Master Plan Update 2020 provides a long-term, comprehensive capital improvement program (CIP) consisting of recommendations to refurbish or replace existing assets, optimize operations, and satisfy projected capacity needs of all sanitation facilities (collection system including gravity pipelines, force mains, lift stations, and the five WRPs to be implemented between 2020 to 2040 in CVWD's service area. The funding, scheduling, and detail for each project would be subject to individual approval by CVWD. Therefore, the EIR for the Sanitation Master Plan Update 2020 is a Program EIR (CEQA Guidelines §15168), which evaluates at a program level the environmental effects that would result from the implementation of the Proposed Project.

A PEIR is defined in the CEQA Guidelines as an EIR "which may be prepared on a series of actions that can be characterized as one large project and are related either geographically, as logical parts in the chain of contemplated actions, in connection with issuance of rules, regulations, plans or other general criteria to govern the conduct of a continuing program…." (CEQA Guidelines §15168). Pursuant to CEQA Guidelines Section 15168, the projects included in the Sanitation Master Plan may rely on this PEIR as the base environmental document for environmental review. Once a sanitation project has been identified to be carried forward for design and construction, a project-specific CEQA analysis may tier from the Program EIR as provided in Section 15152, and each sanitation project would undergo project-specific CEQA review. Projects will be examined to determine if the project falls within the scope of the Sanitation Master Plan Update as examined in the PEIR. If the Lead Agency finds that the project is consistent with

the PEIR and would not result in new effects or require new mitigation measures, the Lead Agency can approve the project as being within the scope of the project covered by the PEIR, and no new environmental document would be required (CEQA Guidelines §15168). Otherwise, subsequent environmental documentation must be prepared. If subsequent documentation is prepared, the environmental analyses would be tiered from this PEIR by incorporating by reference its general discussions and the analysis of cumulative impacts. Subsequent environmental documents would be focused on project- and site-specific impacts. This tiering process is further described in Section 2.1.1, below.

2.1.1 Subsequent Tiering

As provided and encouraged by Section 15152 of the State CEQA Guidelines, CVWD expects that the sanitation projects will tier from this PEIR and that each future project will be individually examined to determine if the project is within the scope of the PEIR and the appropriate type of CEQA analysis or document that is required at the time each facility project is implemented.

With regards to use of a PEIR for subsequent activities, Section 15168(c) of the State CEQA Guidelines states:

(c) Use with Later Activities. Later activities in the program must be examined in the light of the program EIR to determine whether an additional environmental document must be prepared.

(1) If a later activity would have effects that were not examined in the program EIR, a new Initial Study would need to be prepared leading to either an EIR or a Negative Declaration. That later analysis may tier from the program EIR as provided in Section 15152.

(2) If the agency finds that pursuant to Section 15162, no subsequent EIR would be required, the agency can approve the activity as being within the scope of the project covered by the program EIR, and no new environmental document would be required. Whether a later activity is within the scope of a program EIR is a factual question that the lead agency determines based on substantial evidence in the record. Factors that an agency may consider in making that determination include, but are not limited to, consistency of the later activity with the type of allowable land use, overall planned density and building intensity, geographic area analyzed for environmental impacts, and covered infrastructure, as described in the program EIR.

(3) An agency shall incorporate feasible mitigation measures and alternatives developed in the program EIR into later activities in the program.

(4) Where the later activities involve site specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were within the scope of the program EIR.

(5) A program EIR will be most helpful in dealing with later activities if it provides a description of planned activities that would implement the program and deals with the effects of the program as specifically and comprehensively as possible. With a good and detailed project

description and analysis of the program, many later activities could be found to be within the scope of the project described in the program EIR, and no further environmental documents would be required.

Subsequent CEQA analysis or documents may consist of, but are not limited to, an exemption, negative declaration, mitigated negative declaration, addendum or supplements to the PEIR, or environmental impact report as determined by the Lead Agency for each individual sanitation project.

2.2 Lead Agency

CEQA defines a Lead Agency as the public agency which has the principal responsibility for carrying out or approving a project which may have a significant effect upon the environment. This PEIR has been prepared by CVWD as Lead Agency in accordance with CEQA (Public Resources Code §§ 21000-21177) and the 2020 Guidelines for the Implementation of CEQA (California Administrative Code §§ 15000 et seq), and CVWD's Local CEQA Guidelines (2019).

As the Lead Agency, CVWD has discretionary approval of the Proposed Project(s). The intent of this PEIR is to enable CVWD's key decision makers, responsible agencies, and interested parties to understand the potential environmental effects of the Sanitation Master Plan Update.

Lead Agency Contact: Coachella Valley Water District
75-515 Hovley Lane East
Palm Desert, CA 92211
Contact: William Patterson, Environmental Supervisor
Phone: (760) 398- 2651, ext. 2545 or email: wpatterson@cvwd.org

2.3 Responsible Agencies

CEQA defines a Responsible Agency as a public agency, other than the lead agency, which has responsibility for carrying out or approving a project (Public Resources Code § 21069). Although discretional approval of the Proposed Project rests solely with CVWD, because certain facilities are located within Riverside County and Imperial County, and the cities of Desert Hot Springs, Cathedral City, Rancho Mirage, Palm Desert, Indian Wells, Indio, and La Quinta, and may require approvals/permits by these agencies, these counties and cities are considered Responsible Agencies.

Other agencies that also have some authority or responsibility to issue discretionary permits for the Proposed Project are designated as Responsible Agencies. Potential responsible agencies for the sanitation projects may include:

- California Department of Transportation (Caltrans) could be a responsible agency for any facility or facilities that entail construction within the rights-of-way (ROW) of the state highway or interstate highway systems if obtaining an encroachment permit is considered a discretionary action.

- The California Department of Fish and Wildlife (CDFW) would be a responsible agency for any facility or facilities that entails construction within Waters of the State for which a Lake or Streambed Alteration Agreement is required pursuant to California Fish and Game Code Section 1602.
- Colorado River Basin Regional Water Quality Control Board (RWQCB) would be a responsible agency for any facility or facilities that entails construction within Waters of the U.S. for which a Water Quality Certification is required pursuant to Section 401 of the Clear Water Act.
- U.S. Army Corps of Engineers (USACE) would be a responsible agency for any facility or facilities that entails construction within Waters of the U.S. pursuant to Section 404 of the Clear Water Act.
- South Coast Air Quality Management District would be a responsible agency for any facility that may require a fugitive dust control plan, permit to construct, or permit to operate.
- Coachella Valley Association of Governments (CVAG)/ Coachella Valley Conservation Commission (CVCC) would be a responsible agency for construction of a new facility located within a conservation area associated with the Coachella Valley Multiple Species Habitat Conservation Plan. A joint project review application may be required if a new sanitation facility was to be constructed within the conservation area.
- Imperial Irrigation District (IID), Desert Water Agency (DWA), Indio Water Authority, and Riverside County Flood Control and Water Conservation District would be responsible agencies for any facility or facilities that entails construction within their respective ROW or relocation/improvements of their respective-owned facilities. The approval of such an item may be considered a discretionary action by the agency.

2.4 CEQA Overview

2.4.1 Environmental Review Process

When preparing an EIR, the CEQA review process consists of the following components, in chronological order:

1. Public circulation of the Notice of Preparation (NOP) and a 30-day public scoping period
2. Preparation of the Draft EIR
3. Draft EIR review by the CVWD Environmental Assessment Committee
4. Public circulation of the Notice of Completion/Notice of Availability and Draft EIR for a 45-day public review period
5. Preparation of the Final EIR and Response to Comments received on the Draft EIR
6. CVWD Board of Directors public hearing of the Final EIR materials
7. Filing of a Notice of Determination, once EIR is approved

CVWD circulated the NOP for the Draft PEIR to the State Clearinghouse and other interested parties on September 13, 2019. The NOP was posted by the Riverside County Clerk on September 12, 2019 and by

the Imperial County Clerk on September 13, 2019. Pursuant to Section 15082 of the State CEQA Guidelines, recipients of the NOP were requested to provide [any] comments on the scope of the Proposed Project within 30 days after their receipt of the NOP. Copies of the NOP and the NOP distribution list are located in Appendix A.

CVWD held a public scoping meeting on September 24, 2019 at CVWD's Steve Robbins Administrative Building located at 75-515 Hovley Lane East in Palm Desert, pursuant to the requirements of Section 15082(c)(1) of the State CEQA Guidelines. Written comments regarding the NOP received by CVWD are summarized in Table 2-1, below. Copies of comment letters received are included in Appendix A. A total of five written comment letter were received. No oral or written comments were received at the public scoping meeting.

Table 2-1. Summary of Comments Received in Response to the Notice of Preparation

Commenter/Agency	Area of Controversy/ Summary of Comment	Location in Draft PEIR where Comment is Addressed
California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (letter dated October 11, 2019)	The project area contains many active, idle, and plugged geothermal wells and a few plugged oil and gas exploration wells. If any wells, including any plugged, abandoned or unrecorded wells, are damaged or uncovered during excavation or grading, remedial plugging operations may be required. If such damage or discovery occurs, the Division's district office must be contacted to obtain information on the requirements and approval to perform remedial operations. The possibility for future problems from oil and gas or geothermal wells that have been plugged and abandoned, or re-abandoned, to the Division's current specifications are remote. However, the Division recommends that a diligent effort be made to avoid building over any plugged and abandoned well.	The California Department of Conservation, Division of Oil, Gas, and Geothermal Resources has been listed as a Responsible Agency in Section 2.3 of this Draft PEIR. This comment is addressed in Section 4.5 Land Use and Planning/Agriculture.
California Department of Conservation, Division of Land Resource Protection (letter dated September 24, 2019)	This comment states that the conversion of agricultural land represents a permanent reduction and a significant impact to California's agricultural land resources. The comment highlights agricultural conservation easements as a proven method to mitigate impacts from the conversion of agricultural land. The comment also states that any other feasible mitigation measures should also be considered. The comments also states that the Agricultural Resources section of the Draft PEIR should discuss the type, amount, and location of farmland	This comment is addressed in Section 4.5 Land Use and Planning/Agriculture.

Table 2-1. Summary of Comments Received in Response to the Notice of Preparation

Commenter/Agency	Area of Controversy/ Summary of Comment	Location in Draft PEIR where Comment is Addressed
	conversion, impact to any current and future agricultural operations, cumulative impact to agricultural land, proposed mitigation measures, and proposed contract resolutions for proposed land uses not compatible with land in an agricultural preserve and/or enrolled in a Williamson Act contract.	
California Department of Transportation (Caltrans) (letter dated October 16, 2019)	This comment states that any work performed within Caltrans ROW will require discretionary review and approval by Caltrans and an encroachment permit.	Caltrans is listed as a Responsible Agency in Section 2.3 of this Draft PEIR. This comment is addressed in Section 4.5 Land Use and Planning/Agriculture.
South Coast Air Quality Management District (SCAQMD) (letter dated October 1, 2019)	The SCAQMD request copies of the Draft PEIR all appendices or technical documents related to the air quality, health risk, and greenhouse gas analyses and electronic versions of all air quality modeling and health risk assessment files, including emission calculation spreadsheets and modeling input and output files. The comment letter also lists several guidance documents that SCAQMD recommends the Lead Agency use during the preparation of the air quality analysis. The SCAQMD recommends that the Lead Agency perform a mobile source health risk assessment if the Proposed Project generates or attracts vehicular trips, especially heavy-duty diesel-fueled vehicles. The comment letter also lists several resources to assist the Lead Agency in identifying mitigation measures, if needed, states that alternatives may be required if the Proposed Project may result in significant adverse impacts, and that SCAQMD should be listed as a responsible agency if a permit from the district is required.	This comment is addressed in Section 4.1 Air Quality and Greenhouse Gas Emissions.

Table 2-1. Summary of Comments Received in Response to the Notice of Preparation

Commenter/Agency	Area of Controversy/ Summary of Comment	Location in Draft PEIR where Comment is Addressed
Audubon California, Defenders of Wildlife, Pacific Institute, Sierra Club California (letter dated October 12, 2019)	This comment states the Draft PEIR should address each of the following topics: • Population projections • Projected water supply and availability • Water conservation • Energy requirements and carbon emissions • Treatment of personal care products and pharmaceuticals • Downstream uses	Population projections are discussed in Section 4.5 Land Use and Planning/Agriculture. Projected water supply and availability and water conservation are discussed in Section 4.4 Hydrology and Water Quality. Energy requirements and carbon emissions are discussed in Section 4.1 Air Quality and Greenhouse Gas Emissions. Treatment of personal care products and pharmaceuticals are discussed in Section 4.4 Hydrology and Water Quality. Downstream uses are discussed in Section 4.5 Land Use and Planning/Agriculture.

2.4.2 Environmental Effects Found Not to be Significant During Project Scoping

As part of the master planning and project scoping processes, several resource topics were determined not to be significant and are therefore not carried forward for further analysis in this PEIR (CEQA Guidelines §15128):

- Aesthetics
- Geology and Soils
- Hazards and Hazardous Materials
- Mineral Resources
- Population and Housing
- Public Services
- Recreation
- Transportation/Traffic
- Utilities and Services Systems
- Wildfire

Aesthetics. The Master Plan includes improvements to existing WRPs and lift stations, rehabilitation of existing sewer pipelines, construction of new sewer pipelines and lift stations, and operation and maintenance improvements. Proposed improvements to existing sanitation facilities would not significantly affect scenic resources, as they are already part of the existing landscape. Proposed pipelines would be located underground and predominantly within the ROW of existing roadways (including unpaved access roads in agricultural areas) and would not be visible. Lift stations would be sited adjacent to pipelines and do not include tall structures that could obstruct scenic resources. Aesthetic impacts were found not to be significant and are not discussed further in this PEIR.

Geology and Soils. Sanitation facilities would be designed by registered civil engineers to ensure all necessary geotechnical constraints are considered during project design. Impacts to geology and soils were determined not be significant and are not discussed further in this PEIR.

Hazards and Hazardous Materials. Project construction and operation would comply with applicable federal, state, and local laws and regulations regarding the use and storage of hazardous materials. There are 11 sites on the Cortese list in Riverside County and four sites in Imperial County (DTSC 2020). None of the sites are within the individual project areas included in the Master Plan. For these reasons, the evaluation of hazards and hazardous materials was not carried forward for further analysis in this PEIR.

Mineral Resources. The installation of sanitation infrastructure would not involve areas in the region mined for mineral resources or areas with known classified land containing regionally significant mineral resources, as mandated by the Surface Mining and Reclamation Act (SMARA) of 1975. For these reasons, the evaluation of mineral resources was not carried forward for further analysis in this PEIR.

Population and Housing. The Master Plan would accommodate the planned growth in the CVWD service area (as projected in the local city and county General Plans) and not in itself induce population growth; in addition, the proposed sewer infrastructure improvements are designed to meet sewer capacity demand but would not in themselves create the demand. Projects are programmed to be implemented from 2021 to 2040. Implementation of each individual sanitation project would be dependent on whether sewer capacity demand is identified. For these reasons, the evaluation of population and housing was not carried forward for further analysis in this PEIR.

Public Services. Public Services was not carried forward for further analysis because the proposed Master Plan would not result in population growth increasing the need for additional public services. Impacts were found not to be significant and are not discussed further in this PEIR.

Recreation. The Master Plan would accommodate the planned growth in the CVWD service area and not in itself induce population growth; therefore, no increase in the need for recreational resources would occur as a result of the Master Plan. Recreation impacts were found not to be significant and are not discussed further in this PEIR.

Transportation/Traffic. Traffic would be generated during construction which would be temporary and spread out over the CVWD service area over a 19-year planning horizon. Once each sanitation project is completed, there would be no resultant increase in automobile trips to each individual project area because the improved or new facility would not require daily visits. While it is anticipated that the Master Plan projects would require intermittent maintenance to be conducted by CVWD staff, such maintenance would be minimal requiring a negligible amount of traffic trips on an annual basis. As such, transportation/traffic impacts were found not to be significant and are not carried forward for further analysis in this PEIR.

Utilities and Service Systems. The Master Plan is a utility infrastructure project. Impacts associated with the construction and operation of the Master Plan sanitation projects are discussed throughout this PEIR and would not require a significant amount of new utilities to operate such facilities. As such, this issue area was not carried forward for further analysis in this PEIR.

Wildfire. Within the Coachella Valley, Fire Hazard Severity Zones are generally located along the east-facing slopes of the Santa Rosa-San Jacinto Mountains (California Department of Forestry and Fire Protection [CAL FIRE] 2020). The proposed sanitation projects are sited within the Coachella Valley floor and not in the Santa Rosa-San Jacinto Mountain hillsides. Wildfire impacts were found not to be significant and are not discussed further in this PEIR.

2.5 Format of the Program EIR

The PEIR is organized as follows:

- **Table of Contents**
- **Section 1.0** of the PEIR provides an executive summary of the Proposed Project.
- **Section 2.0** of the PEIR provides an introduction to the Proposed Project, the purpose of the PEIR, a description of the organization of the PEIR, the intended uses of the PEIR, and a description of the public review process.
- **Section 3.0** provides a description of the Proposed Project.
- **Section 4.0** provides the environmental analysis of the Proposed Project. This includes the description of the environmental and regulatory setting, the analysis of environmental impacts, and a discussion of mitigation measures to reduce or eliminate any significant environmental impacts. Section 4.0 of this Draft PEIR analyses the following resources topics:
  - Air Quality (Section 4.1)
  - Biological Resources (Section 4.2)
  - Cultural Resources (Section 4.3)
  - Energy (Section 4.4)
  - Greenhouse Gas Emissions (Section 4.5)
  - Hydrology and Water Quality (Section 4.6)
  - Land Use, Planning, and Agriculture (Section 4.7)
  - Noise (Section 4.8)
  - Tribal Cultural Resources (Section 4.9)
- **Section 5.0** discusses the other CEQA topics including but not limited to significant and unavoidable adverse impacts and growth-inducing impacts.
- **Section 6.0** discusses the alternatives and potential environmental impacts of implementing alternatives to the Proposed Project.
- **Section 7.0** includes the references, persons consulted, and a list of preparers of the PEIR.

- **Appendices**

2.6 Anticipated Permits and Approvals

A list of the anticipated agency approvals required to implement the Master Plan is provided in Table 2-2.

Table 2-2. Anticipated Permits and Approvals

Agency	Permit/Approval
Coachella Valley Water District (CVWD)	• Certification of the PEIR and Mitigation Monitoring and Reporting Program • Approval of the Sanitation Master Plan Update 2020
U.S. Army Corps of Engineers (USACE)	• Clean Water Act Section 404 Permit (as needed)
Regional Water Quality Control Board (RWQCB), Colorado River Region	• Stormwater Construction General Permit - including the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) • Updates to National Pollutant Discharge Elimination System (NPDES) permits • Waste Discharge Requirement for Dredge and Fill in Waters of the State (as needed)
California Department of Fish and Wildlife (CDFW)	• Lake and Streambed Alteration Agreement, Fish and Game Code Section 1602 (as needed)
California Department of Transportation (Caltrans)	• Encroachment Permit
South Coast Air Quality Management District (SCAQMD)	• Fugitive Dust Control Plan • Permit to Construct • Permit to Operate
Riverside County Fire Department	• Approval and inspection of facilities governed by local building ordinances not directly related to the production, generation, storage, treatment or transmission of water or wastewater
Imperial Irrigation District (IID)	• Encroachment and/or relocation permit
Riverside County; Imperial County; and cities of Desert Hot Springs, Cathedral City, Rancho Mirage, Palm Desert, Indian Wells, Indio, and La Quinta	• Encroachment permit

2.7 Documents Incorporated by Reference

An EIR may incorporate portions or all of any publicly available document by reference (CEQA Guidelines §15150). The CVWD Sanitation Master Plan Update 2020 and CVWD Water Management Plans are available for public review at CVWD's Steve Robbins Administrative Building during normal business hours: 75-515 Hovley Lane East, Palm Desert, California 92211. Other agency documents are available for review at their respective agency website or office. The documents described below are hereby incorporated by reference into this PEIR.

2.7.1 CVWD Sanitation Master Plan Update 2020

The Sanitation Master Plan Update 2020 provides a comprehensive CIP consisting of recommendations to refurbish existing assets, optimize operations, and satisfy projected capacity needs of all sanitation facilities (collection system including gravity pipelines, force mains, lift stations, and the five water reclamation plants) in a program to be implemented between 2020 to 2040.

2.7.2 CVWD Water Management Plans

CVWD must comply with the following water management plans:

- 2009 Sanitation System Master Plan (2009 Master Plan)
- 2014 Status Report for the 2010 Coachella Valley Water Management Plan Update
- Desert Water Agency Potential Demand Scenarios and Supply Needs for the Coachella Valley Technical Memorandum (dated March 20, 2018)
- 2017-2018 Water Strategic Plan
- East Valley Water Supply Project Technical Memorandum, dated June 6, 2018
- Asset Management Master Plan dated Oct 9, 2017
- 2015 Sewer System Management Plan

2.7.3 Riverside County General Plan

The 2015 Riverside County General Plan (2015 RCGP) was adopted by Riverside County via General Plan Amendment No. 960 on December 8, 2015. The 2015 RCGP covers the entire unincorporated portion of the County of Riverside and is augmented by 19 more detailed Area Plans covering Riverside County's territory except for the undeveloped desert areas and the March Air Joint Reserve Base. The intent of the 2015 RCGP is to manage the overall pattern of development more effectively. The 2015 RCGP includes the following elements: Land Use, Circulation, Multipurpose Open Space, Safety, Noise, Housing, Air Quality, Healthy Communities, and Administration.

The Area Plans provide a clear and more focused opportunity to enhance community identity within the County of Riverside and stimulate quality of life at the community level. The Proposed Project is located within the Western Coachella Valley Area Plan (WCVAP) and the Eastern Coachella Valley Area Plan (ECVAP). The WCVAP encompasses eight cities including Desert Hot Springs, Palm Springs, Cathedral City, Rancho Mirage, Palm Desert, Indian Wells, La Quinta, and Indio. The ECVAP encompasses nearly 670 square miles within the southeast portion of the Coachella Valley, south and east of the City of Indio, and east of the City of La Quinta and the Santa Rosa Mountains, stretching to the Imperial County line on the south. The WCVAP and the ECVAP includes policies that cover land use, policy areas, circulation, multipurpose open space, and hazards specific to each of their planning areas.

2.7.4 Riverside County Municipal Code

The Riverside County Municipal Code addresses sanitation infrastructure in *Title 13 Public Services, Chapter 13.04 Sewer Service System Generally*. The purpose of this chapter is to ensure maximum beneficial public use of the County service area facilities through adequate regulation of sewer construction, sewer use, and industrial wastewater discharges, and to provide for equitable distribution of the costs.

2.7.5 Imperial County General Plan

The Imperial County General Plan (ICGP) was approved by the Imperial County Board of Supervisors on October 6, 2015. The ICGP consists of ten Elements entitled Land Use, Housing, Circulation and Scenic Highways, Noise, Seismic and Public Safety, Agricultural, Conservation and Open Space, Geothermal/Alternative Energy and Transmission, Water, and Parks & Recreation. Also included in the General Plan is a Land Use Map designating various land use categories which identify locations and describes the type and anticipated maximum allowable density of ultimate development. The ICGP was developed following a thorough examination of the County's physical and cultural resources, socio-economic conditions, and business climate. It provides a balance of land use policies and programs which seek to maintain the "quality of life" in the region. The ICGP is a dynamic document in that it can and should be amended as needed to respond to changing community and regional goals, physical and public infrastructure resources, and social concerns. The ICGP is aimed at creating a comprehensive guide for development within the County and provides mechanisms to achieve desired community goals and objectives through a coordinated implementation program.

2.7.6 Imperial County Municipal Code

The Imperial County Municipal Code addresses sanitation infrastructure in *Title 9 Land Use, Division 10 Building, Sewer and Grading Regulations* and in *Title 13 Public Services, Chapter 13.20 Special Districts*.

2.7.7 City of Desert Hot Springs General Plan

The City of Desert Hot Springs General Plan (DHSGP) was adopted on September 5, 2000. The DHSGP provides goals, policies, and programs to guide development of the City and preserve its valued assets and resources. The DHSGP also provides information in the form of issues discussions, diagrams and maps, tables and charts to provide guidance for the management of future development. The DHSGP is organized into four chapters with various General Plan elements and their accompanying goals, policies, and programs found within each chapter as follows: Community Development (Land Use Element, Circulation Element, Housing Element, Parks and Recreation Element, Community Design Element, and Economic Development Element); Environmental Resources (Biological Resources Element, Archaeological and Historic Resources Element, Water Resources Element, Air Quality Element, Open Space and Conservation Element, and Energy and Mineral Resources Element); Environmental Hazards (Geotechnical Element, Flooding and Hydrology Element, Noise Element, and Hazardous and Toxic Materials Element); Public Services and Facilities (Water, Sewer, and Utilities Element, Fire and Police Protection Element,

Schools and Libraries Element, Health Services Element, Emergency Preparedness Element, and Public Building and Facilities Element) (City of Desert Hot Springs 2000).

2.7.8 City of Desert Hot Springs Municipal Code

The City of Desert Hot Springs Municipal Code (DHSMC) addresses sanitation infrastructure in Title 3 Revenue and Finance, Title 4 Code Enforcement, Title 5 Business Licenses and Regulations, Title 8 Health and Safety, Title15 Building and Construction, Title 16 Subdivisions, and Title 17 Zoning. The sanitation infrastructure provisions in the DHSMC are provided to ensure the adequate provision, regulation, location, construction, and design of sanitation infrastructure within the City (City of Desert Hot Springs 2020).

2.7.9 City of Cathedral City General Plan

The City of Cathedral City Comprehensive General Plan (CCGP) was adopted on July 1, 2002 and amended on November 18, 2009. The CCGP provides the framework for City decisions regarding land use, residential density, commercial and industrial intensity, and open space and park areas. The CCGP is organized into five chapters: Administration, Community Development and Design, Municipal Facilities and Services, and Environmental Resources and Environmental Hazards. Within each of these five chapters are various related General Plan Elements including the seven state-mandated elements that each include one or more goals. Each element then includes policies and programs that can be used to meet these goals. Functioning as a dynamic document, the CCGP provides mechanisms within each program that allow the City to respond to changing market and environmental conditions (City of Cathedral City 2009).

2.7.10 City of Cathedral City Municipal Code

The City of Cathedral City Municipal Code (CCMC) was established with the intent to provide a scheme of organization for the classification and grouping of ordinances to adopt. The CCMC addresses sanitation infrastructure in Title 8 Buildings and Construction, Title 9 Planning and Zoning, Title 13 Code Enforcement and Remedies, and Title 15 Water and Sewers. The sanitation infrastructure provisions in the CCMC provide guidance on connection requirements, cost and reimbursement, and related uses (City of Cathedral City 2020).

2.7.11 City of Rancho Mirage General Plan

The City of Rancho Mirage General Plan 2017 Update (RMGP) was adopted on November 16, 2017. The purpose of the RMGP is to provide goals, policies, programs, and implementation strategies to guide development in the City of Rancho Mirage and to protect and enhance the City's valued assets and resources. Additionally, the RMGP provides the vision for the City of Rancho Mirage that promotes quality residential neighborhoods, destination resorts, and medical and research centers. The RMGP vision promotes having a well-maintained and safe city. The RMGP consists of 11 elements that include the seven state-mandated elements: Land Use, Circulation, Housing, Conservation, Open Space, Noise, and Safety; and four additional elements: Community Design, Economic and Fiscal, Public Service and

Facilities, and Arts and Culture, that the City of Rancho Mirage finds very important. Each of these elements are designed to include goals, policies, and programs in order to promote action for quality growth and change within the City (City of Rancho Mirage 2017).

2.7.12 City of Rancho Mirage Municipal Code

The City of Rancho Mirage Municipal Code (RMMC) addresses sanitation infrastructure in Title 7 Natural Resources and Environmental Protection, Title 8 Health and Safety, Title 13 Water and Sewers, Title 14 Code Compliance and Remedies, Title 15 Buildings and Construction, Title 16 Subdivisions, Title 17 Zoning. Specifically, the RMMC provides guidance on the requirement, provision, and connection to public sanitary sewer facilities (City of Rancho Mirage 2020).

2.7.13 City of Palm Desert General Plan

The City of Palm Desert General Plan (PDGP) was adopted on November 10, 2016. The purpose of the PDGP is to identify planning goals and provide decision makers and citizens with the ground rules for development in the City of Palm Desert. The vision and guiding principles presented in the PDGP were built upon a strategic plan effort undertaken by residents, business owners, and policy makers in 2013. This strategic plan effort led to the 2013-2033 Strategic Plan "Envision Palm Desert – Forward Together", that presented an overall community vision, priorities, strategies, action steps, and measures of success. In addition to the community vision, nine Strategic Results Areas resulted from the strategic plan: Arts and Culture; Economic Development; Education; Energy and Sustainability; Land Use, Housing, and Open Space; Parks and Recreation, Public Safety and Emergency Services; Tourism and Marketing; and Transportation (City of Palm Desert 2016).

2.7.14 City of Palm Desert Municipal Code

The City of Palm Desert Municipal Code (PDMC) addresses sanitation infrastructure in Title 5 Business Taxes, Licenses and Regulations, Title 8 Health and Safety, Title 12 Streets and Sidewalks, Title 15 Building and Construction, Title 26 Subdivisions, Title 27 Grading, and Title 28 Flood Damage Prevention. The PDMC provides guidance on the requirement, connection, construction, and health and safety of sanitation infrastructure in the City of Palm Desert (City of Palm Desert 2020).

2.7.15 City of Indian Wells General Plan

The City of Indian Wells General Plan (IWGP) was adopted on February 1, 1996 (City Resolution No. 96-9). Since adoption in 1996, the IWGP has been amended six times responding to changes in the community. The IWGP contains goals and policies intended to guide development within the planning area while ensuring citizen health, safety, and welfare. The IWGP is organized into functional chapters which contain multiple elements within each chapter. The chapters in the IWGP are organized as follows: Community Development (Land Use, Housing, Circulation), Resource Management (Conservation and Open Space), and Public Safety (Community Safety, Noise) (City of Indian Wells 1996).

2.7.16 City of Indian Wells Municipal Code

The City of Indian Wells Municipal Code (IWMC) outlines the rules and regulations within the City and functions as the mechanism to implement the IWGP. The IWMC addresses sanitation infrastructure in Title 5 Business Licenses and Regulations, Title 8 Health and Sanitation, Title 13 Public Utilities, Title 14 Water and Sewers, Title 16, Building and Construction, Title 20 Subdivisions, Title 21 Zoning Code, and Title 22 Resources Management. (City of Indian Wells 2020).

2.7.17 City of Indio General Plan

The City of Indio Interim Final Draft General Plan (IGP) was finalized in 2019. The IGP is organized into nine chapters: Land Use and Urban Design; Mobility; Economic Development; Health and Safety; Parks, Recreation, and Open Space; Conservation; Infrastructure and Public Facilities; Safety; and Noise. The vision behind the IGP aims to enhance the City of Indio's local economy, maintain the "City of Festivals" reputation, while improving access to quality education, housing, and jobs. The IGP includes goals, policies, and implementation actions with the intent of achieving the City's vision (City of Indio 2019). The IGP also lists strategies to achieve these goals which include the following:

- Restore Downtown as the heart of the community
- Reinvent the Highway 111 Corridor
- Establish a human-scale network of complete streets and community open spaces
- Expand commerce in the City
- Strengthen tourism and hospitality sector
- Revitalize and connect neighborhoods
- Enhance community health and wellness for everyone in Indio

2.7.18 City of Indio Municipal Code

The City of Indio Municipal Code (IMC) addresses sanitation infrastructure in Title IV Chapter 57. Title IV Chapter 57 of the IMC consists of provisions concerning the construction, connection charges, services charges, and code enforcement fees regarding sanitation infrastructure (City of Indio 2020).

2.7.19 City of La Quinta General Plan

The 2035 City of La Quinta General Plan (2035 LQGP) was adopted on February 19, 2013 and amended on November 19, 2016. The intent of the 2035 LQGP is to enhance and improve the quality of life in La Quinta. The 2035 LQGP includes eight guiding principles to achieve and support this community goal:

- A Neighborhood Oriented Community
- A Healthy, Vibrant and Heritage Minded Community

- A Fiscally Sound Community
- A Safe Community
- A Full-Service Community
- A Resort Oriented Community
- A Circulation Minded Community
- A Conservation Focused Community

In addition to these eight guiding principles, the LQGP includes 19 elements organized within four chapter headings as follows: Community Development (Land Use, Circulation, Livable Community, Economic Development, Parks, Recreation and Trails, and Housing); Natural Resources (Air Quality, Energy and Mineral Resources, Biological Resources, Cultural Resources, Water Resources, Water Resources, and Open Space and Conservation); Environmental Hazards (Noise, Soils and Geology, Flooding and Hydrology, and Hazardous Materials); and Public Infrastructure & Services (Emergency Services, Water, Sewer & Other Utilities, and Public Facilities) (City of La Quinta General Plan 2013).

2.7.20 City of La Quinta Municipal Code

The City of La Quinta Municipal Code (LQMC) was established with the intent to provide a scheme of organization for the classification and grouping of ordinances to adopt. The LQMC addresses sanitation infrastructure in Title 6 Health and Sanitation, Title 8 Buildings and Construction, Title 9 Zoning, and Title 13 Subdivision Regulations. The sanitation infrastructure provisions in the LQMC are provided with the intent to ensure the adequate design and provision of sanitation facilities to protect health and safety within the City (City of La Quinta 2020).

2.8 Project Technical Studies

The analysis contained in this Draft PEIR is supported by the following project-specific technical studies:

- Biological Resources Technical Report
- Cultural Resources Constraints Analysis

The results of these studies are discussed in Section 4.2 Biological Resources and Section 4.3 Cultural Resources, respectively. A copy of these technical reports can be found in Appendices C and D.

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3.0 PROJECT DESCRIPTION

3.1 Project Location

CVWD's service area covers approximately 1,000 square miles from the San Gorgonio Pass to the Salton Sea, mostly within the Coachella Valley in Riverside County, California. CVWD's service boundary also extends into small portions of Imperial and San Diego counties. The Proposed Project is located in the Coachella Valley in southern California, within CVWD's service area, located approximately 130 miles east of the City of Los Angeles and 140 miles northeast of the City of San Diego. The topography of the service area is valley-centered, with a mild slope generally following the Coachella Valley Stormwater Channel (also known as the Whitewater River Stormwater Channel in CVWD's western service area) which bisects the Coachella Valley as it flows from the west to the east/southeast, discharging to the Salton Sea. The Salton Sea generally forms the southern boundary of the CVWD service area, with the Chocolate Mountains on the east and the Santa Rosa Mountains on the west. The southern tip of the San Bernardino Mountains forms the northern extent of the service area (Figure 3-1).

3.2 Background

CVWD is a special-district agency that delivers irrigation and domestic (drinking) water, collects and recycles wastewater, provides regional storm water protection, replenishes the groundwater basin, and promotes water conservation. The Sanitation Division specifically provides wastewater collection and treatment services. To provide these services, CVWD owns and operates a large collection system and five water reclamation plants (WRPs): 1, 2, 4, 7, and 10. The CVWD sanitary collection sewer system includes more than 1,130 miles of sanitary sewer pipeline, which are comprised of approximately 1,060 miles of gravity pipelines and 70 miles of force mains (Figure 3-2).

In 2009, CVWD prepared its first sewer collection system master planning study (the 2009 Sanitation System Master Plan), developed in the context of the strong economic cycle and exceptional development boom of the preceding period. At that time, the population of the service area was projected to increase by nearly 250 percent from 211,400 in 2005 to 523,800 by 2030. The 2009 Sanitation System Master Plan (2009 Sanitation Master Plan) studied the following: wastewater flow projections, wastewater load projections, reliability/redundancy criteria, biosolids management, water reclamation plant evaluations, and the collection system in an effort to develop the capital improvement program. The 2009 Sanitation Master Plan was based on a robust housing development outlook in 2007. The resulting approach of the 2009 Sanitation Master Plan was therefore focused on growth and capacity expansion of the sanitation system. The subsequent housing market collapse, economic recession in 2008-2009, and prolonged drought slowed down growth in the region, and the growth predicted in the 2009 Sanitation Master Plan did not occur. The service area population rose modestly from the prior study period, estimated to be approximately 216,000 in 2015. The 2009 Sanitation Master Plan anticipated that, should the actual service area population growth deviate from the assumptions, CVWD would update or revise the plan accordingly.

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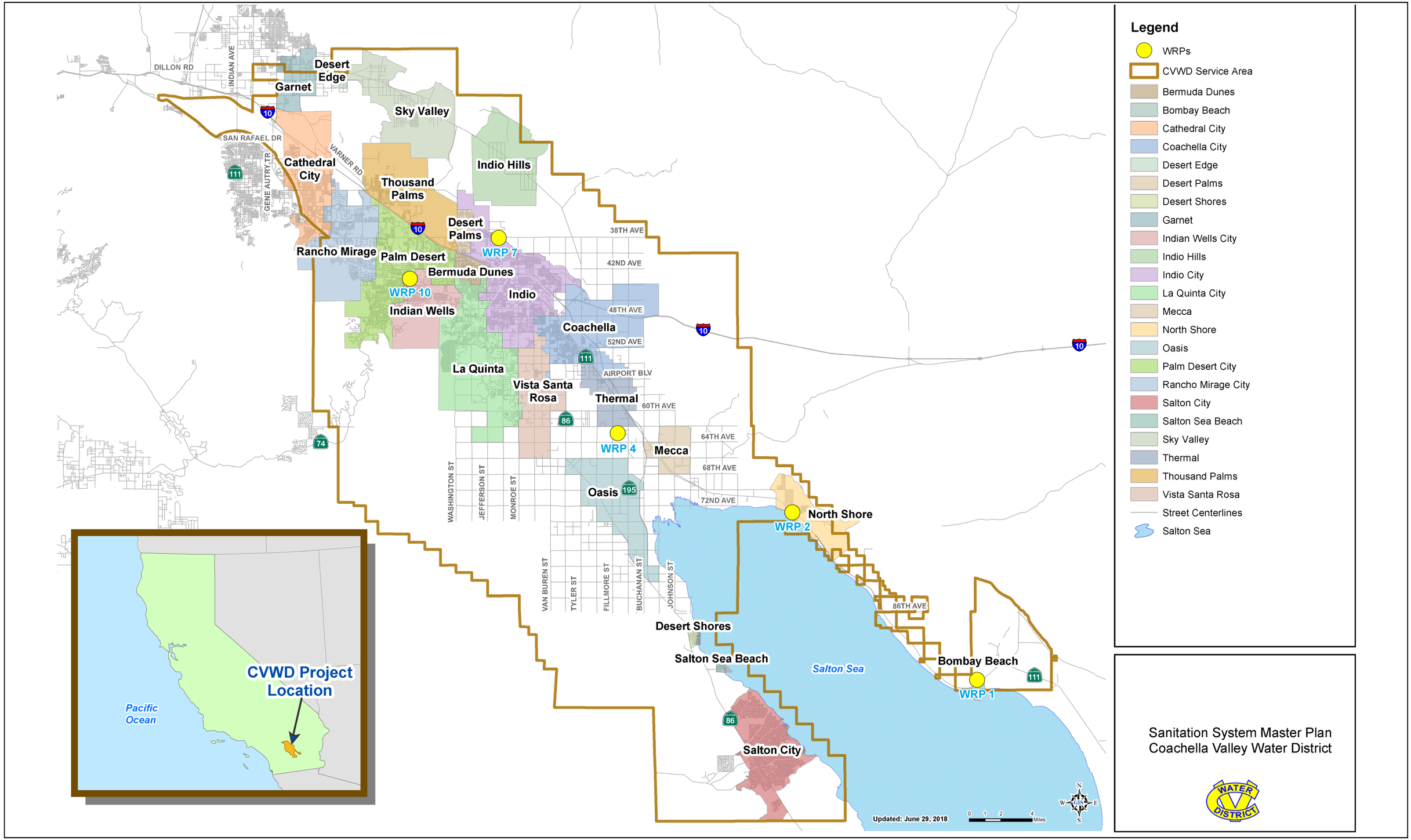

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Source: AKEL Engineering

Figure 3-1. Project Location and CVWD Service Area
2019-144 CVWD Sanitation Master Plan

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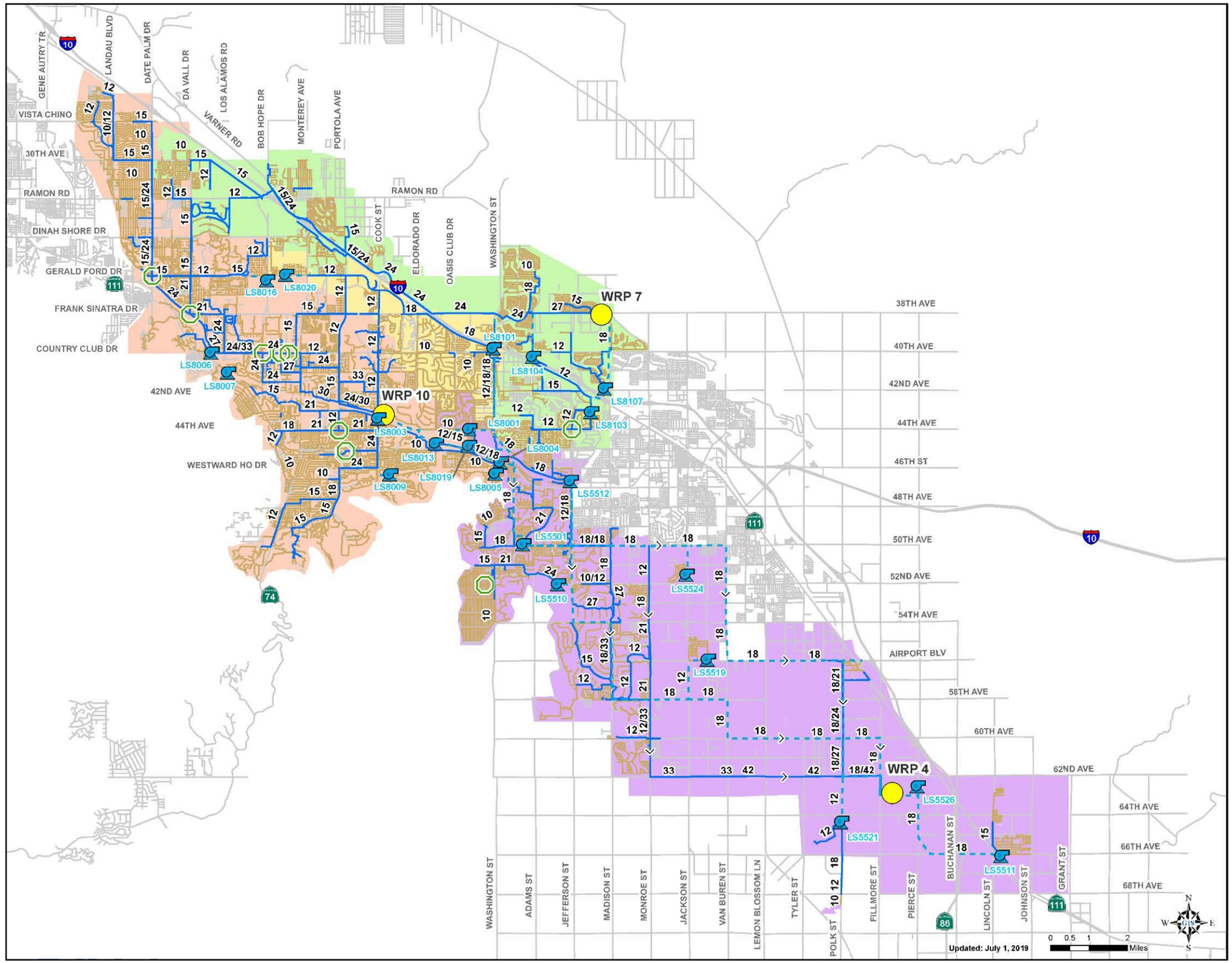

Source: AKEL Engineering Group, Inc.

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 3.2 Existing Sanitation System

2019-144 CVWD Sanitation Master Plan

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In 2020, CVWD prepared the Sanitation Master Plan Update 2020, which identifies a comprehensive, long-term capital improvement program with a planning horizon to the year 2040. Refer to Section 3.6 for a complete list of sanitation projects.

3.3 Environmental Setting

3.3.1 Existing Sanitation Collection Facilities

The 8-inch and 10-inch diameter gravity mains account for more than 75 percent of the total gravity sewer lengths in the service area. Smaller gravity sewer sizes, such as 4-inch and 6-inch diameter pipes, account for less than 1 percent of the total sewer pipe lengths, while larger gravity sewer sizes ranging from 24-inch to 42-inch account for less than 5 percent of the total gravity sewer lengths. More than 70 percent of the total length of force mains are 18 inches in diameter, with the remaining sizes varying between 4 inches and 30 inches in diameter (Figure 3-2). A vast majority of the 18-inch in diameter force mains are a part of the Mid-Valley Force Main System, which conveys collected sanitary sewer flows from Lift Station 81-01 to WRP 4 (Figure 3-3). As a part of the sanitary sewer system, CVWD operates and maintains 27 lift stations, which convey flow by pressure to the gravity sewer systems or the Mid-Valley Force Main System.

3.3.2 Water Reclamation Plants

There are five existing WRPs in CVWD's service area: WRPs 1, 2, 4, 7, and 10.

- **WRP 1** is located in the unincorporated community of Bombay Beach, in Imperial County. WRP 1 was constructed in 1975 and treats wastewater collected from the community of Bombay Beach. WRP 1 is a lagoon treatment system with a design maximum month average daily flow treatment capacity of 150,000 gallons per day (gpd) (0.150 million gallons per day [mgd]). Influent flows have declined steadily from an average daily flow of 73,000 gpd in 1998 to 13,000 gpd in 2017. Wastewater is treated in aerated lagoons prior to discharge to evaporation/percolation ponds for disposal.
- **WRP 2** provides sewage collection service from the North Shore, Desert Beach, and Marina areas. WRP 2 is located in the unincorporated community of North Shore in Riverside County. WRP 2 was originally constructed in 1974 with a design treatment capacity of 180,000 gpd. Until recently, the facility consisted of an aerated pond, an activated sludge treatment plant including tertiary filters, three sludge drying beds, and two evaporation/percolation ponds. In 2018, the activated sludge treatment plant, tertiary filters, and sludge drying beds were demolished after being abandoned for many years. Per the March 2018 design drawings, the remaining treatment process units consist of two oxidation ponds, two evaporation/percolation ponds, and a standby pond. The facility has a maximum month average daily flow permit capacity of 33,000 gpd. Like WRP 1, the influent flow to WRP 2 has steadily declined since 1998, averaging 12,000 gpd in 2017.

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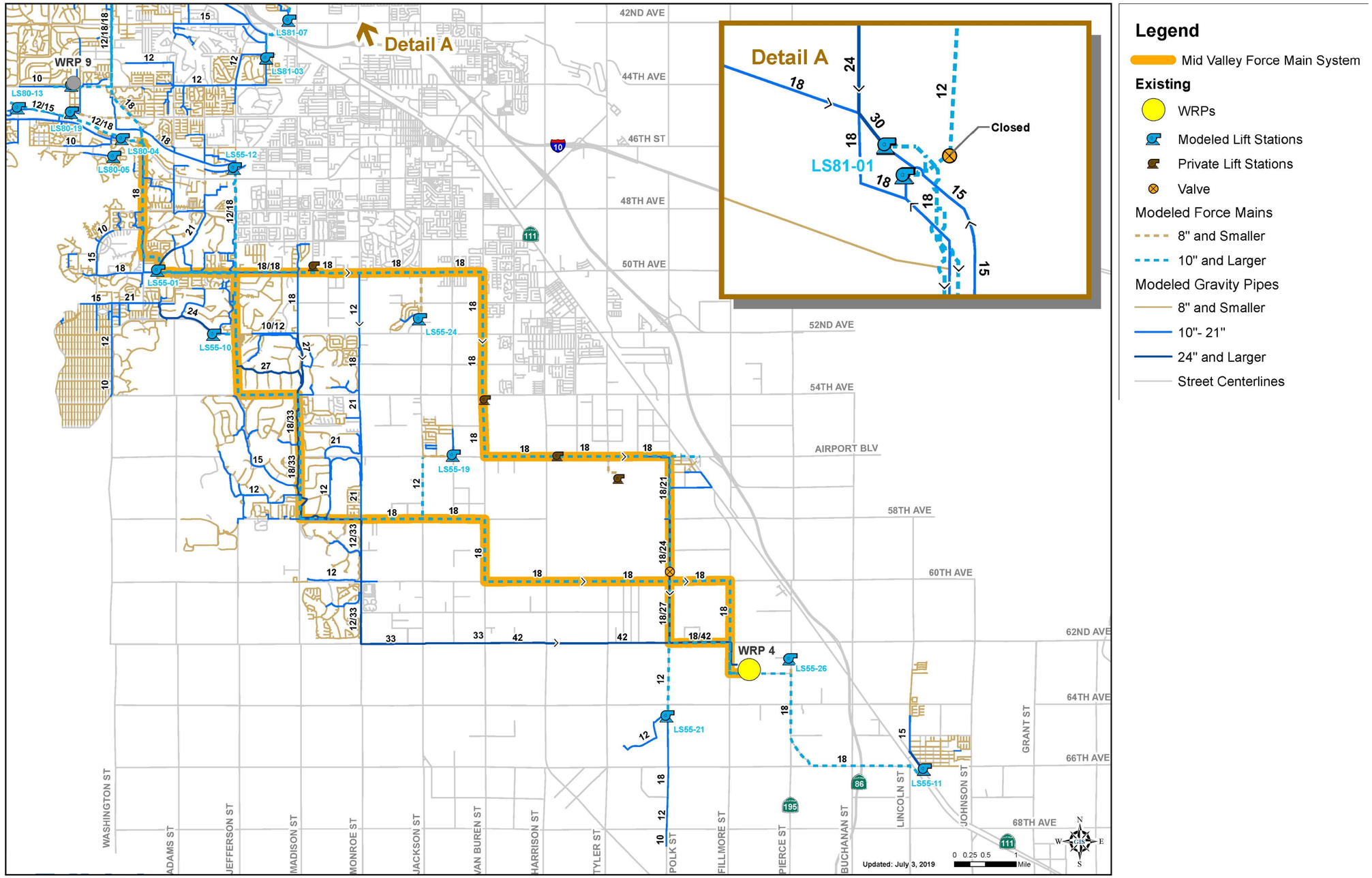

Legend

- Mid Valley Force Main System

Existing

- WRPs
- Modeled Lift Stations
- Private Lift Stations
- Valve

Modeled Force Mains

- 8" and Smaller
- 10" and Larger

Modeled Gravity Pipes

- 8" and Smaller
- 10"- 21"
- 24" and Larger
- Street Centerlines

Source: AKEL Engineering Group, Inc.

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 3.3 Mid-Valley Force Main System

2019-144 CVWD Sanitation Master Plan

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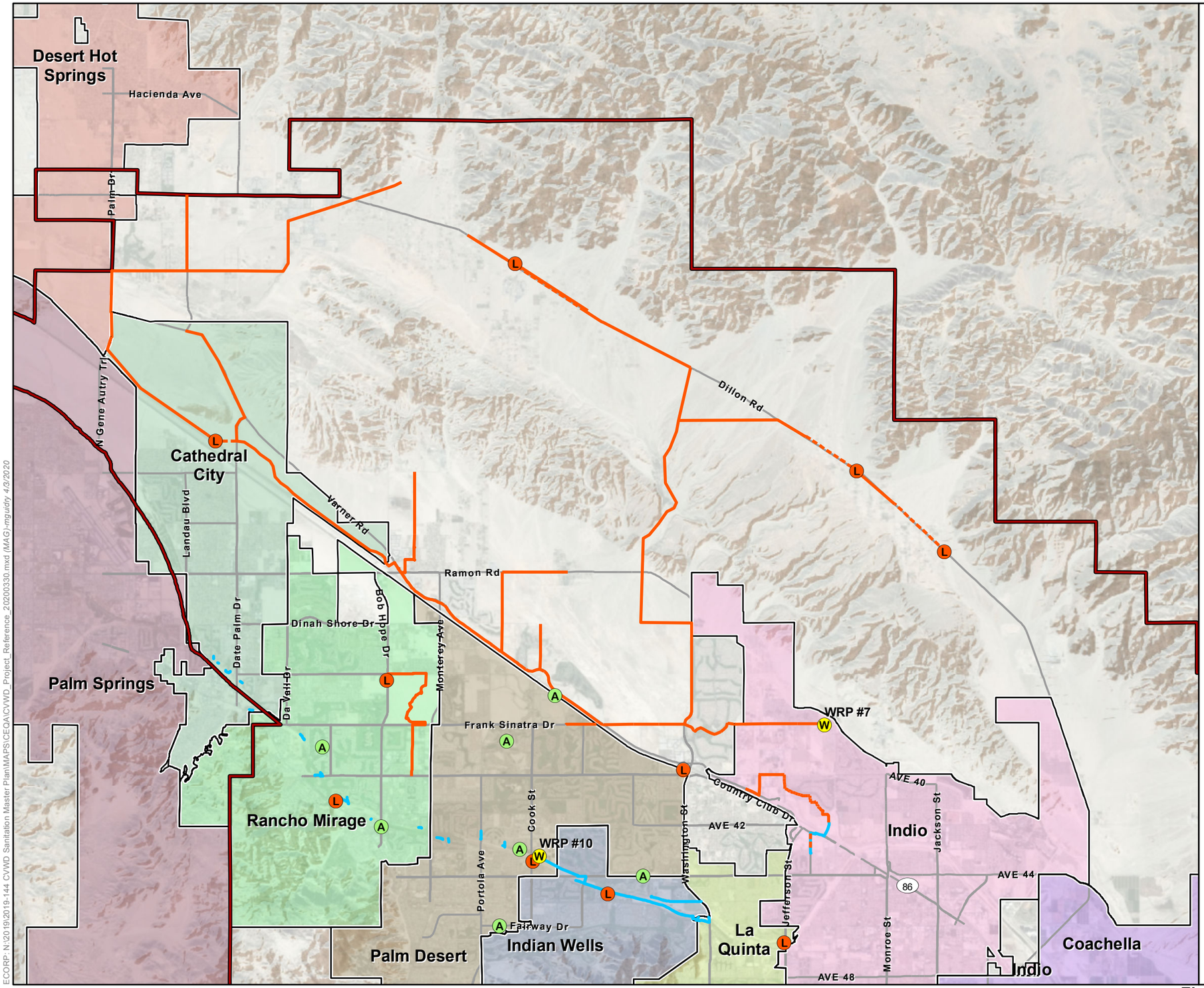
- **WRP 4** is located in the unincorporated community of Thermal in Riverside County. WRP 4 is the District's second largest wastewater reclamation plant in terms of treatment capacity and provides collection service to approximately 63,000 people in the cities of La Quinta, Mecca, Palm Desert, and Thousand Palms. The facility is permitted under an NPDES permit to discharge a maximum monthly average daily effluent flow of 9.9 mgd to the Coachella Valley Stormwater Channel. WRP 4's annual average influent flows have remained relatively constant over the past few years (2015-2019), averaging 5.0 mgd. WRP 4 uses two secondary treatment systems operating in parallel to provide biochemical oxygen demand and total suspended solids (TSS) reduction: a lagoon treatment system with a permit capacity of 7.0 mgd and a Biolac® activated sludge treatment system with a permit capacity of 2.9 mgd. In addition to the secondary treatment systems, WRP 4 also has a new headworks facility (constructed in 2015), a disinfection and dechlorination system, and solids handling facilities.
- **WRP 7** is located in the City of Indio and provides service to portions of the cities of Cathedral City, Rancho Mirage, Palm Desert, Bermuda Dunes, Thousand Palms, and some unincorporated areas of Riverside County. The facility has a secondary treatment permit capacity of 5.0 mgd and a tertiary treatment capacity of 2.5 mgd. WRP 7 consists of a headworks facility followed by an activated sludge system, tertiary filters, and chlorine disinfection. Secondary effluent may be pumped to the tertiary treatment system, stored in the secondary equalization basin, or diverted to on-site and/or off-site percolation ponds for land disposal. The tertiary treatment system includes dual media filtration and chlorine disinfection to meet Title 22 requirements for recycled water. The recycled water is used for off-site irrigation delivery and is either stored in a covered storage reservoir or pumped offsite to an open reservoir near the Del Webb Sun City Golf Course (Palm Desert).
- **WRP 10** is located in the City of Palm Desert and serves the cities of Indian Wells, Palm Desert, Rancho Mirage, and a portion of Cathedral City. WRP 10 is an activated sludge wastewater treatment plant and among the District-owned WRPs, has the greatest treatment capacity of 18 mgd. The facility contains three separate liquid-stream secondary treatment trains, referred to as Plant A, Plant B, and Plant C. WRP 10 also contains two tertiary treatment trains with a total tertiary treatment capacity available to meet Title 22 requirements of 15.0 mgd. Recycled water is blended with Colorado River water via the Coachella Canal and Mid-Valley Pipeline when available supplies of recycled water are not sufficient to meet customer demand. Blended water is referred to as non-potable water (NPW). The NPW system includes a reservoir for receiving Colorado River water, a blended water reservoir, and a 5 million-gallon NPW storage bladder to provide source water for the NPW pumps. During winter months when NPW demand is less, WRP 10 has the ability to discharge secondary effluent to nine land disposal ponds of approximately 18 million gallons total. The plant also processes solid waste where waste-activated sludge is pumped directly to a gravity thickener before dewatering through a belt filter press. The dewatered solids are then hauled offsite for disposal at an approved facility.

3.4 Sanitation Master Plan Update 2020 Components

The Proposed Project provides a comprehensive, long-term Capital Improvement Program (CIP) consisting of recommendations to refurbish existing assets, optimize operations, and satisfy projected capacity needs of all CVWD sanitation facilities (collection system including gravity pipelines, force mains, lift stations, and the five WRPs). These projects are planned to be implemented over a 19-year planning horizon within CVWD's service area. Each of the project components is described in detail in Section 3.6, Project Summary and shown on Figure 3-4.

The CVWD Sanitation Master Plan Update 2020 is organized into the following four volumes:

- **Volume 1 – General:** includes general information about the CVWD sanitation facilities, including background information, existing service area descriptions, historical flow and loading evaluation and projected flow and loading by service area, level of service, energy audits, and regulatory setting.
- **Volume 2 – Collection System:** includes collection system Geographic Information System (GIS) updates, hydraulic modeling, focused risk assessment of sanitation infrastructure in the vicinity of the Coachella Valley Storm Channel and Coachella Canal, and hydraulic capacity assessments to identify projects and recommend capital improvements for the collection system.
- **Volume 3 – Water Reclamation Plants:** includes plant benchmarking, process evaluations, and application of projected flow and loading criteria and anticipated regulatory framework to identify projects and recommend capital improvements for the five WRPs.
- **Volume 4 – Capital Improvement Program (CIP):** compiled and prioritized capital improvement projects in a program for all sanitation facilities over the planning period of 2021 to 2040.



Map Features

- Coachella Valley Water District Service Area
- WRP
- Lift Station
- Collection System Asset Management CIPs (Sewer Pipelines and Manholes)

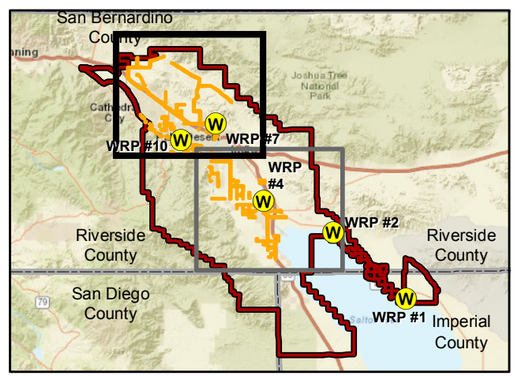
Capacity Pipe Improvements

- Force Main
- Gravity Main

Renewal Pipe Improvements/Risk Management

- Whitewater River/Coachella Valley Stormwater Channel

Sources: CVWD, USFWS, Esri



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Map Date: 4/3/2020

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Figure 3-4: CVWD Sanitation Master Plan Update
Capital Improvement Program Projects Sheet 1 of 2

2019-144 CVWD Sanitation Master Plan

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Indian Wells
Indio
Coachella
La Quinta
AVE 48
AVE 50
AVE 52
52nd Ave
56th Ave
62nd Ave
66th Ave
Jefferson St
Washington St
Jackson St
Dillon Rd
Eisenhower Dr
Monroe St
Van Buren St
Lincoln St
WRP #4
WRP #2
Box Canyon Rd

Map Features

- Coachella Valley Water District Service Area
- WRP
- Lift Station
- Collection System Asset Management CIPs (Sewer Pipelines and Manholes)

Capacity Pipe Improvements

- Force Main
- Gravity Main

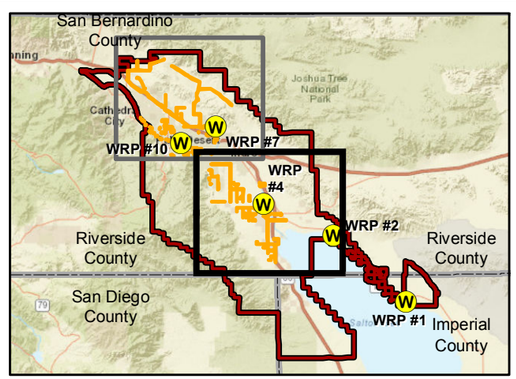
Septic to Sewer

- Force Main
- Gravity Main

Renewal Pipe Improvements

- Whitewater Canal

Sources: CVWD, USFWS, Esri



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Map Date: 4/3/2020

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Figure 3-4: CVWD Sanitation Master Plan Update Capital Improvement Program Projects Sheet 2 of 2

2019-144 CVWD Sanitation Master Plan

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The purpose of the Proposed Project is to plan the expansion and upgrades of the CVWD sanitation system within the boundaries of CVWD service area in order to provide sustainable, cost-effective service to CVWD's current and future customers. The Sanitation Master Plan Update 2020:

- Adjusts the actual-population-to-date estimates, accounting for the slowdown in growth that occurred after 2007
- Updates the flow and loading projections to the WRPs and evaluates capacity
- Collects operational and water quality data and BioWin models for each WRP to identify loading capacity and opportunities for process improvements
- Updates the system and pump station hydraulic modeling and evaluates capacity
- Addresses current regulatory requirements and addresses potential future regulatory orders for nutrient and salinity controls of discharges to receiving waters and infiltration basins
- Provides marketing options and a strategy for implementing a recycled water program at WRP 4
- Provides condition-based horizontal and vertical asset replacement projects for the collection system and WRPs
- Updates the biosolids management plan and describes potential legislative changes and implications for CVWD
- Baselines performance of the WRPs and proposes improvements to optimize process operations and reduce energy and Operations & Maintenance (O&M) cost
- Presents a plan for CVWD to be able to convert septic-to-sewer areas to CVWD's centralized system as grant funding opportunities materialize

The proposed Collection System improvements include adding approximately 174 miles of gravity and force main pipelines to increase system capacity, upsizing of gravity pipelines, cleaning and inspecting pipelines, trenchless rehabilitation of pipelines and manholes, replacement of electrical equipment and wiring at lift stations, replacement of lift stations, and a new non-potable distribution system in the service area. The proposed CIP projects for the collection system can be separated into the following categories:

- Projects required for replacing pipelines to address deficiencies or to accommodate future growth
- Projects required for adding pipelines to expand system and accommodate future growth
- Projects required for replacing or adding lift stations to address deficiencies or to accommodate future growth
- Projects that are for risk mitigation of the existing sewer that runs parallel and crosses the Whitewater River/Coachella Valley Stormwater Channel

- Projects required for asset management (replacement of pipelines, manholes, lift stations) to address aging infrastructure
- Projects for converting septic-to-sewer areas that will seek grant funding

The proposed improvements at the WRPs include plant and process equipment capacity upgrades/expansion, replacement of assets, addition of process monitoring and controls, improvements to reduce energy consumptions, safety and security upgrades, addition of solar power, backup power generation, floating covers, addition of tanks and reservoirs, primary treatment and tertiary treatment, replacement of liners, and pilot projects. The Proposed Project also includes biosolids management plans for a regional facility, and standardization of O&M improvements across all WRPs.

The proposed CIP projects for the WRPs can be separated into the following categories (projects can fit into multiple categories):

- **Required Projects**
  - Projects required to maintain treatment capacity based on flow projections
  - Projects that are already underway and in the current CIP (2019/2020)
  - Projects required for asset management (replacement of aging equipment)
  - Projects required to meet anticipated new regulatory requirements
- **Level of Service Projects**
  - Projects that improve water quality performance by reducing potential for permit violations, increase instrument monitor/control of the process, and improve process performance
  - Projects that improve treatment efficiency, reduce energy usage, reduce chemical consumption, increase process reliability, and reduce solids handling disposal costs
  - Projects that minimizes impacts to operations and management by reducing maintenance needs and labor, allowing remote monitoring of process
  - Projects that provide or increase beneficial reuse by increasing recycled water and biosolids reuse

The resulting CIP from the Master Plan Update supports CVWD's vision of transforming the wastewater facilities into the "Sanitation Utility of the Future" by including phased infrastructure improvements that:

- Compare with current industry trends and position CVWD to incorporate future technologies
- Adopt best-in-class operating and management profiles
- Allow CVWD provides cost-effective, customer-focused service

3.5 Project Drivers and Goals

3.5.1 Project Drivers

The drivers of the Master Plan Update are:

- **Asset management** – sustainable reinvestment in public infrastructure
- **Capacity and regulatory** – build or adapt infrastructure to meet predicted growth and anticipated permit requirements
- **Level of service** – deliver customer-focused, cost-effective service through improved operational strategies, automation, and expansion of economical, beneficial reuse (recycled water and biosolids)

Asset management and capacity and regulatory goals/requirements are set by others. CVWD's Asset Management Program relies heavily on the equipment vendor's anticipated life expectancy and the conditions needed to achieve that expectancy. The regulatory goals/requirements are set by regulatory agencies – California Regional Water Quality Control Board Colorado River Basin Region for WRPs 1, 2, 7, and 10 Waste Discharge Permits and the WRP4 NPDES Permit. An asset requires maintenance and replacement based on its condition and expected life. Capacity of the system and processes must be sufficient to meet regulatory discharge permit requirements. Levels of service, however, are goals defined by CVWD with the intention and focus on improvements to customer satisfaction, affordability, effectiveness, reliability, resiliency, number of loss-of-service/interruptions, and performance of the collection and treatment of wastewater.

3.5.2 Project Goals

The main goal of the Master Plan Update 2020 is to create a comprehensive CIP to be implemented between 2021 and 2040. The four service level goals of the Proposed Project are:

1. **Improve Water Quality Performance** – Reduce/eliminate the potential for sanitary sewer overflows (SSOs) and upsets within the plant process
2. **Improve Treatment Plant Process and Efficiency** – Achieve optimal operation of the treatment processes where equipment is operating near best efficiency, and process performance is as expected
3. **Maximize Beneficial Reuse** – Increase water recycling and biosolids reuse through expanding the water recycling market, and alternative option for biosolids reuse rather than disposal
4. **Minimize the Impacts to Operations and Maintenance** – Reduce maintenance and operational needs that over-stretch the staff by looking at replacing problematic equipment, remote monitoring and controls to check and clear alarms, improvements to the process that will addresses the causes of alarm conditions, and frequent checks and fixes

3.6 Project Summary

The Sanitation Master Plan Update 2020 identifies 133 improvement projects. These projects are collectively referred to as "proposed CIP projects". The descriptions of the proposed CIP projects are organized into the following 12 categories:

1. WRP 10 Capital Improvement Projects
2. WRP 7 Capital Improvement Projects
3. WRP 4 Capital Improvement Projects
4. WRP 2 Capital Improvement Project
5. WRP 1 Capital Improvement Projects
6. Biosolids Capital Improvement Projects
7. WRP Asset Management Capital Improvement Projects
8. General Capital Improvement Projects
9. Collection System Capacity Capital Improvement Projects
10. Collection System Condition and Risk Assessment Capital Improvement Projects
11. Septic-to-Sewer Conversion Capital Improvement Projects
12. Collection System Asset Management Capital Improvement Projects

Each of the above categories are summarized in a table (excerpted from the Sanitation Master Plan Update 2020), which includes a brief project description and highlights the main purpose of the project. The projects are also documented graphically on figure(s) directly following the corresponding table(s). It should be noted that the order of the proposed projects does not indicate prioritization. The proposed projects may be implemented in any order depending on funding and community needs.

3.6.1 WRP 10 Capital Improvement Projects

Seventeen projects have been identified for the WRP 10 CIP. Each of the projects is shown in Figure 3-5 and listed in Table 3-1. The primary purpose of each project is shown with a **red X** in the table. The **black X** in the table signifies the project driver(s) and/or goal(s) met by each project and whether it is included in the 2019/2020 CIP.

Table 3-1. WRP 10 Proposed CIP Projects

Project ID	Project Title	Project Description	In 2019/ 2020 CIP	Driver			Level of Service			
				Regulatory	Capacity	Asset Management	WQ Performance	Process Efficiency	Beneficial Reuse	O&M
10-1	Headworks Improvements & Septage Stabilization	Replace existing headworks with new headworks similar to WRPs 4 & 7, replace the flow split structure to Plants A, B & C, new odor control.	X			X	X			X
10-2	Treatment Expansion Upgrades	This project adds primary sedimentation clarifiers, sludge collectors, and odor control, primary sludge pumps, and thickeners. This project is an alternative to Project 10-3.			X		X	X	X	
10-3	Secondary Process Improvements for Nutrient Removal	Includes construction of additional treatment tanks for anoxic zones, new secondary splitter box, internal recycle pumps, online instrumentation and Supervisory control and data acquisition (SCADA) programming, and modifications to existing return activated sludge (RAS) piping.		X			X	X	X	
10-4	Tertiary Treatment Process Optimization	Implement ammonia-based aeration control and solids retention time (SRT) control improvements based on results of ongoing pilot testing.	X					X		X
10-5	Secondary Clarifier Performance Upgrades	This project optimizes clarifier performance by providing better control for WAS/RAS removal, producing higher concentration of RAS and WAS, and adding a flow control valve and meter from each clarifier to better manage sludge flow out.					X	X		X
10-6	Solids Handling Upgrades	New tank may need aeration/odor control and shading from direct sun. Replace the 2 existing thickened waste activated sludge pumps and rename as stored waste activated	X				X			X

Table 3-1. WRP 10 Proposed CIP Projects

Project ID	Project Title	Project Description	In 2019/ 2020 CIP	Driver			Level of Service			
				Regulatory	Capacity	Asset Management	WQ Performance	Process Efficiency	Beneficial Reuse	O&M
		sludge pumps. Investigate use of existing tanks if structural issues can be resolved.								
10-7	Biosolids Equipment Upgrades	This project upgrades the existing dewatering equipment both as an asset management item and to provide equipment that can dewater un-thickened sludge at the quantities estimated for 2045.	X		X	X				X
10-8	Influent Equalization and Septage Storage Tank	Adds a 4 million-gallon (MG) tank of screened wastewater equalization and new septage receiving station. Add odor control.					X			X
10-9	Tertiary Filter Improvements	This project is a study to evaluate various flocculants and options for replacing the DynaSand filters with alternative filter type.			X		X		X	
10-10	Security System Upgrade	Video monitors will be installed for entry control and site safety and security	X							X
10-11	Perimeter Security Wall Installation	A security wall will be constructed along the perimeter of the plant site	X							X
10-12	Chemical System Safety Upgrade	Upgrade the chlorination building to conform with 2013 CA fire code. Design and install closed-circuit TV (CCTV) cameras for the chlorine building.	X	X						
10-13	Aeration Improvements	This project involves constructing new aeration diffusers, valves, and piping, within Plants B and C center aeration channels, aeration/clarifier gates, RAS/WAS pumps and meters, new	X					X		

Table 3-1. WRP 10 Proposed CIP Projects

Project ID	Project Title	Project Description	In 2019/ 2020 CIP	Driver			Level of Service			
				Regulatory	Capacity	Asset Management	WQ Performance	Process Efficiency	Beneficial Reuse	O&M
		electrical conduits and conductors, replace froth spray pumps, and replace Plant C clarifier drain valves.								
10-14	Backup Generators & Auto Transfer Switch	The existing backup generators and transfer switch will be replaced	X			X				
10-16	Secondary Effluent Pump Station and Storage Ponds Project	Project consist of constructing a 21 MG secondary effluent pump station, piping from secondary effluent to the pump station, backwash water piping, vaults to contain isolation valves, earthwork to expand existing lined ponds to 75 MG.	X		X					
10-17	New Solar Power Facilities	Large photo voltaic assembly system in open areas of plant	X					X		
10-18	Septage Receiving Station Upgrades	Repair/replacement of equipment and portions of existing septage receiving facility	X			X				

Notes:
X = Primary reason for the Project
X = Meets Project Driver(s) and/or Goal(s); included in 2019/2020 CIP
WQ = Water Quality
O&M = Operations and Maintenance

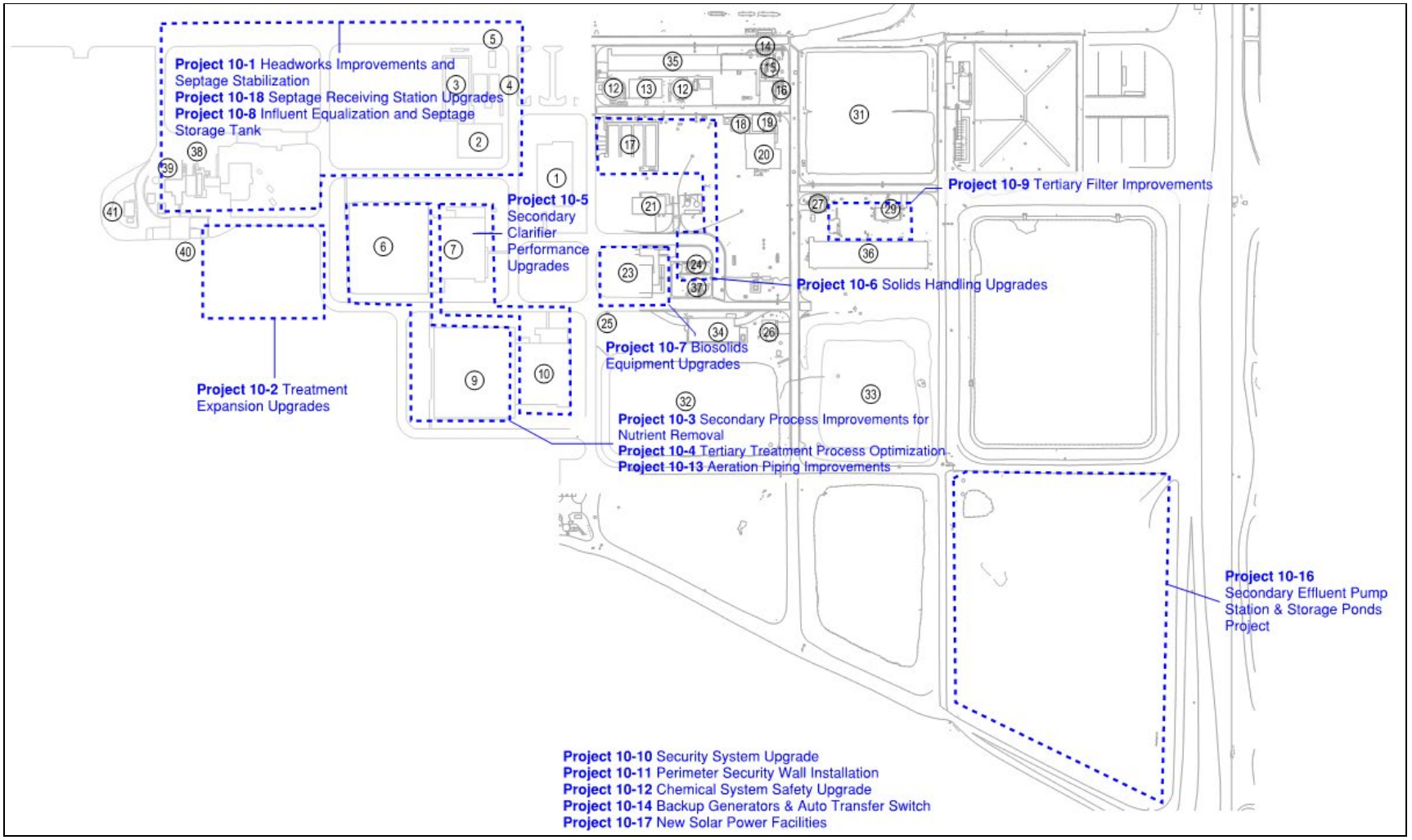

Figure 3-5. WRP 10 Existing Site Plan and Proposed Improvements

3.6.2 *WRP 7 Capital Improvement Projects*

Six projects have been identified for the WRP 7 CIP. Each of the projects is shown in Figure 3-6 and listed in Table 3-2. The primary purpose of the project is shown with a **red X** in the table. The **black X** in the table signifies the project driver(s) and/or goal(s) met by each project and whether it is included in the 2019/2020 CIP.

Table 3-2. WRP 7 Proposed CIP Projects

Project ID	Project Title	Project Description	In 2019/ 2020 CIP	Driver			Level of Service			
				Regulatory	Capacity	Asset Management	WQ Performance	Process Efficiency	Beneficial Reuse	O&M
7-2	Secondary Process Upgrades and Blower/Control Building	Upgrades to the secondary aeration system, replacement of the mixed liquor return pump system, SRT control and aeration optimization to improve process performance, and construction of a new blower and control building	X	X		X		X		
7-4	Recycled Water Expansion	Increases the tertiary treatment capacity by 3 mgd (5.5 mgd total), with the addition of flocculation tanks, chemical feed, gravity multi-media filters, and associated pumps	X	X	X				X	
7-6	Security System Upgrade	This project adds video monitoring system for site security and safety.	X							X
7-7	Chemical System Safety Upgrade	Design and construct upgrades to the chlorination building to conform with 2013 CA fire code. Also design and install CCTV cameras for the chlorine building	X	X						
7-8	Programmable Logic Controller Upgrade	Replace all obsolete programmable logic controllers (PLCs) and control panels, upgrade the plant communications to fiber optic network, and provide as-built information for the electrical controls system.	X			X				

Table 3-2. WRP 7 Proposed CIP Projects

Project ID	Project Title	Project Description	In 2019/ 2020 CIP	Driver			Level of Service			
				Regulatory	Capacity	Asset Management	WQ Performance	Process Efficiency	Beneficial Reuse	O&M
7-9	Energy Efficiency Study	Evaluate alternative energy savings opportunities.	X					X		

Notes:
X = Primary Reason for the Project
X = Meets Project Driver(s) and/or Goal(s) met; included in 2019/2020 CIP
WQ = Water Quality
O&M = Operations and Maintenance

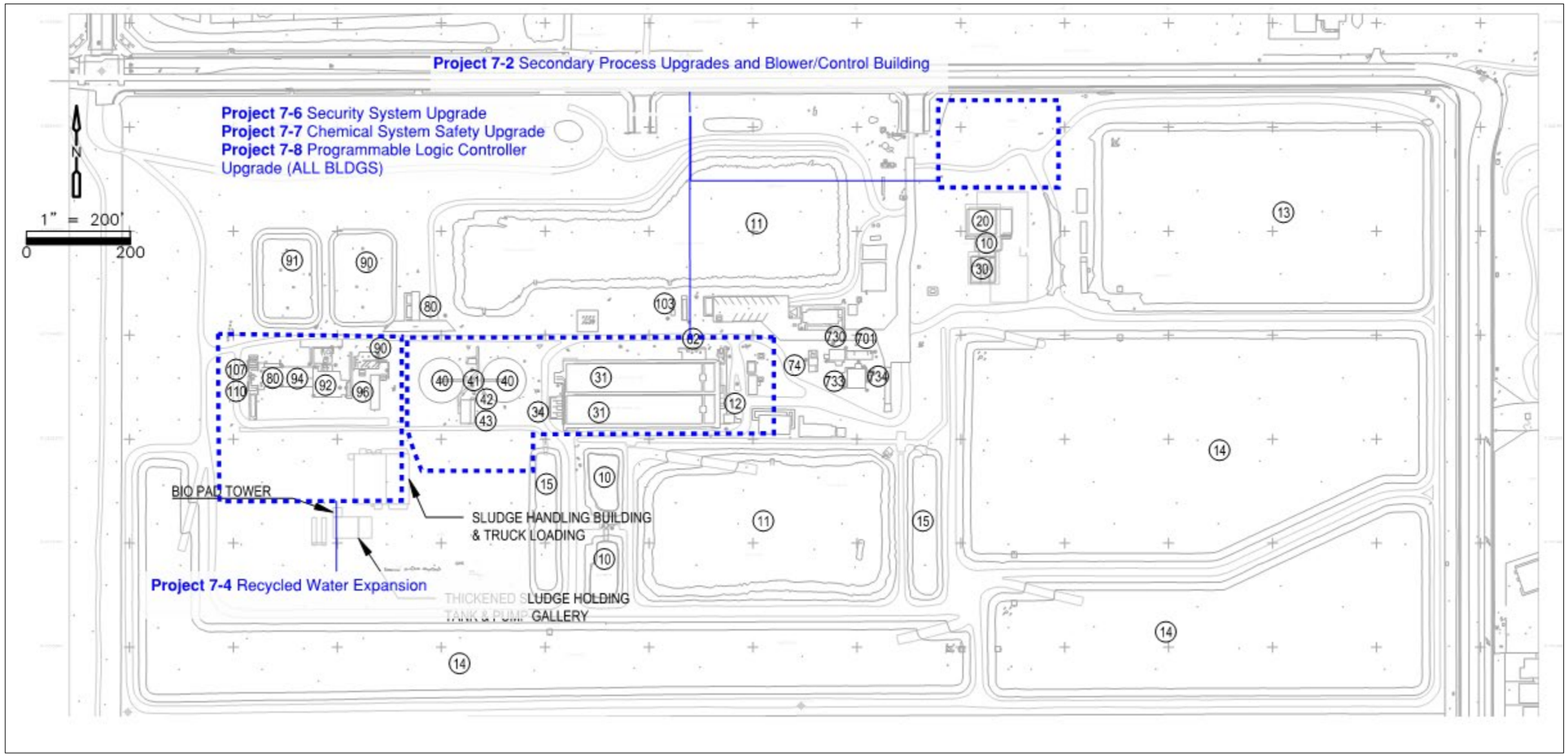

Figure 3-6. WRP 7 Existing Site Plan and Proposed Improvements

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3.6.3 *WRP 4 Capital Improvement Projects*

Sixteen projects have been identified for the WRP 4 CIP. Each of these projects is listed in Table 3-3 and shown in Figure 3-7. The primary purpose of the project is shown with a **red X** in the table. The **black X** in the table signifies the project driver(s) and/or goal(s) met by each project and whether it is included in the 2019/2020 CIP.

Table 3-3. WRP 4 Proposed CIP Projects

Project ID	Project Title	Project Description	In 2019/ 2020 CIP	Driver			Level of Service			
				Regulatory	Capacity	Asset Management	WQ Performance	Process Efficiency	Beneficial Reuse	O&M
4-1	Headworks Expansion Phase 1 (15 mgd)	This project will expand the existing headworks facility in two phases to accommodate the addition of new screens, channels, influent pumps, grit chambers, and appurtenances.			X					
4-2	Headworks Expansion Phase 2 (20 mgd)	Phase 2 will add equipment (screen, washer compactor, pumps, grit pumps, grit classifier) to the facilities constructed in Phase 1.			X					
4-3	Primary Treatment Upgrade (20 mgd)	This project includes 3 new 90-ft diameter primary clarifiers (2 in service, 1 standby) and 2 new 100-ft diameter anaerobic digesters (Project Bio4-2) providing a firm capacity of 20 mgd.			X			X		
4-4	Lagoon Aeration Upgrade	Upgrade lagoon aeration	X					X		
4-5	Activated Sludge Expansion Phase 1 (10.5 mgd)	This project adds 10.5 mgd of capacity and includes decommissioning of the lagoons. Three activated sludge trains will be constructed (3.5 mgd each) consisting of bioreactors, secondary clarifiers, RAS and WAS pumping, and a new aeration system.			X				X	

Table 3-3. WRP 4 Proposed CIP Projects

Project ID	Project Title	Project Description	In 2019/ 2020 CIP	Driver			Level of Service			
				Regulatory	Capacity	Asset Management	WQ Performance	Process Efficiency	Beneficial Reuse	O&M
4-6	Activated Sludge Expansion Phase 2 (14.0 mgd)	This project adds 3.5 mgd of capacity and includes one activated sludge basin, one secondary clarifier, a set of RAS/WAS pumps, addition of one aeration blower and aeration piping system			X		X		X	
4-7	Tertiary Treatment Expansion Phase 1A (2.5 mgd)	This project provides 2.5 mgd treatment capacity, includes secondary effluent equalization basin, coagulation/rapid mix, Filter Building, filters, expands the chlorine contact basins and chemical feed systems, adds a new recycled water pump station (2.5 mgd capacity) and pipeline that connects into a new non-potable system off-site (Volume 2 Project). The project will also require a new Waste Discharge permit with California Regional Water Quality Control Board (CRWQCB) and a permit amendment for the NPDES permit #CA0104973.		X	X				X	
4-8	Tertiary Treatment Expansion Phase 1B (5 mgd)	This project adds 2.5 mgd treatment capacity (5 mgd total), includes coagulation/rapid mix, Filter Building, filters, expands the chlorine contact basins and chemical feed systems, and adds 2.5 mgd recycled pump capacity (5 mgd total)		X	X				X	
4-9	Tertiary Treatment Expansion Phase 1C (7.5 mgd)	This project adds 2.5 mgd treatment capacity (5 mgd total), includes coagulation/rapid mix, Filter Building, filters, expands the chlorine contact basins and chemical feed systems, and adds 2.5 mgd recycled pump capacity (7.5 mgd total)		X	X				X	

Table 3-3. WRP 4 Proposed CIP Projects

Project ID	Project Title	Project Description	In 2019/ 2020 CIP	Driver			Level of Service			
				Regulatory	Capacity	Asset Management	WQ Performance	Process Efficiency	Beneficial Reuse	O&M
4-10	Tertiary Treatment Expansion Phase 1D (10 mgd)	This project adds 2.5 mgd treatment capacity (5 mgd total), includes coagulation/rapid mix, Filter Building, filters, expands the chlorine contact basins and chemical feed systems, and adds 2.5 mgd recycled pump capacity (10 mgd total)		X	X				X	
4-11	Tertiary Treatment Expansion Phase 2 (13.3 mgd)	This project provides overall space and structural elements for another 10 mgd of treatment capacity, initially increases capacity to 13.3 mgd by commissioning the fifth filter, and adds equipment to the existing facilities, including coagulation/rapid mix, filters, chlorine contact basins, recycled water pumps.		X	X				X	
4-12	Tertiary Treatment Expansion Phase 3 (16.67 mgd)	This project increases capacity to 16.7 mgd and adds equipment to the existing facilities, including media and equipment to commission the sixth filter		X	X	X			X	X
4-13	Tertiary Treatment Expansion Phase 4 (20 mgd)	This project increases capacity to 20 mgd and adds equipment to the existing facilities, including media and equipment to commission the seventh filter		X	X	X			X	X
4-14	Security System Upgrade	This project will include installing cameras at access points and for general security coverage of the site.	X							X

Table 3-3. WRP 4 Proposed CIP Projects

Project ID	Project Title	Project Description	In 2019/ 2020 CIP	Driver			Level of Service			
				Regulatory	Capacity	Asset Management	WQ Performance	Process Efficiency	Beneficial Reuse	O&M
4-15	Chemical System Safety Upgrade	Design and construct upgrades to the chlorination building to conform to the chemical system safety requirements of the 2013 California Fire Code. Will also design and install closed circuit television cameras for the chlorine building.	X							X
4-16	Operations/Admin/ Lab Building Upgrade	The addition of an Operations Building would provide the WRP with a centralized building with space for a control room, offices, facility rooms, and a lab	X							X

Notes:
X = Primary Reason for the Project
X = Meets Project Driver(s) and/or Goal(s); included in 2019/2020 CIP
WQ = Water Quality
O&M = Operations and Maintenance

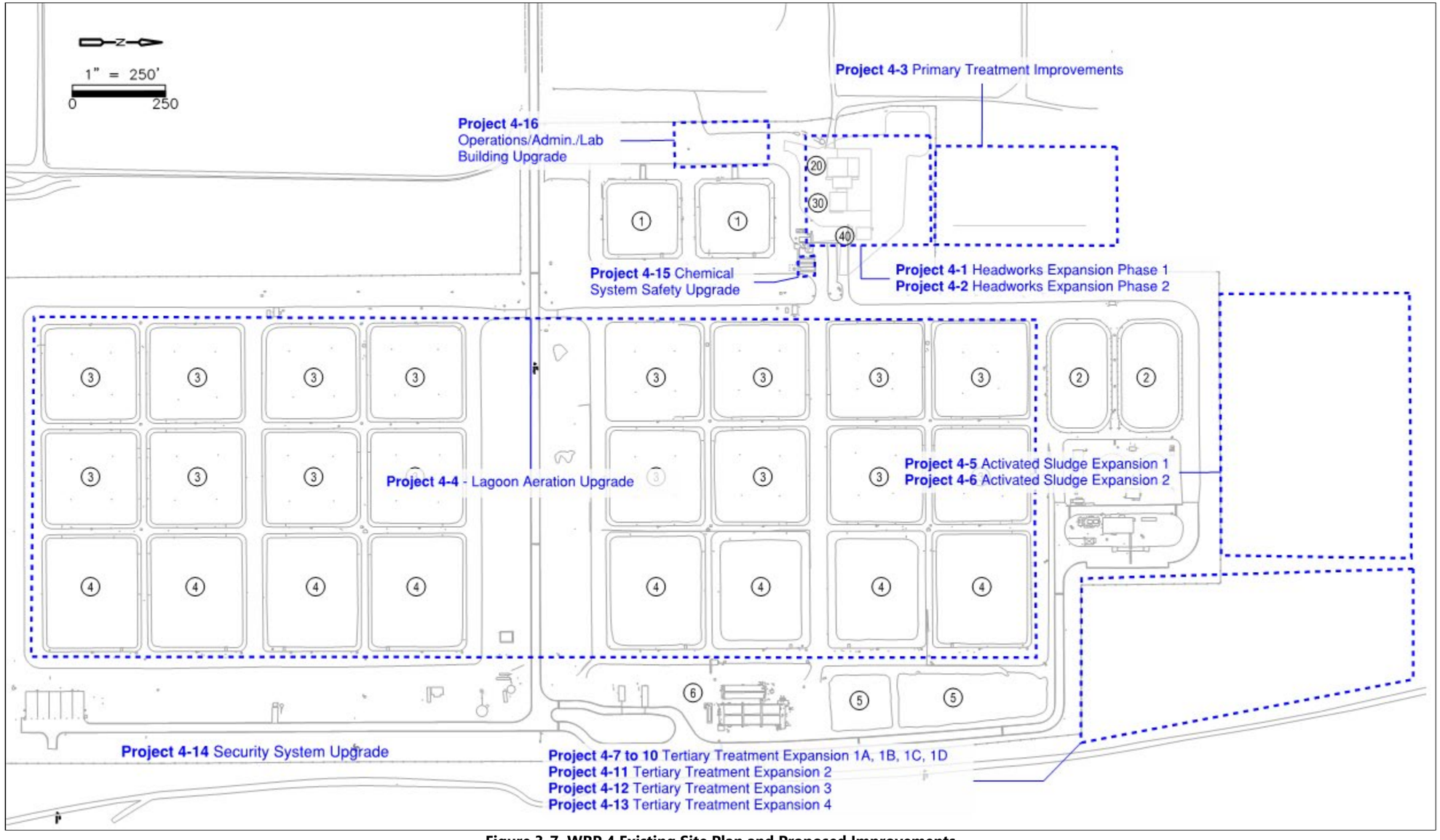

Figure 3-7. WRP 4 Existing Site Plan and Proposed Improvements

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3.6.4 WRP 2 Capital Improvement Project

One project has been identified for the WRP 4 CIP. This project is shown in Figure 3-8 and listed in Table 3-4. The primary purpose of the project is shown with a **red X** in the table. The **black X** in the table signifies the project driver(s) and/or goal(s) met by each project and whether it is included in the 2019/2020 CIP.

Table 3-4. WRP 2 Proposed CIP Projects

Project ID	Project Title	Project Description	In 2019/ 2020 CIP	Driver			Level of Service			
				Regulatory	Capacity	Asset Management	WQ Performance	Process Efficiency	Beneficial Reuse	O&M
2-1	WRP 2 Plant Improvements	This project includes repair/replacement of pond liner and replacement of aerators	X					X		X

Notes:
X = Primary Reason for the Project
X = Meets Project Driver(s) and/or Goal(s); included in 2019/2020 CIP
WQ = Water Quality
O&M = Operations and Maintenance

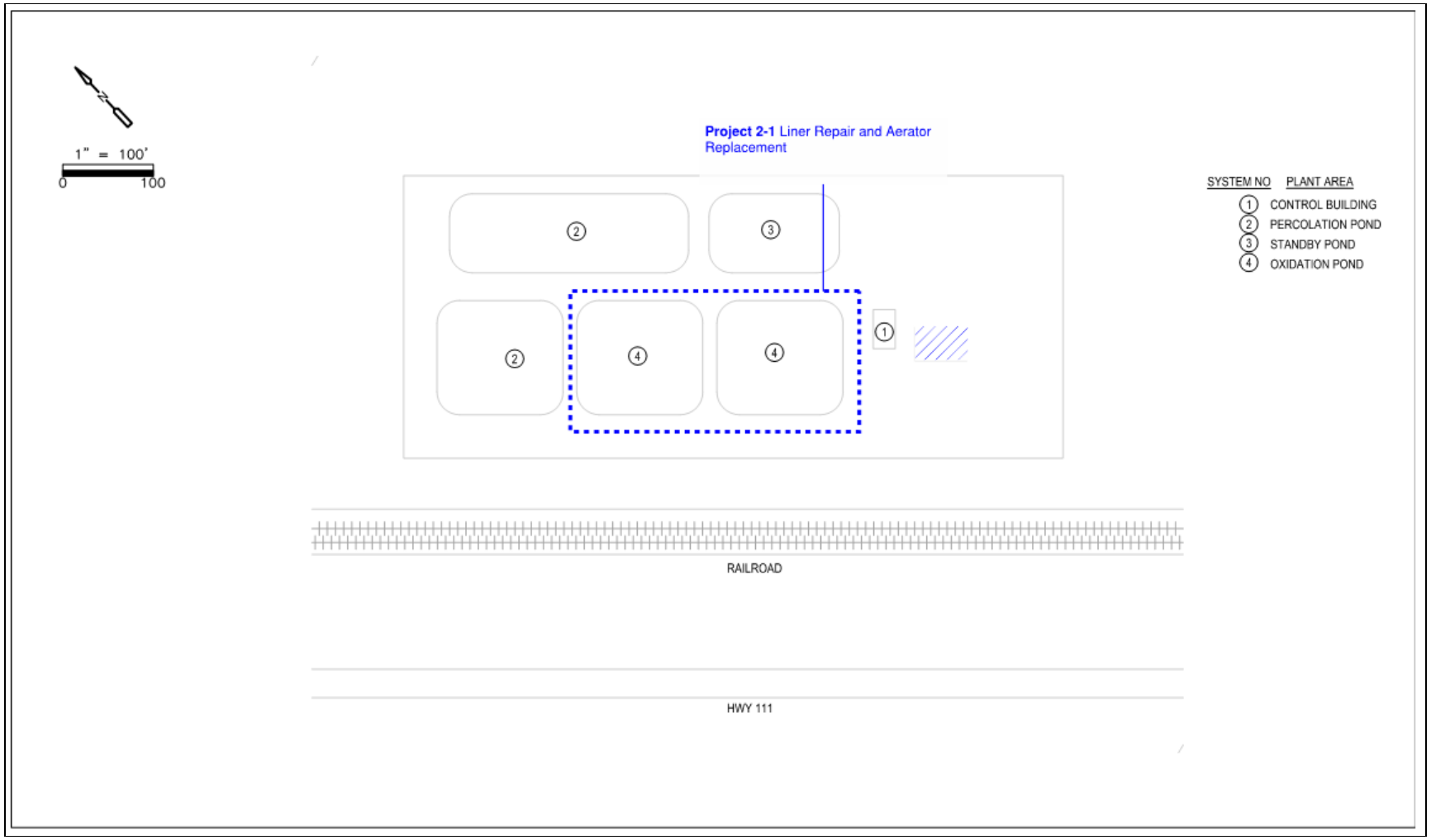

Figure 3-8. WRP 2 Existing Site Plan and Proposed Improvements

3.6.5 WRP 1 Capital Improvement Projects

Two projects have been identified for the WRP 1 CIP. Each of these projects is shown in Figure 3-9 and listed in Table 3-5. The primary purpose of the project is shown with a **red X** in the table. The **black X** in the table signifies the project driver(s) and/or goal(s) met by each project and whether it is included in the 2019/2020 CIP.

Table 3-5. WRP 1 Proposed CIP Projects

Project ID	Project Title	Project Descriptions	In 2019/ 2020 CIP	Driver			Level of Service			
				Regulatory	Capacity	Asset Management	WQ Performance	Process Efficiency	Beneficial Reuse	O&M
1-1	WRP 1 Aeration Improvements	Project includes replacing the aerators with units better suited for the reduced flow.			X		X			
1-2	WRP 1 Liner Replacement	This project includes repair of the embankment and replacement of the sand cement liner in oxidation basins.			X					

Notes:
X = Primary Reason for the Project
X = Meets Project Driver(s) and Goal(s) met; included in 2019/2020 CIP
WQ = Water Quality
O&M = Operations and Maintenance

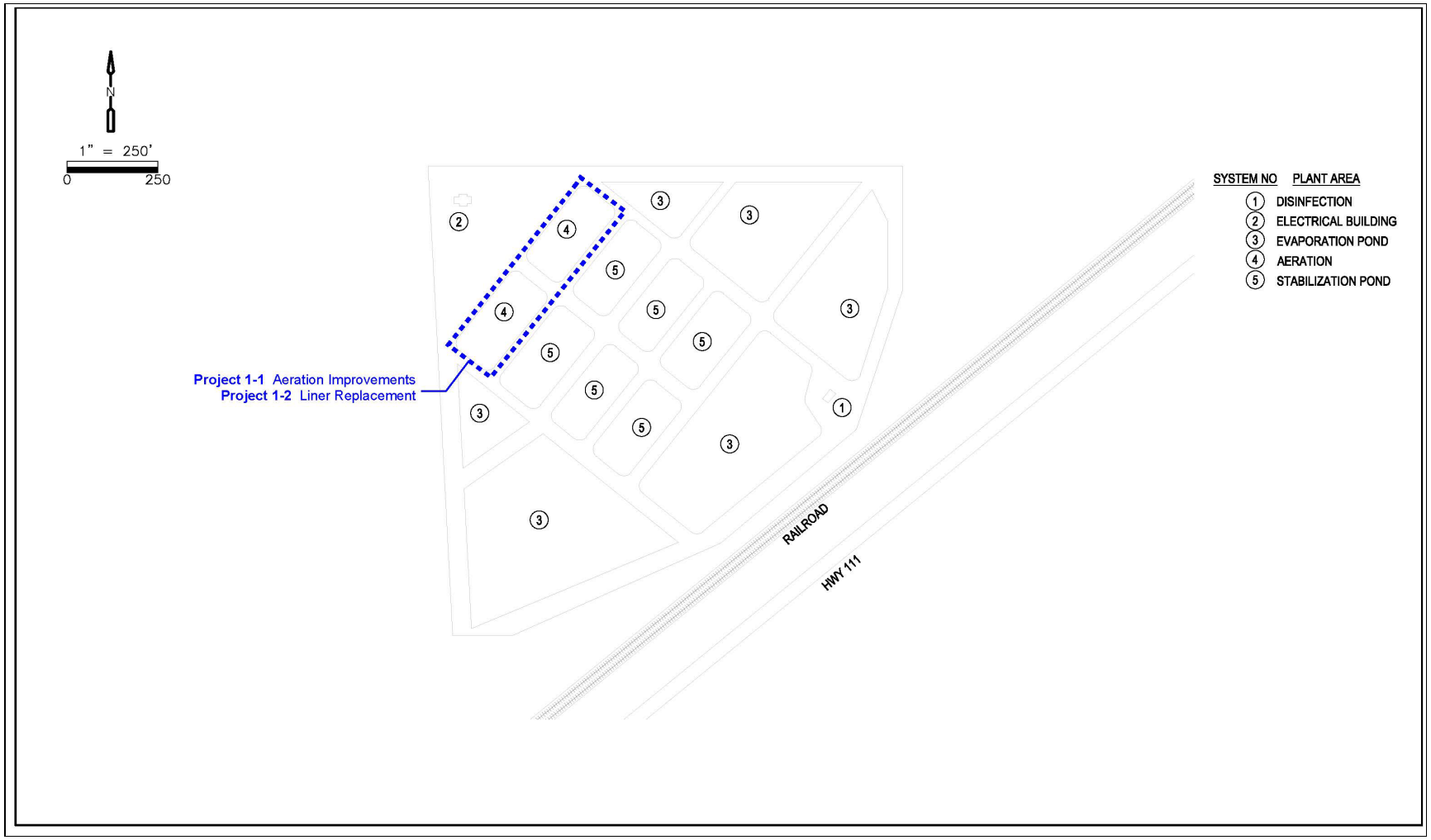

Figure 3-9. WRP 1 Existing Site Plan and Proposed Improvements

3.6.6 *Biosolids Capital Improvement Projects*

CVWD is not proposing to implement any biosolids CIPs during the planning period. However, if regulatory changes, biosolids markets development, treatment capacity needs, or other events should occur, CVWD may wish to consider implementing one or more of the following projects (Table 3-6 and Figure 3-10). The primary purpose of the project is shown with a **red X** in the table.

Table 3-6. Biosolids Management Projects

Project ID	Project Title	Project Description	Driver			Level of Service			
			Regulatory	Capacity	Asset Management	WQ Performance	Process Efficiency	Beneficial Reuse	O&M
BIO10-1	Piloting of SHINCCI Heat Pump Dryer at WRP 10 (Options 3 & 4)	This project includes onsite pilot testing of the SHINCCI Heat Pump Dryer at WRP 10 through the use of SHINCCI USA's mobile demonstration unit.					X		
BIO10-2	Sludge Force Main Between WRP 10 and 4	This project consists of the planning, design and construction of new 22.5-mile ductile iron force mains and pump stations to transfer raw primary sludge and WAS from WRP 10 to WRP 4.					X		
BIO4-1	Regional Biosolids Facility at WRP 4	This project includes the planning, design and construction of a regional biosolids treatment facility at WRP 4.					X		
BIO4-2	Digester Project	This project consists of the planning, design and construction of primary clarifiers (Project 4-4 and 4-5) and anaerobic digesters at WRP 4.						X	
BIO4-3	Digester Side-stream Treatment	This project includes planning, design and construction of the most cost-effective alternative for treating the ammonia-nitrogen load that would be associated with anaerobic digestion.				X			

Notes:
X = Primary Reason for the Project
WQ = Water Quality
O&M = Operations and Maintenance

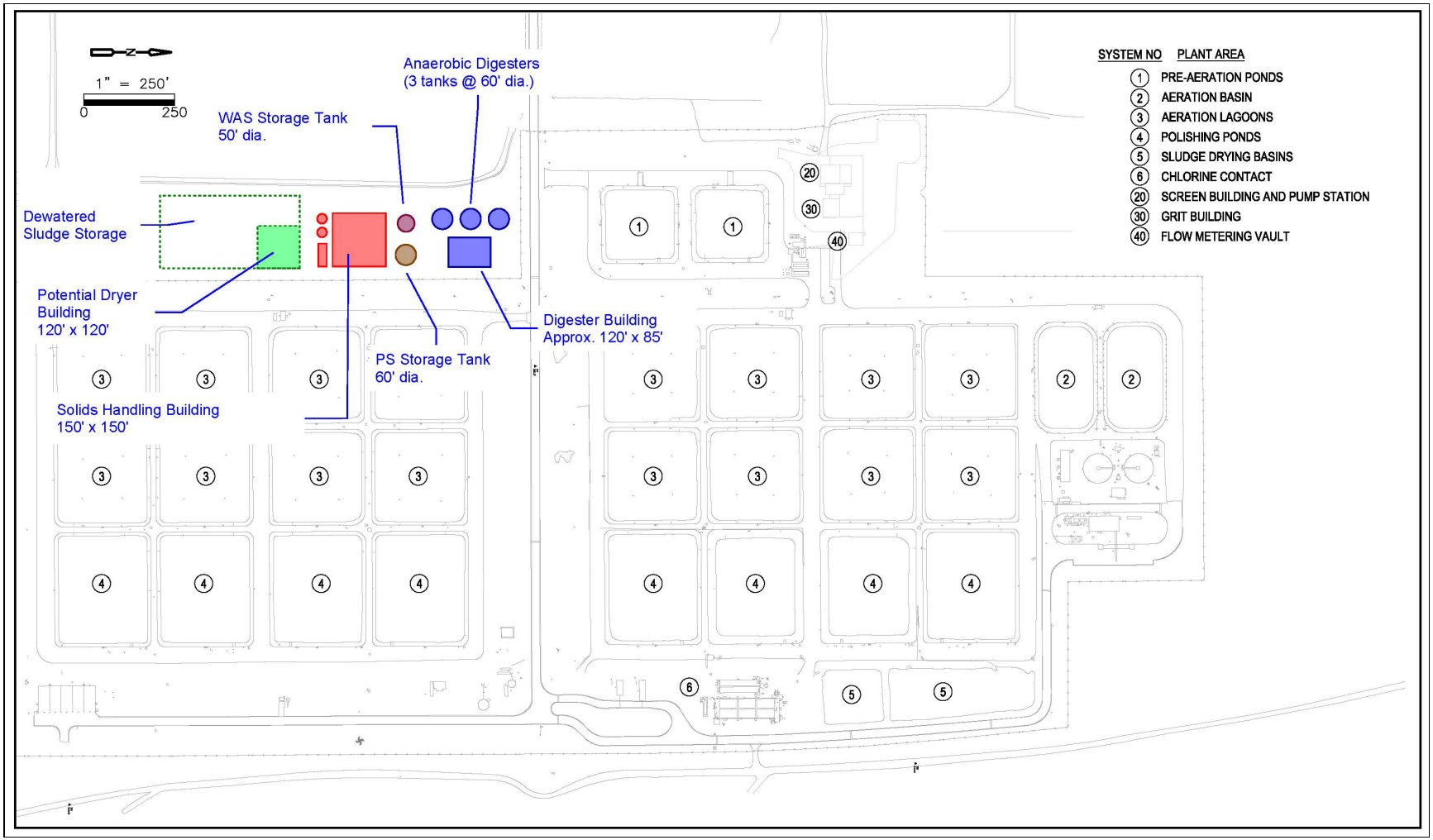

Figure 3-10. Biosolids Management Options

3.6.7 *WRP Asset Management CIP*

As part of development of a CVWD-wide asset management program reviewing condition, age, expected life, and risk, CVWD identified CIPs for assets at the WRPs that have greater than a $250,000 replacement cost. Those CIPs are summarized in Table 3-7. The primary purpose of the project is shown with a **red X** in the table.

Table 3-7. Asset Management Projects

Project ID	Project Title	Project Description	In 2019/ 2020 CIP	Driver		
				Regulatory	Capacity	Asset Mgt.
AM1-1A,B	WRP 1 Access Roads	Road Replacement/Repair				X
AM1-2	WRP 1 Building	Control Building				X
AM1-3	WRP 1 Communication Equipment	Cactus City pull radio, devices, and tower				X
AM1-4	WRP 1 Generator	Generator				X
AM1-5	WRP 1 Process Structure (Ponds 1, 3, 5)	Rehab Ponds and Lagoons				X
AM2-1A,B,C	WRP 2 Access Roads	Road Replacement/Repair				X
AM2-2	WRP 2 Building					X
AM2-3	WRP 2 Motor Control Center (MCC)	MCC and Transfer Switches				X
AM4-1	WRP 4 Secondary Equipment	Blowers				X
AM4-2	WRP 4 Building	Blower, Chlorine, SO2, Screening, and Solids Handling Buildings				X
AM4-3A,B	WRP 4 Power	Generators				X
AM4-4A,B	WRP 4 Power	MCC Equipment				X

Table 3-7. Asset Management Projects

Project ID	Project Title	Project Description	In 2019/ 2020 CIP	Driver		
				Regulatory	Capacity	Asset Mgt.
AM4-5	WRP 4 Process Structures (Biolac)	North Aeration Basin, South Aeration Basin				X
AM4-6	WRP 4 Screen	Screens				X
AM4-7A,B	WRP 4 Sludge Collector	Belt Filter Press, gravity belt thickener				X
AM7-1A,B,C	WRP 7 Access Roads	Road Replacement/Repair and Slab Concrete				X
AM7-2	WRP 7 Secondary Equipment	Blower				X
AM7-3	WRP 7 Building	Chlorine Building				X
AM7-4	WRP 7 Communication Equipment	Radio Tower				X
AM7-5	WRP 7 Power	Generators				X
AM7-6	WRP 7 Mixer Equipment	Belt Thickener Polymer Blender 3				X
AM7-7	WRP 7 Power	MCC Equipment				X
AM7-8	WRP 7 Process Structures	Percolation ponds				X
AM7-9	WRP 7 Reservoirs	Rehab and Liners (Advanced Water Treatment Bladder, Reclaimed Bladder)				X
AM7-10	WRP 7 Screen	Bar screens				X
AM10-1A,B,C	WRP 10 Access Roads	Road Maintenance and Slab Concrete				X
AM10-2	WRP 10 Secondary Equipment	Blowers				X
AM10-3A,B	WRP 10 Buildings	Tertiary Buildings				X

Table 3-7. Asset Management Projects

Project ID	Project Title	Project Description	In 2019/ 2020 CIP	Driver		
				Regulatory	Capacity	Asset Mgt.
AM10-4	WRP 10 Power	Generator				X
AM10-5A,B,C	WRP 10 Power	MCC Equipment				X
AM10-6	WRP 10 Process Structure	Clarifiers, secondary effluent ponds, five-acre pond, aeration basins, tertiary filtration structure				X
AM10-7A,B	WRP 10 Reservoirs	Rehab and Liners (North and South Secondary Bladders, Recycled Water Bladder)				X
AM10-8	WRP 10 Screen	Traveling Screen				X

Notes:
X = Primary Reason for the Project
WQ = Water Quality
O&M = Operations and Maintenance

3.6.8 General Capital Improvement Projects

Seven projects have been identified for the systemwide General CIP list. Each of these projects is shown in Table 3-8. These projects contain varying drivers and level of service goals. The primary purpose of the project is shown with a **red X** in the table. The **black X** in the table signifies the project driver(s) and/or goal(s)(Level of Service) met by each project.

Table 3-8. Standardization Operation & Maintenance CIP

Project ID	Project Title	Project Description	Driver			Level of Service			
			Regulatory	Capacity	Asset Management	WQ Performance	Process Efficiency	Beneficial Reuse	O&M
0-1	Sampling and Data Collection Plan for each WRP	This project evaluates and makes recommendations to standardize and ensure accurate water quality measurements of various flow streams within each WRP. It also includes grab sampling plans for each WRP at select locations to monitor the influent water quality and critical points within the plant. Each WRP will standardize sampling locations, frequency of sampling, type of instrument, units used, data reports, etc.					X		X
0-3	Facility Operating Manuals and SOPs	Create an Operations Manual for each WRP that could include current process descriptions, control narratives, as-built drawings, health & safety plan, emergency plan, list of equipment, equipment and system supplier O&M manuals, SOPs, etc.	X						X
0-4	Standardization of Equipment	This project will develop procedures to establish approved sole-source equipment.			X				X
0-5	Blower and Influent Pump Submetering	This project adds electrical meters on the blower system and influent pump system at each WRP.					X		X
0-6	Instrumentation Improvements on Motors and Pumps	This project adds heat sensors on outdoor motors and adds de-ragging sensors on pumps.			X		X		X
0-7	Building Energy Efficiency Study	This project evaluated adding heat pumps for heading, ventilation, and air conditioning (HVAC) optimization at all facilities.					X		X
0-8	Instrumentation, PLC, and SCADA Upgrades at all WRPs								X

Table 3-8. Standardization Operation & Maintenance CIP

Project ID	Project Title	Project Description	Driver			Level of Service			
			Regulatory	Capacity	Asset Management	WQ Performance	Process Efficiency	Beneficial Reuse	O&M
0-9	Control Room Upgrades (Consoles, Hardware, and Software								X
0-10	Wireless Communication Backbone Development at all WRPs								X
0-11	Cybersecurity Threats Assessment								X

Notes:
X = Primary Reason for the Project
X = Meets Project Driver(s) and/or Goal(s)
WQ = Water Quality
O&M = Operations and Maintenance

3.6.9 Collection System Capacity Capital Improvement Projects

Eighteen projects have been identified for the Capacity CIP: seven for WRP 4, ten for WRP 7, and one for WRP 10 service areas. Each of these projects is shown in Figures 3-11 and 3-12 and listed in Tables 3-9 through 3-11. The **black X** in the table signifies the project driver(s) and/or goal(s) met by each project.

Table 3-9. WRP 4 Capital Improvement Projects

Project ID	Project Title	Project Description	Driver			Level of Service			
			Regulatory	Capacity	Asset Management	WQ Performance	Process Efficiency	Beneficial Reuse	O&M
CS-WRP4-1	Mid-Valley Gravity Trunk	Construct new pipelines to convey by gravity flows currently pumped through the Mid-Valley Force Main. (WRP4-P2 to WRP4-P7)		X					
CS-WRP4-2	62nd Avenue Collection Pipelines	Construct new pipelines to convey future flows to the 62nd Avenue Trunk. (WRP4-P8 to WRP4-P12)		X					
CS-WRP4-3	Polk Street Development	Construct new pipelines to serve future development west of Polk Street between 64th Avenue and 68th Avenue. Increase the capacity of LS 55-21. (WRP4-LS2, WRP4-P13 to WRP4-P25, WRP4-FM1)		X					
CS-WRP4-4	Oasis North Collection System	Construct new sanitation infrastructure to serve future development south of 66th Avenue between Pierce Street and Johnson Street. (WRP4-LS4, WRP4-LS5, WRP4-P26, WRP4-P27, WRP4-FM2, WRP4-FM3)		X					
CS-WRP4-5	Oasis South Collection System	Construct new sanitation infrastructure to serve future development south of 74th Avenue between Pierce Street and the Salton Sea. (WRP4-P28 to WRP4-P30, WRP-FM4 to WRP4-FM7, WRP4-LS6 to WRP4-LS8)		X					
CS-WRP4-6	Lift Station Capacity Improvements	Increase the capacity of LS 55-19 and LS 55-11 (WRP4-LS1, WRP4-LS3)		X					
CS-WRP4-7	Jefferson Street Gravity Trunk	Construct a new pipeline to redirect existing flows from 55-10 to a gravity pipeline on Jefferson Street. (WRP4-P1)		X					

Table 3-9. WRP 4 Capital Improvement Projects

Project ID	Project Title	Project Description	Driver			Level of Service			
			Regulatory	Capacity	Asset Management	WQ Performance	Process Efficiency	Beneficial Reuse	O&M
CS-WRP7-1	Sky Valley West Collection System	Construct new sanitation infrastructure to serve the western region of Sky Valley. (WRP7-1 to WRP7-P5, WRP7-FM1, WRP-LS1)		X					

Table 3-10. WRP 7 Capital Improvement Projects

Project ID	Project Title	Project Description	Driver			Level of Service			
			Regulatory	Capacity	Asset Management	WQ Performance	Process Efficiency	Beneficial Reuse	O&M
CS-WRP7-2	Varner Road New Gravity Trunk	Construct a new gravity trunk along Varner Road north of Ramon Road. (WRP7-P6 to WRP7-P10)		X					
CS-WRP7-3	Varner Road Parallel Gravity Trunk	Construct a parallel gravity trunk along Varner Road from Ramon Road to WRP7. (WRP7-P14, WRP-P18, WRP-P19)		X					
CS-WRP7-4	Varner Road Collection Pipelines	Construct new pipelines to convey future flows to the new Varner Road Trunk. (WRP7-P11 to WRP7-P13, WRP4-P16, WRP4-P17)		X					
CS-WRP7-5	Frank Sinatra Drive Pipeline Upsize	Construct a parallel pipeline in Frank Sinatra Drive. (WRP-P27)		X					

Table 3-10. WRP 7 Capital Improvement Projects

Project ID	Project Title	Project Description	Driver			Level of Service			
			Regulatory	Capacity	Asset Management	WQ Performance	Process Efficiency	Beneficial Reuse	O&M
CS-WRP7-6	Sky Valley East Gravity Trunk	Construct a new gravity trunk along Thousand Palms Canyon Road south of Dillon Road. (WRP7-P25 to WRP-P26)		X					
CS-WRP7-7	Sky Valley East, Western Collection System	Construct new sanitation infrastructure to serve the eastern region of Sky Valley, west of Thousand Palms Canyon Road. (WRP7-P23, WRP7-P24, WRP7-FM3, WRP7-FM4, WRP7-LS3, WRP7-LS4)		X					
CS-WRP7-8	Sky Valley East, Eastern Collection System	Construct new sanitation infrastructure to serve the eastern region of Sky Valley, east of Thousand Palms Canyon Road. (WRP7-P20 to WRP7-P22, WRP7-FM2, WRP7-LS2)		X					
CS-WRP7-9	Lift Station 81-01 Capacity Replacement	Construct new firm capacity for Lift Station 81-01. (WRP7-LS5)		X					
CS-WRP7-10	Lift Station 81-04 Gravity Conversion	Construct gravity pipeline to convey flows from Lift Station 81-04 location to existing gravity system. (WRP-P28 to WRP-P32).		X					
CS-WRP10-1	Crystal Lagoon Sewer Trunk	Construct new pipelines through the Crystal Lagoon Development and Vista Del Sol. (WRP10-P1 to WRP10-P7)		X					

Notes:
X = Meets Project Driver(s) and/or Goal(s)
WQ = Water Quality
O&M = Operations and Maintenance

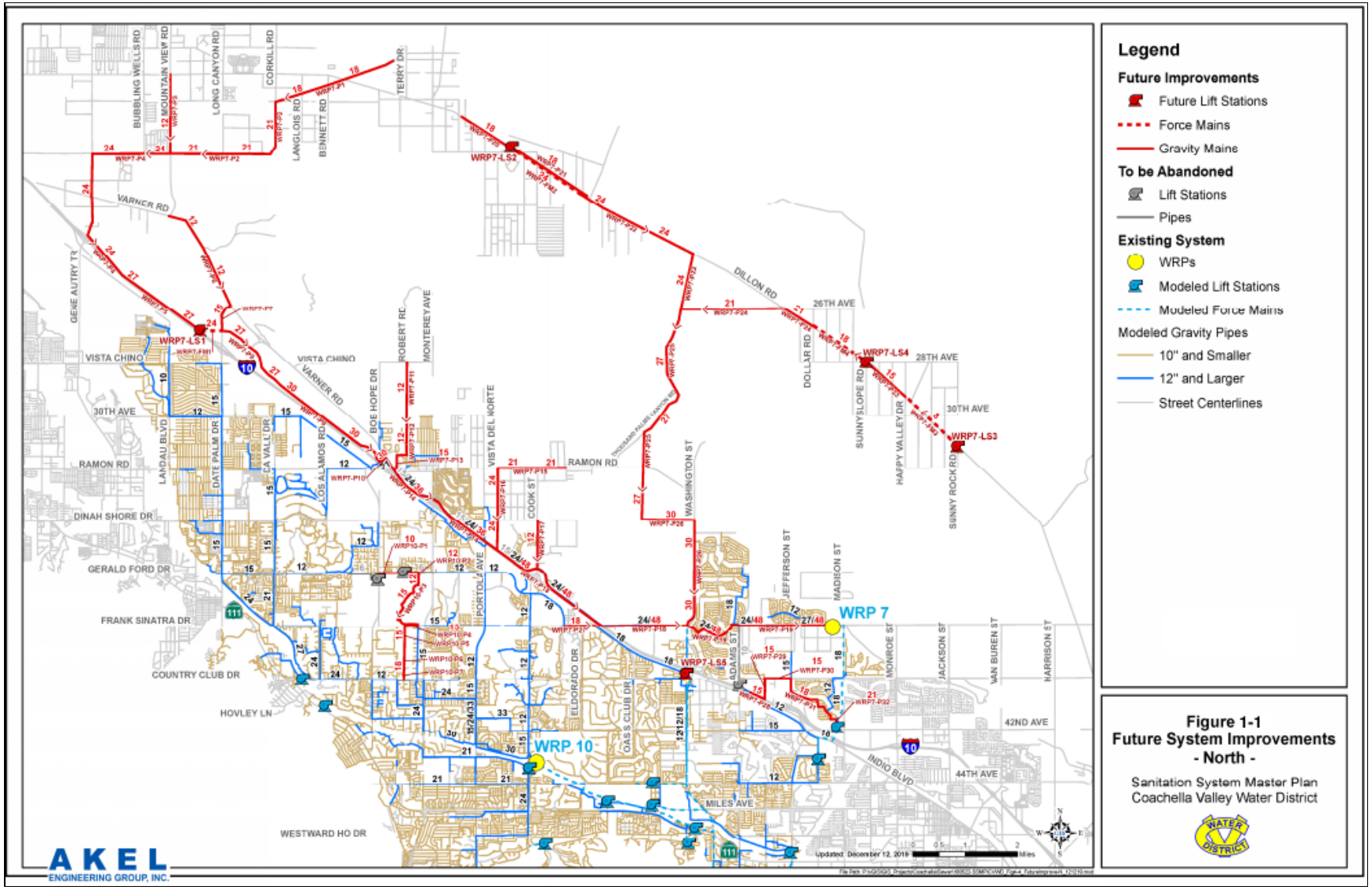

Figure 3-11. Future System Improvements - North

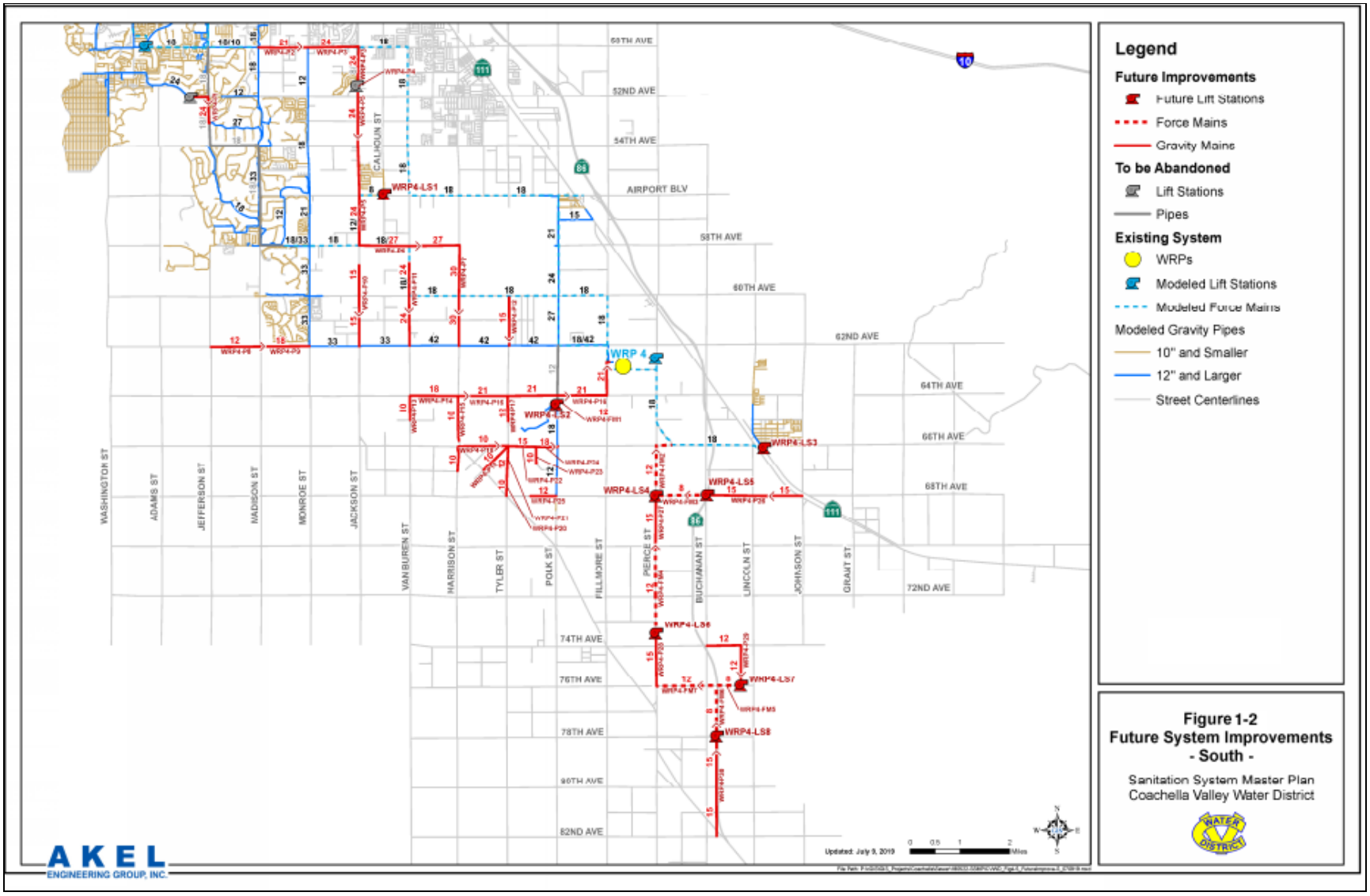

Figure 3-12. Future System Improvements - South

3.6.10 Collection System Condition and Risk Assessment Capital Improvement Projects

Six projects have been identified for the Condition and Risk Assessment CIP. Each of the projects is shown in Figures 3-13 through 3-19 and listed in Table 3-11. The **black X** in the table signifies the project driver(s) and/or goal(s) met by each project.

Table 3-11. Condition and Risk Assessment Capital Improvement Projects

Project ID	Project Title	Project Description	Driver			Level of Service			
			Regulatory	Capacity	Asset Management	WQ Performance	Process Efficiency	Beneficial Reuse	O&M
WCCA-1	Renewal Group 1	Various renewal and O&M improvements (P1-RH1 to P1-RH3, P1-RP6, P1-RH7, P1-RP10, P1-M9, P1-CC4, P1-CC5, P1-CC8)		X					X
WCCA-2	Renewal Group 2	Various renewal and O&M improvements (P2-RH9 to P2-RH11, P2-RH13 to P2RH16, P2-M2, P2-M8, P2-M17, P2-M18, P2-CC1, P2-CC3 to P2-CC7, P2-CC12, P2-CC19 to P2-CC22)		X					X
WCCA-3	Renewal Group 3	Various renewal and O&M improvements (P3-M4, P3-M5, P3-M12, P3-M13, P3-CC1 to P3-CC3, P3-CC6 to P3-CC11, P3-CC14 to P3-CC16)							X
WCCA-4	Renewal Group 4	Various renewal and O&M improvements (P4-CC1)							X
WCCA-5	Renewal Group 5	Various renewal and O&M improvements (P5-CC1 to P5-CC6)							X
WCCA-6	Renewal Group 6	Various renewal and O&M improvements (P6-CC1, P6-CC2)							X

Notes:
X = Meets Project Driver(s) and/or Goal(s)
WQ = Water Quality
O&M = Operations and Maintenance

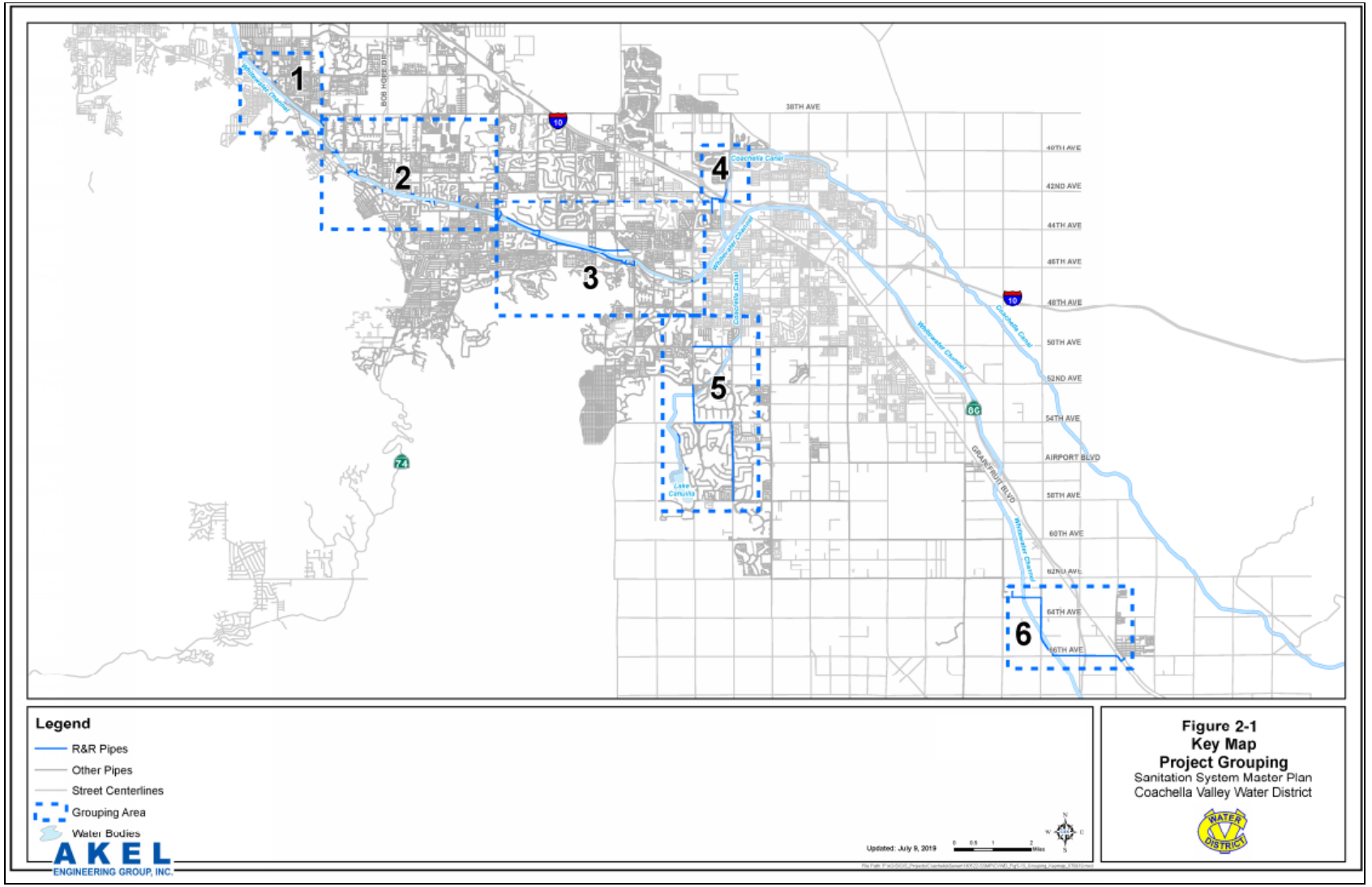

Figure 3-13. R&R Project Grouping

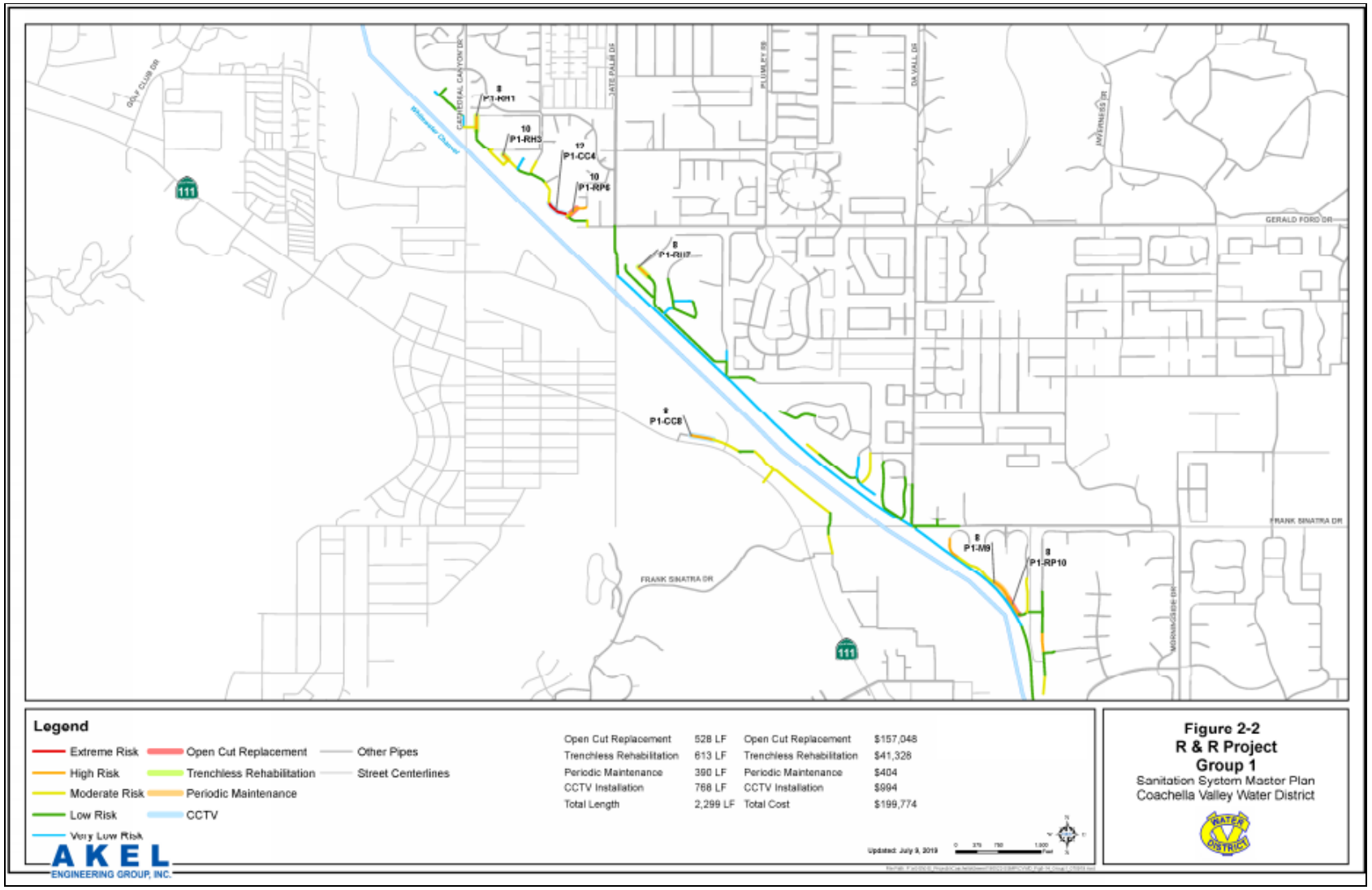

Figure 3-14. R&R Project Group1

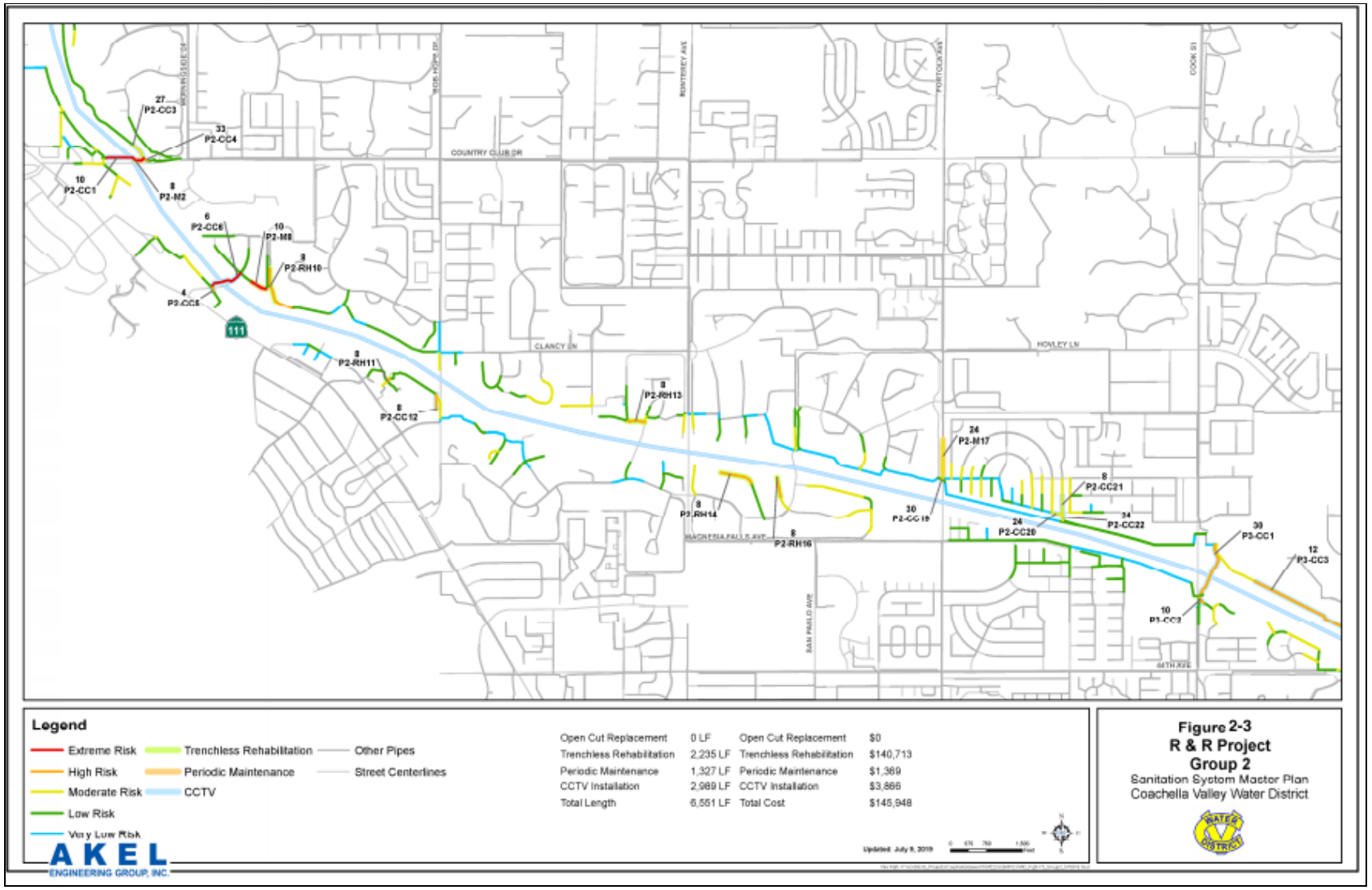

Figure 3-15. R&R Project Group 2

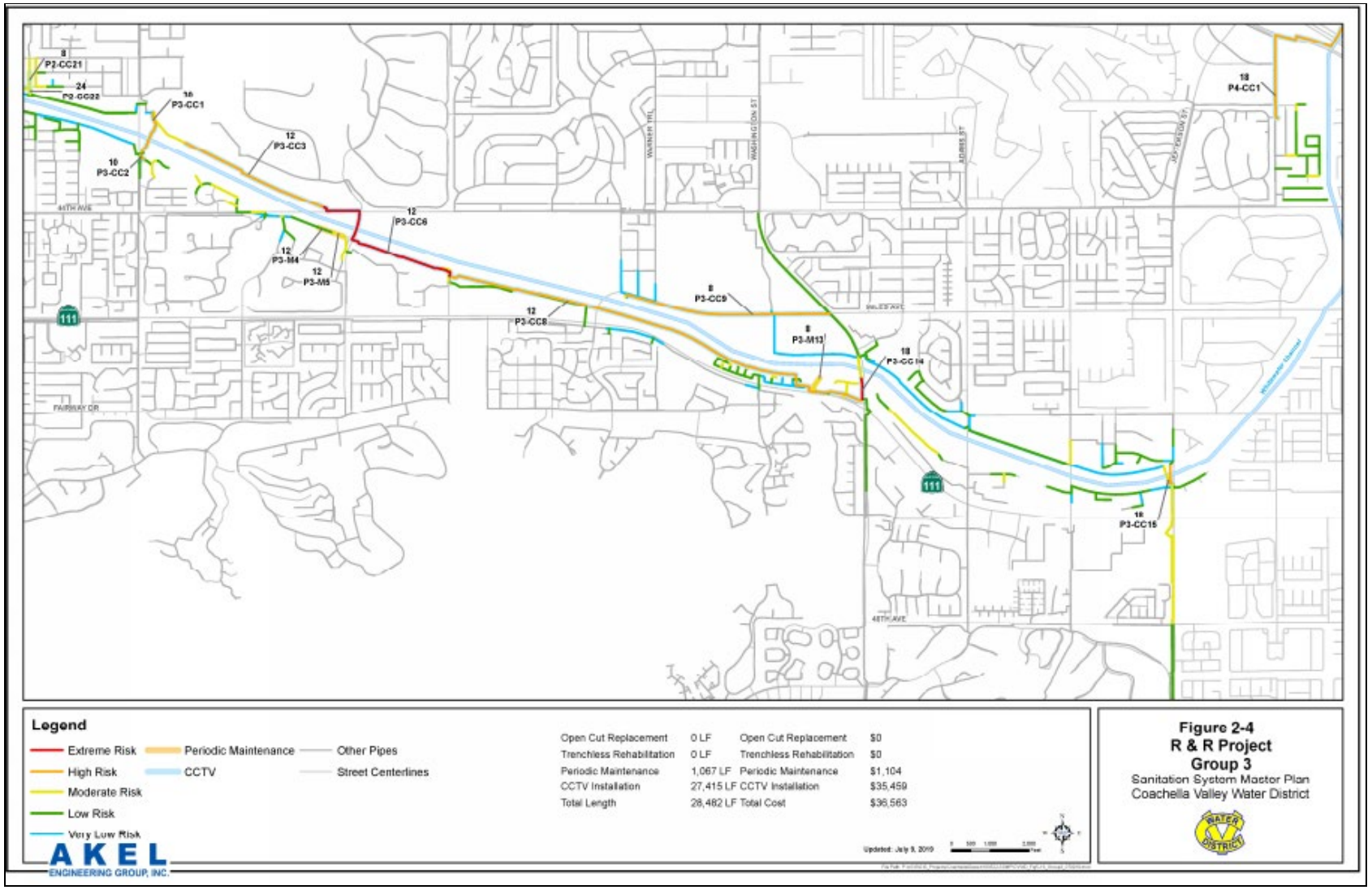

Figure 3-16. R&R Project Group 3

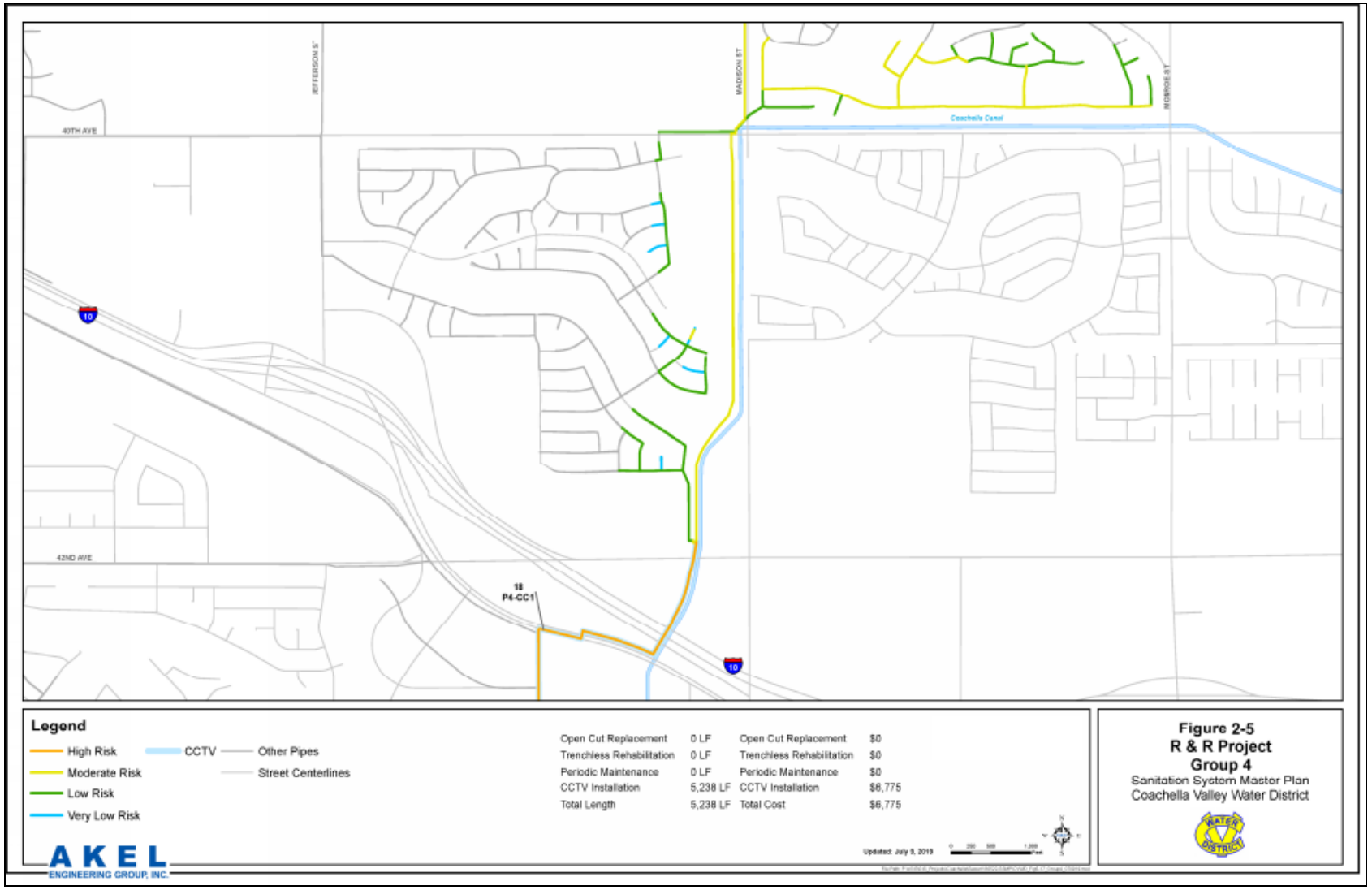

Figure 3-17. R&R Project Group 4

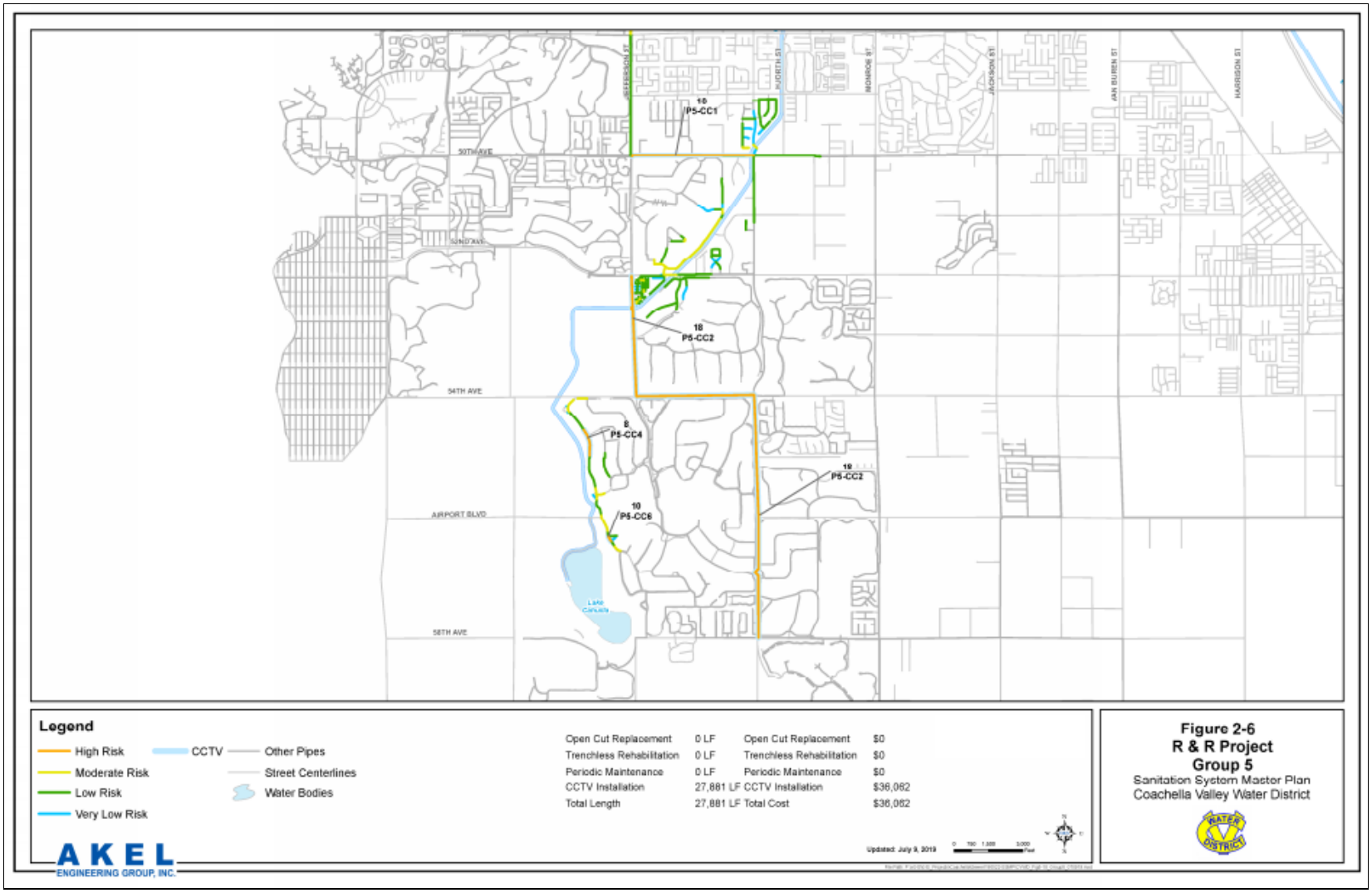

Figure 3-18. R&R Project Group 5

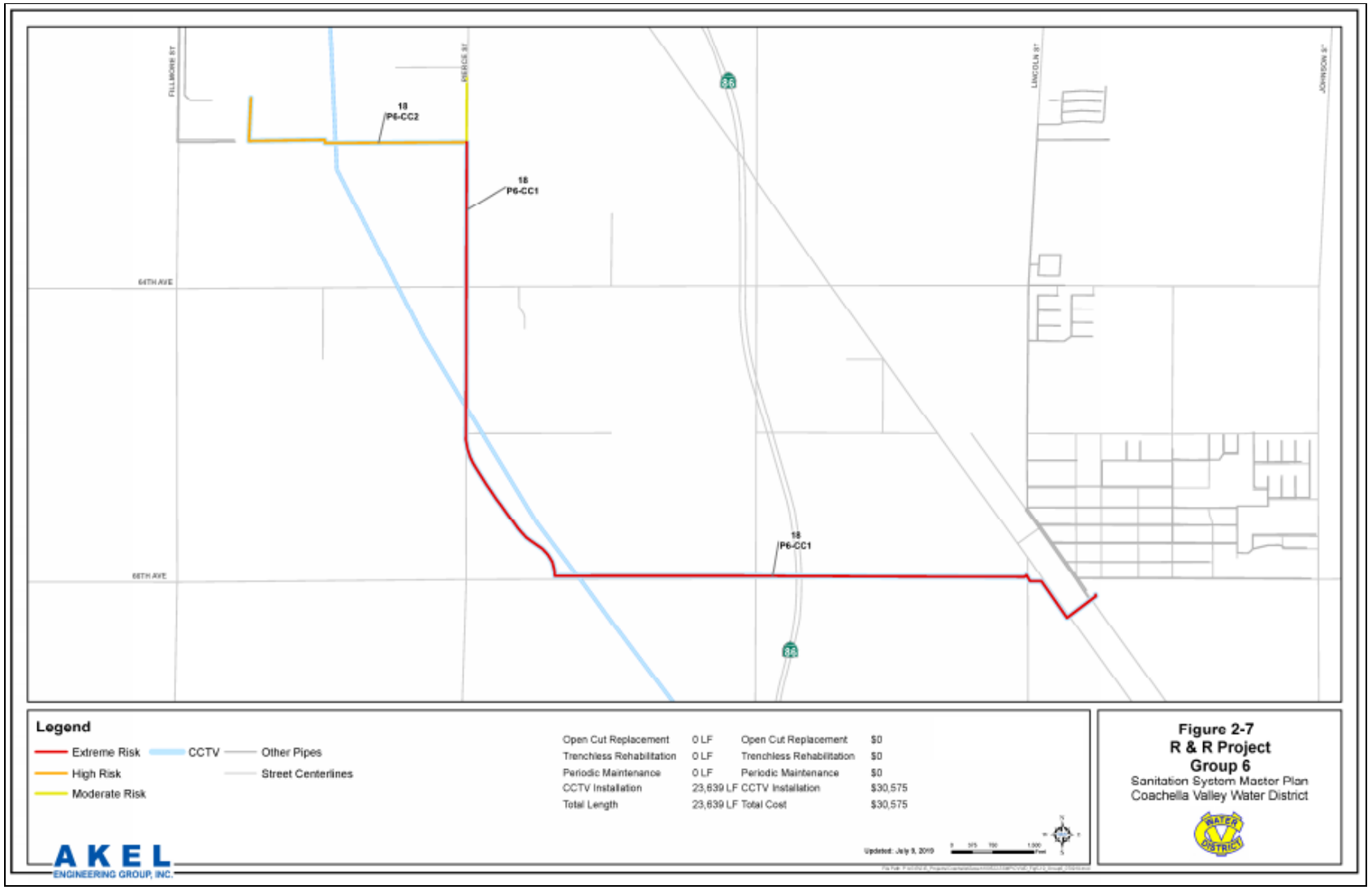

Figure 3-19. R&R Project Group 6

3.6.11 Septic-to-Sewer Conversion Capital Improvement Projects

Six projects have been identified for the Septic-to-Sewer CIP. Each of the projects is shown in Figure 3-20 and listed in Table 3-12. The **black X** in the table signifies the project driver(s) and/or goal(s) met by each project.

Table 3-12. Septic-to-Sewer Conversion Capital Improvement Projects

Project ID	Project Title	Project Description	Driver			Level of Service			
			Regulatory	Capacity	Asset Management	WQ Performance	Process Efficiency	Beneficial Reuse	O&M
SWS-1	Priority Area 1 Collection System	Construct new sanitation infrastructure to serve multiple small water systems along Highway 86 between Airport Boulevard and 58th Avenue. Install 10,351 linear feet (LF) of 8-inch and 1,288 LF of 10-inch gravity pipe, 980 LF of 4-inch force main, and construct a 150 gpm capacity lift station. Install 1,165 LF of 8-inch and 6,735 LF of 10-inch gravity pipe. (SWS-P6 to SWS-P10, SWS-LS01)		X					
SWS-2	Priority Area 2 Collection System	Construct new pipelines to serve multiple small water systems along Highway 86 between Pierce Street and Buchanan Street. Install 1,165 LF of 8-inch and 6,735 LF of 10-inch gravity pipe. (SWS-P11 to SWS-P13)		X					
SWS-3	Priority Area 3 Collection System	Construct new sanitation infrastructure to serve multiple small water systems west of Polk Street between 64th Avenue and 65th Avenue. Install 42,010 LF of 8-inch gravity pipe, replace 1,100 LF of 4-inch force main, and construct a 150 gpm capacity replacement lift station. (SWS-P14, SWS-P15, WRP4-P15,WRP4-P16,WRP4-P18,WRP4-P22 to WRP4-P24, WRP-FM1, WRP-LS2)		X					

Table 3-12. Septic-to-Sewer Conversion Capital Improvement Projects

Project ID	Project Title	Project Description	Driver			Level of Service			
			Regulatory	Capacity	Asset Management	WQ Performance	Process Efficiency	Beneficial Reuse	O&M
SWS-4	Additional Pipelines, 62nd Avenue Trunk	Construct new pipelines to serve multiple small water systems north of 62nd Avenue between Jackson Street and Tyler Street. Install 54,227 LF of 8-inch gravity pipe. (SWS-P1 to SWS-P5, WRP4-P5 to WRP-P7, WRP4-P12)		X					
SWS-5	Oasis North Small Water Users	Construct new sanitation infrastructure to serve multiple water systems south of 66th Avenue between Pierce Street and Johnson Street. Install 15,455 LF of 8-inch and 5,350 LF of 10-inch gravity pipe, 5,425 LF of 8-inch and 6,950 LF of 12-inch force main and construct 100 gpm and 300 gpm capacity lift stations. (SWS-P16, WRP4-P26, WRP4-P27, WRP4-FM2, WRP4-FM3, WRP4-LS4, WRP4-LS5)		X					
SWS-6	Oasis South Small Water Users	Construct new sanitation infrastructure to serve multiple small water systems south of 74th Avenue between Pierce Street and the Salton Sea. Install 54,273 LF of 8-inch gravity pipe,26,525 LF of 4-inch force main, and construct 100 gpm and 150 gpm capacity lift stations. (SWS-P17 to SWS-P20, WRP4-P28, WRP4-30, WRP4-FM4, WRP4-FM6, WRP4-FM7, WRP4-LS6, WRP4-LS8)		X					

Notes:
X = Meets Project Driver(s) and/or Goal(s)
WQ = Water Quality
O&M = Operations and Maintenance

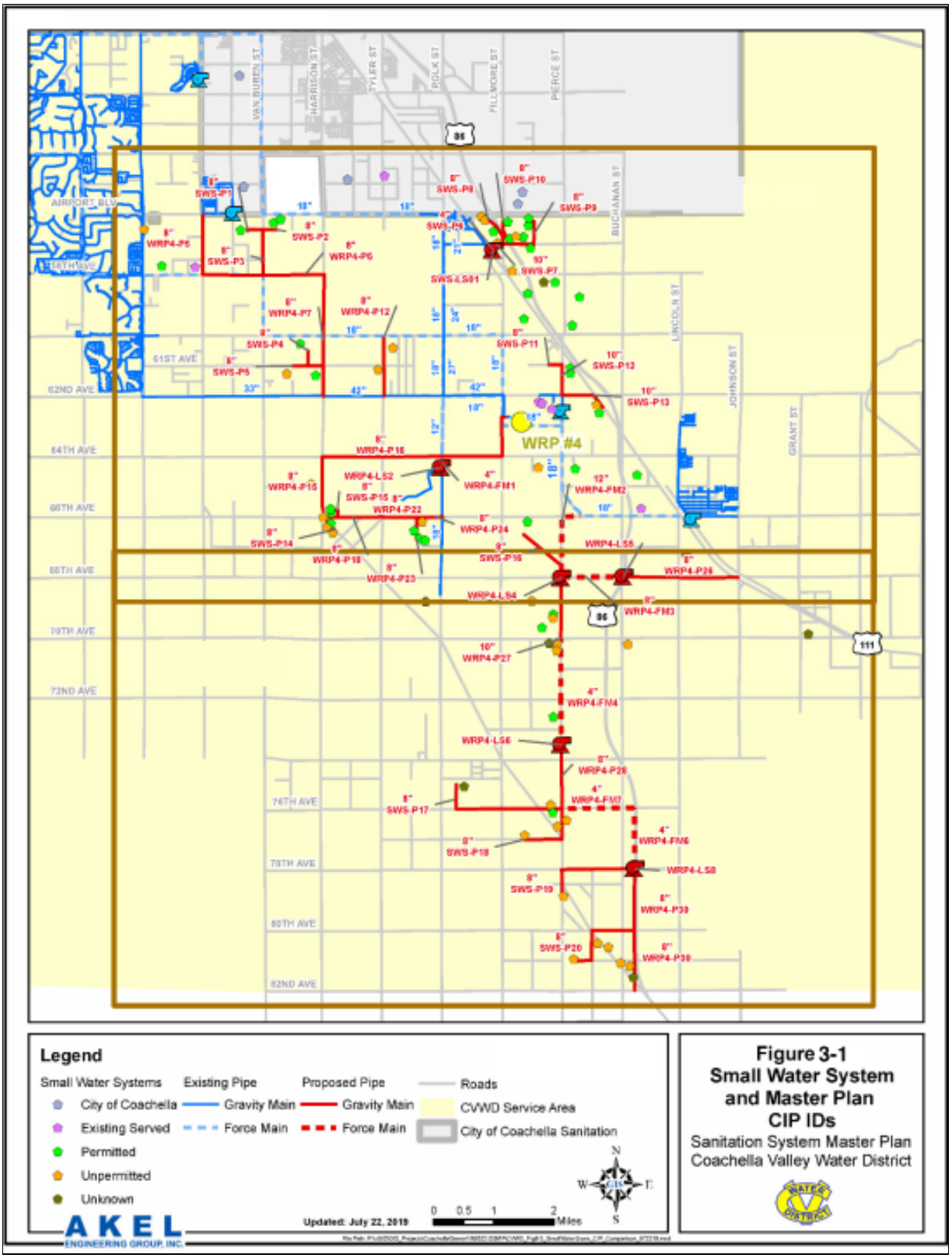

Figure 3-20. Small Water System and Master Plan CIP IDs

3.6.12 Collection System Asset Management Capital Improvement Projects

Sixteen projects have been identified for the Collection System Asset Management CIP which incorporates improvements from the CVWD Five-Year Capital Improvement Program. Each of the projects is shown in Figures 3-21 and 3-22 and listed in Table 3-13. The **black X** in the table signifies the project driver(s) and/or goal(s) met by each project.

Table 3-13. Collection System Asset Management Capital Improvement Projects

Project ID	Project Title	Project Description	Driver			Level of Service			
			Regulatory	Capacity	Asset Management	WQ Performance	Process Efficiency	Beneficial Reuse	O&M
CS-AM-1	Lift Stations – Site Upgrades	Perform site improvements at three existing lift stations (AM-LS1, AM-LS3, AM-LS5)		X	X				
CS-AM-2	Lift Stations – Other Upgrades	Upgrade three lift stations (AM-LS2, AM-LS4, AM-LS6)			X				X
CS-AM-3	Lift Stations – Other Rehabilitation	Perform ongoing and as needed lift station rehabilitation (AM-LS7)			X				X
CS-AM-4	Burr Street Force Main	Improve the existing Burr Street force main (AM-FM1)		X	X				
CS-AM-5	Fred Waring Sewer Rehabilitation	Replace existing 10-inch gravity sewer pipeline (AM-GR1)		X	X				
CS-AM-6	Bob Hope Drive Sewer Relocation	Replace existing 15-inch gravity sewer pipeline (AM-GR2)		X	X				
CS-AM-7	Mecca Sewer and Manhole Replacement and Rehabilitation	Refurbish existing manholes and install cured-in-place pipeline throughout the Community of Mecca (AM-GR3)		X	X				
CS-AM-8	Fairway Drive Sewer Rehabilitation	Replace existing 10-inch gravity sewer pipeline (AM-GR4)		X	X				
CS-AM-9	First Tee Sewer Rehabilitation	Replace existing 10-inch gravity sewer pipeline (AM-GR5)		X	X				

Table 3-13. Collection System Asset Management Capital Improvement Projects

Project ID	Project Title	Project Description	Driver			Level of Service			
			Regulatory	Capacity	Asset Management	WQ Performance	Process Efficiency	Beneficial Reuse	O&M
CS-AM-10	Rancho Mirage, Palm Desert, & La Quinta Manhole Rehabilitation	Replace existing sewer manholes (AM-GR6)		X	X				
CS-AM-11	Avenue 50 Pipeline	Replace existing 18-inch gravity sewer pipeline (AM-GR7)		X	X				
CS-AM-12	Palm Desert & Thousand Palms Sewer Rehabilitation	Refurbish existing manholes and install cured-in-place pipeline throughout the cities of Palm Desert and Thousand Palms (AM-GR8)		X	X				
CS-AM-13	Cedar Crest Sewer Rehabilitation	Replace existing 8-inch gravity sewer pipeline (AM-GR9)		X	X				
CS-AM-14	Avenue 66 Grade Separation Project	Replace existing 8-inch gravity sewer pipeline (AM-GR10)		X	X				
CS-AM-15	Sewer Pipeline Rehabilitation	Perform ongoing and as needed sewer pipeline rehabilitation (AM-GR11)		X	X				
CS-AM-16	Sewer Manhole Rehabilitation	Perform ongoing and as needed manhole rehabilitation (AM-GR12)		X	X				

Notes:
X = Meets Project Driver(s) and/or Goal(s)
WQ = Water Quality
O&M = Operations and Maintenance

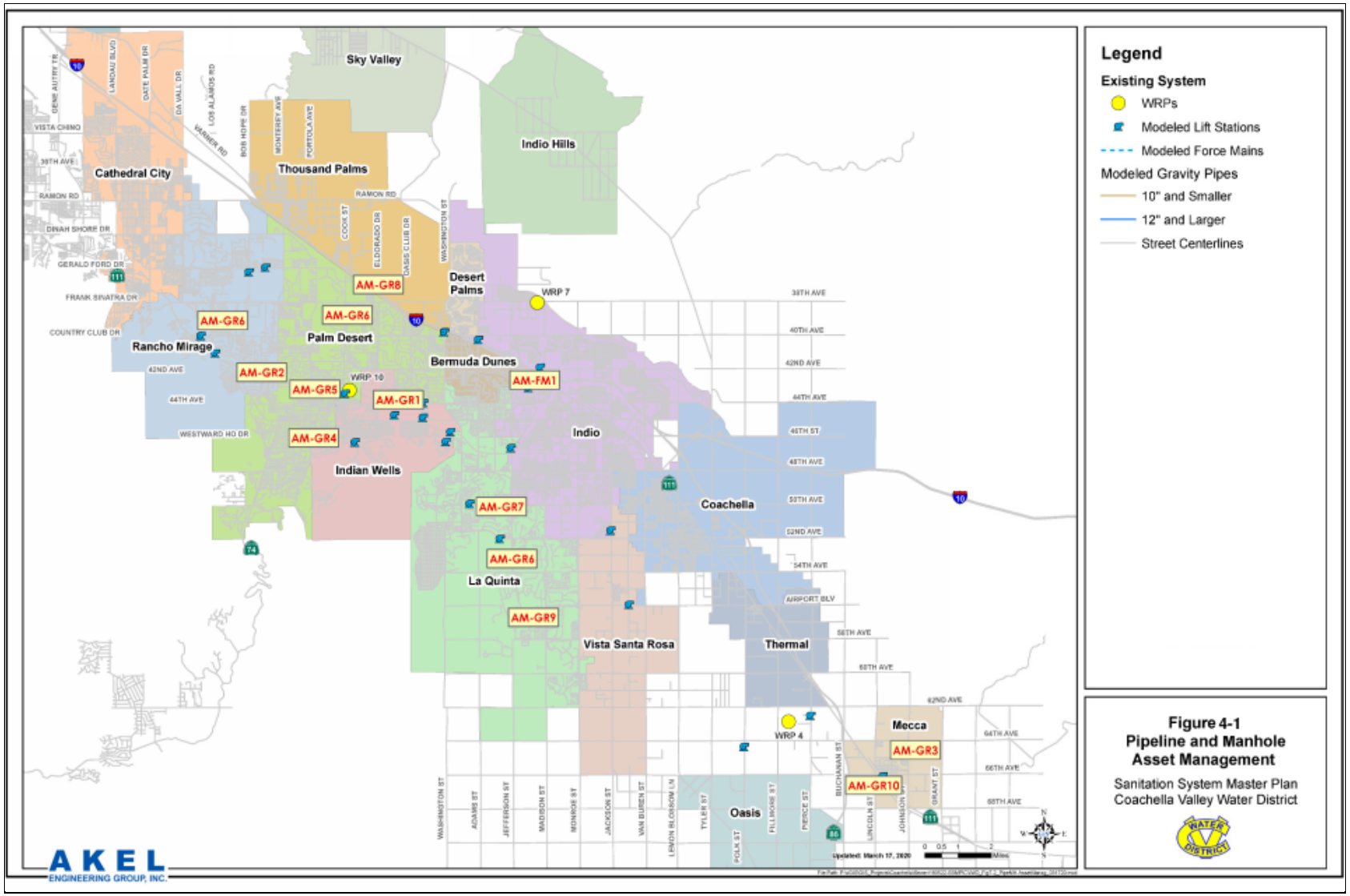

Figure 3-21. Pipeline and Manhole Asset Management

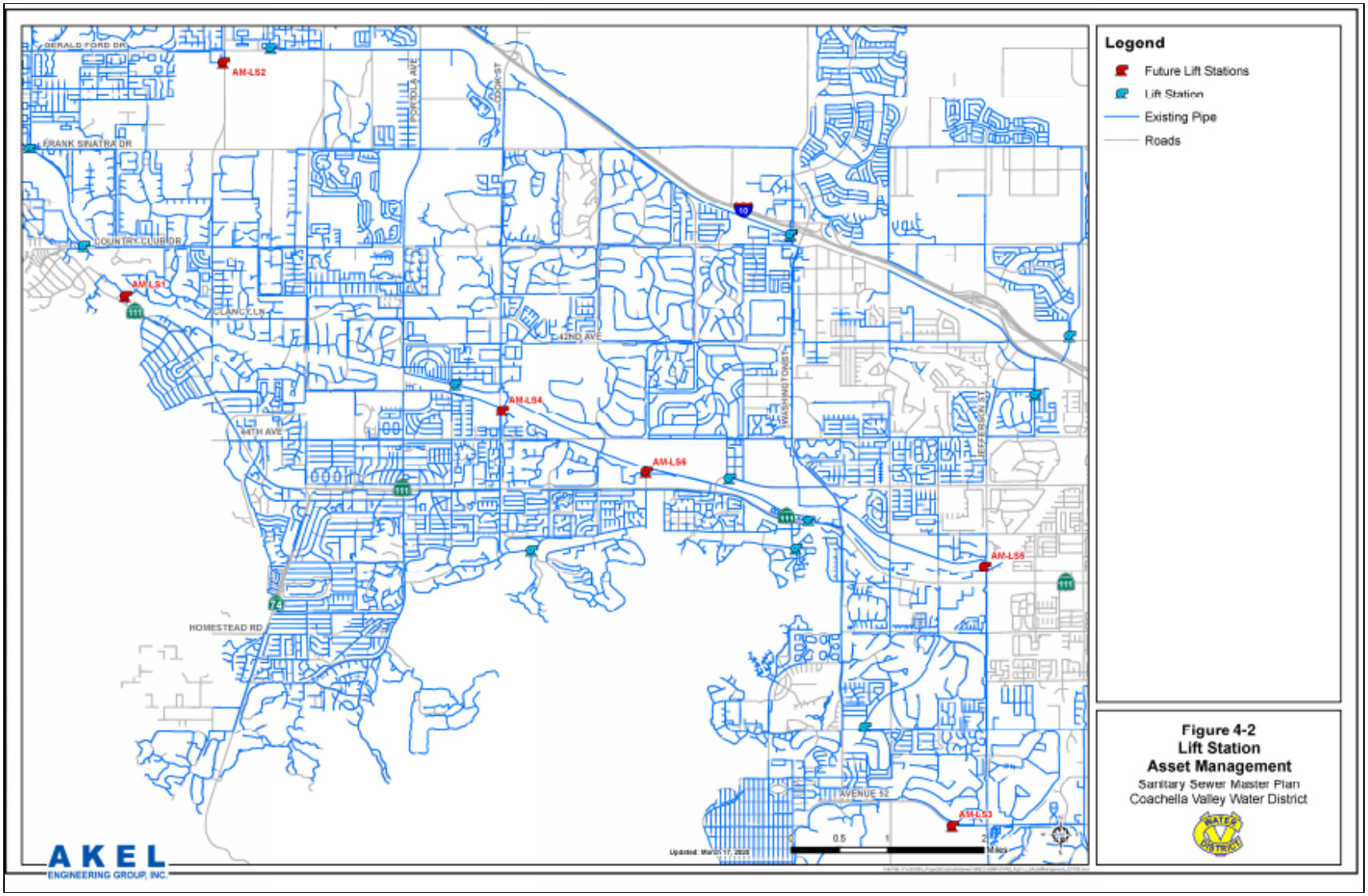

Figure 3-22. Lift Station Asset Management

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4.0 ENVIRONMENTAL ASSESSMENT

This section provides a discussion of the environmental effects of implementing the Sanitation Master Plan Update 2020 (CEQA Guidelines §15168). Sections 4.1 through 4.9 provide a detailed discussion of the environmental and regulatory settings, the analysis of potential environmental impacts associated with the Proposed Project, and where necessary, mitigation measures designed to reduce significant impacts to a less than significant level, as well as, residual and cumulative impacts for the following resources topics:

- Air Quality (Section 4.1)
- Biological Resources (Section 4.2)
- Cultural Resources (Section 4.3)
- Energy (Section 4.4)
- Greenhouse Gas Emissions (Section 4.5)
- Hydrology and Water Quality (Section 4.6)
- Land Use, Planning, and Agriculture (Section 4.7)
- Noise (Section 4.8)
- Tribal Cultural Resources (Section 4.9)

To assist the reader in comparing information about the various environmental issues, each section presents information under the following headings:

- **Environmental Setting:** The existing environment within and in the vicinity of the Proposed Project is described, including the CVWD service area.
- **Related Regulations:** Relevant federal, state, and local regulations pertaining to each issue area.
- **Thresholds of Significance:** Relevant thresholds of significance as identified by CEQA and CVWD.
- **Environmental Impacts:** The nature and extent of project impacts relative to the issue areas listed above are analyzed. These analyses address direct (or primary effects) of the Proposed Project as well as indirect (or secondary) effects. Where applicable, impacts are identified as short-term or long-term.
- **Mitigation Measures:** Mitigation measures to reduce or eliminate project impacts are provided, as applicable.
- **Residual Impacts After Mitigation:** A discussion of the significance of each impact after mitigation is provided.

- **Cumulative Impacts:** Provides a discussion of cumulative environmental impacts resulting from implementation of the Proposed Project in combination with other future projects.

Section 15130(e) of the CEQA Guidelines requires a discussion of cumulative impacts of a project "when the project's incremental effect is cumulatively considerable." The CEQA Guidelines Section 15355, defines a cumulative impact as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." Cumulatively considerable impacts are defined in Section 15065(c) of the CEQA Guidelines as the "incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects."

Section 15130(b) of the CEQA Guidelines states, "[t]he discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided of the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness."

To analyze the cumulative impacts of the Sanitation Master Plan in combination with other expected future growth, the amount and location of growth expected to occur must be predicted. Section 15130(b) of the CEQA Guidelines allows two methods of prediction:

Either:

i. A list of relevant past, present and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the Agency, or

ii. A summary of projections contained in adopted general plan or related planning document or in a prior adopted or certified environmental document that described or evaluated regional or area-wide conditions contributing to the cumulative impact.

For the purpose of this PEIR the projections approach was used due to the long-term nature of the Sanitation Master Plan (2021 to 2040). As individual sanitation projects are implemented in the future, project-specific cumulative impacts (if any) would be disclosed in subsequent-tier CEQA documentation.

The analysis in this PEIR was prepared per CVWD Local CEQA Guideline Section 7.19 (Consideration and Discussion of Significant Environmental Impacts) which states that direct and indirect significant effects of the project on the environment must be clearly identified and described, considering both the short-term and long-term effects. The discussion should include relevant specifics of the area, the resources involved, physical changes, alterations to ecological systems, and changes induced in population distribution, population concentration, the human use of the land (including commercial and residential development), health and safety problems caused by the physical changes, and other aspects of the project that may impact resources in the project area, such as water, historical resources, scenic quality, and public services. The EIR must also analyze any significant environmental effects the project might cause or risk exacerbating by bringing development and people into the area. If applicable, an EIR should also evaluate any potentially significant direct, indirect, or cumulative environmental impacts of locating development in areas susceptible to hazardous conditions (e.g., floodplains, coastlines, wildfire risk areas), including

both short-term and long-term conditions, as identified on authoritative hazard maps, risk assessments or in land use plans addressing such hazards areas.

Pursuant to CVWD Local CEQA Guideline Section 7.21 (Analysis of Cumulative Impacts), the discussion of significant cumulative impacts must include either of the following:

> *(1) A list of past, present, and probable future projects causing related or cumulative impacts including, if necessary, those projects outside the control of the District; or*
>
> *(2) A summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or a plan for the reduction of greenhouse gas emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan. Such projections may be supplemented with additional information such as a regional modeling program. Documents used in creating a summary of projections must be referenced and made available to the public.*

For the purpose of this Sanitation Master Plan PEIR, CVWD utilized a summary of projections contained in a local or regional adopted planning documents to consider if the Proposed Project would result in a cumulative impact. Cumulative impacts are discussed within each resource topic, Sections 4.1 through 4.9.

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4.1 AIR QUALITY

4.1.1 Environmental Setting

The Master Plan pertains to sanitation facility improvements located in the Salton Sea Air Basin (SSAB). Air quality in a region is determined by its topography, meteorology, and existing air pollutant sources. These factors are discussed below, along with the current regulatory structure that applies to both the Riverside County portion and Imperial County portion of the SSAB pursuant to the regulatory authority of the SCAQMD, which administers air quality planning in the Riverside County portion of the SSAB, and the Imperial County Air Pollution Control District (ICAPCD), which administers air quality planning in Imperial County. The majority of the Master Plan projects are located within Riverside County, though one individual project, at WRP 1, is located within Imperial County.

Ambient air quality is commonly characterized by climate conditions, the meteorological influences on air quality, and the quantity and type of pollutants released. The air basins are subject to a combination of topographical and climatic factors that reduce the potential for high levels of regional and local air pollutants. The following section describes the pertinent characteristics of the SSAB and provides an overview of the physical conditions affecting pollutant dispersion in the project area.

Salton Sea Air Basin

The California Air Resources Board (CARB) divides the state into air basins that share similar meteorological and topographical features. Each of the project sites are located in the SSAB. The sanitation projects in Riverside County are located in the Coachella Valley, which is located in the northern region of the SSAB within the jurisdiction of the SCAQMD. The SSAB encompasses the southeast portion of Riverside County, as well as the entirety of Imperial County, which is under the jurisdiction of the ICAPCD and is generally an arid desert region, with a significant portion located below sea level. A semi-permanent high-pressure cell blocks mid-latitude storms and causes sunny skies most of the time.

Temperature and Precipitation

The SSAB has a typical low-desert climate. During the summer, daytime temperatures frequently exceed 110 degrees Fahrenheit (°F). On winter nights, the temperature frequently dips down to around 20 °F.

Humidity

The SSAB is characterized by an arid climate (Weatherspark 2020). Air temperature often ranges from warm to hot during the spring and summer. The City of Niland, the location of the nearest air quality monitoring station to WRP 1, experiences significant seasonal variation in the perceived humidity. The muggier period of the year lasts for 2.9 months, from June 27 to September 23, during which time the comfort level is 'muggy' at least 9 percent of the time. The muggiest day of the year is August 11, with muggy conditions 35 percent of the time (Weatherspark 2020).

Wind

The prevailing winds that impact air quality in the SSAB tend to come from the west-northwest through southwest. The mountains to the east and west act as physical barriers to the dispersion of airborne contaminants.

Inversions

The SSAB experiences surface inversions almost every day of the year. These inversions are caused by the presence of the region's typical subtropical high-pressure cell, which causes the air mass aloft to sink. Air masses are large bodies of air with similar temperature and moisture content. An air mass aloft refers to the higher-altitude air mass which inductively suggests that there is a separate (and thus different in temperature and moisture content) air mass at ground level. As this air mass sinks, the temperature thereof rises through compressional heating, thus exceeding the temperature of the air below. This stable atmospheric condition, known as a subsidence inversion, becomes a nearly impenetrable barrier to the vertical mixing of pollutants. These inversions often last for long periods of time, which allows for air stagnation and the buildup of pollutants. During the winter, the area experiences radiation inversions in which the air near the ground surface cools by radiation, whereas the air higher in the atmosphere remains warmer. A shallow inversion layer is created between the two layers and precludes the vertical dispersion of air, thus trapping pollutants. Highest ozone levels are often associated with subsidence inversions.

Criteria Air Pollutants

Criteria air pollutants are defined as those pollutants for which the federal and state governments have established air quality standards for outdoor or ambient concentrations to protect public health with a determined margin of safety. Ozone (O_3), coarse particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$) are generally considered to be regional pollutants because they or their precursors affect air quality on a regional scale. Pollutants such as carbon monoxide (CO), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2) are considered to be local pollutants because they tend to accumulate in the air locally. Particulate matter is also considered a local pollutant. Health effects commonly associated with criteria pollutants are summarized in Table 4.1-1.

Table 4.1-1. Criteria Air Pollutants - Summary of Common Sources and Effects

Pollutant	Major Manmade Sources	Human Health & Welfare Effects
CO	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, effecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
NO_2	A reddish-brown gas formed during fuel combustion for motor vehicles, energy utilities and industrial sources.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Causes brown discoloration of the atmosphere.
O_3	Formed by a chemical reaction between reactive organic gases (ROGs) and nitrous oxides (N_2O) in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, solvents, paints and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield.
PM_{10} & $PM_{2.5}$	Power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
SO_2	A colorless, nonflammable gas formed when fuel containing sulfur is burned. Examples are refineries, cement manufacturing, and locomotives.	Respiratory irritant. Aggravates lung and heart problems. Can damage crops and natural vegetation. Impairs visibility.

Source: California Air Pollution Control Officers Association (CAPCOA 2013)

Carbon Monoxide

CO in the urban environment is associated primarily with the incomplete combustion of fossil fuels in motor vehicles. CO combines with hemoglobin in the bloodstream and reduces the amount of oxygen that can be circulated through the body. High CO concentrations can cause headaches, aggravate cardiovascular disease, and impair central nervous system functions. CO concentrations can vary greatly over comparatively short distances. Relatively high concentrations of CO are typically found near crowded intersections and along heavy roadways with slow-moving traffic. Even under the most severe meteorological and traffic conditions, high concentrations of CO are limited to locations within relatively short distances of the source. Overall CO emissions are decreasing as a result of the Federal Motor Vehicle Control Program, which has mandated increasingly lower emission levels for vehicles manufactured since 1973. CO levels in the South Coast Air Basin and SSAB are in compliance with the state and federal one- and eight-hour standards.

Nitric Oxides

Nitrogen gas comprises about 80 percent of the air and is naturally occurring. At high temperatures and under certain conditions, nitrogen can combine with oxygen to form several different gaseous compounds collectively called nitric oxides (NO_x). Motor vehicle emissions are the main source of NO_x in urban areas. NO_x is very toxic to animals and humans because of its ability to form nitric acid with water in the eyes, lungs, mucus membrane, and skin. In animals, long-term exposure to NO_x increases susceptibility to respiratory infections, and lowering resistance to such diseases as pneumonia and influenza. Laboratory studies show that susceptible humans, such as asthmatics, who are exposed to high concentrations can suffer from lung irritation or possible lung damage. Precursors of NO_x, such as NO and NO_2, attribute to the formation of O_3 and $PM_{2.5}$. Epidemiological studies have also shown associations between NO_2 concentrations and daily mortality from respiratory and cardiovascular causes and with hospital admissions for respiratory conditions.

Ozone

O_3 is a secondary pollutant, meaning it is not directly emitted. It is formed when volatile organic compounds (VOCs) or reactive organic gases (ROGs) and NO_x undergo photochemical reactions that occur only in the presence of sunlight. The primary source of ROG emissions is unburned hydrocarbons in motor vehicle and other internal combustion engine exhaust. NO_x forms as a result of the combustion process, most notably due to the operation of motor vehicles. Sunlight and hot weather cause ground-level O_3 to form. Ground-level O_3 is the primary constituent of smog. Because O_3 formation occurs over extended periods of time, both O_3 and its precursors are transported by wind, and high O_3 concentrations can occur in areas well away from sources of its constituent pollutants.

People with lung disease, children, older adults, and people who are active can be affected when O_3 levels exceed ambient air quality standards. Numerous scientific studies have linked ground-level O_3 exposure to a variety of problems including lung irritation, difficult breathing, permanent lung damage to those with repeated exposure, and respiratory illnesses.

Particulate Matter

PM includes both aerosols and solid particulates of a wide range of sizes and composition. Of concern are those particles smaller than or equal to 10 microns in diameter size (PM_{10}) and small than or equal to 2.5 microns in diameter ($PM_{2.5}$). Smaller particulates are of greater concern because they can penetrate deeper into the lungs than larger particles. PM_{10} is generally emitted directly as a result of mechanical processes that crush or grind larger particles or form the resuspension of dust, typically through construction activities and vehicular travel, and naturally from windstorms. PM_{10} generally settles out of the atmosphere rapidly and is not readily transported over large distances. $PM_{2.5}$ is directly emitted in combustion exhaust and is formed in atmospheric reactions between various gaseous pollutants, including NO_x, sulfur oxides (SO_x) and VOCs. $PM_{2.5}$ can remain suspended in the atmosphere for days and/or weeks and can be transported long distances.

The principal health effects of airborne PM are on the respiratory system. Short-term exposure of high $PM_{2.5}$ and PM_{10} levels are associated with premature mortality and increased hospital admissions and

emergency room visits. Long-term exposure is associated with premature mortality and chronic respiratory disease. According to the U.S. Environmental Protection Agency (USEPA), some people are much more sensitive than others to breathing PM_{10} and $PM_{2.5}$. People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worse illnesses; people with bronchitis can expect aggravated symptoms; and children may experience decline in lung function due to breathing in PM_{10} and $PM_{2.5}$. Other groups considered sensitive include smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive because many breathe through their mouths.

Toxic Air Contaminants

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are another group of pollutants of concern. TACs are considered either carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For regulatory purposes, carcinogenic TACs are assumed to have no safe threshold below which health impacts would not occur, and cancer risk is expressed as excess cancer cases per one million exposed individuals. Noncarcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

There are many different types of TACs, with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Additionally, diesel engines emit a complex mixture of air pollutants composed of gaseous and solid material. The solid emissions in diesel exhaust are known as diesel particulate matter (DPM). In 1998, California identified DPM as a TAC based on its potential to cause cancer, premature death, and other health problems (e.g., asthma attacks and other respiratory symptoms). Those most vulnerable are children (whose lungs are still developing) and the elderly (who may have other serious health problems). Overall, diesel engine emissions are responsible for the majority of California's known cancer risk from outdoor air pollutants. Diesel engines also contribute to California's $PM_{2.5}$ air quality problems. Public exposure to TACs can result from emissions from normal operations, as well as from accidental releases of hazardous materials during upset conditions. The health effects of TACs include cancer, birth defects, neurological damage, and death.

Diesel Exhaust

Most recently, CARB identified DPM as a TAC. DPM differs from other TACs in that it is not a single substance but rather a complex mixture of hundreds of substances. Diesel exhaust is a complex mixture of particles and gases produced when an engine burns diesel fuel. DPM is a concern because it causes lung cancer; many compounds found in diesel exhaust are carcinogenic. DPM includes the particle-phase constituents in diesel exhaust. The chemical composition and particle sizes of DPM vary between different engine types (heavy-duty, light-duty), engine operating conditions (idle, accelerate, decelerate), fuel formulations (high/low sulfur fuel), and the year of engine manufacture (USEPA 2002). Some short-term (acute) effects of diesel exhaust include eye, nose, throat, and lung irritation, and diesel exhaust can cause coughs, headaches, light-headedness, and nausea. DPM poses the greatest health risk among the TACs; due to their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung.

Ambient Air Quality

SSAB Portions of Riverside and Imperial Counties

Ambient air quality for a project site can be inferred from ambient air quality measurements conducted at nearby air quality monitoring stations. CARB maintains more than 60 monitoring stations throughout California. O_3, PM_{10}, and $PM_{2.5}$ are the pollutant species most potently affecting the Master Plan region. As described in detail below, the region is designated as a nonattainment area for the federal O_3 and $PM_{2.5}$ standards and is also a nonattainment area for the state standards for O_3, $PM_{2.5}$, and PM_{10} (CARB 2018).

The Indio-Jackson Street monitoring station, located at 46990 Jackson Street, Indio, CA 92201, is located centrally relative to the individual project locations within Riverside County: unincorporated Riverside County and the cities of Desert Hot Springs, Cathedral City, Rancho Mirage, Palm Desert, Indian Wells, Indio, and La Quinta. This monitoring location is generally representative of air quality in the Coachella Valley region of Riverside County. This monitoring station monitors ambient concentrations of O_3, $PM_{2.5}$, and PM_{10}.

The Niland-English Road monitoring station, located at 7711 English Road, Niland, CA 92257, is the closest active monitoring site to Bombay Beach, the location of WRP 1 in Imperial County, the only Master Plan project in Imperial County. This monitoring station monitors ambient concentrations of O_3 and PM_{10}. The nearest monitoring site that monitors $PM_{2.5}$ is the Brawley-220 Main Street monitoring station located at 220 Main Street, Brawley, CA 92227.

Ambient emission concentrations will vary due to localized variations in emission sources and climate and should be considered "generally" representative of ambient concentrations in each project area.

Table 4.1-2 summarizes the published data concerning O_3, $PM_{2.5,}$ and PM_{10} in the Coachella Valley portion of Riverside County since 2016 for each year that the monitoring data is provided.

Table 4.1-2. Summary of Ambient Air Quality Data for the Coachella Valley Region of Riverside County

Pollutant Standards	2016	2017	2018
O_3			
Max 1-hour concentration (ppm)	0.099	0.107	0.106
Max 8-hour concentration (ppm) (state/federal)	0.090 / 0.89	0.094 / 0.093	0.091 / 0.091
Number of days above 1-hour standard (state/federal)	3 / 0	8 / 0	4 / 0
Number of days above 8-hour standard (state/federal)	29 / 27	47 / 44	52 / 49
PM_{10}			
Max 24-hour concentration (µg/m3) (state/federal)	261.2 / 392.2	143.1 / 198.6	149.6 / 336.0
Number of days above 24-hour standard (state/federal)	135.7 / *	* / 1.0	88.4 / 2.2
$PM_{2.5}$			
Max 24-hour concentration (µg/m3) (state/federal)	25.8 / 25.8	18.8 / 18.8	28.7 / 28.7
Number of days above federal 24-hour standard	0	*	0

Source: CARB 2019
$\mu g/m^3$ = micrograms per cubic meter; ppm = parts per million
* = Insufficient data available

Table 4.1-3 summarizes the published data concerning O_3, $PM_{2.5}$, and PM_{10} in Imperial County since 2016 for each year that the monitoring data is provided.

Table 4.1-3. Summary of Ambient Air Quality Data for Imperial County

Pollutant Standards	2016	2017	2018
O_3			
Max 1-hour concentration (ppm)	0.079	0.072	0.060
Max 8-hour concentration (ppm) (state/federal)	0.067 / 0.066	0.062 / 0.061	0.055 / 0.055
Number of days above 1-hour standard (state/federal)	0 / 0	0 / 0	0 / 0
Number of days above 8-hour standard (state/federal)	0 / 0	0 / 0	0 / 0
PM_{10}			
Max 24-hour concentration (µg/m3) (state/federal)	231.3 / 225.7	* / 345.8	333.8 / 331.5
Number of days above 24-hour standard (state/federal)	87.2 / 5.7	* / 4.0	* / 11.1
$PM_{2.5}$			
Max 24-hour concentration (µg/m3) (state/federal)	57.9 / 57.9	46.1 / 46.1	55.1 / 55.1
Number of days above federal 24-hour standard	5.9	3.1	6.1

Source: CARB 2019
$\mu g/m^3$ = micrograms per cubic meter; ppm = parts per million
* = Insufficient data available

The number of days Riverside and Imperial County pollutant concentrations were above the state and federal air quality standards (as depicted in Table 4.1-2 and Table 4.1-3) is generally not more extreme than in other densely populated southern California counties. However, the frequency of standard exceedances for O_3 and PM_{10} in Riverside County indicates that reduced O_3 and PM_{10} concentrations are important for the health of Riverside County residents.

The USEPA and CARB designate air basins or portions of air basins and counties as being in "attainment" or "nonattainment" for each of the criteria pollutants. Areas that do not meet the standards are classified as nonattainment areas. The National Ambient Air Quality Standards (NAAQS) (other than O_3, PM_{10} and $PM_{2.5}$ and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. The NAAQS for O_3, PM_{10}, and $PM_{2.5}$ are based on statistical calculations over one- to three-year periods, depending on the pollutant. The California Ambient Air Quality Standards (CAAQS) are not to be exceeded during a three-year period. The attainment status for the Riverside County portion the SSAB is included in Table 4.1-4.

Table 4.1-4. Attainment Status of Criteria Pollutants in the Riverside County Portion of the Salton Sea Air Basin

Pollutant	State Designation	Federal Designation
O_3	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Unclassified/Attainment
NO_2	Attainment	Unclassified/Attainment
SO_2	Attainment	Unclassified/Attainment

Source: CARB 2018

The attainment status for the Imperial County portion of the SSAB is included in Table 4.1-5.

Table 4.1-5. Attainment Status of Criteria Pollutants in the Imperial County Portion of the Salton Sea Air Basin

Pollutant	State Designation	Federal Designation
O_3	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Nonattainment
$PM_{2.5}$	Attainment	Unclassified/Attainment
CO	Attainment	Unclassified/Attainment
NO_2	Attainment	Unclassified/Attainment
SO_2	Attainment	Unclassified/Attainment

Source: CARB 2018

The determination of whether an area meets the state and federal standards is based on air quality monitoring data. Some areas are unclassified, which means there is insufficient monitoring data for determining attainment or nonattainment. Unclassified areas are typically treated as being in attainment. Because the attainment/nonattainment designation is pollutant-specific, an area may be classified as nonattainment for one pollutant and attainment for another. Similarly, because the state and federal standards differ, an area could be classified as attainment for the federal standards of a pollutant and as

nonattainment for the state standards of the same pollutant. The Riverside County portion of the SSAB is designated as nonattainment area for the federal O_3 and $PM_{2.5}$ standards and is also a nonattainment area for the state standards for O_3, $PM_{2.5}$, and PM_{10} (CARB 2018). The Imperial County portion of the SSAB is designated as nonattainment area for the federal O_3 and PM_{10} standards and is also a nonattainment area for the state standards for O_3 and PM_{10} (CARB 2018). The south-central portion of Imperial County is designated nonattainment for federal $PM_{2.5}$ standards, yet this portion of Imperial County does not encompass the Master Plan area.

Sensitive Receptors

Sensitive receptors are defined as facilities or land uses that include members of the population who are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis.

The nearest existing sensitive receptors to each project site with a defined project location are as follows, though it is noted that the Master Plan is a long-term, conceptual plan and therefore the surrounding land uses could change by the time of implementation of each specific project component:

- WRP 10 Capital Improvement Project: The nearest existing sensitive land use is the residential development located to the east with the closest residence located approximately 60 feet away.
- WRP 7 Capital Improvement Project: The nearest existing sensitive land use is the residential development to the north, with the closest residence located approximately 160 feet away across Avenue 38.
- WRP 4 Capital Improvement Project: The nearest existing sensitive land use is a rural residence located approximately 600 feet north of the site, on the north side of 62nd Avenue. WRP 4 is surrounded by farmland and rural residents in all directions. At the project site, the land buffering the water reclamation plant from surrounding farmland is generally undeveloped.
- WRP 2 Capital Improvement Project: WRP 2 is surround by vacant land with rural residents beyond. The nearest existing sensitive land uses to the site is a resident to the northwest approximately 500 feet away across State Route 111.
- WRP 1 Capital Improvement Project: The site is surrounded by vacant land in all directions with the unincorporated community of Bombay Beach located approximately 0.5 miles south across State Route 111. The nearest existing sensitive land uses are the residences within this community.
- Biosolids and Septic to Sewer Capital Improvement Projects: Various sensitive receptors are located as close as 25 feet from these project sites

Master Plan projects lacking construction design and/or specific location details must undergo a separate CEQA review process prior to implementation.

4.1.2 Related Regulations

The following federal, state, and local regulations are relevant to the Master Plan.

Federal

Clean Air Act

The Clean Air Act (CAA) of 1970 and the CAA Amendments of 1971 required the USEPA to establish the NAAQS, with states retaining the option to adopt more stringent standards or to include other specific pollutants. On April 2, 2007, the Supreme Court found that carbon dioxide (CO_2) is an air pollutant covered by the CAA; however, no NAAQS have been established for CO_2.

These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those "sensitive receptors" most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

The USEPA has classified air basins (or portions thereof) as being in attainment, nonattainment, or unclassified for each criteria air pollutant, based on whether or not the NAAQS have been achieved. If an area is designated unclassified, it is because inadequate air quality data were available as a basis for a nonattainment or attainment designation. Table 4.1-4 and Table 4.1-5, above, list the federal attainment status of the Riverside County portion and Imperial County portion of the SSAB for the criteria pollutants.

State

California Clean Air Act

The California Clean Air Act (CCAA) allows the state to adopt ambient air quality standards and other regulations provided that they are at least as stringent as federal standards. CARB, a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control programs within California, including setting the CAAQS. CARB also conducts research, 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. CARB also has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the federal government and the local air districts.

California State Implementation Plan

The federal CAA (and its subsequent amendments) requires each state to prepare an air quality control plan referred to as the SIP. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The USEPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA.

State law makes CARB the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB then forwards SIP revisions to the USEPA for approval and publication in the Federal Register. The 2016 Air Quality Management Plan (AQMP) and Coachella Valley PM_{10} State Implementation Plan constitute the SIP for the Riverside County portion of the SSAB. These air quality plans, promulgated by the SCAQMD, establish programs of rules and regulations directed at reducing air pollutant emissions and achieving state (California) and national ambient air quality standards. Pollutant control strategies are based on the latest scientific and technical information and planning assumptions, including the Southern California Association of Governments' (SCAG's) latest Regional Transportation Plan/Sustainable Communities Strategy, updated emission inventory methodologies for various source categories, and the latest growth forecasts. The Final 2017 State Implementation Plan for the 2008 8-Hour Ozone Standard, Final 24-Hour $PM_{2.5}$ Plan, Final Annual $PM_{2.5}$ Plan, and Final PM_{10} Plan constitute the SIP for the Imperial County portion of the SSAB. These air quality plans, promulgated by the ICAPCD, contain strategies stated in the SIPs for achieving air quality standards on a regional basis.

Tanner Air Toxics Act & Air Toxics "Hot Spots" Information and Assessment Act

CARB's Statewide comprehensive air toxics program was established in 1983 with Assembly Bill (AB) 1807, the Toxic Air Contaminant Identification and Control Act (Tanner Air Toxics Act of 1983). AB 1807 created California's program to reduce exposure to air toxics and sets forth a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an airborne toxics control measure for sources that emit designated TACs. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions.

CARB also administers the state's mobile source emissions control program and oversees air quality programs established by state statute, such as AB 2588, the Air Toxics "Hot Spots" Information and Assessment Act of 1987. Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment and, if specific thresholds are exceeded, required to communicate the results to the public in the form of notices and public meetings. In September 1992, the "Hot Spots" Act was amended by Senate Bill (SB) 1731, which required facilities that pose a significant health risk to the community to reduce their risk through a risk management plan.

Local

South Coast Air Quality Management District

The SCAQMD is the air pollution control agency for Orange County and the urban portions of Los Angeles, Riverside, and San Bernardino counties; including 11 of the 12 Master Plan project categories located in Riverside County. The agency's primary responsibility is ensuring that the NAAQS and CAAQS are attained and maintained in the South Coast Air Basin and the portion of the SSAB in Riverside County. The SCAQMD is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, awarding grants to reduce motor vehicle emissions, and conducting public education campaigns, as well as many other activities. All projects are subject to SCAQMD rules and regulations in effect at the time of construction.

The following is a list of noteworthy SCAQMD rules that are required of construction activities associated with the Master Plan:

- *Rule 201 & Rule 203 (Permit to Construct & Permit to Operate)* – Rule 201 requires a "Permit to Construct" prior to the installation of any equipment "the use of which may cause the issuance of air contaminants . . ." and Regulation II provides the requirements for the application for a Permit to Construct. Rule 203 similarly requires a Permit to Operate.
- *Rule 402 (Nuisance)* – This rule prohibits the discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. This rule does not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.
- *Rule 403 (Fugitive Dust)* – This rule requires fugitive dust sources to implement best available control measures for all sources, and all forms of visible PM are prohibited from crossing any property line. This rule is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust. PM_{10} suppression techniques are summarized below.

    a) Portions of a construction site to remain inactive longer than a period of three months will be seeded and watered until grass cover is grown or otherwise stabilized.
    b) All onsite roads will be paved as soon as feasible or watered periodically or chemically stabilized.
    c) All material transported offsite will be either sufficiently watered or securely covered to prevent excessive amounts of dust.
    d) The area disturbed by clearing, grading, earthmoving, or excavation operations will be minimized at all times.

e) Where vehicles leave a construction site and enter adjacent public streets, the streets will be swept daily or washed down at the end of the workday to remove soil tracked onto the paved surface.

- *Rule 403.1 (Fugitive Dust)* – This rule is a supplemental rule to Rule 403 and is applicable to man-made sources of fugitive dust in the Coachella Valley, which encompasses the Master Plan project area. The purpose of this rule is to reduce fugitive dust and resulting PM_{10} emissions from man-made sources in the Coachella Valley. Rule 403.1 requires a Fugitive Dust Control Plan approved by SCAQMD, or an authorized local government agency, prior to the initiation of any construction/earth-moving activity. These requirements are only applicable to construction projects with 5,000 or more square feet of surface area disturbance (SCAQMD 2004).
- *Rule 1401 (New Source Review of Toxic Air Contaminants)* – This rule requires new source review of any new, relocated, or modified permit units that emit TACs. The rule establishes allowable risks for permit units requiring permits pursuant to Rules 201 and 203 discussed above.

Imperial County Air Pollution Control District

The ICAPCD is the local air quality agency and shares responsibility with CARB for ensuring that state and federal ambient air quality standards are achieved and maintained in the portion of the SSAB spanning into Imperial County. Furthermore, ICAPCD adopts and enforces controls on stationary sources of air pollutants through its permit and inspection programs and regulates agricultural burning. Other ICAPCD responsibilities include monitoring ambient air quality, preparing clean air plans, planning activities such as modeling and maintenance of the emission inventory, and responding to citizen air quality complaints.

To achieve and maintain ambient air quality standards, the ICAPCD has adopted various rules and regulations for the control of airborne pollutants. The ICAPCD Rules and Regulations that are applicable to the Master Plan projects include, but are not limited to, ICAPCD Rule 801 requirements for construction activities. The purpose of this rule is to reduce the amount of PM_{10} entrained in the ambient air as a result of emissions generated from construction and other earthmoving activities by requiring actions to prevent, reduce, or mitigate PM_{10} emissions. In addition, the projects are required to adopt best available control measures for PM_{10} to minimize emissions from surface-disturbing activities to comply with ICAPCD Regulation VIII (Fugitive Dust Rules). These ICAPCD pollutant-reduction measures include the following (ICAPCD 2019):

Construction and Earthmoving Activities shall comply with the following requirements:

- Pre-Activity:
  - Pre-water site sufficient to limit visible dust emissions (VDE) to 20-percent opacity, and
  - Phase work to minimize the amount of disturbed surface area at any one time.
- During Active Operations:
  - Apply water or Chemical Stabilization as directed by product manufacturer to limit VDE to 20-percent opacity, or

- Construct and maintain wind barriers sufficient to limit VDE to 20-percent opacity. If utilizing wind barriers, the above control measure shall be implemented.
- Apply water or Chemical Stabilization as directed by product manufacturer to unpaved haul/access roads and Unpaved Traffic Areas sufficient to limit VDE to 20-percent opacity and meet the conditions of a Stabilized Unpaved Road.

- Temporary Stabilization During Periods of Inactivity:
  - Restrict vehicular access to the area by fencing or signage; and
  - Apply water or Chemical Stabilization, as directed by product manufacturer, sufficient to comply with the conditions of a Stabilized Surface. If an area having 0.5 acres or more of disturbed surface area remains unused for seven or more days, the area must comply with the conditions for a Stabilized Surface area.
- Track Out/Carry Out of Bulk Materials at the site shall be mitigated in compliance with Rule 803 (aimed at reducing PM_{10}).
- Unpaved Roads and Unpaved Traffic Areas at the site shall comply with Rule 805 (aimed at reducing PM_{10}).
- Bulk Material handling operations at the site shall comply with Rule 802 (aimed at reducing PM_{10}).
- Material transport of Bulk Material to, from, or around the site shall comply with Rule 802.
- Haul trucks transporting Bulk Material to, from, or around the site shall comply with Rule 802.
- A dust control plan and record of implementation meeting requirements specified in the Rules and Regulations are required.

4.1.3 Thresholds of Significance

The impact analysis provided below is based on the following CEQA Guidelines: Appendix G thresholds of significance and CVWD Local CEQA Guidelines (2019). The Master Plan would result in a significant impact to air quality if it would do any of the following:

1) 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.

2) Conflict with or obstruct implementation of the applicable air quality plan.

3) Result in emissions that exceed the USEPA General Conformity Thresholds.

4) Expose sensitive receptors to substantial pollutant concentrations.

5) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

6) Result in an indirect increase in development that would cause an increase in air pollution.

SCAQMD Regional Thresholds

The significance criteria established by the applicable air quality management or air pollution control district (SCAQMD) may be relied upon to make the above determinations. According to the SCAQMD, an air quality impact is considered significant if the Master Plan would violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. The SCAQMD has established thresholds of significance for air quality for construction and operational activities of land use development projects such as that proposed, as shown in Table 4.1-6.

Table 4.1-6. SCAQMD Regional Significance Coachella Valley Thresholds – Pounds per Day

Air Pollutant	Construction Activities	Operations
Reactive Organic Gas	75	75
Carbon Monoxide	550	550
Nitrogen Oxide	100	100
Sulfur Oxide	150	150
Coarse Particulate Matter	150	150
Fine Particulate Matter	55	55

Source: SCAQMD 1993 ($PM_{2.5}$ threshold adopted June 1, 2007). For Coachella Valley, the mass daily thresholds for operations are the same as the construction thresholds.

SCAQMD Localized Significance Thresholds

In addition to regional significance thresholds, the SCAQMD developed localized significance thresholds (LSTs) for emissions of NO_2, CO, PM_{10}, and $PM_{2.5}$ generated at new development sites (offsite mobile source emissions are not included in the LST analysis protocol). LSTs represent the maximum emissions that can be generated at a project site without expecting to cause or substantially contribute to an exceedance of the most stringent national or state ambient air quality standards. LSTs are based on the ambient concentrations of that pollutant within the project source receptor area (SRA), as demarcated by the SCAQMD, and the distance to the nearest sensitive receptor. All projects in unincorporated Riverside County and the cities of Desert Hot Springs, Cathedral City, Rancho Mirage, Palm Desert, Indian Wells, Indio, and La Quinta are located within SCAQMD SRA 30, Coachella Valley. Table 4.1-7 shows the LSTs for a one-, two-, and five-acre project site in SRA 30 with sensitive receptors located as close as 25 meters of the project site. As explained previously, each of the project sites has sensitive receptors located at various distances from the site. However, the Master Plan proposes updates to, and the expansion of, CVWD

wastewater infrastructure over the long-term, conceptual planning period. As such, the surrounding land uses of each site could change by the time of implementation of each specific project component and new sensitive receptors may be developed adjacent to, or in closer proximity any of the project sites within that time period. Therefore, in order to provide an encompassing and conservative analysis, a distance of 25 meters between each individual project component site and potential sensitive receptors is utilized for the LST analysis. 25 meters is the shortest distance of analysis promulgated in the SCAQMD LST protocol. Additionally, the SCAQMD Methodology explicitly states: "*It is possible that a project may have receptors closer than 25 meters. Projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters.*" Therefore, LSTs for receptors located at 25 meters were utilized in this analysis.

Table 4.1-7. Local Significance Thresholds

Project Size	Pollutant (pounds per day) Construction			
	NO_2	CO	PM_{10}	$PM_{2.5}$
1 Acre	132	878	4	3
2 Acres	191	1,299	7	5
5 Acres	304	2,292	14	8

Source: SCAQMD 2009

ICAPCD Thresholds of Significance

The ICAPCD thresholds of significance for evaluating construction and operational air quality impacts are listed in Table 4.1-8. These thresholds are relevant to the WRP 1 project only. Development projects with a potential to meet or exceed thresholds are considered to have a significant impact on regional and local air quality and are considered Tier II projects. Tier II projects are required to prepare an Air Quality Analysis Report demonstrating project implementation of all ICAPCD-identified Standard Mitigation Measures and all feasible Discretionary Mitigation Measures. These measures must be listed and incorporated into an Air Quality Analysis Report. In the case that these measures cannot be shown to reduce air pollutant emissions to levels below ICAPCD thresholds, Tier II projects are required to conform to ICAPCD Rule 310, Operational Development Schedule Fee, which is a Rule adopted by the ICAPCD as a sound method for mitigating the emissions produced from the operations of new development projects throughout the County of Imperial. Tier I projects are not subject to these requirements and instead are only required to be analyzed in an Initial Study (ICAPCD 2007).

Table 4.1-8. ICAPCD Significance Thresholds

Air Pollutant	Construction Activities	Operations
Reactive Organic Gases (ROGs)	75 pounds/day	55 pounds/day
Nitrogen Oxides (NO_x)	100 pounds/day	55 pounds/day
Coarse Particulates (PM_{10})	150 pounds/day	150 pounds/day
Fine Particulates ($PM_{2.5}$)	None	None
Carbon Monoxide (CO)	550 pounds/day	550 pounds/day
Sulfur Oxides (SO_x)	None	150 pounds/day

Source: ICAPCD 2007

By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's individual emissions exceed its identified significance thresholds, the project would be cumulatively considerable. Projects that do not exceed significance thresholds would not be considered cumulative considerable.

Methodology

Air quality impacts were assessed in accordance with methodologies recommended by the SCAQMD and ICAPCD, as applicable. The purpose of the Master Plan is to plan the expansion and upgrades of the CVWD sanitation system within the boundaries of the CVWD service area for the 2021 to 2040 planning period in order to provide sustainable, cost-effective service to CVWD's current and future customers. Due to the nature of Master Plan preparation, the exact construction and operation details for each of the 12 individual project categories which comprise the Master Plan are not yet known. As such, the seven Master Plan project categories with adequate construction and operation details known at this time were modeled for their projected air pollutant emission and compared to applicable thresholds of significance. The remaining five Master Plan project categories without current construction and operational details were evaluated qualitatively.

Where criteria air pollutant quantification was possible, emissions were modeled using the California Emissions Estimator Model (CalEEMod), version 2016.3.2. CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. Project construction-generated air pollutant emissions were primarily calculated using CalEEMod model defaults for Riverside and Imperial County, dependent on the location of the project sites. However, known construction and operation details for each of the seven modeled Master Plan project categories were included in the models.

All construction projects in Riverside County are required to implement SCAQMD Rule 403 and Rule 403.1. These Rules require fugitive dust sources to implement best available control measures for all sources, and all forms of visible PM are prohibited from crossing any property line. SCAQMD-identified best available control measures that are able to be applied in CalEEMod include sweeping/cleaning adjacent roadway access areas daily, washing equipment tires before leaving the construction site, water exposed surfaces three times daily, and limit speeds on unpaved roads to 15 miles per hour. Because CalEEMod does not differentiate between required best available control measures and mitigation measures, these applied Rule 403 and Rule 403.1 activities are incorporated into the CalEEMod mitigation module.

All construction projects in Imperial County are required to implement ICAPCD dust control measures during project construction, and if applicable, during project operation. A dust control plan must be completed for all projects under ICAPCD jurisdiction. Applicable dust control measures that are able to be applied in CalEEMod for the WRP 1 project include watering the site during the pre-activity stage and applying water or chemical stabilization sufficient to comply with the conditions of a stabilized surface during periods of inactivity.

Operational air pollutant emissions were calculated based on the project site plans and known operational details. Although the Master Plan is not anticipated to increase traffic from baseline levels, the CalEEMod default trips were included in the model to produce a conservative prediction of pollutant production. The traffic fleet mix defaults contained in the CalEEMod model are based on the average fleet mix of Riverside and Imperial County, as applicable.

Five of the 12 Master Plan project categories were not modeled due to insufficient information to accurately evaluate the projects at this time. Prior to implementation of each of the Master Plan projects, and when greater construction design detail is known, each project must go through another CEQA review process. Projects will be examined to determine if the project falls within the scope of the Master Plan as examined in this PEIR. If the project would be consistent with this PEIR, and would not result in new effects or require new mitigation measures, CVWD can approve the project as being within the scope of the project covered by this PEIR and no new environmental document would be required (CEQA Guidelines §15168). Otherwise, subsequent environmental review/documentation must be prepared.

4.1.4 Environmental Impacts

Impact AQ-1: Would the Project 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?

Project Construction-Generated Criteria Air Quality Emissions

SCAQMD Regional Construction Significance Analysis

The majority of individual project components proposed in the Master Plan Update are located in Riverside County, which as previously described is under the air quality regulatory jurisdiction of the

SCAQMD. Construction-generated emissions are temporary and short-term but have the potential to represent a significant air quality impact.

Three basic sources of short-term emissions have the potential to be generated through construction: operation of the construction vehicles (i.e., excavators, trenchers, dump trucks), the creation of fugitive dust during clearing and grading, and the use of asphalt or other oil-based substances during paving activities. Construction activities such as excavation and grading operations, construction vehicle traffic, and wind blowing over exposed soils would generate exhaust emissions and fugitive PM emissions that affect local air quality at various times during construction. Effects would be variable depending on the weather, soil conditions, the amount of activity taking place, and the nature of dust control efforts. The dry climate of the area during the summer months creates a high potential for dust generation. Construction activities in Riverside County would be subject to SCAQMD Rule 403 and Rule 403.1, which require taking reasonable precautions to prevent the emissions of fugitive dust, such as using water or chemicals for control of dust during the clearing of land and other construction activities.

Construction-generated emissions associated with the projects with enough known details were calculated using the CARB-approved CalEEMod computer program, which is designed to model emissions for land use development projects, based on typical construction requirements. Note that the projects were modeled broadly to enable the exact characteristics of each finalized project to fit under the worst-case scenario model for the given project. For example, the CVWD is not proposing to implement any biosolids CIPs during the planning period. However, if regulatory changes, biosolids markets development, treatment capacity needs, or other events should occur, CVWD may wish to consider implementing one or more of the components of the Biosolids CIP components listed in Section 3.0, Project Description. This Master Plan project was modeled for its air pollutant emissions as though full implementation of all Biosolids CIPs would occur, and as such represents a worst-case scenario for air quality emissions.

Prior to implementation, when greater detail is known, each project must go through a project-specific CEQA review process. See Appendix B - Air Quality for information regarding the construction assumptions, including construction equipment and duration, used in this analysis for each of the six modeled Riverside County projects. Five of the Riverside County projects lacked adequate construction design detail to be modeled at this time and are evaluated qualitatively below. (The Imperial County project is also analyzed below.)

Predicted maximum daily construction-generated emissions for each of the six modeled Master Plan project categories located in Riverside County are summarized in Table 4.1-9. Construction-generated emissions are short-term and of temporary duration, lasting only as long as construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the SCAQMD's thresholds of significance.

Table 4.1-9. Construction-Related Emissions in Riverside County (Regional Significance Analysis)

Master Plan Project Category	Pollutant (pounds per day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
	Construction					
Biosolids Capital Improvement Projects	3.11	25.70	22.81	0.09	3.96	1.95
Septic-to-Sewer Conversion Capital Improvement Projects	3.17	32.45	21.75	0.08	7.23	1.90
WRP 10 Capital Improvement Projects	1.67	14.03	11.98	0.01	1.29	1.06
WRP 2 Capital Improvement Projects	0.78	6.43	7.62	0.01	0.38	0.36
WRP 4 Capital Improvement Projects	4.26	46.44	31.45	0.06	5.47	3.26
WRP 7 Capital Improvement Projects	1.21	11.24	10.48	0.01	1.44	1.00
SCAQMD Regional Significance Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Exceed SCAQMD Regional Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod version 2016.3.2. Refer to Appendix B for Model Data Outputs.
Notes: Emission reduction/credits for construction emissions are applied based on the required implementation of SCAQMD Rule 403. The specific Rule 403 measures applied in CalEEMod include the following: sweeping/cleaning adjacent roadway access areas daily; washing equipment tires before leaving the construction site; water exposed surfaces three times daily; and limit speeds on unpaved roads to 15 miles per hour. Reductions percentages from the SCAQMD CEQA Handbook (Tables XI-A through XI-E) were applied.
Emissions account for the following acreage of soil disturbance and use of construction equipment for each project:

- Biosolids Capital Improvement Projects: 3 acres; Concrete/Industrial Saws (1), Excavators (2), Rubber Tired Dozers (1), Graders (1), Tractors/Loaders/Backhoes (2), Scrapers (1), Cranes (1), Forklifts (1), Pavers (1), Paving Equipment (1), Rollers (1).
- Septic-to-Sewer Conversion Capital Improvement Projects: 2 acres; Concrete/Industrial Saws (1), Excavators (1), Rubber Tired Dozers (2), Tractors/Loaders/Backhoes (2), Cranes (1), Forklifts (1), Generator Sets (1), Welders (1), Pavers (1), Paving Equipment (1), Rollers (1).
- WRP 10 Capital Improvement Projects: 4.5 acres; Graders (3), Tractors/Loaders/Backhoes (4), Concrete/Industrial Saws (1), Rubber Tired Dozers (1), Cranes (1), Forklifts (1), Cement and Mortar Mixers (1), Pavers (1), Rollers (1).
- WRP 2 Capital Improvement Projects: 0 acres; Pumps (2), Off-Highway Tractors (1).
- WRP 4 Capital Improvement Projects: 5.5 acres; Rubber Tired Dozers (2), Tractors/Loaders/Backhoes (4), Excavators (2), Graders (1), Scrapers (2), Cranes (1), Forklifts (1), Generator Sets (1), Welders (1), Pavers (1), Paving Equipment (1), Rollers (10).
- WRP 7 Capital Improvement Projects: 5 acres; Concrete/Industrial Saws (2), Rubber Tired Dozers (2), Tractors/Loaders/Backhoes (5), Graders (1), Rubber Tired Dozers (1), Cranes (1), Forklifts (1), Cement and Mortar Mixers (4), Pavers (1), Rollers (1).

As shown in Table 4.1-9, emissions generated during construction of the six modeled Riverside County project categories would not exceed the SCAQMD's regional thresholds of significance. Therefore, criteria pollutant emissions generated during construction of the Master Plan projects would not 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.

The following five Master Plan project categories, each located in Riverside County, were not able to be modeled for pollutant emissions at this time due to insufficient project information: the WRP Asset

Management Capital Improvement Projects, General Capital Improvement Projects, Collection System Capacity Capital Improvements Projects, Collection System Condition and Risk Assessment Capital Improvement Projects, and the Collection System Asset Management Capital Improvements Projects.

One of the four service goals of the Master Plan projects is to minimize the impacts to operations and maintenance by reducing maintenance and operational needs that over-stretch the staff by looking at replacing problematic equipment, remote monitoring and controls to check and clear alarms, improvements to the process that will address the causes of alarm conditions, frequent checks, and fixes. Thus, the Master Plan projects have built-in characteristics aimed at reducing future maintenance needs and subsequently reducing emissions associated with staff needing to more frequently drive to a location and perform maintenance activities which may themselves produce emissions. In addition, beneficial reuse, reusing byproducts or waste material, is a goal of the Master Plan projects. Beneficial reuse would help further reduce the emissions of all projects.

In addition, the five Master Plan project categories which were not modeled have many similar characteristics to the modeled projects.

- The WRP Asset Management Capital Improvement Projects include building, road, and power improvements to each of the WRP projects. The project improvements are likely to produce little air quality emissions and are generally similar to each of the WRP projects modeled for air pollutant emissions in Table 4.1-9 and predicted to generate emissions below SCAQMD significance thresholds.
- The General Capital Improvement Projects include primarily building and energy efficiency improvements, equipment standardization, adding meters, and improvements of motors and pumps; similar in nature to each of the WRP projects modeled for air pollutant emissions in Table 4.1-9, but on a much smaller scale.
- The Collection System Capacity Capital Improvements Projects include construction of new pipeline and new sanitary infrastructure, as well as capacity increases; similar in nature to the Septic-to-Sewer Capital Conversion Capital Improvement Projects modeled for air pollutant emissions in Table 4.1-9 and predicted to generate emissions below SCAQMD significance thresholds.
- The Collection System Condition and Risk Assessment Capital Improvement Projects include various renewal and operation and maintenance improvements with a focus on capacity improvements; similar in nature to each of the WRP projects modeled for air pollutant emissions in Table 4.1-9.
- Finally, the Collection System Asset Management Capital Improvements Projects include upgrades and rehabilitation of lift stations, improvements to a forced main, replacement of existing pipeline, and manhole refurbishing and improvements; similar in nature to the Septic-to-Sewer Conversion Capital Improvement Projects modeled for air pollutant emissions in Table 4.1-9.

As all six modeled Riverside County project categories fall substantially below the SCAQMD Regional Significance thresholds for construction, the remaining five project categories would also fall below thresholds of significance.

SCAQMD Localized Construction Significance Analysis

As previously stated, the distance of the nearest existing sensitive receptor from each project site varies by the project. In order to identify localized, air toxic-related impacts to sensitive receptors within its jurisdiction, the SCAQMD recommends addressing LSTs for construction. LSTs were developed in response to SCAQMD Governing Boards' Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the *Final Localized Significance Threshold Methodology* (dated June 2003 [revised 2008]) for guidance. The LST methodology assists lead agencies in analyzing localized impacts associated with Project-specific level Master Plan projects.

For the Master Plan projects, the appropriate SRA for the localized significance thresholds is the Coachella Valley, SRA 30. LSTs apply to CO, NO_2, PM_{10}, and $PM_{2.5}$. As previously described, the SCAQMD has produced lookup tables for projects that disturb one, two and five acres. However, the LST lookup tables are based on frequency and severity of land disturbance per day (rather than project area), which is derived from the type of equipment used on the site. Thus, the LST threshold values which most closely match the acres disturbed per day for each project (see Table 4.1-10) were utilized. Where a project did not exactly match to an LST threshold category, acreage was rounded down to match the closest LST value. This is conservative since the analysis will only account for the dispersion of air pollutants over a reduced acreage before reaching sensitive receptors, as opposed to accounting for the dispersion of air pollutants over a greater area.

Table 4.1-10. Construction-Related Local Significance Thresholds (Riverside County)

Master Plan Project Category & Acreage	Maximum Onsite Pollutant (pounds per day) Construction			
	NO_2	CO	PM_{10}	$PM_{2.5}$
Construction				
Biosolids Capital Improvement Projects (anticipated to disturb 3 acres)	16.16	10.98	2.99	1.88
Septic-to-Sewer Conversion Capital Improvement Projects (anticipated to disturb 2 acres)	16.16	10.98	6.21	1.57
WRP 10 Capital Improvement Projects (anticipated to disturb 4.5 acres)	14.01	11.79	1.24	1.04
WRP 2 Capital Improvement Projects (anticipated to disturb 0 acres)	6.42	7.48	0.35	0.35

Table 4.1-10. Construction-Related Local Significance Thresholds (Riverside County)

Master Plan Project Category & Acreage	Maximum Onsite Pollutant (pounds per day) Construction			
	NO_2	CO	PM_{10}	$PM_{2.5}$
Construction				
WRP 4 Capital Improvement Projects (anticipated to disturb 5.5 acres)	46.39	30.87	5.36	3.22
WRP 7 Capital Improvement Projects (anticipated to disturb 5 acres)	7.82	5.87	1.07	0.72
Localized Significance Thresholds				
1 Acre	132	878	4	3
2 Acres	191	1,299	7	5
5 Acres	304	2,292	14	8

Source: CalEEMod v. 2016.3.2, SCAQMD 2009
Notes: Emissions totals represent the predicted greater day of onsite generation. Project WRP 2 will disturb zero acres of soil per day, but is included in the LST analysis for full disclosure purposes.
Emissions account for the following acreage of soil disturbance and use of construction equipment for each project:

- Biosolids Capital Improvement Projects: 3 acres; Concrete/Industrial Saws (1), Excavators (2), Rubber Tired Dozers (1), Graders (1), Tractors/Loaders/Backhoes (2), Scrapers (1), Cranes (1), Forklifts (1), Pavers (1), Paving Equipment (1), Rollers (1).
- Septic-to-Sewer Conversion Capital Improvement Projects: 2 acres; Concrete/Industrial Saws (1), Excavators (1), Rubber Tired Dozers (2), Tractors/Loaders/Backhoes (2), Cranes (1), Forklifts (1), Generator Sets (1), Welders (1), Pavers (1), Paving Equipment (1), Rollers (1).
- WRP 10 Capital Improvement Projects: 4.5 acres; Graders (3), Tractors/Loaders/Backhoes (4), Concrete/Industrial Saws (1), Rubber Tired Dozers (1), Cranes (1), Forklifts (1), Cement and Mortar Mixers (1), Pavers (1), Rollers (1).
- WRP 2 Capital Improvement Projects: 0 acres; Pumps (2), Off-Highway Tractors (1).
- WRP 4 Capital Improvement Projects: 5.5 acres; Rubber Tired Dozers (2), Tractors/Loaders/Backhoes (4), Excavators (2), Graders (1), Scrapers (2), Cranes (1), Forklifts (1), Generator Sets (1), Welders (1), Pavers (1), Paving Equipment (1), Rollers (10).
- WRP 7 Capital Improvement Projects: 5 acres; Concrete/Industrial Saws (2), Rubber Tired Dozers (2), Tractors/Loaders/Backhoes (5), Graders (1), Rubber Tired Dozers (1), Cranes (1), Forklifts (1), Cement and Mortar Mixers (4), Pavers (1), Rollers (1).

LST thresholds are provided for distances to sensitive receptors of 25, 50, 100, 200, and 500 meters. The nearest sensitive receptors to the project site vary for each Riverside County project. However, because new sensitive receptors could be developed adjacent to the project sites at any point over the course of the 2021 to 2040 planning period of the Master Plan, LSTs for receptors located as close as 25 meters were utilized in this analysis. 25 meters is the shortest distance of analysis promulgated in the SCAQMD LST protocol and the SCAQMD Methodology explicitly states: "*It is possible that a project may have receptors closer than 25 meters. Projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters.*" The SCAQMD's methodology also clearly states that "offsite mobile emissions from a project should not be included in the emissions compared to LSTs." Therefore, for purposes of the construction LST analysis, only emissions included in the CalEEMod "onsite" emissions outputs were considered. Table 4.1-10 presents the results of localized emissions for

each of the six modeled projects. The LSTs reflect a maximum disturbance of the entire project site daily during site preparation activities and grading activities at 25 meters from sensitive receptors.

Table 4.1-10 shows that the emissions of these pollutants on the peak day of construction for each project would not result in significant concentrations of pollutants at nearby sensitive receptors. Therefore, significant impacts would not occur concerning LSTs during construction activities. LSTs were developed in response to SCAQMD Governing Boards' Environmental Justice Enhancement Initiative. The SCAQMD Environmental Justice Enhancement Initiative program seeks to ensure that everyone has the right to equal protection from air pollution. Therefore, significant impacts would not occur concerning LSTs during construction activities.

Furthermore, as explained previously, the five Master Plan project categories which were not able to be modeled are each similar in nature to at least one of the modeled project categories. These projects are anticipated to have the same or less emissions during construction as the modeled projects. As such, the projects will fall below the LST thresholds of significance for construction.

ICAPCD Operational Emissions Analysis

One of the individual project components proposed in the Master Plan, WRP 1, is located in Imperial County and therefore subject to the ICAPCD emission thresholds. Project construction would generate short-term construction-related air quality impacts. These impacts are temporary in nature. The resultant emissions of these activities were calculated using the CalEEMod air quality model (Appendix B). The quantified construction emission projections are summarized in Table 4.1-11 and compared with ICAPCD significance thresholds (ICAPCD 2007).

Table 4.1-11. Construction-Related Emissions in Imperial County

Master Plan Project Category	Pollutant (pounds per day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
	Construction					
WRP 1 Capital Improvement Projects	2.06	18.58	15.47	0.02	133.13	13.92
ICAPCD Threshold	75	100	550	None	150	None
Exceed ICAPCD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod version 2016.3.2. Refer to Appendix B for Model Data Outputs.
Notes: Emissions account for the following acreage of soil disturbance and use of construction equipment for the project: WRP 1 Capital Improvement Projects: 2.3 acres; Cement and Mortar Mixer (1), Rubber Tired Dozers (1), Graders (1), Tractors/Loaders/Backhoes (2), Cranes (1), Forklifts (2), Generator Set (1), Welders (3).

As shown above, all criteria pollutant emissions would remain below their respective thresholds. Therefore, construction-related air quality impacts due to Project construction for WRP 1 would be less than significant.

Project Operations Criteria Air Quality Emissions

SCAQMD Regional Operational Significance Analysis

Implementation of the Riverside County projects would result in long-term operational emissions of criteria air pollutants such as PM_{10}, $PM_{2.5}$, CO, and SO_2 as well as ozone precursors such as ROGs and NO_X. Project-generated increases in emissions would be predominantly associated with wastewater pumping.

Long-term operational emissions attributable to the Riverside County projects are identified in Table 4.1-12 and compared to the regional operational significance thresholds promulgated by the SCAQMD.

Table 4.1-12. Operational-Related Emissions in Riverside County (Regional Significance Analysis)

Emission Source	Pollutant (pounds per day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Biosolids Capital Improvement Projects						
Area Source Emissions	1.96	0.00	0.12	0.00	0.00	0.00
Energy Use Emissions	0.04	0.41	0.34	0.00	0.03	0.03
Mobile Emissions	0.59	4.28	6.86	0.02	2.21	0.60
Total:	**2.61**	**4.70**	**7.33**	**0.03**	**2.25**	**0.63**
SCAQMD Regional Significance Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Exceed SCAQMD Regional Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Septic-to-Sewer Conversion Capital Improvement Projects						
Area Source Emissions	0.27	0.00	0.06	0.0	0.0	0.0
Energy Use Emissions	0.00	0.00	0.0	0.0	0.0	0.0
Mobile Emissions	0.00	0.00	0.0	0.0	0.0	0.0
Total:	**0.27**	**0.00**	**0.06**	**0.0**	**0.0**	**0.0**
SCAQMD Regional Significance Threshold	*55*	*55*	*550*	*150*	*150*	*55*

Table 4.1-12. Operational-Related Emissions in Riverside County (Regional Significance Analysis)

Emission Source	Pollutant (pounds per day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Exceed SCAQMD Regional Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
WRP 10 Capital Improvement Projects						
Area Source Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Energy Use Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Mobile Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Total:	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
SCAQMD Regional Significance Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Exceed SCAQMD Regional Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
WRP 2 Capital Improvement Projects						
Area Source Emissions	1.24	0.00	0.00	0.00	0.00	0.00
Energy Use Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Mobile Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Total:	1.24	0.00	0.00	0.00	0.00	0.00
SCAQMD Regional Significance Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Exceed SCAQMD Regional Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Table 4.1-12. Operational-Related Emissions in Riverside County (Regional Significance Analysis)

Emission Source	Pollutant (pounds per day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
WRP 4 Capital Improvement Projects						
Area Source Emissions	0.28	0.00	0.00	0.00	0.00	0.00
Energy Use Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Mobile Emissions	0.01	0.08	0.13	0.00	0.04	0.01
Total:	**0.29**	**0.08**	**0.13**	**0.00**	**0.04**	**0.01**
SCAQMD Regional Significance Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Exceed SCAQMD Regional Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
WRP 7 Capital Improvement Projects						
Area Source Emissions	0.10	0.00	0.00	0.00	0.00	0.00
Energy Use Emissions	0.00	0.03	0.02	0.00	0.00	0.00
Mobile Emissions	0.04	0.34	0.55	0.00	0.17	0.05
Total:	**0.16**	**0.37**	**0.57**	**0.00**	**0.17**	**0.05**
SCAQMD Regional Significance Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Exceed SCAQMD Regional Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod v. 2016.3.2

As shown in Table 4.1-12, the operational emissions for all of the five modeled project categories would not exceed any SCAQMD thresholds for any criteria air pollutants during operation. In addition, as explained previously, the un-modeled projects are similar in nature to at least one of the modeled projects. The projects would produce minimal emissions during operation and as such would not exceed SCAQMD regional thresholds of significance during operation.

As identified in Table 4.1-4, the Riverside County portion of the SSAB is listed as a nonattainment area for state O_3, $PM_{2.5}$, and PM_{10} standards and is also a nonattainment area for the federal standards for O_3 and $PM_{2.5}$. O_3 is a health threat to persons who already suffer from respiratory diseases and can cause severe ear, nose and throat irritation and increases susceptibility to respiratory infections. PM can adversely affect the human respiratory system. As shown in Table 4.1-12, the projects would result in minimal increased emissions of the O_3 precursor pollutants ROG and NO_x, PM_{10}, and $PM_{2.5}$. Further, the five projects that were not able to be modeled for air pollutant emissions are anticipated to have similar operational emissions to the modeled projects and would not exceed thresholds of significance. The correlation between a project's emissions and increases in nonattainment days, or frequency or severity of related illnesses, cannot be accurately quantified. The overall strategy for reducing air pollution and related health effects in the SCAQMD is contained in the SCAQMD 2016 AQMP. The AQMP provides control measures that reduce emissions to attain federal ambient air quality standards by their applicable deadlines such as the application of available cleaner technologies, best management practices, incentive programs, as well as development and implementation of zero and near-zero technologies and control methods. The CEQA thresholds of significance established by the SCAQMD are designed to meet the objectives of the AQMP and in doing so achieve attainment status with state and federal standards. As noted above, the Master Plan projects would increase the emission of these pollutants, but would not exceed the thresholds of significance established by the SCAQMD for purposes of reducing air pollution and its deleterious health effects.

SCAQMD Localized Operational Significance Analysis

According to the SCAQMD localized significance threshold methodology, LSTs would apply to the operational phase of a proposed project only if the project includes stationary sources (e.g., smokestacks) or attracts mobile sources that may spend long periods queuing and idling at the site (e.g., warehouse or transfer facilities). The Master Plan does not include such uses. Therefore, in the case of the Master Plan projects, the operational phase LST protocol does not need to be applied.

ICAPCD Operational Emissions Analysis

One of the individual project components proposed in the Master Plan, WRP 1, is located in Imperial County and is subject to the ICAPCD emission thresholds. Project operations would generate long-term operational air pollutant emissions. The resultant emissions of these activities were calculated using the CalEEMod air quality model (Appendix B). The quantified operational emission projections are summarized in Table 4.1-13 and compared with ICAPCD significance thresholds.

Table 4.1-13. Operational-Related Emissions in Imperial County

Emission Source	Pollutant (pounds per day)					
	ROG	NOx	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer Emissions - WRP 1 Capital Improvement Projects						
Area Source Emissions	0.04	0.00	0.01	0.00	0.00	0.00
Energy Use Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Mobile Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Total:	**0.04**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**
ICAPCD Threshold	*55*	*55*	*550*	*150*	*150*	*--*
Exceed ICAPCD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod v. 2016.3.2

As shown in Table 4.1-13, the operational emissions for the WRP 1 projects would not exceed any SCAQMD thresholds for any criteria air pollutants during operation.

As identified in Table 4.1-5, the Imperial County portion of the SSAB is listed as a nonattainment area for federal and State O_3 and PM_{10} standards. As shown in Table 4.1-13, the projects would result in either very minimal or no increased emissions of the O_3 precursor pollutants ROG and NO_x, PM_{10}, and $PM_{2.5}$. The correlation between a project's emissions and increases in nonattainment days, or frequency or severity of related illnesses, cannot be accurately quantified. The overall strategy for reducing air pollution and related health effects in the ICAPCD is contained in the ICAPCD CEQA Air Quality Handbook and ICAPCD air quality plans, Final 2017 State Implementation Plan for the 2008 8-Hour Ozone Standard, Final 24-Hour $PM_{2.5}$ Plan, Final Annual $PM_{2.5}$ Plan, and Final PM_{10} Plan. The CEQA significance thresholds are meant to protect the health of those living in the region and help the SSAB meet the state and federal attainment standards. The air quality plans provide control measures that reduce emissions to attain federal ambient air quality standards by their applicable deadlines such as the application of available cleaner technologies, best management practices, incentive programs, as well as development and implementation of zero and near-zero technologies and control methods. The WRP 1 projects do not exceed the ICAPCD thresholds of significance, and as such is considered a Tier I project. The WRP 1 projects will not result in a significant air quality impact during construction or operation.

As demonstrated above, the Master Plan projects would not result in any construction-related or operational impacts and thus would not 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. For these reasons, this impact is less than significant.

Impact AQ-2: Would the Project conflict with or obstruct implementation of the applicable air quality plan?

As part of its enforcement responsibilities, the USEPA requires each state with nonattainment areas to prepare and submit a SIP that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs. The SIP is a legal agreement between each state and the Federal government to commit resources to improving air quality. It serves as the template for conducting regional and project-level air quality analysis. CARB is the lead agency for developing the SIP in California. Local air districts, such as the SCAQMD and ICAPCD, prepare air quality attainment plans or air quality management plans and submit them to CARB for review, approval, and incorporation into the applicable SIP. The air districts develop the strategies stated in the SIPs for achieving air quality standards on a regional basis. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date.

Conflict with the SCAQMD Air Quality Plans

As previously mentioned, 11 of the 12 Master Plan project categories are located within the Riverside County portion of the SSAB, which is under the jurisdiction of the SCAQMD. The SCAQMD is required, pursuant to the CAA, to reduce emissions of criteria pollutants for which this area is in nonattainment. In order to reduce emissions for which the Coachella Valley is in nonattainment, the SCAQMD has adopted the 2016 AQMP and Coachella Valley PM_{10} SIP. These air quality plans establish programs of rules and regulations directed at reducing air pollutant emissions and achieving state (California) and national ambient air quality standards. Pollutant control strategies are based on the latest scientific and technical information and planning assumptions, including SCAG's latest Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), updated emission inventory methodologies for various source categories, and SCAG's latest growth forecasts. SCAG's latest growth forecasts were defined in consultation with local governments and with reference to local general plans. According to the SCAQMD, in order to determine consistency with SCAQMD's air quality planning two main criteria must be addressed.

Criterion 1:

With respect to the first criterion, SCAQMD methodologies require that an air quality analysis for a project include forecasts of project emissions in relation to contributing to air quality violations and delay of attainment.

a) Would the project result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new air quality violations?

As shown in Tables 4.1-9, 4.1-10, and 4.1-12, the modeled Master Plan project categories would result in emissions below the SCAQMD regional and localized thresholds during both construction and operations. As explained above, the five Riverside County Master Plan project categories which could not be modeled for their emission generation at this time would not exceed applicable thresholds of significance.

Therefore, the Master Plan would not result in an increase in the frequency or severity of existing air quality violations and would not have the potential to cause or affect a violation of the ambient air quality standards.

b) Would the project delay timely attainment of air quality standards or the interim emissions reductions specified in the AQMP?

As shown in Tables 4.1-9 and 4.1-12, the modeled Master Plan project categories would be below the SCAQMD regional thresholds for construction and operations. As explained above, the five Riverside County Master Plan project categories which could not be modeled for their emission generation at this time would not exceed applicable thresholds of significance. Because the Master Plan would result in less than significant regional emission impacts, it would not delay the timely attainment of air quality standards or AQMP emissions reductions.

Criterion 2:

With respect to the second criterion for determining consistency with SCAQMD and SCAG air quality policies, it is important to recognize that air quality planning within Riverside County focuses on attainment of ambient air quality standards at the earliest feasible date. Projections for achieving air quality goals are based on assumptions regarding population, housing, and growth trends. Thus, the SCAQMD's second criterion for determining project consistency focuses on whether or not the Master Plan exceeds the assumptions utilized in preparing the forecasts presented its air quality planning documents. Determining whether or not a project exceeds the assumptions reflected in the 2016 AQMP or Coachella Valley PM_{10} SIP involves the evaluation of the three criteria outlined below. The following discussion provides an analysis of each of these criteria.

a) Would the Project be consistent with the population, housing, and employment growth projections utilized in the preparation of the AQMP and Coachella Valley PM_{10} SIP?

A project is consistent with regional air quality planning efforts in part if it is consistent with the population, housing, and employment assumptions that were used in the development of the SCAQMD air quality plans. Generally, three sources of data form the basis for the projections of air pollutant emissions: the General Plan for the city or county which each of the projects is located in (unincorporated Riverside County and the cities of Desert Hot Springs, Cathedral City, Rancho Mirage, Palm Desert, Indian Wells, Indio, and La Quinta), SCAG's *Growth Management* Chapter of the *Regional Comprehensive Plan and Guide* (*RCPG*), and SCAG's *2016 RTP/SCS*. The *RTP/SCS* also provides socioeconomic forecast projections of regional population growth.

CVWD's service area spans a combined total of 23 cities and numerous unincorporated communities (census designated places) (Figure 3-1), currently serving a population of more than 215,000 people (CVWD 2020). The purpose of the Master Plan is to plan the expansion and upgrades of the CVWD sanitation system within the boundaries of CVWD for the 2021 to 2040 planning period in order to provide sustainable, cost-effective service to CVWD's current and future customers.

The Master Plan sanitation projects are based on the Master Plan's conservative near-term population growth projections followed by a reduced population growth rate in the longer-term (2035 – 2045). This projection averages 3.3-percent population growth from 2018 through 2045, and the 2045 growth horizon population is estimated at 489,194 (CVWD 2020). The Master Plan projects for the expansion and upgrades of the sewer system are necessary to accommodate this future growth anticipated in the Coachella Valley and would not instigate it. Thus, the projects would not conflict with any applicable general plans yet serve to accommodate the growth anticipated allowed for in these general plans.

The Master Plan is consistent with the types, intensity, and patterns of land use envisioned for the project sites in the applicable general plans and *RCPG*. As a result, the Master Plan would not conflict with the land use assumptions or exceed the population or job growth projections used by SCAQMD to develop the 2016 AQMP and/or Coachella Valley PM_{10} SIP. The population, housing, and employment forecasts, which are adopted by SCAG's Regional Council, are based on the local plans and policies applicable to unincorporated Riverside County and the cities of Desert Hot Springs, Cathedral City, Rancho Mirage, Palm Desert, Indian Wells, Indio, and La Quinta. These are used by SCAG in all phases of implementation and review. Additionally, as the SCAQMD has incorporated these same projections into their air quality planning efforts, it can be concluded that the Master Plan would be consistent with the projections. (SCAG's latest growth forecasts were defined in consultation with local governments and with reference to local general plans.) Therefore, the Master Plan would be considered consistent with the population, housing, and employment growth projections utilized in the preparation of SCAQMD's air quality plans.

b) Would the Project implement all feasible air quality mitigation measures?

In order to further reduce emissions, the 11 Master Plan project categories located under the SCAQMD jurisdiction would be required to comply with emission reduction measures promulgated by the SCAQMD, such as SCAQMD Rules 402, 403, 403.1, and 1113. SCAQMD Rule 402 prohibits the discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. SCAQMD Rule 403 requires fugitive dust sources to implement Best Available Control Measures for all sources, and all forms of visible particulate matter are prohibited from crossing any property line. SCAQMD Rule 403 is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust. Rule 403.1 is a supplemental rule to Rule 403 and is applicable to man-made sources of fugitive dust in the Coachella Valley, which encompasses the Riverside County projects. The purpose of this rule is to reduce fugitive dust and resulting PM_{10} emissions from man-made sources in the Coachella Valley. Rule 403.1 requires a Fugitive Dust Control Plan approved by SCAQMD, or an authorized local government agency, prior to the initiation of any construction/earth-moving activity. These requirements are only applicable to construction projects with 5,000 or more square feet of surface area disturbance. SCAQMD 1113 requires manufacturers, distributors, and end-users of architectural and industrial maintenance coatings to reduce ROG emissions from the use of these coatings, primarily by placing limits on the ROG content of various coating categories. As such, the 11 Master Plan project categories under the SCAQMD jurisdiction meet this consistency criterion.

c) Would the Project be consistent with the land use planning strategies set forth by SCAQMD air quality planning efforts?

The AQMP contains air pollutant reduction strategies based on SCAG's latest growth forecasts, and SCAG's growth forecasts were defined in consultation with local governments and with reference to local general plans. The Master Plan includes wastewater system upgrades and expansion necessary to accommodate anticipated growth in the region over the 2021 to 2040 planning period. The projects themselves would not include population growth. Therefore, the projects would not cause exceedance of the population or job growth projections used by the SCAQMD to develop the AQMP and Coachella Valley PM_{10} SIP.

In conclusion, the determination of SCAQMD air quality plan consistency is primarily concerned with the long-term influence of a project on air quality. The Master Plan would not result in a long-term impact on the region's ability to meet state and Federal air quality standards. The Master Plan's long-term influence would also be consistent with the goals and policies of SCAQMD's 2016 AQMP and Coachella Valley PM_{10} SIP.

Furthermore, solar technology is planned as part of the Master Plan. Although enough detail regarding the planned solar technology is not yet known for energy and emission offsets to be determined, the use of the solar technology would create renewable energy over its planned lifetime and decrease the need for energy from fossil fuel–based power plants in the state, which is considered a beneficial impact to statewide air quality, and would result in reduced operational greenhouse gas emissions (Section 4.3).

The Master Plan Update's Riverside County projects would be consistent with the emission-reduction goals of the 2016 AQMP and Coachella Valley PM_{10} SIP.

Conflict with the ICAPCD Air Quality Plans

As previously described, the Imperial County region is classified nonattainment for federal and state O_3 and PM_{10} standards (CARB 2018). The south-central portion of Imperial County is designated nonattainment for federal $PM_{2.5}$ standards, yet this portion of Imperial County does not encompass the project area. As previously described, the USEPA, under the provisions of the CAA, requires each state with regions that have not attained the federal air quality standards to prepare a SIP, detailing how these standards are to be met in each local area.

The region's SIP constitutes the ICAPCD air quality plans: the Final 2017 State Implementation Plan for the 2008 8-Hour Ozone Standard, Final 24-Hour $PM_{2.5}$ Plan, Final Annual $PM_{2.5}$ Plan, and Final PM_{10} Plan. Generally, project compliance with all of the ICAPCD air pollutant significance thresholds and Rules and Regulations results in conformance with the ICAPCD air quality plans.

As identified above, the WRP 1 Capital Improvement Projects are considered Tier I projects as a result of their projected maximum daily pollutant emissions falling below the ICAPCD thresholds of significance. Further, implementation of the proposed improvements at WRP 1 would be required to adhere to all ICAPCD rules and regulations including preparation of a dust control plan consistent with the ICAPCD

Rule 801 requirements for construction activities and adherence to ICAPCD Regulation VIII (Fugitive Dust Rules) best available control measures to minimize emissions from surface-disturbing activities.

As such, the WRP 1 Capital Improvement Projects will not conflict with the ICAPCD air quality plans. This impact is less than significant.

Impact AQ-3: Would the Project result in emissions that exceed the USEPA General Conformity Thresholds?

General Conformity ensures that the actions taken by federal agencies do not interfere with a state's plans to attain and maintain national standards for air quality.

Established under the CAA (section 176(c)(4)), the General Conformity rule plays an important role in helping states improve air quality in those areas that do not meet the NAAQS. Under the General Conformity rule, federal agencies must work with state and local governments in a nonattainment or maintenance area to ensure that federal actions conform to the air quality plans established in the applicable state or tribal implementation plan. The overall purpose of the General Conformity rule is to ensure that:

- federal activities do not cause or contribute to new violations of NAAQS;
- actions do not worsen existing violations of the NAAQS; and
- attainment of the NAAQS is not delayed.

Predicted annual construction-generated emissions (tons per year) for the Master Plan are summarized in Table 4.1-14. Construction-generated emissions are short term and of temporary duration, lasting only as long as construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the Conformity Determination thresholds.

Table 4.1-14. Construction-related Emissions (USEPA Conformity Determination Analysis)

Construction	Pollutant (tons per year)					
	ROG	NOX	CO	SO_2	PM_{10}	$PM_{2.5}$
Biosolids Capital Improvement Projects	0.23	1.95	1.72	0.00	0.45	0.14
Septic-to-Sewer Conversion Capital Improvement Projects	0.22	2.03	1.60	0.00	0.37	0.135
WRP 10 Capital Improvement Projects	0.02	0.30	0.25	0.00	0.02	0.01
WRP 2 Capital Improvement Projects	0.00	0.03	0.01	0.00	0.00	0.00
WRP 4 Capital Improvement Projects	0.16	1.42	1.25	0.00	0.24	0.10

Table 4.1-14. Construction-related Emissions (USEPA Conformity Determination Analysis)

Construction	Pollutant (tons per year)					
	ROG	NOX	CO	SO_2	PM_{10}	$PM_{2.5}$
WRP 7 Capital Improvement Projects	0.03	0.32	0.26	0.00	0.02	0.01
WRP 1 Capital Improvement Projects	0.01	0.12	0.09	0.00	0.70	0.07
USEPA Conformity Determination Thresholds (40 CFR 93.153)	*25*	*25*	*100*	*100*	*70*	*100*
Exceed USEPA Conformity Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod version 2016.3.2.
Notes: All criteria air pollutant thresholds are based on the region's nonattainment status of the federal standards. It is noted that the Coachella Valley region of Riverside County is designated as 'severe' nonattainment for O3 (ROG and NOx threshold of 25 tons/year) while Imperial County is designated as 'moderate' nonattainment for O3 (ROG and NOx threshold of 100 tons/year). Both the Coachella Valley region of Riverside County and Imperial County are designated as 'serious' nonattainment for PM10. Imperial County is designated 'moderate' nonattainment for PM2.5 (100 tons/year threshold).
CFR = Code of Federal Regulations

As shown in Table 4.1-14, projected emissions resulting from construction of each modeled Master Plan project category fall below the USEPA Conformity Determination thresholds. As explained previously, the five Master Plan project categories which are not yet able to be modeled for emissions generation are expected to have similar emissions to the seven modeled Master Plan project categories. Similar to the modeled projects, the un-modeled projects are anticipated to have little to no construction-related emissions. None of the projects would exceed the USEPA Conformity Thresholds for construction. As shown in Table 4.1-14 above, the projects modeled fall far below the significance thresholds for each pollutant.

Table 4.1-15 below summarizes emissions generated during operation.

Table 4.1-15. Operation-related Emissions (USEPA Conformity Determination Analysis)

Operation	Pollutant (tons per year)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Biosolids Capital Improvement Projects	0.39	0.97	1.39	0.00	0.49	0.13
Septic-to-Sewer Conversion Capital Improvement Projects	0.13	0.00	0.00	0.00	0.00	0.00
WRP 10 Capital Improvement Projects	0.00	0.00	0.00	0.00	0.00	0.00
WRP 2 Capital Improvement Projects	0.49	2.69	3.45	0.01	1.15	0.31

Table 4.1-15. Operation-related Emissions (USEPA Conformity Determination Analysis)

Operation	Pollutant (tons per year)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
WRP 4 Capital Improvement Projects	0.05	0.09	0.12	0.00	0.04	0.01
WRP 7 Capital Improvement Projects	0.02	0.07	0.10	0.00	0.03	0.01
WRP 1 Capital Improvement Projects	0.00	0.00	0.00	0.00	0.00	0.00
USEPA Conformity Determination Thresholds (40 CFR 93.153)	*25*	*25*	*100*	*100*	*70*	*100*
Exceed USEPA Conformity Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod version 2016.3.2.

Notes: All criteria air pollutant thresholds are based on the region's nonattainment status of the federal standards. It is noted that the Coachella Valley region of Riverside County is designated as 'severe' nonattainment for O_3 (ROG and NOx threshold of 25 tons/year) while Imperial County is designated as 'moderate' nonattainment for O_3 (ROG and NOx threshold of 100 tons/year). Both the Coachella Valley region of Riverside County and Imperial County are designated as 'serious' nonattainment for PM_{10}. Imperial County is designated 'moderate' nonattainment for $PM_{2.5}$ (100 tons/year threshold).

As shown in Table 4.1-15, projected emissions resulting from the construction of each modeled Master Plan project category fall below the USEPA Conformity Determination thresholds. As explained previously, the five Master Plan project categories which are not yet able to be modeled are expected to have similar emissions to the seven modeled Master Plan project categories. Similar to the modeled projects, the un-modeled projects are anticipated to have little to no operational emissions. None of the projects are anticipated to exceed the USEPA Conformity Thresholds for Operation. As shown in Table 4.1-15 above, the projects modeled fall far below the significance thresholds for each pollutant.

Impact AQ-4: Would the Project result in the exposure of sensitive receptors to toxic air contaminants?

As previously described, sensitive receptors are defined as facilities or land uses 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 these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over age 65, children under age 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. The nearest sensitive receptors to each project site vary, and there is potential for new sensitive receptors to be developed over the 2021 to 2040 planning period of the Master Plan.

Construction-Generated Air Contaminants

Construction-related activities would result in temporary, short-term Project-generated emissions of DPM from the exhaust of off-road, heavy-duty diesel equipment for demolition; site preparation (e.g., excavation, grading); paving; application of architectural coatings; and other miscellaneous activities. For construction activity, DPM is the primary TAC of concern. Particulate exhaust emissions from diesel-fueled engines (i.e., DPM) were identified as a TAC by the CARB in 1998. The potential cancer risk from the inhalation of DPM, as discussed below, outweighs the potential for all other health impacts (i.e., non-cancer chronic risk, short-term acute risk) and health impacts from other TACs. Accordingly, DPM is the focus of this discussion.

Based on the emission modeling conducted the maximum onsite construction-related emissions of exhaust $PM_{2.5}$, considered a surrogate for DPM, of all modeled Master Plan projects, would be 1.82 pounds per day for the WRP 4 Capital Improvement Projects (see Appendix B) during construction activity ($PM_{2.5}$ is considered a surrogate for DPM because more than 90 percent of DPM is less than 1 micron in diameter and therefore is a subset of particulate matter under 2.5 microns in diameter (i.e., $PM_{2.5}$). Most $PM_{2.5}$ derives from combustion, such as use of gasoline and diesel fuels by motor vehicles. Furthermore, even during the most intense month of construction, emissions of DPM would be generated from different locations on the project site, rather than a single location, because different types of construction activities (e.g., site preparation, grading, building construction) would not occur at the same place at the same time. Furthermore, improvements associated with each individual project component were modeled as if occurring concurrently in order to provide a conservative analysis. Thus, the emissions modeling conducted represents the cumulative whole of all proposed improvements associated with each project, and therefore overstate daily emissions. Indeed, the proposed improvements would actually occur during distinct, noncontiguous phases between the years 2021 and 2040 and thus the estimated daily air pollutants disclosed are very likely greater than would actually occur. The dose to which receptors are exposed is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards). Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for any exposed receptor. Thus, the risks estimated for an exposed individual are higher if a fixed exposure occurs over a longer period of time. 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-, 30-, or nine-year exposure period; further, such assessments should be limited to the period/duration of activities associated with the Master Plan. Consequently, an important consideration is the fact that completion of all Master Plan projects would be implemented intermittently with specific timing stretched out over a span of 19 years, yet with construction of individual components of each project spanning short time periods, none of which would span nine years of continual construction, the minimum duration of exposure from which to accurately calculate health risk. The projects are also spread out over a large geographical area and construction of several projects at once would not occur in close proximity to each other.

Furthermore, the majority of individual project components have been evaluated against the SCAQMD's LSTs for construction. As previously stated, LSTs were developed in response to SCAQMD Governing Boards' Environmental Justice Enhancement Initiative and can be used to assist lead agencies in analyzing localized impacts associated with the project-specific level of the Master Plan. The SCAQMD Environmental Justice Enhancement Initiative program seeks to ensure that everyone has the right to equal protection from air pollution. The Environmental Justice Program is divided into three categories, with the LST protocol promulgated under Category I: *Further-Reduced Health Risk*. As shown in Table 4.1-10, the emissions of pollutants on the peak day of construction would not result in significant concentrations of pollutants at nearby sensitive receptors. Thus, the fact that onsite project construction emissions would be generated at rates below the LSTs for NO_x, CO, PM_{10}, and $PM_{2.5}$ demonstrates that the Master Plan would not adversely impact nearby sensitive receptors. In the case of WRP 1, the one individual project component located in Imperial County under the jurisdiction of the ICAPCD, which does not promulgate an LST protocol, the nearest sensitive receptor is located approximately 3,300 feet distant, and thus would not be affected by facility improvement implementation at the WRP 1 site.

Operational Air Contaminants

Operation of the Master Plan projects would not result in the development of any substantial sources of air toxics. There are no stationary sources associated with the operations of the Master Plan projects; nor would the Master Plan attract additional mobile sources that spend long periods queuing and idling at the site. Operational emissions would not result in significant concentrations of pollutants at any sensitive receptors. Therefore, the Master Plan projects would not be a major source of TACs and there would not be a significant impact as a result of the Master Plan during operations.

Carbon Monoxide Hot Spots

It has long been recognized that CO exceedances are caused by vehicular emissions, primarily when idling at intersections. Concentrations of CO are a direct function of the number of vehicles, length of delay, and traffic flow conditions. Under certain meteorological conditions, CO concentrations close to congested intersections that experience high levels of traffic and elevated background concentrations may reach unhealthy levels, affecting nearby sensitive receptors. Given the high traffic volume potential, areas of high CO concentrations, or "hot spots," are typically associated with intersections that are projected to operate at unacceptable levels of service (LOS) during the peak commute hours. However, transport of this criteria pollutant is extremely limited, and CO disperses rapidly with distance from the source under normal meteorological conditions. Furthermore, vehicle emissions standards have become increasingly more stringent in the last 20 years. Currently, the CO standard in California is a maximum of 3.4 grams per mile for passenger cars (requirements for certain vehicles are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations in the Project vicinity have steadily declined.

Accordingly, with the steadily decreasing CO emissions from vehicles, even very busy intersections do not result in exceedances of the CO standard. The analysis prepared for CO attainment in the SCAQMD's *1992 Federal Attainment Plan for Carbon Monoxide* in Los Angeles County can be used to demonstrate the potential for CO exceedances. The SCAQMD CO hot spot analysis was conducted for four busy

intersections in Los Angeles County during the peak morning and afternoon time periods. The intersections evaluated included Long Beach Boulevard and Imperial Highway (Lynwood), Wilshire Boulevard and Veteran Avenue (Westwood), Sunset Boulevard and Highland Avenue (Hollywood), and La Cienega Boulevard and Century Boulevard (Inglewood). The busiest intersection evaluated was at Wilshire Boulevard and Veteran Avenue, which has a traffic volume of approximately 100,000 vehicles per day. The Los Angeles County Metropolitan Transportation Authority evaluated the Level of Service in the vicinity of the Wilshire Boulevard/Veteran Avenue intersection and found it to be "Level of Service E" at peak morning traffic and Level of Service F at peak afternoon traffic (Level of Service E and F are the two least efficient traffic Level of Service ratings). Even with the inefficient Level of Service and volume of traffic, the CO analysis concluded that there was no violation of CO standards (SCAQMD 1992).

The Master Plan projects will result in a negligible, if any, increase in traffic during operation. Because the Master Plan would not generate traffic volumes at any intersection to more than 100,000 vehicles per day and includes no other significant CO emission sources, there is no likelihood of any of the projects exceeding CO values.

For the reasons described, the Master Plan would not result in the exposure of sensitive receptors to substantial amounts of air toxics. This impact is less than significant.

Impact AQ-5: Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant

reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

The land uses generally identified as sources of odors include wastewater treatment plants, wastewater pumping facilities, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing and fiberglass manufacturing facilities, painting/coating operations, rendering plants, coffee roasters, food processing facilities, confined animal facilities, feedlots, dairies, green waste and recycling operations, and metal smelting plants. If a source of odors is proposed to be located near existing or planned sensitive receptors, this could have the potential to cause operational-related odor impacts.

During construction, the projects present the potential for generation of objectionable odors in the form of diesel exhaust in the immediate vicinity of the sites. However, these emissions are short-term in nature and will rapidly dissipate and be diluted by the atmosphere downwind of the emission sources. Additionally, odors would be localized and generally confined to the construction area.

However, the Master Plan does involve the installation sewer mains and laterals, as well as increased treatment capacity at its wastewater treatment plants. Nonetheless, implementation of the individual Master Plan projects would not result in the introduction of any new processes that are considered to have a high odor-generation potential beyond existing conditions, and would not result in substantial changes to treatment processes that are of primary concern with regard to odor generation (i.e., sludge handling or drying practices).

It is noted that the WRP 10 Capital Improvement Project proposes to include odor-control system installation. Odor-control systems typically contain biofilters, adsorption vessels and ancillary mechanical facilities (mechanical odor control fans), which collect and treat odors. In biofiltration, odorous air is passed through a biologically active collection of peat, soil, or other engineered media, where microbes in the media degrade odorous chemical compounds. The adsorption vessels typically contain a mixture of carbon and potassium permanganate. Permanganate is a chemical compound containing the manganate (VII) ion (MnO_4^-), a strong oxidizing agent. In addition, ammonia removal, in the form of an ammonia scrubber tank and other related equipment, is often provided with these systems, for solids odor control. Furthermore, CVWD's lift stations typically include odor-control technology, such as scrubbers and/or chip beds.

In addition, the CVWD will continue to implement odor-control measures at all of its facilities for both liquid and solids treatment processes at locations with high potential for odors. These measures generally involve treating odorous air through adsorption units that chemically and physically remove and disperse odors. In addition, the CVWD regularly implements best operating practices and good housekeeping, which also serve to reduce odor generation at all their facilities.

Finally, the 11 Master Plan project categories under SCAQMD jurisdiction would also be required to comply with SCAQMD Rule 402 to prevent occurrences of public nuisances. Rule 402 prohibits the discharge from any source that causes nuisance, annoyance, or discomfort to a considerable number of persons. In the case of WRP 1, the one individual project component located in Imperial County under the

jurisdiction of the ICAPCD, the nearest sensitive receptor is located approximately 3,300 feet distant. As such, the Master Plan would have a less than significant impact due to odors.

Impact AQ-6: Would the Project result in an indirect increase in development that would cause an increase in air pollution?

In general, growth-inducing impacts can occur in a variety of ways, including the construction of new homes and businesses, and the resultant extension of public services, such as utilities and improved roads, to previously undeveloped areas. The Master Plan projects are intended to address current capacity needs, meet regulatory requirements, address deficiencies, or accommodate future population growth with implementation occurring on an as needed basis as population growth occurs. Capacity improvements are based on a conservative near-term population growth projection followed by a reduced population growth rate in the longer-term (2035 – 2045). This projection averages 3.3 percent from 2018 through 2045, and the 2045 growth horizon population is estimated at 489,194 (CVWD 2020). The Master Plan would accommodate this planned growth and not in itself induce population growth. As such, the Master Plan itself would not result in an indirect increase in development that would cause an increase in air pollution. This impact is less than significant.

4.1.5 Mitigation Measures

No significant environmental impact would occur; and therefore, no air quality mitigation measures are required.

4.1.6 Residual Impacts After Mitigation

No air quality mitigation measures are required, as no significant air quality impacts would result from implementation of the Master Plan. As such, no residual impacts would remain.

4.1.7 Cumulative Impacts

By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's individual emissions exceed its identified significance thresholds, the project would be cumulatively considerable. Projects that do not exceed significance thresholds would not be considered cumulative considerable. The Master Plan would result in less than cumulatively considerable impacts.

4.2 BIOLOGICAL RESOURCES

This section describes the existing conditions within the project area. Information about biological resources within the project area was obtained from a review of regional databases, aerial photographs, prior environmental documents, and other pertinent literature including:

- CDFW California Natural Diversity Database (CNDDB; CDFW 2019a)
- California Native Plant Society's (CNPS') Electronic Inventory (CNPS 2019)
- Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP; CVAG 2007)
- National Wetlands Inventory Surface Waters and Wetlands Mapper (United States Fish and Wildlife Service [USFWS] 2019)

4.2.1 Environmental Setting

The project area is located within the CVWD service area within the Coachella Valley. The Salton Sea generally forms the southern boundary of the CVWD service area, with the Chocolate Mountains on the east, and the Santa Rosa Mountains on the west. The southern tip of the San Bernardino Mountains forms the northern extent of the service area.

Climatic conditions within the Coachella Valley are arid, with mild to cool winters and hot, dry summers, with temperatures ranging from below freezing to over 120 degrees Fahrenheit (°F). Precipitation averages 3 to 5 inches per year along the valley floor, with slightly more precipitation in areas of higher elevation. Two rainy seasons occur within the region. Convective rainfall events (summer thunderstorms) tend to be shorter periods of heavy rainfall, while winter rains are lighter and occur over a longer duration. Runoff resulting from rains and snow melt at the higher elevations is the major source of ground water replenishment (CRWQCB 2006).

Surface waters within the Coachella Valley drain toward the Salton Sea, which lies at the lowest point of the valley. In the CVWD service area, the Whitewater River/Coachella Valley Stormwater Channel and its tributaries carry flows from stormwater, agricultural discharges, and treated municipal and aquaculture wastewater southward through the Coachella Valley to the Salton Sea. Other principal sources of inflow to the Salton Sea are the Alamo River and New River to the south, and direct return flows from agricultural drainage systems. Smaller contributions to inflow come from the San Felipe Creek to the west, Salt Creek to the east, direct precipitation, and subsurface inflow (CRWQCB 2006).

Natural Communities/Habitats

Figure 4.2-1 shows natural communities that are considered sensitive habitats; they are discussed in greater detail below.

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Upper Mission Creek/Big Morongo Canyon
Long Canyon
West Deception Canyon
Willow Hole
Edom Hill
Whitewater Floodplain
Indio Hills/Joshua Tree National Park Linkage
Joshua Tree National Park
Thousand Palms
Indio Hills Palms
WRP #7
East Indio Hills
Desert Tortoise and Linkage
WRP #10
Santa Rosa and San Jacinto Mountains
Mecca Hills/Orocopia Mountains
WRP #4
10
111
86
86S
74

Map Features

- Coachella Valley Water District Service Area
- Biological Study Area (500' Buffer)

Project Components

- WRP
- Lift Station
- Collection System Asset Management CIPs (Sewer Pipelines and Manholes)

Capacity Pipe Improvements

- Force Main
- Gravity Main

Septic to Sewer

- Gravity Main

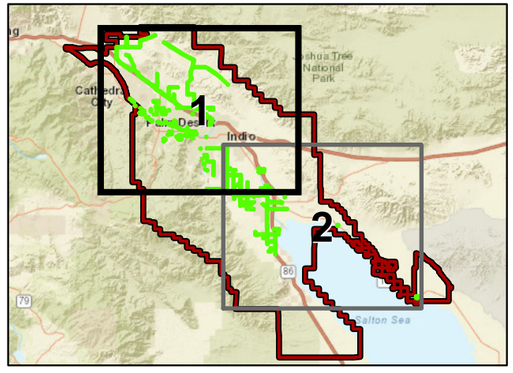
Renewal Pipe Improvements/Risk Management

- Whitewater River/Coachella Valley Stormwater Channel

Conservation Area

- Desert Tortoise and Linkage Conservation
- East Indio Hills Conservation Area
- Edom Hill Conservation Area
- Indio Hills Palms Conservation Area
- Indio Hills/Joshua Tree National Park Linkage Conservation Area
- Joshua Tree National Park Conservation
- Long Canyon Conservation Area
- Mecca Hills/Orocopia Mountains Conservation Area
- Santa Rosa and San Jacinto Mountains Conservation Area
- Thousand Palms Conservation Area
- Upper Mission Creek/Big Morongo Canyon Conservation Area
- West Deception Canyon Conservation Area
- Whitewater Floodplain Conservation Area
- Willow Hole Conservation Area

Sources: CVWD, USFWS, Esri



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Map Date: 5/13/2020

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Figure 4.2-1. CVMSHCP Conservation Areas Sheet 1 of 2

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Joshua Tree National Park

Desert Tortoise and Linkage

Mecca Hills/Orocopia Mountains

Coachella Valley Stormwater Channel and Delta

Santa Rosa and San Jacinto Mountains

Dos Palmas

WRP #4

WRP #2

WRP #1

10

195

86S

111

86

Map Features

- Coachella Valley Water District Service Area
- Biological Study Area (500' Buffer)

Project Components

- WRP
- Lift Station
- Collection System Asset Management CIPs (Sewer Pipelines and Manholes)

Capacity Pipe Improvements

- Force Main
- Gravity Main

Septic to Sewer

- Force Main
- Gravity Main

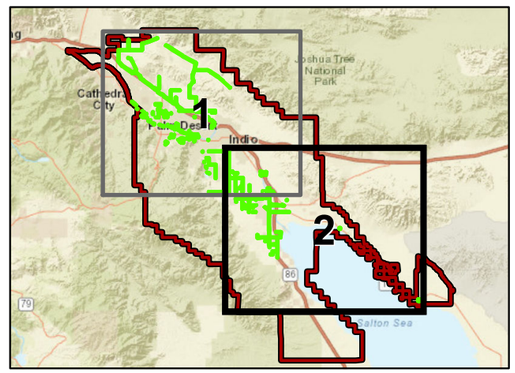
Renewal Pipe Improvements/Risk Management

- Whitewater River/Coachella Valley Stormwater Channel

Conservation Area

- Coachella Valley Stormwater Channel and Delta Conservation Area
- Desert Tortoise and Linkage Conservation
- Dos Palmas Conservation Area
- Joshua Tree National Park Conservation
- Mecca Hills/Orocopia Mountains Conservation Area
- Santa Rosa and San Jacinto Mountains Conservation Area

Sources: CVWD, USFWS, Esri



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Map Date: 5/13/2020

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Figure 4.2-1. CVMSHCP Conservation Areas Sheet 2 of 2

2019-144 CVWD Sanitation Master Plan

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Riverside County

Twenty-two natural communities are identified in the Riverside County portion of the project area by the CVMSHCP (shown in Figure 4.2-1). Table 4.2-1 provides a summary of the natural communities within the Biological Study Area (BSA) for each project location in Riverside County. The BSA is defined as the area encompassed by the various project components (as described in Section 3.0) and a corresponding 500-foot (ft) buffer around each. A description of the natural habitats is provided below.

Desert Alkali Scrub Habitat

Desert Alkali Scrub habitat within the BSA is composed of desert saltbush scrub and desert sink scrub. These natural communities typically consist of a low to moderately high (0.8 – 6.6 feet) shrub layer, with an open to continuous canopy, and occurring on alkaline, sandy soils (Sawyer et al. 2009). Typical plants associated with these communities include fourwing saltbush (*Atriplex canescens*), desert saltbush (*Atriplex polycarpa*), and iodine bush (*Allenrolfia occidentalis*).

Desert Scrub Habitat

Desert Scrub habitat within the BSA consists of Mojave mixed woody scrub, Sonoran creosote bush scrub, and Sonoran mixed woody and succulent scrub communities. These natural communities typically consist of a low to moderately high (0.8 – 6.6 feet) shrub layer, with and intermittent to open canopy, and occurring on well drained soils (Sawyer et al. 2009). Typical plant species include creosote bush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*).

Dry Wash Woodland and Mesquite Habitat

Dry Wash Woodland habitat in the BSA consists of desert dry wash woodland natural communities. Desert dry wash woodland natural communities consist of open to dense, drought-deciduous, microphyllous thorn scrub woodland dominated by species such as palo verde (*Cercidium floridum*), ironwood (*Olneya tesota*), and smoketree (*Psorothamnus spinosus*). The habitat occurs in dry washes associated with canyon mouths and alluvial fans that are subject to intermittent flooding.

Mesquite habitat within the BSA consists of the mesquite hummocks natural community. Mesquite hummocks communities are composed of large clumps of honey mesquite (*Prosopis glandulosa*) shrubs on sand dunes and on level terrains, typically associated with high soil moisture and fault areas or springs.

Marsh Habitat

Marsh habitat within the BSA consists of the coastal and valley freshwater marsh natural community. This community occurs in flooded, freshwater areas and is dominated by perennial, emergent vegetation, including cattails (*Typha* spp.), bulrush (*Scirpus* spp.), and rushes (*Juncus* spp.).

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Table 4.2-1. Natural Communities in the Riverside County BSA by Project

Projects[1]	Natural Communities																					
	Active desert dunes[2]	Active desert sand fields[2]	Active shielded desert dunes	Agriculture	Coastal and valley freshwater marsh[2]	Desert dry wash woodland[2]	Desert fan palm oasis woodland[2]	Desert saltbush scrub[2]	Desert sink scrub[2]	Ephemeral sand fields[2]	Lake	Mesquite hummocks[2]	Mojave mixed woody scrub[2]	Rural	Sonoran cottonwood willow riparian[2]	Sonoran creosote bush scrub[2]	Sonoran mixed woody & succulent scrub[2]	Stabilized desert dunes[2]	Stabilized desert sand fields[2]	Stabilized shielded sand fields[2]	Tamarisk scrub	Urban
WRP 2 Capital Improvement Projects																						
2-1						√								√		√						
WRP 4 Capital Improvement Projects																						
4-1				√																		
4-2				√																		
4-3				√																		
4-4				√											√							
4-5				√																		
4-6				√																		
4-7				√											√							
4-8				√											√							

Table 4.2-1. Natural Communities in the Riverside County BSA by Project

Projects[1]	Natural Communities																					
	Active desert dunes[2]	Active desert sand fields[2]	Active shielded desert dunes	Agriculture	Coastal and valley freshwater marsh[2]	Desert dry wash woodland[2]	Desert fan palm oasis woodland[2]	Desert saltbush scrub[2]	Desert sink scrub[2]	Ephemeral sand fields[2]	Lake	Mesquite hummocks[2]	Mojave mixed woody scrub[2]	Rural	Sonoran cottonwood willow riparian[2]	Sonoran creosote bush scrub[2]	Sonoran mixed woody & succulent scrub[2]	Stabilized desert dunes[2]	Stabilized desert sand fields[2]	Stabilized shielded sand fields[2]	Tamarisk scrub	Urban
4-9				√											√							
4-10				√											√							
4-11				√											√							
4-12				√											√							
4-13				√											√							
4-14				√											√							
4-15				√																		
4-16				√																		
WRP 7 Capital Improvement Projects																						
7-2				√																√		
7-4				√																		

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7-6				√																√		
7-7				√																√		
7-8				√																√		
WRP 10 Capital Improvement Projects																						
10-1																						√
10-2																						√
10-3																						√
10-4																						√
10-5																						√
10-6																						√
10-7																						√

Table 4.2-1. Natural Communities in the Riverside County BSA by Project

Projects[1]	Natural Communities																					
	Active desert dunes[2]	Active desert sand fields[2]	Active shielded desert dunes	Agriculture	Coastal and valley freshwater marsh[2]	Desert dry wash woodland[2]	Desert fan palm oasis woodland[2]	Desert saltbush scrub[2]	Desert sink scrub[2]	Ephemeral sand fields[2]	Lake	Mesquite hummocks[2]	Mojave mixed woody scrub[2]	Rural	Sonoran cottonwood willow riparian[2]	Sonoran creosote bush scrub[2]	Sonoran mixed woody & succulent scrub[2]	Stabilized desert dunes[2]	Stabilized desert sand fields[2]	Stabilized shielded sand fields[2]	Tamarisk scrub	Urban
10-8																						√
10-9																						√
10-10												√								√		√
10-11												√								√		√
10-12												√								√		√
10-13																						√
10-14												√								√		√
10-16																				√		√
10-17												√								√		√
10-18																						√

Table 4.2-1. Natural Communities in the Riverside County BSA by Project

Projects[1]	Natural Communities																					
	Active desert dunes[2]	Active desert sand fields[2]	Active shielded desert dunes	Agriculture	Coastal and valley freshwater marsh[2]	Desert dry wash woodland[2]	Desert fan palm oasis woodland[2]	Desert saltbush scrub[2]	Desert sink scrub[2]	Ephemeral sand fields[2]	Lake	Mesquite hummocks[2]	Mojave mixed woody scrub[2]	Rural	Sonoran cottonwood willow riparian[2]	Sonoran creosote bush scrub[2]	Sonoran mixed woody & succulent scrub[2]	Stabilized desert dunes[2]	Stabilized desert sand fields[2]	Stabilized shielded sand fields[2]	Tamarisk scrub	Urban
Collection System Capacity Capital Improvement Projects																						
CS-WRP4-1				√				√				√								√	√	√
CS-WRP4-2				√		√		√				√				√					√	
CS-WRP4-3				√				√				√									√	
CS-WRP4-4				√	√			√				√			√							
CS-WRP4-5				√				√	√		√					√					√	
CS-WRP4-6				√																		
CS-WRP4-7				√				√														√
CS-WRP7-1								√		√		√	√	√		√	√	√	√	√		√
CS-WRP7-2		√								√							√			√		√
CS-WRP7-3	√	√		√													√			√		√

Table 4.2-1. Natural Communities in the Riverside County BSA by Project

Projects[1]	Natural Communities																					
	Active desert dunes[2]	Active desert sand fields[2]	Active shielded desert dunes	Agriculture	Coastal and valley freshwater marsh[2]	Desert dry wash woodland[2]	Desert fan palm oasis woodland[2]	Desert saltbush scrub[2]	Desert sink scrub[2]	Ephemeral sand fields[2]	Lake	Mesquite hummocks[2]	Mojave mixed woody scrub[2]	Rural	Sonoran cottonwood willow riparian[2]	Sonoran creosote bush scrub[2]	Sonoran mixed woody & succulent scrub[2]	Stabilized desert dunes[2]	Stabilized desert sand fields[2]	Stabilized shielded sand fields[2]	Tamarisk scrub	Urban
CS-WRP7-4	√	√				√											√					√
CS-WRP7-5				√																		√
CS-WRP7-6		√				√	√					√			√	√	√					√
CS-WRP7-7														√		√						
CS-WRP7-8													√	√		√						
CS-WRP7-9																						√
CS-WRP7-10				√								√								√		√
CS-WRP10-1																				√		√
Collection System Condition and Risk Assessment Capital Improvement Projects																						
WCCA-1																√						√
WCCA-2			√													√						√

Table 4.2-1. Natural Communities in the Riverside County BSA by Project

Projects[1]	Natural Communities																					
	Active desert dunes[2]	Active desert sand fields[2]	Active shielded desert dunes	Agriculture	Coastal and valley freshwater marsh[2]	Desert dry wash woodland[2]	Desert fan palm oasis woodland[2]	Desert saltbush scrub[2]	Desert sink scrub[2]	Ephemeral sand fields[2]	Lake	Mesquite hummocks[2]	Mojave mixed woody scrub[2]	Rural	Sonoran cottonwood willow riparian[2]	Sonoran creosote bush scrub[2]	Sonoran mixed woody & succulent scrub[2]	Stabilized desert dunes[2]	Stabilized desert sand fields[2]	Stabilized shielded sand fields[2]	Tamarisk scrub	Urban
WCCA-3												√								√		√
WCCA-4				√																√		√
WCCA-5				√				√				√				√						√
WCCA-6				√				√				√										
Septic-to-Sewer Conversion Capital Improvement Projects																						
SWS-1				√																		
SWS-2				√																		
SWS-3				√				√				√									√	
SWS-4				√				√													√	
SWS-5				√	√			√				√			√							
SWS-6				√				√	√							√					√	

[1] Projects were only included if sufficient location information was available for assessment.
[2] Sensitive Community

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Riparian Woodland and Scrub Habitat

Riparian Woodland and Scrub habitat occurs along permanent or seasonal watercourses, including springs, desert rivers, desert washes, and near-channel floodplains. Riparian Woodland and Scrub habitat within the BSA consists of Sonoran cottonwood-willow riparian forest, desert fan palm oasis woodland, and tamarisk scrub natural communities. Sonoran cottonwood-willow riparian forest communities are dominated by Fremont's cottonwood (*Populus fremontii*) with a dense understory of willows (*Salix* spp.). Desert fan palm oasis woodland communities are dominated by California fan palm (*Washingtonia filifera*) with a sparse understory. Tamarisk scrub vegetation community is dominated by non-native tamarisk (*Tamarisk* spp.), typically outcompeting native vegetation and using large amounts of water.

Sand Dune and Sand Field Habitat

Sand Dune and Sand Field habitat within the BSA consists of active desert dunes, stabilized desert dunes, active sand fields, stabilized desert sand fields, stabilized shielded sand fields, and ephemeral sand fields natural communities. Dunes are characterized by prominent dune features, while sand fields are areas of active sand movement but without sufficient depth to form classic formations that characterize dunes.

Active desert dunes and active sand fields are both essentially expanses of actively moving loose sand, with little or no vegetation. These communities occur within a creosote bush scrub matrix. Perennial shrub species, including creosote bush, fourwing saltbush, California croton (*Croton californicus*), and indigo bush (*Psorothamnus arborescens*) are typically present, but are not common on active dunes.

Stabilized desert dunes and stabilized desert sand fields are both areas of desert sand accumulations that are stabilized or partially stabilized by evergreen and/or deciduous shrubs, scattered low annuals, and perennial grasses. Stabilization varies based on input of sand and rainfall, which influences vegetative cover. These communities occur in a creosote bush scrub matrix. Perennial shrub species, including creosote bush, fourwing saltbush, and California croton are typically present. Stabilized shielded sand fields are similar to stabilized desert sand fields but have interrupted or shielded sand source and sand transport systems.

Ephemeral sand fields are areas with irregular sand accumulations that lack sufficient depth for dune formations and are routinely blown away by high winds. This community occurs within a Sonoran creosote bush scrub matrix and supports sparse, widely scattered perennial shrubs including creosote bush, indigo bush, California croton, and desert willow (*Chilopsis linearis*).

Disturbed and Developed

Disturbed and Developed areas in the BSA consists of areas that have been significantly modified by human activity and consist of agriculture, rural, and urban lands. These areas include railroads, buildings and structures, landscaped or groomed areas, and croplands. Vegetation in these areas is typically lacking or dominated by planted, ornamental or non-native plants. Where present, native vegetation is often disturbed or sparse.

Imperial County

A portion of the project area occurs within the Imperial County, which is not covered by the CVMSHCP. Vegetation in the Imperial County portion of the BSA was identified based on VegCAMP California Deserts mapping data for the Desert Renewable Energy Conservation Plan (DRECP) 2014-2016 additions (Menke et al. 2016). Natural communities within the Imperial County portion of the BSA are listed in Table 4.2-2 and described below.

Atriplex canescens Alliance (Fourwing saltbush Alliance) is dominated by stands of fourwing saltbush, typically mixed with white bursage and desert saltbush. This natural community is usually found in sandy substrates, including on stabilized dunes, sand ridges, and sandy washes.

Table 4.2-2. Natural Communities in the Imperial County BSA

Projects	Natural Communities				
	***Atriplex canescens* Alliance[1]**	***Prosopis glandulosa* Alliance[1]**	**Mud Hills sparsely vegetated ephemeral herbs Mapping Unit**	**Built-up and Urban Disturbance**	**Water Impoundment Feature**
WRP 1					
1-1	√	√	√	√	√
1-2	√	√	√	√	√

[1]Sensitive Community

Prosopis glandulosa Alliance (Mesquite bosque, mesquite thicket Alliance) is a natural community where honey mesquite (*Prosopis glandulosa*) comprises more than three percent of absolute cover as the dominant plant, not exceeded in cover by any tall shrub or tree. This Alliance is typically associated with stabilized dunes or sand sheets adjacent to playas or basins.

Mud Hills sparsely vegetated ephemeral herbs is a mapping unit that is typically sparsely vegetated with less than two percent shrub or herb cover. These areas are usually associated with a highly eroded, fine-textured sedimentary substrate. Substrate color is patchy and highly variable due to the often-changing soil chemistry and geology over small areas.

Built-up and Urban Disturbance areas include permanent and semi-permanent structures that are occupied, used, or abandoned. Built-up areas can include residential, commercial and services, industrial, and transportation uses, as well as their associated disturbed lands. In the BSA, Built-up and Urban Disturbance areas consist of the railroad and State Route 111, including berms adjacent to the railroad which are scraped and devoid of vegetation.

Water Impoundment Features are composed of straight-edged water bodies impounded by berms and at least 2.5 acres in size. Within the BSA, this feature consists of the CVWD WRP 1 facility.

Special-Status Biological Resources

Sensitive Natural Communities

Riverside County

Of the 22 natural communities mapped within the Riverside County portion of the BSA, 16 of these communities are designated a sensitive by the CDFW and are included as modeled habitat within the Conservation Areas in the CVMSHCP. Sensitive natural communities are noted in Table 4.2-1 and are described below.

Active desert dunes are sand dune accumulations that are essentially barren but may support sparse perennial shrub species including creosote bush, fourwing salt bush, California croton, and indigo bush (CVAG 2016). The active desert dunes in the Coachella Valley are remnants of a once-extensive dune system. Within the CVMSHCP area, active desert dunes occur in the Snow Creek/Windy Point Conservation Area, the Thousand Palms Conservation Area, and the East Indio Hills Conservation Area. This community is mapped within the BSA for projects CS-WRP7-3 and CS-WRP7-4 where they traverse the Thousand Palms Conservation Area.

Stabilized Desert Dunes are sand dune accumulations that are stabilized or partially stabilized by evergreen and/or deciduous shrubs, scattered low annuals, and perennial grasses. Stabilized and partially stabilized desert dunes are characterized by prominent dune features, with consistent cover of perennial vegetation typical of a creosote bush scrub matrix, including creosote bush, fourwing saltbush, California croton, and indigo bush (CVAG 2016). Within the CVMSHCP area, stabilized and partially stabilized desert dunes occur in the Willow Hole Conservation Area. Stabilized desert dunes are mapped within the BSA for project CS-WRP7-1 where it traverses the Willow Hole Conservation Area.

Active Desert Sand Fields are areas of active sand movement, with little or no vegetation, where accumulated sand is not of sufficient depth to form classic formations that characterize dune systems. This community occurs within a creosote bush scrub matrix and supports scant, widely scattered to dense shrub species including fourwing saltbush, creosote bush, and indigo bush (CVAG 2016). Within the CVMSHCP area, active desert sand fields occur in the Whitewater Floodplain, Willow Hole, Edom Hill, and Thousand Palms Conservation Areas. This natural community is mapped within the BSA for projects CS-WRP7-2, where it traverses the Willow Hole Conservation Area; and CS-WRP7-3, CS-WRP7-4, and CS-WRP7-6 where they traverse the Thousand Palms Conservation Area.

Ephemeral Desert Sand Fields are desert sand accumulations lacking dune formations and characterized by irregular deposition of sand materials such that sand accumulations are regularly blown off the habitat area. This sand may not be replaced until additional sand is deposited by a major flood event or other movement process. This community occurs within a Sonoran creosote bush scrub matrix and vegetation typically consists of scattered perennial shrubs including creosote bush, indigo bush, desert willow (*Chilopsis linearis*), and California croton (CVAG 2016). Within the CVMSHCP area, ephemeral desert sand

fields occur in the Snow Creek/Windy Point, Whitewater Floodplain, Willow Hole, and Santa Rosa and San Jacinto Mountains Conservation Areas. This natural community is mapped within the BSA for projects CS-WRP7-1 and CS-WRP7-2 where they traverse the Willow Hole Conservation Area.

Stabilized Desert Sand Fields consists of desert sand accumulations lacking dune formations that are stabilized by vegetation. This community occurs within a creosote bush scrub matrix and supports perennial plants, including creosote bush, fourwing saltbush, California croton, and indigo bush (CVAG 2016). Within the CVMSHCP area, stabilized desert sand fields occur in the Snow Creek/Windy Point, Whitewater Floodplain, Willow Hole, Edom Hill, East Indio Hills, and Santa Rosa and San Jacinto Mountains Conservation Areas. This natural community is mapped within the BSA for project CS-WRP7-1 where it traverses the Willow Hole Conservation Area.

Stabilized Shielded Sand Fields are essentially similar to stabilized desert sand fields (described above) except that the sand source and sand transport systems, which would supply sand to the sand fields, have been interrupted or shielded (CVAG 2016). Within the CVMSHCP area, stabilized shielded sand fields occur within the Whitewater Floodplain, East Indio Hills, and Santa Rosa and San Jacinto Conservation Areas. This natural community is mapped within the WRP 7 facility BSA where the buffer intersects the East Indio Hills Conservation Area; the WRP 10 facility BSA at the northwestern corner of the CVWD facility and where the buffer intersects the Toscana Country Club Property to the east; and the BSA for projects CS-WRP4-1, CS-WRP7-1, CS-WRP7-2, CS-WRP7-3, CS-WRP7-10, CS-WRP10-1, WCCA-3, and WCCA-4 where the BSA intersects with public, private, and tribal lands, and the Whitewater Floodplain and Willow Hole Conservation Areas.

Mesquite Hummocks are composed of large clumps of low growing honey mesquite shrubs that may form hummocks over sand dunes or on level terrain at the margins of palm oasis (CVAG 2016). Within the CVMSHCP area, mesquite hummocks occur within the Cabazon, Willow Hole, Thousand Palms, Indio Hills Palms, East Indio Hills, Dos Palmas, Coachella Valley Stormwater Channel and Delta, and Santa Rosa and San Jacinto Mountains Conservation Areas. This natural community is mapped within the WRP 10 facility BSA where the buffer intersects the Toscana Country Club Property to the east and within the BSA for projects CS-WRP4-1, CS-WRP4-2, CS-WRP4-4, CS-WRP7-1, CS-WRP7-6, CS-WRP7-10, WCCA-3, WCCA-5, WCCA-6, SWS-3, and SWS-5 where the BSA intersects with public, private, and tribal lands, and the Coachella Valley Stormwater Channel and Delta, Willow Hole, and Thousand Palms Conservation Areas.

Sonoran Creosote Bush Scrub is dominated by creosote bush scrub and is the most widespread vegetation type in the Colorado Desert and the most susceptible to impacts from development (CVAG 2016). Within the CVMSHCP area, Sonoran creosote bush scrub occurs in the Cabazon, Stubbe, and Cottonwood Canyons, Snow Creek/Windy Point, Whitewater Canyon, State Route 111/I-10, Whitewater Floodplain, Upper Mission Creek/Big Morongo Canyon, Willow Hole, Edom Hill, Thousand Palms, Indio Hills/Joshua Tree National Park Linkage, Indio Hills Palms, East Indio Hills, Joshua Tree National Park, Desert Tortoise and Linkage, Mecca Hills/Orocopia Mountains, Dos Palmas, and Santa Rosa and San Jacinto Mountains Conservation Areas. This natural community is mapped within the buffers of the WRP 2 and WRP 4 facility BSAs, and within the BSAs for projects CS-WRP4-2, CS-WRP4-5, CS-WRP7-1, CS-WRP7-6, CS-WRP7-7, CS-WRP7-8, WCCA-1, WCCA-2, WCCA-5, and SWS-6 where the BSA intersects with public, private, and tribal

lands, and the Thousand Palms, Indio Hills/Joshua Tree National Park Linkage, Desert Tortoise and Linkage, and West Deception Canyon Conservation Areas.

Sonoran Mixed Woody and Succulent Scrub is similar to creosote bush scrub but with a higher plant density and a substantial dominance of cacti and other stem succulents, including silver cholla (*Opuntia echinocarpa*), buckhorn cholla (*Opuntia acanthocarpa),* pencil cholla (*Opuntia ramosissima*), prickly pear (*Opuntia engelmannii*), beavertail cactus (*Opuntia basilaris*), barrel cactus (*Ferocactus acanthodes*), and ocotillo (*Fouquieria splendens*) (CVAG 2016). Within the CVMSHCP area, Sonoran mixed woody and succulent scrub occurs in the Stubbe and Cottonwood Canyons, Whitewater Canyon, Whitewater Floodplain, Upper Mission Creek/Big Morongo Canyon, Mission Creek/Morongo Wash, Willow Hole, Edom Hill, Long Canyon, Thousand Palms, Indio Hills/Joshua Tree National Park Linkage, Desert Tortoise and Linkage, and Santa Rosa and San Jacinto Mountains Conservation Areas. This community is mapped within the BSA for projects CS-WRP7-1, CS-WRP7-2, CS-WRP7-3, CS-WRP7-4, and CS-WRP7-6 where the BSA intersects public, private, and tribal lands and the Willow Hole, Edom Hill, Long Canyon, and Thousand Palms Conservation Areas.

Mojave Mixed Woody Scrub is an open scrub community that typically occurs at elevations between 2,000 and 5,000 feet and is characterized by Joshua Tree (*Yucca brevifolia*), California buckwheat (*Eriogonum fasciculatum*), and bladderpod (*Peritoma arborea*) (CVAG 2016). Within the CVMSHCP area, this community occurs within the Upper Mission Creek/Big Morongo Canyon, West Deception Canyon, Indio Hills/Joshua Tree National Park Linkage, Joshua Tree National Park, and Desert Tortoise and Linkage Conservation Areas. This community is mapped within the BSAs for projects CS-WRP7-1 and CS-WRP7-8 where the buffer intersects with public and private lands located south of the Joshua Tree National Park Conservation Area and west of the West Deception Canyon Conservation Area.

Desert Saltbush Scrub is characterized by a nearly uniform stand of shrubs dominated by *Atriplex* species including allscale (*Atriplex polycarpa*) and fourwing saltbush (CVAG 2016). Within the CVMSHCP area, desert saltbush scrub occurs in the East Indio Hills, Dos Palmas, and Coachella Valley Stormwater Channel and Delta Conservation Areas. Desert saltbush scrub is mapped within the BSA for projects CS-WRP4-1, CS-WRP4-2, CS-WRP4-3, CS-WRP4-4, CS-WRP4-5, CS-WRP4-7, CS-WRP7-1, WCCA-5, WCCA-6, SWS-3, SWS-4, SWS-5, and SWS-6 where the BSA intersects with public, private and tribal lands and the Coachella Valley Stormwater Channel and Delta, and Willow Hole Conservation Areas.

Desert Sink Scrub is similar to desert saltbush scrub, but plants are often more widely spaced, and dominated by succulent chenopods, including pickleweed, iodine bush, and bush seepweed. Saltbush (*Atriplex* spp.) is a minor component (CVAG 2016). Within the CVMSHCP area, desert sink scrub occurs within the Dos Palmas and Coachella Valley Stormwater Channel and Delta Conservation Areas. This natural community is mapped within the BSA for projects CS-WRP4-5 and SWS-6 in areas where the BSA intersects with public, private, and tribal lands and the Coachella Valley Stormwater Channel and Delta Conservation Area.

Coastal and Valley Freshwater Marsh is located in permanently flooded freshwater areas dominated by perennial, emergent monocots, including cattail, bulrush, tules and rushes, often forming completely closed canopies CVAG 2016). Within the CVMSHCP area, coastal and valley freshwater marsh is mapped

within the Coachella Valley Stormwater Channel and Delta Conservation Area. This community is mapped within a small portion of the BSA for projects CS-WRP4-4 and SWS-5 where the BSA intersects with the Coachella Valley Stormwater Channel and Delta Conservation Area.

Sonoran Cottonwood-Willow Riparian Forest consists of a winter-deciduous, broad-leaved streamside forest, dominated by Fremont's cottonwood with a dense understory of willows (*Salix* spp.) (CVAG 2016). Within the CVMSHCP, Sonoran cottonwood-willow riparian forest is mapped within the Cabazon and Santa Rosa and San Jacinto Mountains Conservation Areas. This community is mapped within the buffer of the WRP 4 facility BSA, along the Coachella Valley Stormwater Channel to the east of the facility; and within the BSA for projects CS-WRP4-4, CS-WRP7-6, and SWS-5 where the BSA intersects with the Thousand Palms and Coachella Valley Stormwater Channel and Delta Conservation Areas.

Desert Fan Palm Oasis Woodland is composed of open to dense groves dominated by tall fan palms with a sparse understory (CVAG 2016). Within the CVMSHCP area, desert fan palm oasis woodlands occur within the Whitewater Canyon, Willow Hole, Thousand Palms, Indio Hills, Joshua Tree National Park, Mecca Hills/Orocopia Mountains, Dos Palmas, and Santa Rosa and San Jacinto Mountains Conservation Areas. This natural community is mapped within the BSA for project CS-WRP7-6 where it intersects with the Thousand Palms Conservation Area.

Desert Dry Wash Woodland is a drought-deciduous, microphyllous thorn scrub woodland, that occurs in dry washes associated with canyon mouths and alluvial fans that are subject to intermittent flooding and is dominated by species such as palo verde, ironwood, and smoketree (CVAG 2016). Within the CVMSHCP area, desert dry wash woodland occurs in the Dos Palmas Conservation Area. This natural community is mapped within the buffer of the WRP 2 facility BSA and the BSA for projects CS-WRP4-2, CS-WRP7-4, and CS-WRP7-6 where it intersects with public and private lands and within the Thousand Palms Conservation Area.

Imperial County

Of the four communities mapped within the Imperial County portion of the BSA, two natural communities, *Atriplex canescens* Alliance and *Prosopis glandulosa* Alliance, are designated as sensitive natural communities by the CDFW (CDFW 2019a).

Atriplex canescens Alliance is a vegetation type characterized by low-growing shrubs where fourwing saltbush, a drought resistant, deciduous or evergreen shrub, represents more than 50 percent of the relative cover in the shrub canopy (Sawyer et al. 2009). Another plant species commonly found in this vegetation community is white bursage (*Ambrosia dumosa*).

Prosopis glandulosa Alliance is a vegetation type dominated or co-dominated by mesquite that is often found on sand dunes, floodplains, edges of playa lakes, rarely flooded margins of washes and arroyos, river terraces, and stream banks. Mesquite often represents three percent of the absolute cover in this community, with other shrubby and herbaceous species such as saltbush and willows (*Salix* spp.) intermittently spaced in the understory.

Special-Status Plants

Special-status plant species include those classified as endangered or threatened, proposed or candidate species for listing by the USFWS or CDFW, considered a CDFW Species of Concern, or monitored by CNPS and considered to be those of greatest conservation need. Within the Riverside County portion of the project area, special-status plant species include plants that are covered by the CVMSHCP.

Riverside County

Five special-status plant species within the Coachella Valley are covered species in the CVMSHCP. Table 4.2-3 summarizes the special-status plant species, associated habitats, and potential for occurrence in the Riverside County portion of the BSA based on modeled habitat. Modeled plant habitats that occur within the BSA of projects proposed in the 2020 Plan are listed in Table 4.2-4 and shown in Figure 4.2-2.

Table 4.2-3. Special-Status Plant Species in Riverside County

Species	Status		Natural Community Association	Potential Occurrence in CVWD Service Area	Potential Occurrence in the BSA
Coachella Valley milkvetch *Astragalus lentiginosus* var. *coachellae*	Fed: State: CNPS:	**END** None 1B.2	Sand Dune/Sand Field, Desert Scrub, Riparian, Mojavean and Sonoran Desert Scrub, Desert Dune	Yes	Yes
Triple-ribbed milkvetch *Astragalus tricarinatus*	Fed: State: CNPS:	**END** None 1B.2	Desert Scrub, Riparian, Mojavean and Sonoran Desert Scrub	Yes	No
Little San Bernardino Mountains linanthus *Linanthus maculatus*	Fed: State: CNPS:	None None 1B.2	Dry Wash Woodland and Mesquite	No	No
Orocopia sage *Salvia greatai*	Fed: State: CNPS:	None None 1B.3	Marsh, Dry Wash Woodland and Mesquite	Yes	No
Mecca aster *Xylorhiza cognata*	Fed: State: CNPS:	None None 1B.2	Dry Wash Woodland and Mesquite, Riparian and Bottomland	Yes	Yes

Federal Designation: (Federal ESA, USFWS)
END: Federally listed, endangered
CNPS
1B.2 – Plants rare, threatened, or endangered in California and elsewhere; fairly threatened in California
1B.3 – Plants rare, threatened, or endangered in California and elsewhere; not very threatened in California

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WRP #7
WRP #10
WRP #4
WRP #2
111
10
86
74
86S
195

Map Features

Coachella Valley Water District Service Area

Biological Study Area (500' Buffer)

Project Components

- W — WRP
- L — Lift Station
- A — Collection System Asset Management CIPs (Sewer Pipelines and Manholes)

Capacity Pipe Improvements

- Force Main
- Gravity Main

Septic to Sewer

- Force Main
- Gravity Main

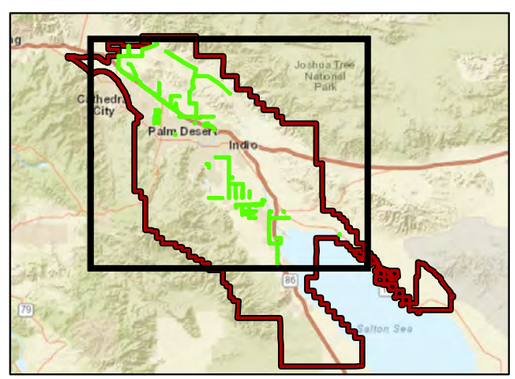
Renewal Pipe Improvements/Risk Management

- Whitewater River/Coachella Valley Stormwater Channel

CVMSHCP Modeled Habitat

- Coachella Valley Milkvetch
- Mecca Aster

Sources: CVWD, USFWS, Esri



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Map Date: 5/19/2020

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

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Figure 4.2-2. CVMSHCP Modeled Plant Habitat

2019-144 CVWD Sanitation Master Plan

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Table 4.2-4. Special-Status Modeled Plant Habitat in Riverside County BSA by Project

Projects[1]	Coachella Valley milkvetch	Mecca aster
WRP 10 Capital Improvement Projects		
10-10	√	
10-11	√	
10-12	√	
10-14	√	
10-16	√	
10-17	√	
Collection System Capacity Capital Improvement Projects		
CS-WRP7-1	√	
CS-WRP7-2	√	
CS-WRP7-3	√	
CS-WRP7-4	√	
CS-WRP7-6	√	√
CS-WRP7-8	√	
CS-WRP10-1	√	
Collection System Condition and Risk Assessment Capital Improvement Projects		
WCCA-3	√	

[1] Projects were only included if sufficient location information was available for assessment and modeled habitat was identified in the BSA.

Imperial County

Nine special-status plant species were identified in the vicinity of the Imperial County portion of the project area and assessed for their potential to occur within the BSA. Of the nine special plant species assessed, four species were determined to have a potential to occur within the BSA. Table 4.2-5 lists the

nine special-status plant species and their associated regulatory status, general habitat associations, and determination for their potential to occur in the BSA.

Table 4.2-5. Special-Status Plant Species Potential to Occur in Imperial County BSA

Scientific Name Common Name	Status		Bloom Period Elevation (meters)	Habitat	Potential for Occurrence
Abronia villosa var. *aurita* chaparral sand-verbena	Fed: Ca: CNPS:	none none 1B.1	January-September 75 - 600	Chaparral, Coastal Scrub, and Desert Dunes in sandy soils	**Presumed absent** based on a lack of suitable habitat.
Astragalus crotalariae Salton milkvetch	Fed: Ca: CNPS:	none none 4.3	January-April -60 - 250	Sonoran Desert Scrub in sandy or gravelly soils.	**Moderate potential** based on presence of suitable habitat but a lack of recent known occurrences of the species.
Astragalus insularis var. *hardwoodii* Hardwood's milkvetch	Fed: Ca: CNPS:	none none 2B.2	January-May 0 - 710	Desert Dunes and Mojavean Desert Scrub on open sandy flats or stony desert washes; usually in creosote bush scrub	**Low potential** based on presence of suitable habitat but a lack of known occurrences of the species in the vicinity.
Astragalus sabulonum gravel milkvetch	Fed: Ca: CNPS:	None none 2B.2	February-June -60 - 885	Desert Dunes, Mojavean Desert Scrub, and Sonoran Desert Scrub in sandy/gravelly flats, washes, and roadsides.	**Low potential** based on presence of suitable habitat but a lack of known occurrences of the species in the vicinity.
Astragalus tricarinatus triple-ribbed milkvetch	Fed: Ca: CNPS:	**END** none 1B.2	February-May 455 -1,585	Joshua Tree Woodland and Sonoran Desert Scrub on rocky slopes and edges of boulder-strewn washes.	**Presumed absent** based on a lack of suitable habitat/elevational range.
Cladium californicum California sawgrass	Fed: Ca: CNPS:	None none 2B.2	June-September 60 - 600	Meadows and seeps, marshes and swamps (alkaline or freshwater).	**Presumed absent** based on a lack of suitable habitat.
Petalonyx linearis narrow-leaf sandpaper-plant	Fed: Ca: CNPS:	None none 2B.3	March-May -25 - 1,115	Mojavean Desert Scrub and Sonoran Desert Scrub in sandy or rocky canyons.	**Presumed absent** based on a lack of suitable habitat.
Salvia greatae Orocopia sage	Fed: Ca: CNPS:	None none 1B.3	March-April -40 - 825	Mojavean desert scrub and Sonoran Desert Scrub.	**Low potential** based on presence of suitable habitat but lack of recent occurrences in the vicinity.
Tiquilia canescens var. *pulchella* Chocolate mountains tiquilia	Fed: Ca: CNPS:	None none 3.2	February-May 250 - 700	Sonoran Desert Scrub, on slopes, ridges, or washes.	**Presumed absent** based on a lack of suitable habitat.

Table 4.2-5. Special-Status Plant Species Potential to Occur in Imperial County BSA

Scientific Name Common Name	Status	Bloom Period Elevation (meters)	Habitat	Potential for Occurrence

Federal Designations: (Federal ESA, USFWS)
END: Federally listed, endangered
THR: Federally listed, threatened

State Designations: (CESA, CDFW)
END: State-listed, endangered
THR: State-listed, threatened

CNPS List Designations:
1B: Plants Rare, Threatened, or Endangered in California and Elsewhere
2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
3: Plants about which we need more information; a review list
4: Plants of limited distribution: a watch list
List Extensions
.1: Seriously threatened in California (over 80 percent of occurrences threatened)
.2: Moderately threatened in California (20 to 80 percent occurrences threatened)
.3: Not very threatened in California (less than 20 percent of occurrences threatened)

Special-Status Wildlife

Special-status wildlife species include those classified as endangered or threatened, proposed or candidate species for listing by the USFWS or CDFW, or considered a CDFW Species of Concern.

Riverside County

Special-status wildlife species within the Riverside County portion of the project area are listed in Table 4.2-6. Species include two insect, one fish, one amphibian, three reptile, eleven bird, and four mammal species that are also covered by the CVMSHCP. Modeled wildlife habitats that occur within the BSA for the Proposed Project are listed in Table 4.2-7. CVMSHCP modeled wildlife habitat within the project area is shown in Figures 4.2-3 through 4.2-6c.

Table 4.2-6. Special-Status Wildlife Species in Riverside County

Species	Status		Natural Community Association	Potential Occurrence in CVWD Service Area	Potential Occurrence in the BSA
INSECTS					
Coachella Valley giant sand-treader cricket *Macrobaenetes valgum*	Fed: State:	None None	Sand Dune/Sand Fields, Desert Scrub	Yes	Yes
Coachella Valley Jerusalem cricket *Stenopelmatus cahuilaensis*	Fed: State:	None None	Sand Dune/Sand Fields, Dry Wash Woodland and Mesquite	Yes	Yes (low)

Table 4.2-6. Special-Status Wildlife Species in Riverside County

Species	Status		Natural Community Association	Potential Occurrence in CVWD Service Area	Potential Occurrence in the BSA
FISH					
Desert pupfish *Cyprinodon macularius*	Fed: State:	**END** **END**	Marsh, Riparian	Yes	No
AMPHIBIANS					
Arroyo toad *Anaxyrus californicus*	Fed: State:	**END** CSC	Riparian Scrub, Woodland and Forest	No	No
REPTILES					
Desert tortoise *Gopherus agassizii*	Fed: State:	**THR** **END**	Desert Scrub, Chaparral, Dry Wash Woodland and Mesquite, Riparian,	Yes	Yes
Flat-tailed horned lizard *Phrynosoma mcallii*	Fed: State:	None CSC	Sand Dune/Sand Fields, Desert Dune, Desert Alkali Scrub	Yes	Yes
Coachella Valley fringe-toed lizard *Uma inornata*	Fed: State:	**THR** **END**	Sand Dune/Sand Fields, Desert Dune	Yes	Yes
BIRDS					
Burrowing owl *Athene cunicularia*	Fed: State:	None CSC	Agriculture, Desert Scrub, Developed/Disturbed	Yes[1]	Yes[1]
Southwestern willow flycatcher *Empidonax traillii extimus*	Fed: State:	**END** **END**	Desert Alkali Scrub, Dry Wash Woodland and Mesquite, Riparian	Yes	Yes
Yellow-breasted chat *Icteria virens*	Fed: State:	None CSC	Desert Alkali Scrub, Dry Wash Woodland and Mesquite, Riparian	Yes	Yes

Table 4.2-6. Special-Status Wildlife Species in Riverside County

Species	Status		Natural Community Association	Potential Occurrence in CVWD Service Area	Potential Occurrence in the BSA
California black rail *Laterallus jamaicensis*	Fed: State:	None **THR**/FP	Marsh	Yes	Yes
Summer tanager *Piranga rubra*	Fed: State:	None CSC	Desert Alkali Scrub, Dry Wash Woodland and Mesquite, Riparian	Yes	Yes
Yuma clapper (Ridgway's) rail *Rallus longirostris* (=*obsoletus*) *yumanensis*	Fed: State:	**END** **THR**/FP	Marsh	Yes	Yes
Yellow warbler *Setophaga aestiva brewsteri*	Fed: State:	None CSC	Desert Alkali Scrub, Dry Wash Woodland and Mesquite, Riparian	Yes	Yes
Crissal thrasher *Toxostoma crissale*	Fed: State:	None CSC	Desert Alkali Scrub, Dry Wash Woodland and Mesquite, Riparian	Yes	Yes
Le Conte's thrasher *Toxostoma lecontei*	Fed: State:	None CSC	Sand Dune/Sand Fields, Sand Dune/Sand Fields, Desert Alkali Scrub, Dry Wash Woodland and Mesquite	Yes	Yes
Least Bell's vireo *Vireo bellii pusillus*	Fed: State:	**END** **END**	Desert Alkali Scrub, Dry Wash Woodland and Mesquite, Riparian	Yes	Yes
Gray vireo *Vireo vicinior*	Fed: State:	None CSC	Chaparral, Woodland and Forest	Yes	No
MAMMALS					
Western yellow bat[2] *Lasiurus xanthinus*	Fed: State:	None CSC	Riparian	Yes	Yes

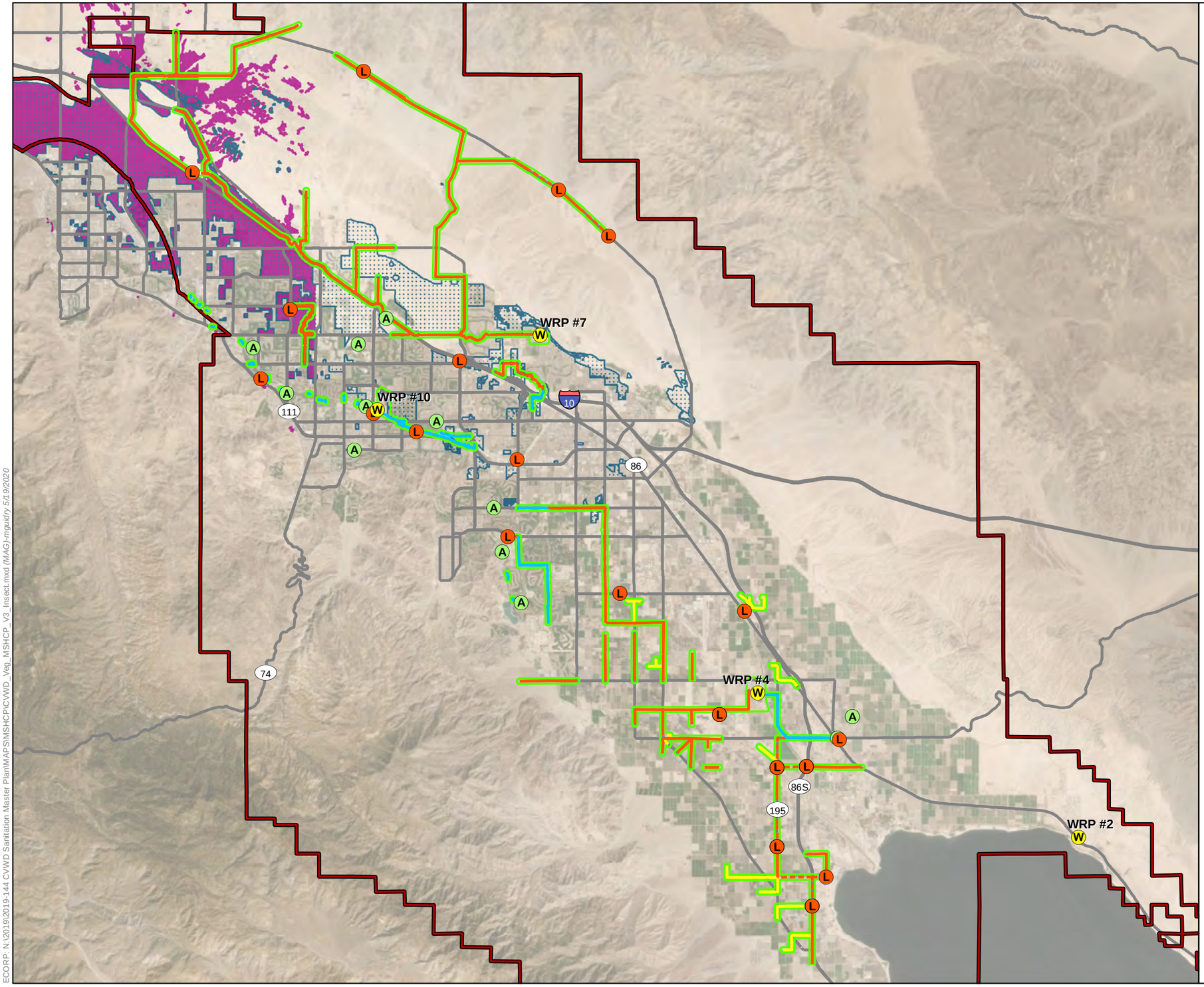
Table 4.2-6. Special-Status Wildlife Species in Riverside County

Species	Status		Natural Community Association	Potential Occurrence in CVWD Service Area	Potential Occurrence in the BSA
Peninsular bighorn sheep *Ovis canadensis nelsoni*	Fed: State:	**END** **THR**/FP	Desert Scrub, Chaparral, Dry Wash Woodland and Mesquite, Riparian, Woodland and Forest	Yes	Yes
Palm Springs pocket mouse *Perognathus longimembris bangsi*	Fed: State:	None CSC	Sand Dunes/Sand Fields, Desert Scrub, Dry Wash Woodland and Mesquite	Yes	Yes
Coachella Valley (=Palm Springs) round-tailed ground squirrel *Xerospermophilus tereticaudus chlorus*	Fed: State:	CAN CSC	Desert Scrub, Dry Wash Woodland and Mesquite, Sand Dune/Sand Fields	Yes	Yes

Federal Designations: (Federal ESA, USFWS)
END: Federally listed, endangered
THR: Federally listed, threatened
CAN: Candidate species

State Designations: (CESA, CDFW)
END: State-listed, endangered
THR: State-listed, threatened
CSC: California Species of Concern
FP: Fully Protected

[1]Burrowing owl habitat was not modeled for the CVMSHCP; therefore, potential for occurrence based on known locations.
[2]Previously considered a subspecies of southern yellow bat (*Lasiurus ega*).



Map Features

- Coachella Valley Water District Service Area
- Biological Study Area (500' Buffer)

Project Components

- WRP
- Lift Station
- Collection System Asset Management CIPs (Sewer Pipelines and Manholes)

Capacity Pipe Improvements

- Force Main
- Gravity Main

Septic to Sewer

- Force Main
- Gravity Main

Renewal Pipe Improvements/Risk Management

- Whitewater River/Coachella Valley Stormwater Channel

CVMSHCP Modeled Habitat

- Coachella Giant Sand Treader Cricket
- Coachella Valley Jerusalem Cricket

Sources: CVWD, USFWS, Esri

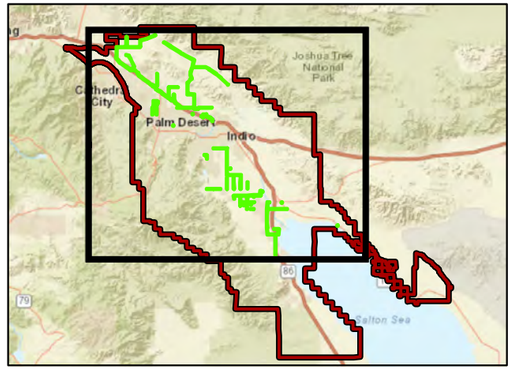


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Figure 4.2-3. CVMSHCP Modeled Insect Habitat

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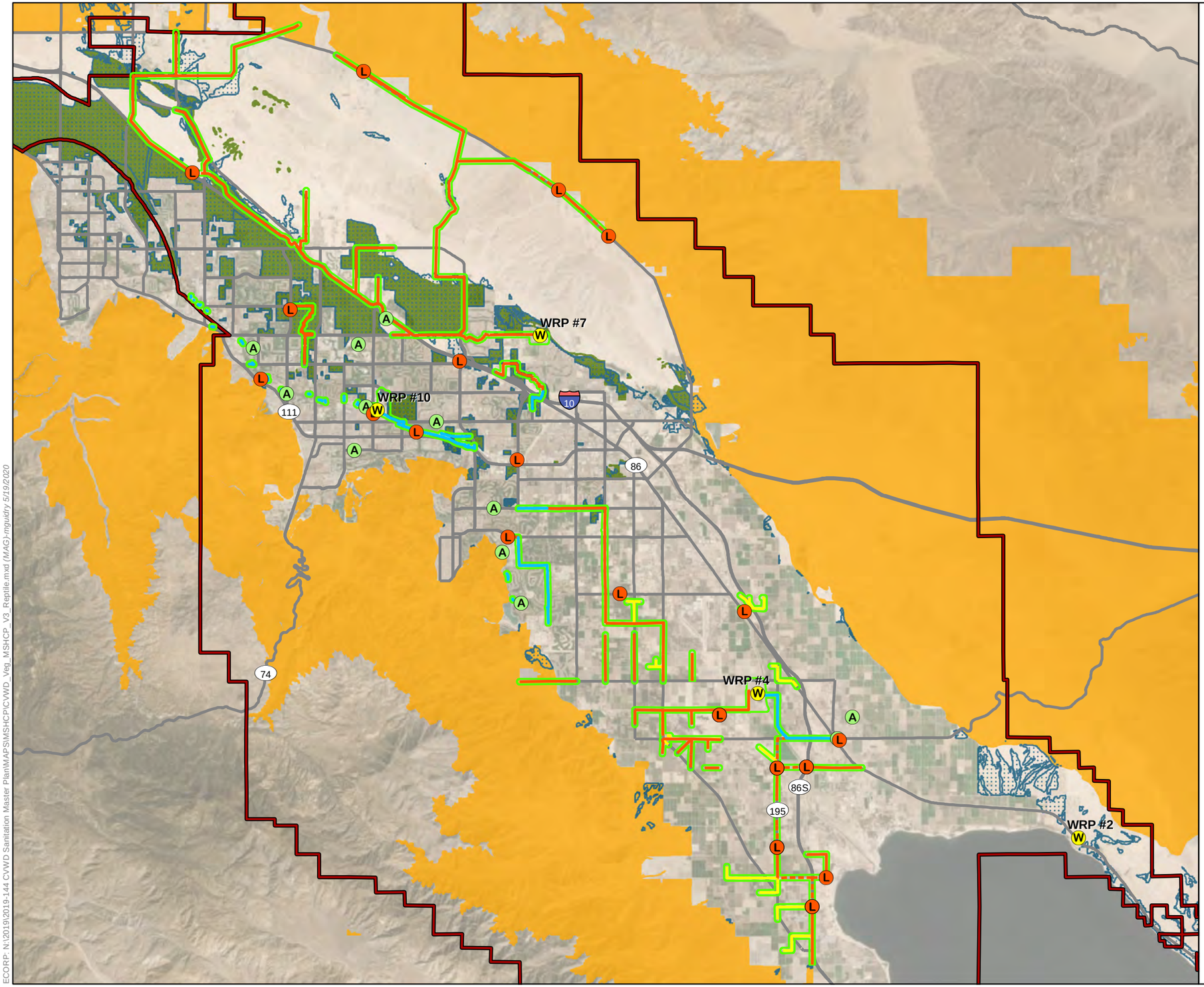

Map Features

- Coachella Valley Water District Service Area
- Biological Study Area (500' Buffer)

Project Components

- WRP
- Lift Station
- Collection System Asset Management CIPs (Sewer Pipelines and Manholes)

Capacity Pipe Improvements

- Force Main
- Gravity Main

Septic to Sewer

- Force Main
- Gravity Main

Renewal Pipe Improvements/Risk Management

- Whitewater River/Coachella Valley Stormwater Channel

CVMSHCP Modeled Habitat

- Desert Tortoise
- Flat-tailed Horned Lizard
- Fringe-toed Lizard

Sources: CVWD, USFWS, Esri

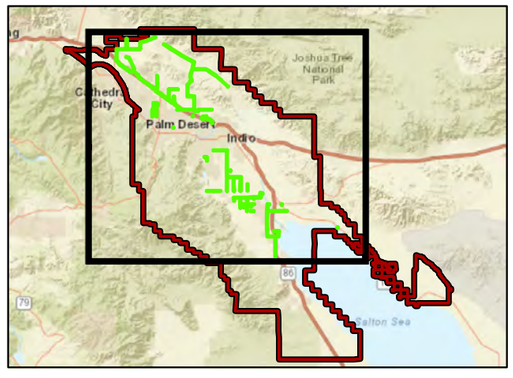

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Figure 4.2-4. CVMSHCP Modeled Reptile Habitat

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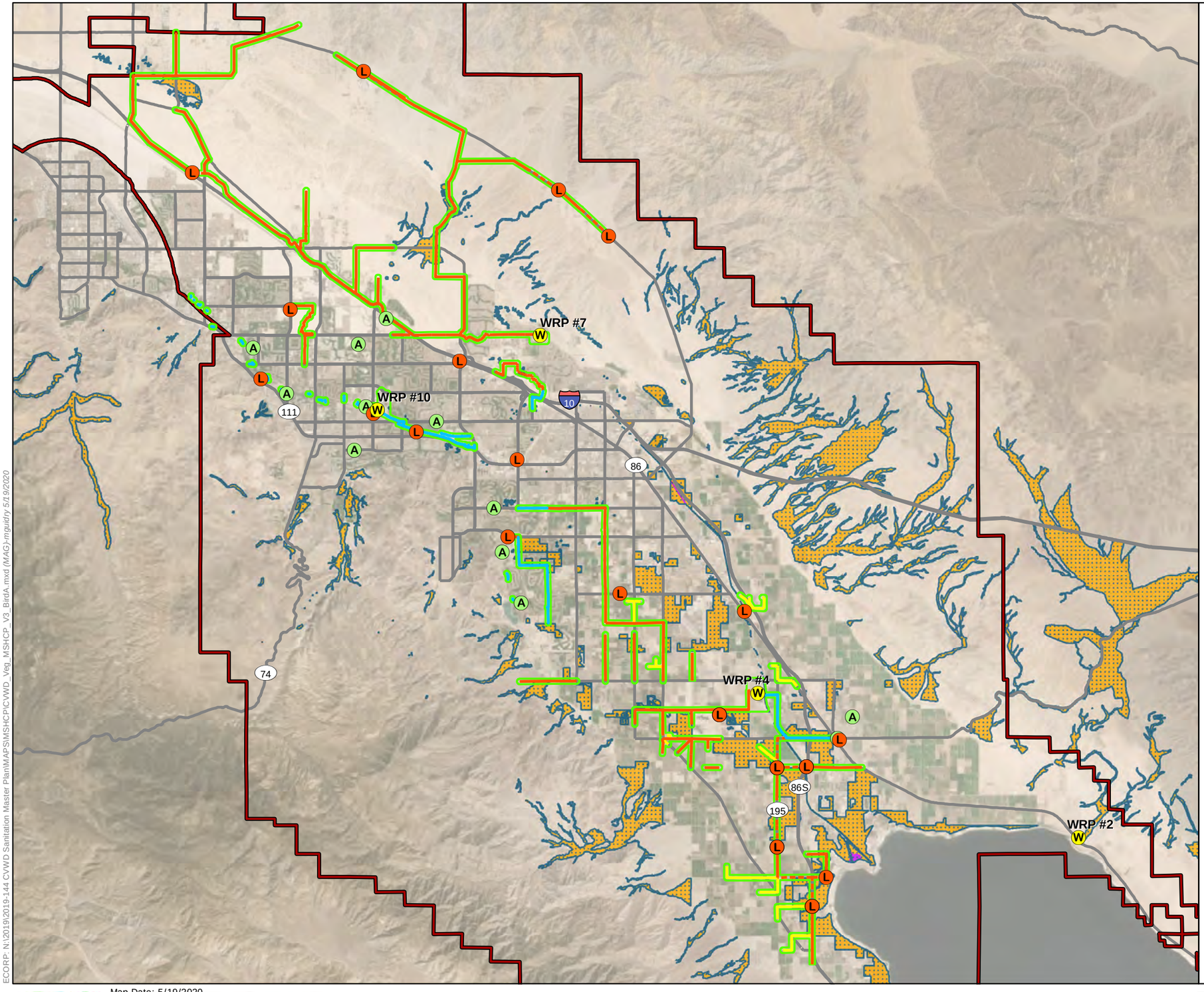


Map Features

- Coachella Valley Water District Service Area
- Biological Study Area (500' Buffer)

Project Components

- WRP
- Lift Station
- Collection System Asset Management CIPs (Sewer Pipelines and Manholes)

Capacity Pipe Improvements

- Force Main
- Gravity Main

Septic to Sewer

- Force Main
- Gravity Main

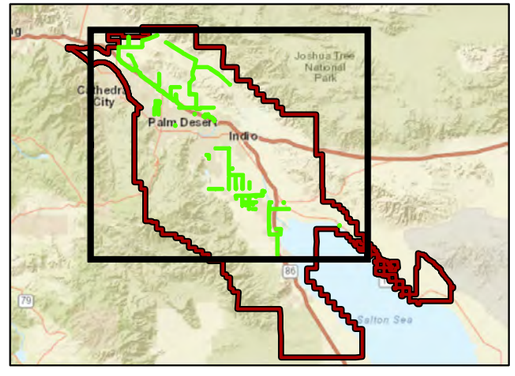
Renewal Pipe Improvements/Risk Management

- Whitewater River/Coachella Valley Stormwater Channel

CVMSHCP Modeled Habitat

- Summer Tanager
- California Black Rail
- Yellow-breasted Chat

Sources: CVWD, USFWS, Esri



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Map Date: 5/19/2020

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Figure 4.2-5a. CVMSHCP Modeled Bird Habitat

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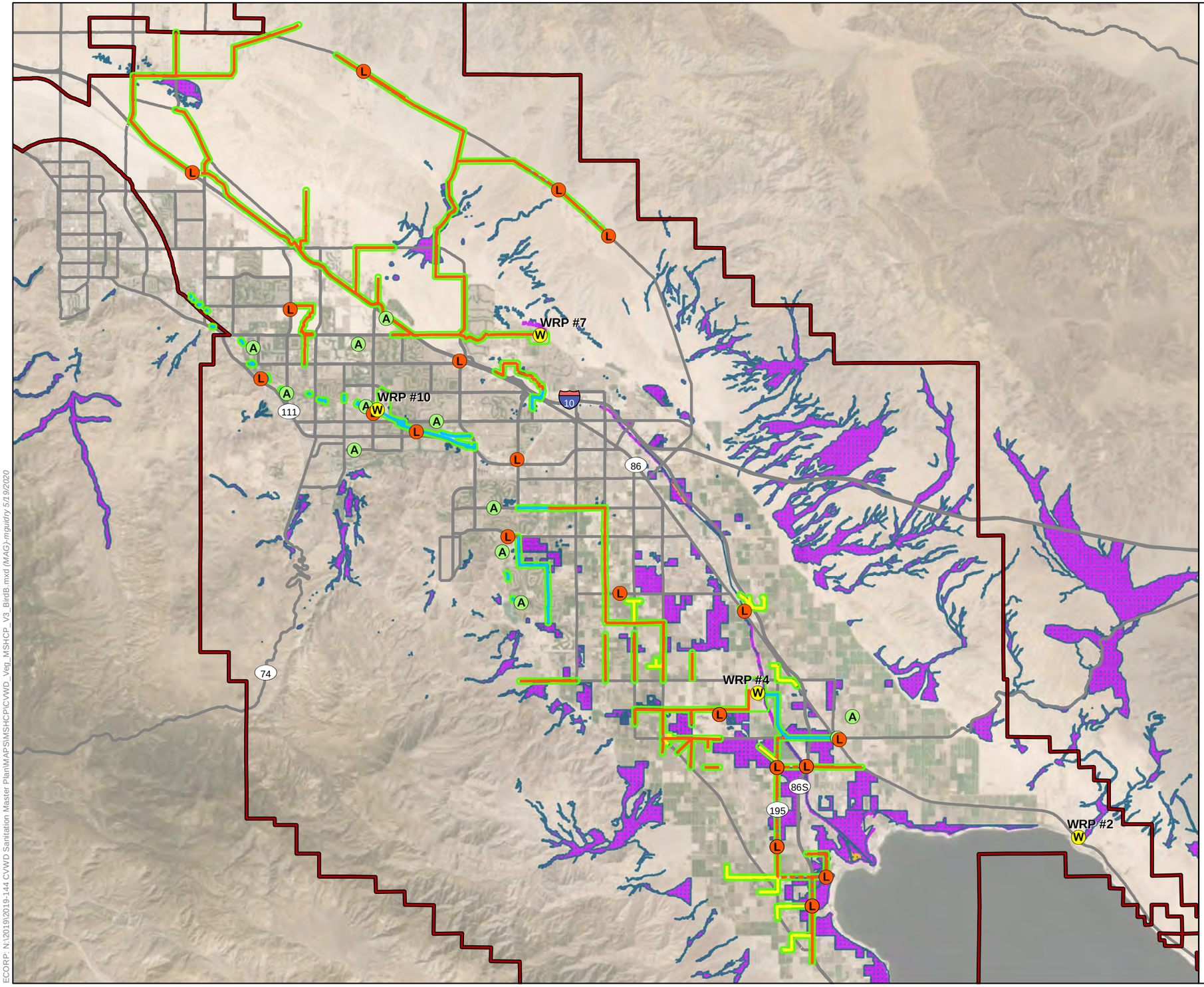

Map Features

- Coachella Valley Water District Service Area
- Biological Study Area (500' Buffer)

Project Components

- WRP
- Lift Station
- Collection System Asset Management CIPs (Sewer Pipelines and Manholes)

Capacity Pipe Improvements

- Force Main
- Gravity Main

Septic to Sewer

- Force Main
- Gravity Main

Renewal Pipe Improvements/Risk Management

- Whitewater River/Coachella Valley Stormwater Channel

CVMSHCP Modeled Habitat

- Least Bell's Vireo
- Yuma Clapper Rail
- Yellow Warbler

Sources: CVWD, USFWS, Esri

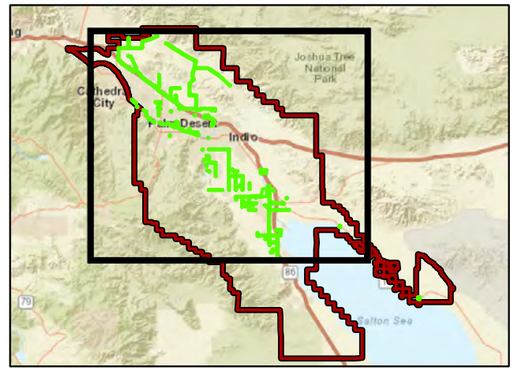

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Figure 4.2-5b. CVMSHCP Modeled Bird Habitat

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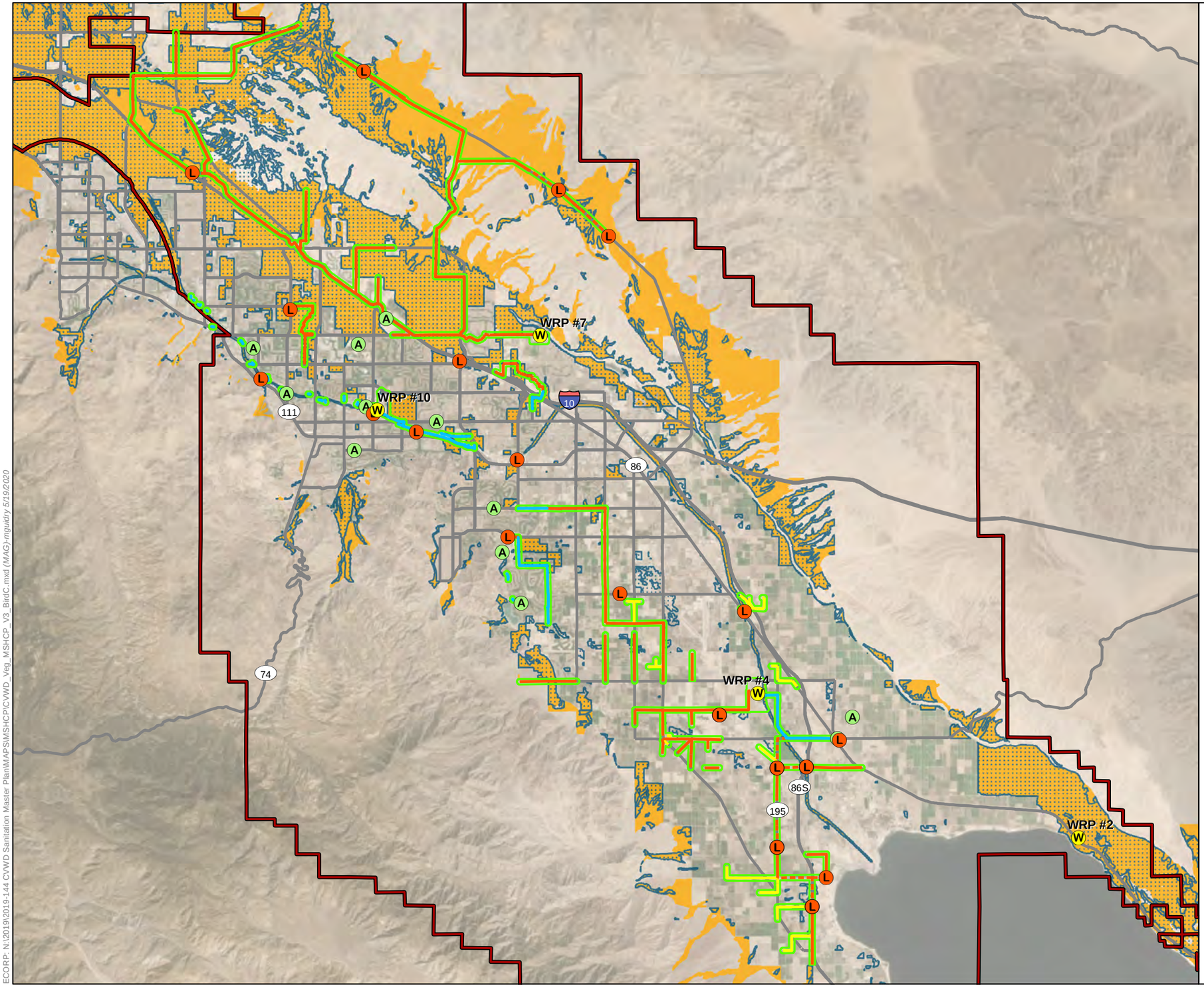

Map Features

- Coachella Valley Water District Service Area
- Biological Study Area (500' Buffer)

Project Components

- WRP
- Lift Station
- Collection System Asset Management CIPs (Sewer Pipelines and Manholes)

Capacity Pipe Improvements

- Force Main
- Gravity Main

Septic to Sewer

- Force Main
- Gravity Main

Renewal Pipe Improvements/Risk Management

- Whitewater River/Coachella Valley Stormwater Channel

CVMSHCP Modeled Habitat

- Palm Springs Ground Squirrel
- Palm Springs Pocket Mouse

Sources: CVWD, USFWS, Esri

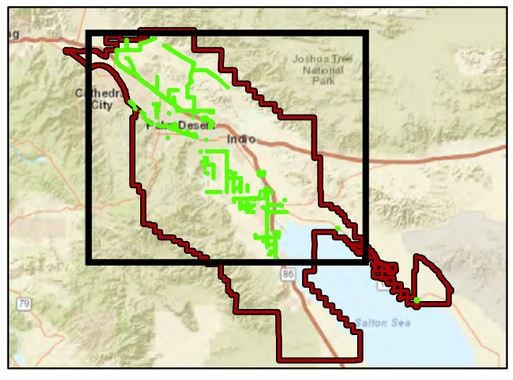

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Figure 4.2-5c. CVMSHCP Modeled Bird Habitat

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Map Features

Coachella Valley Water District Service Area

Biological Study Area (500' Buffer)

Project Components

- WRP
- Lift Station
- Collection System Asset Management CIPs (Sewer Pipelines and Manholes)

Capacity Pipe Improvements

- Force Main
- Gravity Main

Septic to Sewer

- Force Main
- Gravity Main

Renewal Pipe Improvements/Risk Management

- Whitewater River/Coachella Valley Stormwater Channel

CVMSHCP Modeled Habitat

- Western Yellow Bat

Sources: CVWD, USFWS, Esri

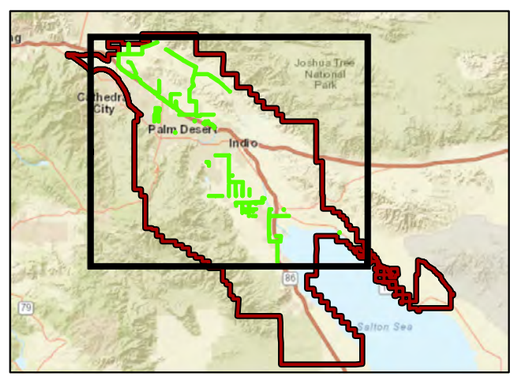

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Figure 4.2-6a. CVMSHCP Modeled Mammal Habitat

2019-144 CVWD Sanitation Master Plan

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Map Features

Coachella Valley Water District Service Area

Biological Study Area (500' Buffer)

Project Components

- W — WRP
- L — Lift Station
- A — Collection System Asset Management CIPs (Sewer Pipelines and Manholes)

Capacity Pipe Improvements

- Force Main
- Gravity Main

Septic to Sewer

- Force Main
- Gravity Main

Renewal Pipe Improvements/Risk Management

- Whitewater River/Coachella Valley Stormwater Channel

CVMSHCP Modeled Habitat

- Peninsular Bighorn Sheep

Sources: CVWD, USFWS, Esri

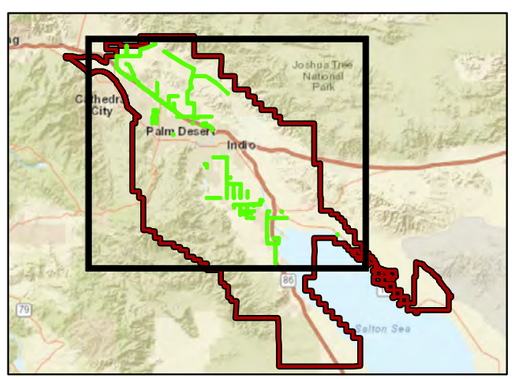

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Figure 4.2-6b. CVMSHCP Modeled Mammal Habitat

2019-144 CVWD Sanitation Master Plan

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Map Features

Coachella Valley Water District Service Area

Biological Study Area (500' Buffer)

Project Components

W — WRP

L — Lift Station

A — Collection System Asset Management CIPs (Sewer Pipelines and Manholes)

Capacity Pipe Improvements

Force Main

Gravity Main

Septic to Sewer

Force Main

Gravity Main

Renewal Pipe Improvements/Risk Management

Whitewater River/Coachella Valley Stormwater Channel

CVMSHCP Modeled Habitat

Flat-tailed Horned Lizard; Crissal Thrasher

Le Conte's Thrasher

Sources: CVWD, USFWS, Esri

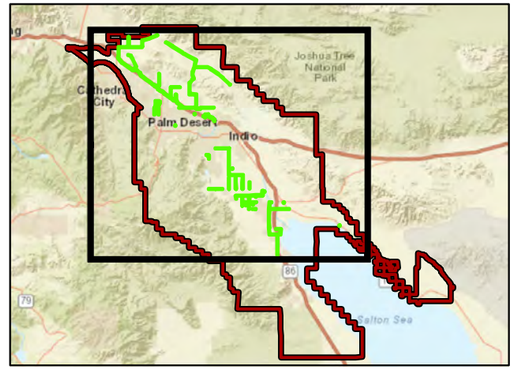

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Figure 4.2-6c. CVMSHCP Modeled Mammal Habitat

2019-144 CVWD Sanitation Master Plan

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Table 4.2-7. Special-Status Modeled Wildlife Habitat in the Riverside County BSA by Project

Projects[1]	Coachella Valley giant sand-treader cricket	Coachella Valley Jerusalem cricket	Desert tortoise	Flat-tailed horned lizard	Coachella Valley fringe-toed lizard	Southwestern willow flycatcher	Yellow-breasted chat	Summer tanager	California black rail	Yuma clapper rail	Yellow warbler	Crissal thrasher	Le Conte's thrasher	Least Bell's vireo	Western yellow bat	Peninsular bighorn sheep	Palm Springs pocket mouse	Coachella valley round-tailed squirrel
WRP 2 Capital Improvement Projects																		
2-1						√	√	√			√		√	√			√	√
WRP 4 Capital Improvement Projects																		
4-4						√	√	√			√			√			√	√
4-5											√						√	√
4-6											√						√	√
4-7						√	√	√			√			√			√	√
4-8						√	√	√			√			√			√	√
4-9						√	√	√			√			√			√	√
4-10						√	√	√			√			√			√	√
4-11						√	√	√			√			√			√	√
4-12						√	√	√			√			√			√	√
4-13						√	√	√			√			√			√	√
4-14						√	√	√			√			√			√	√

Table 4.2-7. Special-Status Modeled Wildlife Habitat in the Riverside County BSA by Project

Projects[1]	Coachella Valley giant sand-treader cricket	Coachella Valley Jerusalem cricket	Desert tortoise	Flat-tailed horned lizard	Coachella Valley fringe-toed lizard	Southwestern willow flycatcher	Yellow-breasted chat	Summer tanager	California black rail	Yuma clapper rail	Yellow warbler	Crissal thrasher	Le Conte's thrasher	Least Bell's vireo	Western yellow bat	Peninsular bighorn sheep	Palm Springs pocket mouse	Coachella valley round-tailed squirrel
WRP 7 Capital Improvement Projects																		
7-2	√			√	√								√				√	√
7-6	√			√	√								√				√	√
7-7	√			√	√								√				√	√
7-8	√			√	√								√				√	√
WRP 10 Capital Improvement Projects																		
10-1																	√	√
10-2																	√	√
10-3																	√	√
10-4																	√	√
10-5																	√	√
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10-8																	√	√
10-10	√			√	√	√	√	√			√	√	√	√			√	√

Table 4.2-7. Special-Status Modeled Wildlife Habitat in the Riverside County BSA by Project

Projects[1]	Coachella Valley giant sand-treader cricket	Coachella Valley Jerusalem cricket	Desert tortoise	Flat-tailed horned lizard	Coachella Valley fringe-toed lizard	Southwestern willow flycatcher	Yellow-breasted chat	Summer tanager	California black rail	Yuma clapper rail	Yellow warbler	Crissal thrasher	Le Conte's thrasher	Least Bell's vireo	Western yellow bat	Peninsular bighorn sheep	Palm Springs pocket mouse	Coachella valley round-tailed squirrel
10-11	√			√	√	√	√	√			√	√	√	√			√	√
10-12	√			√	√	√	√	√			√	√	√	√			√	√
10-13											√	√	√	√			√	√
10-14	√			√	√	√	√	√			√	√	√	√			√	√
10-16	√			√	√												√	√
10-17	√			√	√	√	√	√			√	√	√	√			√	√
10-18																	√	√
Collection System Capacity Capital Improvement Projects																		
CS-WRP4-1	√			√	√	√	√	√			√	√	√	√			√	√
CS-WRP4-2			√			√	√	√			√	√	√	√		√	√	√
CS-WRP4-3						√	√	√			√	√	√	√				√
CS-WRP4-4						√	√	√	√	√	√	√	√	√			√	√
CS-WRP4-5			√	√		√	√	√			√	√	√	√			√	√
CS-WRP4-7						√	√	√			√	√	√	√			√	√
CS-WRP7-1	√	√	√	√	√	√	√	√			√	√	√	√			√	√

Table 4.2-7. Special-Status Modeled Wildlife Habitat in the Riverside County BSA by Project

Projects[1]	Coachella Valley giant sand-treader cricket	Coachella Valley Jerusalem cricket	Desert tortoise	Flat-tailed horned lizard	Coachella Valley fringe-toed lizard	Southwestern willow flycatcher	Yellow-breasted chat	Summer tanager	California black rail	Yuma clapper rail	Yellow warbler	Crissal thrasher	Le Conte's thrasher	Least Bell's vireo	Western yellow bat	Peninsular bighorn sheep	Palm Springs pocket mouse	Coachella valley round-tailed squirrel
CS-WRP7-2	√	√		√	√								√				√	√
CS-WRP7-3	√	√		√	√								√				√	√
CS-WRP7-4	√	√		√	√	√	√	√			√		√	√			√	√
CS-WRP7-6	√			√	√	√	√	√			√	√	√	√	√		√	√
CS-WRP7-7			√										√				√	√
CS-WRP7-8			√										√				√	√
CS-WRP7-10	√			√	√	√	√	√			√	√	√	√			√	√
CS-WRP10-1	√	√		√	√								√				√	√
Collection System Condition and Risk Assessment Capital Improvement Projects																		
WCCA-1			√										√*				√	√
WCCA-2	√		√	√	√								√*				√	√
WCCA-3	√			√	√								√				√	√
WCCA-4	√			√	√								√				√	√
WCCA-5						√	√	√			√	√	√	√			√	√
WCCA-6						√	√	√			√	√	√	√			√	√

Table 4.2-7. Special-Status Modeled Wildlife Habitat in the Riverside County BSA by Project

Projects[1]	Coachella Valley giant sand-treader cricket	Coachella Valley Jerusalem cricket	Desert tortoise	Flat-tailed horned lizard	Coachella Valley fringe-toed lizard	Southwestern willow flycatcher	Yellow-breasted chat	Summer tanager	California black rail	Yuma clapper rail	Yellow warbler	Crissal thrasher	Le Conte's thrasher	Least Bell's vireo	Western yellow bat	Peninsular bighorn sheep	Palm Springs pocket mouse	Coachella valley round-tailed squirrel
Septic-to-Sewer Capital Improvement Projects																		
SWS-1						√	√	√	√	√				√			√	√
SWS-2																		
SWS-3						√	√	√			√	√	√	√				√
SWS-4						√	√	√			√	√	√	√				√
SWS-5						√	√	√	√	√	√	√	√	√			√	√
SWS-6			√	√		√	√	√			√	√	√	√			√	√

[1] Projects were only included if sufficient location information was available for assessment and modeled habitat was identified in the BSA.

Imperial County

Twenty-two special-status wildlife species were identified in the vicinity of the Imperial County portion of the BSA and assessed for their potential to occur in a project area. Of the 22 species, 9 species were determined to have a potential to occur. Table 4.2-8 lists the 22 special-status wildlife species and their associated regulatory status, general habitat associations, and determination for their potential to occur in the BSA.

Table 4.2-8. Special-Status Wildlife Species Potential to Occur in Imperial County BSA

Scientific Name Common Name	Status		Habitat	Potential for Occurrence
FISH				
Cyprinodon macularius desert pupfish	Fed: Ca:	**END** **END**	Occurs in desert ponds, springs, marshes, and streams in southern California.	**Presumed absent** based on a lack of suitable habitat.
Xyrauchen texanus razorback sucker	Fed: Ca:	**END** **END**	Occurs in the Colorado River bordering California. Swims in swift currents but also requires quiet waters. Spawns in sand, gravel, and rocks in shallow water.	**Presumed absent** based on a lack of suitable habitat.
AMPHIBIANS				
Lithobates yavapaiensis lowland leopard frog	Fed: Ca:	None CSC	Occurs along the Colorado River and historically known from San Felipe Creek near the Salton Sea.	**Presumed absent** based on a lack of suitable habitat.
Incilius alvarius Sonoran Desert toad	Fed: Ca:	None CSC	Breeds in temporary pools and irrigation ditches along the Colorado River and Southern Imperial Valley.	**Low potential** based on the presence of suitable habitat but no known occurrences in the project area.
Scaphiopus couchii Couch's spadefoot	Fed: Ca:	None CSC	Temporary desert rain pools lasting at least 7 days, temperatures greater than 77°F of and nearby subterranean refuge sites. An insect food base, especially termites, required.	**Low potential** based on the presence of suitable habitat but no known occurrences in the vicinity.
REPTILES				
Gopherus agassizii desert tortoise	Fed: Ca:	**THR** **THR**	Occurs in almost every desert habitat but most commonly in desert scrub, desert wash, and Joshua tree habitats, with friable soil for burrowing and nest construction. Creosote bush habitat with large annual wildflower blooms is preferred.	**Low potential** based on the presence of suitable habitat but no known occurrences in the project area, and large stormwater canals provide a barrier to movement from recorded species locations in the vicinity.
Phrynosoma mcallii flat-tailed horned lizard	Fed: Ca:	None CSC	Found only in desert washes and desert flats in central Riverside, Eastern San Diego, and Imperial Counties. Requires fine sand for burrowing, vegetative cover, and ants.	**High potential** based on the presence of suitable habitat and several occurrences of the species recorded in the area.

Table 4.2-8. Special-Status Wildlife Species Potential to Occur in Imperial County BSA				
Scientific Name **Common Name**	**Status**		**Habitat**	**Potential for Occurrence**
BIRDS				
Athene cunicularia burrowing owl	Fed: Ca:	None CSC	Found in open, dry grasslands, deserts, and scrublands with low-growing vegetation. Nests and overwinters in abandoned mammal burrows or surrogate burrows.	**Moderate potential** based on the presence of suitable habitat, but the closest recorded occurrence is approximately 6.75 miles to the southeast.
Charadrius alexandrinus nivosus western snowy plover	Fed: Ca:	**THR** **THR**	Forages in dry or wet sandy beaches often among washed up kelp. Needs sandy, gravelly or friable soils above high tide line for nesting.	**Presumed absent** based on a lack of suitable habitat.
Charadrius montanus mountain plover	Fed: Ca:	None CSC	Occurs in flat areas with short vegetation or bare ground, including short grasslands, freshly plowed fields, newly sprouting grain fields, and sometimes sod farms. Prefers grazed areas and areas with burrowing rodents.	**Moderate potential** based on the presence of suitable habitat, but the closest recorded occurrence is approximately 6 miles to the northwest.
Empidonax traillii extimus southwestern willow flycatcher	Fed: Ca:	**END** **END**	Riparian willow woodlands in southern California.	**Presumed absent** based on a lack of suitable habitat.
Icteria virens yellow-breasted chat (nesting)	Fed: Ca:	None CSC	Nests in low, dense willow riparian thickets near watercourses.	**Presumed absent** based on a lack of suitable habitat.
Laterallus jamaicensis coturniculus California black rail	Fed: Ca:	None **THR**/FP	Found in freshwater marshes, wet meadows, and the shallow margins of saltwater marshes in large bay. Requires water depths of approximately one inch that do not fluctuate during the year and dense vegetation for nesting.	**Presumed absent** based on a lack of suitable habitat.
Pelecanus occidentalis californicus California brown pelican	Fed: Ca:	DL DL/FP	Colonial nester on coastal islands just outside the surf line which afford immunity from attack by ground-dwelling predators. Roosts communally on islands and breakwaters.	**Presumed absent** based on a lack of suitable habitat.
Rallus obsoletus yumanensis Yuma Ridgway's rail	Fed: Ca:	**END** **THR**/FP	Nests in freshwater marshes along the Colorado River and along the south and east ends of the Salton Sea. Prefers stands of cattails and tules dissected by narrow channels of flowing water.	**Presumed absent** based on a lack of suitable habitat.

Table 4.2-8. Special-Status Wildlife Species Potential to Occur in Imperial County BSA

Scientific Name Common Name	Status		Habitat	Potential for Occurrence
Setophaga petechia yellow warbler (nesting)	Fed: Ca:	None CSC	Nests and forages in riparian vegetation close to water including willow shrubs and thickets, cottonwoods, sycamores, ash, and alders.	**Presumed absent** based on a lack of suitable habitat.
MAMMALS				
Antrozous pallidus pallid bat	Fed: Ca:	None CSC	Occurs in deserts, grasslands, shrublands, woodlands, and forests with open, dry habitats with rocky areas for roosting	**Low potentia**l based on the presence of limited suitable roosting and foraging habitat and no recent occurrences in the vicinity.
Eumops perotis californicus western mastiff bat	Fed: Ca:	None CSC	Roosts 15 feet or more above ground in rock and cliff crevices, buildings, trees, and tunnels in open arid and semi-arid habitats near water.	**Low potential** based on the presence of limited suitable roosting and foraging habitat and no recent occurrences in the vicinity.
Lasiurus xanthinus western yellow bat	Fed: Ca:	None CSC	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in foliage and is closely associated with introduced palm trees, particularly when dead fronds remain. Forages over water and among trees.	**Presumed absent** based on a lack of suitable habitat.
Ovis canadensis desert bighorn sheep	Fed: Ca:	None FP	Occurs on open, rocky, steep areas with available water and herbaceous forage.	**Presumed absent** based on a lack of suitable habitat/outside the known range of the species.
Perognathus longimembris bangsi Palm Springs pocket mouse	Fed: Ca:	None CSC	Found in desert riparian, desert scrub, desert wash, and sagebrush habitats. Commonly occurs in creosote-dominated desert scrub.	**Low potential** based on the presence of suitable but no recent occurrences in the project area.
Sigmondon hispidus eremicus Yuma hispid cotton rat	Fed: Ca:	None CSC	Found along the Colorado River and in grass and agricultural areas near irrigation waters in wetlands and uplands with dense grass and herbaceous plants. Nests on surface and in burrows.	**Presumed absent** based on a lack of suitable habitat.

Federal Designations: (Federal ESA, USFWS)
END: Federally listed, endangered
THR: Federally listed, threatened
DL: Delisted

State Designations: (CESA, CDFW)
END: State-listed, endangered
THR: State-listed, threatened
CSC: California Species of Concern
FP: Fully Protected
DL: Delisted

4.2.1.3 Jurisdictional Aquatic Resources

Aquatic resources that meet the definition of Waters of the United States fall under the jurisdiction of the USACE and subject to regulation under Section 404 of the Clean Water Act (CWA). Waters of the United States are also subject to regulation by the RWQCB under Section 401 of the CWA. Some aquatic resources that are excluded from the definition of Waters of the United States and not regulated under the CWA, such as isolated wetlands and manmade water features, may still be regulated at the state level by the RWQCB and/or the CDFW.

Discharge of waste to Waters of the State, defined as "any surface water or groundwater, including saline waters, within the boundaries of the state," is regulated by the RWQCB under the Porter-Cologne Water Quality Control Act.

Aquatic resources under the jurisdiction of the CDFW include the definable bed, bank, or channel, areas of rivers, streams, and lakes that support periodic or intermittent flows, perennial flows, subsurface flows, support fish or other aquatic life and areas that support riparian or hydrophytic vegetation in association with a streambed. This includes areas where waters flow as well as surrounding vegetation that is riparian in nature or tied hydrologically to the associated aquatic feature.

A formal study to delineate aquatic resources within the BSA was not conducted. However, aquatic features that are potentially under the jurisdiction of the USACE and the CDFW were identified using information obtained from the USFWS National Wetland Inventory database (USFWS 2019) and National Hydrography Dataset (U.S. Geological Survey [USGS] 2016). Potential jurisdictional features are shown in Figure 4.2-7.

4.2.2 Related Regulations

Federal Regulations

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) protects plants and animals that are listed as endangered or threatened by the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service. Section 9 of FESA prohibits the "take" of endangered wildlife, where take is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 CFR 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land and removing, cutting, digging up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law (16 U.S. Code [USC] 1538). Under Section 7 of FESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect a listed (or proposed) species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion, the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species. Section 10 of FESA provides for issuance of incidental take permits where no other federal actions are necessary provided a habitat conservation plan is developed.

Migratory Bird Treaty Act

Nesting birds are protected under the federal Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711). The MBTA provides protection for nesting birds that are both residents and migrants whether or not they are considered sensitive by resource agencies. The MBTA prohibits take of nearly all native birds. The MBTA makes it unlawful to intentionally take, possess, buy, sell, purchase, or barter any migratory bird listed under 50 CFR 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). The intentional direct injury or death of a migratory bird, due to construction activities or other construction-related disturbance that causes nest abandonment, nestling abandonment, or forced fledging would be considered take under federal law. The USFWS is responsible for enforcing the MBTA.

WRP #7

WRP #10

WRP #4

111

74

86

86S

10

Map Features

Coachella Valley Water District Service Area

Biological Study Area (500' Buffer)

Project Components

- WRP
- Lift Station
- Collection System Asset Management CIPs (Sewer Pipelines and Manholes)

Capacity Pipe Improvements

- Force Main
- Gravity Main

Septic to Sewer

- Gravity Main

Renewal Pipe Improvements/Risk Management

- Whitewater River/Coachella Valley Stormwater Channel

NHD Linear Feature

- ArtificialPath
- CanalDitch
- Connector
- Pipeline
- StreamRiver

NHD Area Feature

- LakePond
- Playa
- Reservoir

Sources: CVWD, USFWS, Esri

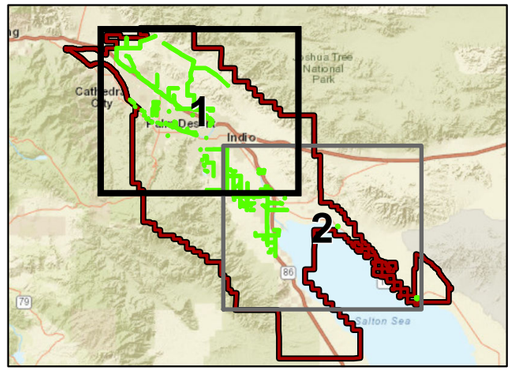

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Figure 4.2-7. Potential Aquatic Features Sheet 1 of 2

2019-144 CVWD Sanitation Master Plan

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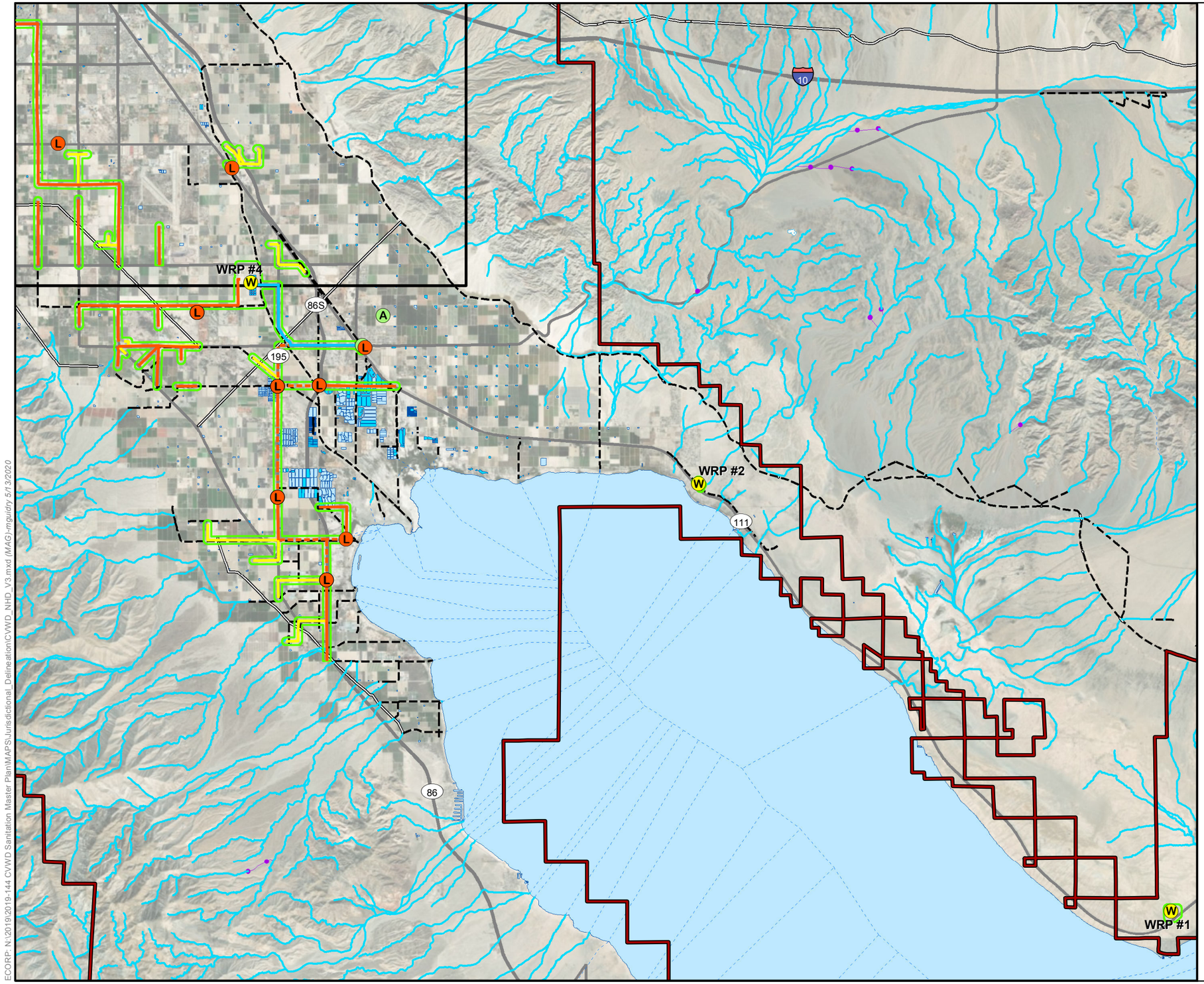


Map Features

- Coachella Valley Water District Service Area
- Biological Study Area (500' Buffer)

Project Components

- WRP
- Lift Station
- Collection System Asset Management CIPs (Sewer Pipelines and Manholes)

Capacity Pipe Improvements

- Force Main
- Gravity Main

Septic to Sewer

- Force Main
- Gravity Main

Renewal Pipe Improvements/Risk Management

- Whitewater River/Coachella Valley Stormwater Channel

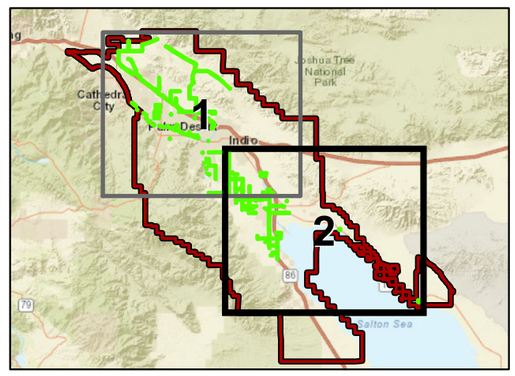
NHD Linear Feature

- ArtificialPath
- CanalDitch
- Connector
- Pipeline
- StreamRiver

NHD Area Feature

- LakePond
- Playa
- Reservoir
- SwampMarsh

Sources: CVWD, USFWS, Esri



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Map Date: 5/13/2020

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Figure 4.2-7. Potential Aquatic Features Sheet 2 of 2

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Federal Clean Water Act

The federal Clean Water Act (CWA) (33 U.S.C. 1344 et seq.) provides for the restoration and maintenance of the physical, chemical, and biological integrity of the nation's waters. The USACE regulates discharge of dredged or fill material into waters of the United States under Section 404 of the CWA. "Discharges of fill material" is defined as the addition of fill material into waters of the United States, including, but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes, and subaqueous utility lines [33 C.F.R. §328.2(f)]. In addition, Section 401 of the CWA (33 U.S.C. 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into Waters of the United States to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Waters of the United States that are currently regulated under the CWA include the following:

- *Wetlands*. Wetlands are "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (USACE and USEPA 2019). Wetlands can be perennial, intermittent or adjacent to other waters.
- *Other Waters*. Other waters that may be identified in the site are non-tidal, perennial, and intermittent watercourses and tributaries to such watercourses (USACE and USEPA 2019). The limit of USACE jurisdiction for non-tidal watercourses (without adjacent wetlands) is defined in 33 CFR 328.4(c)(1) as the "ordinary high-water mark" (OHWM). The OHWM is defined as the "line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" approximation of the lateral limit of USACE jurisdiction. The upstream limits of other waters are defined as the point where the OHWM is no longer perceptible.

Substantial impacts to wetlands, over 0.5 acre of impact, may require an individual permit. Projects that only minimally affect wetlands, less than 0.5 acre of impact, may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by one of nine Regional Water Quality Control Boards (RWQCB) that operate under the State Water Resources Control Board (SWRCB). The project area is in the jurisdiction of the Colorado River (Region 7) RWQCB.

Navigable Waters Protection Rule

On April 21, 2020, the USEPA and USACE published the Navigable Waters Protection Rule to define "waters of the United States" under the CWA (USACE and USEPA 2020). In this final rule, the definition of "waters of the United States", also referred to as jurisdictional waters, includes territorial seas and traditional navigable waters; perennial and intermittent tributaries that contribute surface flow to such

waters; certain lakes, ponds, and impoundments of jurisdictional waters; and wetlands adjacent to other jurisdictional waters. The final rule also defines features that are specifically excluded from the definition of "waters of the United States," such as ephemeral features; groundwater; prior converted cropland; and waste treatment systems. This rule became effective on June 22, 2020.

Federal Land Policy and Management Act

The Federal Land Policy and Management Act (FLPMA) directs the Bureau of Land Management (BLM) to prepare land use plans that provide guidance on how public lands are to be managed. All activities on BLM-managed land must be in conformance with the approved land use plan. The *California Desert Conservation Area Plan* (CDCA Plan, BLM 1980, as amended) provides land use plan guidance for the California Desert Conservation Area.

The Coachella Valley Plan Amendment to the CDCA Plan approved a number of changes to the 1980 CDCA Plan, one of which was to establish habitat conservation objectives for assessing compatible uses in eight vegetation community types and developing appropriate mitigation measures. Based on those objectives, approximately 95 percent of the BLM land managed in the Coachella Valley was to be managed consistent with the multispecies habitat conservation objectives established through the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP; described in Section 2.3.1). These habitat objectives apply to all BLM-administered public lands that fall within the conservation area boundaries established through the CVMSHCP (BLM 2002).

State Regulations

California Endangered Species Act

The California Endangered Species Act (CESA) generally parallels the main provisions of FESA, but unlike its federal counterpart, CESA applies the take prohibitions to species proposed for listing (called "candidates" by the state). Section 2080 of the California Fish and Game Code (CFGC) prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. Take is defined in Section 86 of the CFGC as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects. State lead agencies are required to consult with the California Department of Fish and Wildlife (CDFW) to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of essential habitat.

Fully Protected Species

The State of California first began to designate species as "fully protected" prior to the creation of CESA and FESA. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction, and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under CESA and/or FESA. The regulations that implement the Fully Protected Species Statute (CFGC Section 4700) provide that fully protected species may not be taken or possessed at any time. Furthermore, CDFW

prohibits any state agency from issuing incidental take permits for fully protected species, except for necessary scientific research.

Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (CFGC Sections 1900-1913) was created with the intent to "preserve, protect, and enhance rare and endangered plants in this State." The NPPA is administered by CDFW. The Fish and Wildlife Commission has the authority to designate native plants as "endangered" or "rare" and to protect endangered and rare plants from take. The CESA of 1984 (CFGC Section 2050-2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the CFGC.

California Fish and Game Code Section 1600

Under Section 1602 of the CFGC, the CDFW regulates activities that may (1) divert, obstruct, or change the natural flow or change the bed, channel, or bank or any river stream or lake; (2) use materials from streambeds; or (3) result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake. It should be noted that within the California Code of Regulations, a streambed is defined as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supporting fish or other aquatic life" (Title 14, § 1.72). The definition further states "This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation" (ibid.). This definition does not supersede or replace the definition within Section 1602, but rather is additive to it.

Regulated activities require submittal of a Notification of Lake or Streambed Alteration to CDFW. CDFW reviews the proposed actions and, if necessary, submits to the Applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and the Applicant is the Streambed Alteration Agreement. Often, projects that require a Streambed Alteration Agreement also require a permit from the USACE under Section 404 of the CWA. In these instances, the conditions of the Section 404 permit and the Streambed Alteration Agreement may overlap.

California Fish and Game Code Sections 3503, 3503.5, 3511, and 3513

Several sections of the CFGC provides for the protection of native birds and raptors. Section 3503 prohibits the take, possession, or needless destruction of the nest of eggs or any bird, except as otherwise provided by the code and all raptor species are protected from take pursuant to Section 3503.5. Section 3511(a)(1) specifies that fully protected birds or parts thereof may not be taken or possessed at any time. Section 3513 prohibits the possession or take of any migratory nongame birds listed under the MBTA. These sections mandate the protection of California nongame native birds' nests and also make it unlawful to take these birds.

Porter Cologne Water Quality Control Act

The RWQCB implements water quality regulations under the federal CWA and the Porter-Cologne Water Quality Act. These regulations require compliance with the NPDES, including compliance with the California Storm Water NPDES General Construction Permit for discharges of storm water runoff

associated with construction activities. General Construction Permits for projects that disturb one or more acres of land require development and implementation of a SWPPP. Under the Porter-Cologne Water Quality Act, the RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, with any region that could affect the water of the state" [Water Code 13260(a)].

Waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code 13050[e]). The RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State that are not regulated by the USACE due to a lack of connectivity with a navigable water body. The RWQCB may require issuance of Waste Discharge Requirements for these activities.

On April 2, 2019, the SWRCB adopted the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (referred to as the Procedures) for inclusion in the *Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (Resolution No. 2019-0015). The new Procedures include the following:

- Definition of wetlands and aquatic resources that are Waters of the State;
- description of application requirements for individual orders (not general orders) for water quality certification, or waste discharge requirements;
- description of information required in compensatory mitigation plans; and
- definition of exemptions to application procedures.

The Office of Administrative Law approved the procedures on August 28, 2019 and the rule went into effect May 28, 2020. It is as yet unknown how this new set of procedures will be implemented at the project level.

Natural Community Conservation Planning Act

The Natural Community Conservation Planning (NCCP) Act (CFGC Sections 2800-2831) is designed to conserve natural communities at the ecosystem scale while accommodating compatible land uses. The CDFW is the principle state agency implementing the NCCP program. The NCCP Act established a process to allow for comprehensive, regional multi-species planning in a manner that satisfies the requirements of the state and FESAs (through a companion regional Habitat Conservation Plan). The NCCP program has provided the framework for innovative efforts by the state, local governments, and private interests to plan for the protection of regional biodiversity and the ecosystems upon which they depend. NCCPs seek to ensure the long-term conservation of multiple species, while allowing for compatible and appropriate economic activity to proceed.

Regional Policies and Regulations

Coachella Valley Multiple Species Habitat Conservation Plan

The CVMSHCP, which was originally approved in 2008, is managed by the CVCC and participants include Riverside County, the Cities of Cathedral City, Coachella, Desert Hot Springs, Indian Wells, Indio, La Quinta,

Palm Desert, Palm Springs, Rancho Mirage, as well as Coachella Valley Water District, Imperial Irrigation District, Mission Springs Water District, Coachella Valley Association of Governments (CVAG), and Caltrans (CVAG 2016). The CVMSHCP is a long-term program designed to conserve federally protected species, state-protected species, and/or other species of concern. The CVMSHCP program aims to conserve over 240,000 acres of open space and protect 26 plant and animal species (covered species) by providing comprehensive compliance with federal and state endangered species laws. The CVMSHCP includes most of the Coachella Valley floor portion of Riverside County, though Indian reservations within the area are not included (CVAG 2016). The proposed project components within the CVMSHCP area are covered activities as described in Section 7.0 of the CVMSHCP.

Under the CVMSHCP, species protection is predicated on a science-based modeling of habitats within the region. Within the CVMSHCP area, covered activities receive authorization to take species, as defined by FESA (see Section 2.1.1) and the CFGC (see Section 2.2.1), under the Section 10(a)(1)(B) permit issued by the USFWS and the NCCP permit issued by the CDFW. To mitigate for this take, CVMSHCP contains several areas designated by a Conservation Area Reserve system which is designed to include representative native plants, animals, and natural communities across their modeled natural ranges of variation in the valley. The types and extent of conservation requirements for covered species, natural communities, and landscapes within these reserves are defined by specific goals and objectives that are intended to support several guiding ecologically based principles. As a result, the CVMSHCP incorporates ongoing biological monitoring and land management programs to assure the principles and species-specific conservation goals and objectives are met and maintained throughout the life of the CVMSHCP. The CVMSHCP includes measures to avoid, minimize, and mitigate impacts to specific biological resources for covered activities in Conservation Areas. For CVMSHCP covered activities outside of the Conservation Areas, mitigation is achieved through payment of mitigation fees imposed by the individual jurisdictions in which they occur. Additionally, land use adjacency guidelines have been established to avoid or minimize indirect effects from activities conducted in and adjacent to Conservation Areas.

The BSA overlaps portions of eleven Conservation Areas as designated under the CVMSHCP (shown in Figure 4.2-1). Table 4.2-9 summarizes the covered species and conserved natural communities for each Conservation Area within the BSA and Table 4.2-10 lists the individual proposed projects where the BSA occurs within Conservation Areas.

Individual projects that occur within a CVMSHCP designated Conservation Area are subject to a Joint Project Review (JPR) Process with CVCC. The purpose of the JPR Process is to ensure the project is in compliance with the CVMSHCP and consistent with the Conservation Area Conservation Objectives and required conservation measures. The JPR Process is described in more detail in Section 6.6.1.1 of the CVMSHCP.

Table 4.2-9. Conservation Areas in the BSA

Conservation Area	Covered Species Core Habitat	Covered Species Other Conserved Habitat	Conserved Natural Communities
Coachella Valley Stormwater Channel and Delta	Desert pupfish and crissal thrasher	Yuma clapper rail, California black rail, burrowing owl, least bell's vireo, southwestern willow flycatcher, summer tanager, yellow warbler, Le Conte's thrasher Coachella Valley round-tailed ground squirrel, and Palm Springs pocket mouse	Mesquite hummocks, desert saltbush scrub, desert sink scrub, Sonoran cottonwood- willow riparian forest, and coastal and valley freshwater marsh
Desert Tortoise and Linkage	Desert tortoise, Mecca aster, and Orocopia sage	Le Conte's thrasher, desert tortoise, Coachella Valley round-tailed ground squirrel, Palm Springs pocket mouse, least Bell's vireo, southwestern willow flycatcher, summer tanager, and yellow warbler	Sonoran creosote bush scrub, Sonoran mixed woody and succulent scrub, Mojave mixed woody scrub, and desert dry wash woodland
East Indio Hills	Mecca aster	Coachella Valley giant sand-treader cricket, Coachella Valley fringe-toed lizard, desert tortoise, flat-tailed horned lizard, crissal thrasher, Le Conte's thrasher, Coachella Valley round-tailed ground squirrel, Palm Springs pocket mouse, least Bell's vireo, southwestern willow flycatcher, summer tanager, and yellow warbler	Active desert dunes, stabilized shielded desert sand fields, stabilized and partially stabilized desert sand fields, mesquite hummocks, Sonoran creosote bush scrub, Sonoran mixed woody and succulent scrub, and desert saltbush scrub
Edom Hill	None	Coachella Valley milkvetch, Mecca aster, Coachella Valley giant sand-treader cricket, Coachella Valley Jerusalem cricket, Coachella Valley fringe-toed lizard, flat-tailed horned lizard, Coachella Valley round-tailed ground squirrel, Palm Springs pocket mouse, Le Conte's thrasher, and burrowing owl	Active desert sand fields, stabilized and partially stabilized desert sand fields, Sonoran creosote bush scrub, and Sonoran mixed woody and succulent scrub
Indio Hills/Joshua Tree National Park Linkage	Desert tortoise	Coachella Valley milkvetch, Mecca aster, Le Conte's thrasher, Coachella Valley round-tailed ground squirrel, and Palm Springs pocket mouse	Sonoran creosote bush scrub and Mojave mixed woody scrub
Long Canyon	None	Coachella Valley milkvetch, Coachella Valley Jerusalem cricket, desert tortoise, burrowing owl, Le Conte's thrasher, Coachella Valley round-tailed ground squirrel, flat-tailed horned lizard and Palm Springs pocket mouse	Sonoran creosote bush scrub and Sonoran mixed woody and succulent scrub

Table 4.2-9. Conservation Areas in the BSA

Conservation Area	Covered Species Core Habitat	Covered Species Other Conserved Habitat	Conserved Natural Communities
Santa Rosa and San Jacinto Mountains	Peninsular bighorn sheep	least Bell's vireo, southwestern willow flycatcher, summer tanager, yellow warbler, gray vireo, desert tortoise, southern yellow bat, triple-ribbed milkvetch, Coachella Valley milkvetch, Coachella Valley giant sand-treader cricket, Coachella Valley Jerusalem cricket, Coachella Valley fringe-toed lizard, flat-tailed horned lizard, burrowing owl, Le Conte's thrasher, Coachella Valley round-tailed ground squirrel, and Palm Springs pocket mouse	Sonoran creosote bush scrub, Sonoran mixed woody and succulent scrub, southern arroyo willow riparian forest, Sonoran cottonwood-willow riparian forest, southern sycamore-alder riparian woodland, desert dry wash woodland, desert fan palm oasis woodland, mesquite hummocks, semi-desert chaparral, red shank chaparral, interior live oak chaparral, peninsular juniper woodland and scrub, active desert dunes, ephemeral desert sand fields, stabilized and partially stabilized desert sand fields, and stabilized shielded desert sand fields
Thousand Palms	Coachella Valley milkvetch, Coachella Valley giant sand-treader cricket (eastern most viable populations for both these species), Coachella Valley fringe-toed lizard, flat-tailed horned lizard, Coachella Valley round-tailed ground squirrel, and Palm Springs pocket mouse	Le Conte's thrasher, crissal thrasher, burrowing owl, Coachella Valley Jerusalem cricket, Coachella Valley fringe-toed lizard, Coachella Valley giant sand-treader cricket, Coachella Valley milk vetch, Coachella Valley round-tailed ground squirrel, flat-tailed horned lizard, Palm Springs pocket mouse, desert pupfish, Least bell's vireo, southwestern willow flycatcher, summer tanager, and yellow warbler	Active desert dunes, active desert sand fields, mesquite hummocks, Sonoran creosote bush scrub, Sonoran mixed woody and succulent scrub, Sonoran cottonwood-willow riparian forest, desert dry wash woodland, and desert fan palm oasis woodland
West Deception Canyon	None	Coachella Valley milkvetch, desert tortoise, Le Conte's thrasher, Coachella Valley round-tailed ground squirrel, and Palm Springs pocket mouse	Sonoran creosote bush scrub and Mojave mixed woody scrub
Whitewater Floodplain	Coachella Valley milkvetch, Coachella Valley giant sand-treader cricket, Coachella Valley fringe-toed lizard, Coachella Valley round-tailed ground squirrel, and Palm Springs pocket mouse	Coachella Valley Jerusalem cricket, Coachella Valley milkvetch, triple-ribbed milkvetch, desert tortoise, flat-tailed horned lizard, burrowing owl, Le Conte's thrasher, Coachella Valley round-tailed ground squirrel, and Palm Springs pocket mouse	Active desert sand fields, ephemeral desert sand fields, stabilized and partially stabilized desert sand fields, stabilized shielded desert sand fields, Sonoran creosote bush scrub, and Sonoran mixed woody and succulent scrub.

Table 4.2-9. Conservation Areas in the BSA

Conservation Area	Covered Species Core Habitat	Covered Species Other Conserved Habitat	Conserved Natural Communities
Willow Hole	Coachella Valley milkvetch, Coachella Valley fringe-toed lizard, the Coachella Valley round-tailed ground squirrel, and Palm Springs pocket mouse	least Bell's vireo, southwestern willow flycatcher, summer tanager, yellow warbler, Coachella Valley milkvetch, desert tortoise, Coachella Valley fringe-toed lizard, Coachella Valley giant sand-treader cricket, Coachella Valley Jerusalem cricket, flat-tailed horned lizard, crissal thrasher, Le Conte's thrasher, Coachella Valley round-tailed ground squirrel, Palm Springs pocket mouse, southern yellow bat, and burrowing owl	Stabilized and partially stabilized desert dunes, active desert sand fields, ephemeral desert sand fields, stabilized and partially stabilized desert sand fields, mesquite hummocks, Sonoran creosote bush scrub, Sonoran mixed woody and succulent scrub, desert saltbush scrub, and desert fan palm oasis woodland

Table 4.2-10. Conservation Areas in the BSA by Project

Projects[1]	Conservation Area										
	Coachella Valley Stormwater Channel and Delta	Desert Tortoise and Linkage	East Indio Hills	Edom Hill	Indio Hills/Joshua Tree National Park Linkage	Long Canyon	Santa Rosa and San Jacinto Mountains	Thousand Palms	West Deception Canyon	Whitewater Floodplain	Willow Hole
WRP 7 Capital Improvement Projects											
7-6			√								
7-7			√								
7-8			√								
Collection System Capacity Capital Improvement Projects											
CS-WRP4-2							√				
CS-WRP4-4	√										
CS-WRP4-5	√										
CS-WRP7-1				√		√				√	√

Table 4.2-10. Conservation Areas in the BSA by Project

Projects[1]	Conservation Area										
	Coachella Valley Stormwater Channel and Delta	Desert Tortoise and Linkage	East Indio Hills	Edom Hill	Indio Hills/Joshua Tree National Park Linkage	Long Canyon	Santa Rosa and San Jacinto Mountains	Thousand Palms	West Deception Canyon	Whitewater Floodplain	Willow Hole
CS-WRP7-2											√
CS-WRP7-3								√			
CS-WRP7-4								√			
CS-WRP7-6								√			
CS-WRP7-7		√			√			√			
CS-WRP7-8					√			√	√		
Collection System Condition and Risk Assessment Capital Improvement Projects											
WCCA-6	√										
Septic-to-Sewer Conversion Capital Improvement Projects											
SWS-5	√										

[1]Projects were only included if sufficient location information was available for assessment and modeled habitat was identified in the BSA.

Agua Caliente Tribal Habitat Conservation Plan (THCP)

The Agua Caliente Indian Reservation (Reservation), is home of the Agua Caliente Band of Cahuilla Indians (Tribe), and consists of landholdings, including Tribal trust land, allotted trust land, and fee land, in the western Coachella Valley. Sections of the Reservation land are interspersed with public lands owned or under the control of various federal and state agencies, and privately-owned land under the jurisdiction of the County of Riverside and/or one of three municipalities (City of Palm Springs, City of Cathedral City, and City of Rancho Mirage). As mentioned above, Indian reservations are not included in the CVMSHCP.

As a sovereign Indian nation, the Tribe protects and manages the natural resources and habitats in the Reservation that are deemed valuable by both the USFWS and the Tribe. As an alternative to participating in the CVMSHCP, the Tribe prepared a Tribal Habitat Conservation Plan (THCP) in order to continue a long-standing tradition of land use management and stewardship of natural resources in and around the

Reservation by assuming a role as the primary manager of the resources and land uses that impact them. Through future coordination with the USFWS, the THCP will eventually serve to establish consistency and streamline permitting requirements with respect to protected species by establishing one process for both Tribal Members and third parties that is overseen and implemented by the Tribe (THCP, Helix Environmental, Inc. 2010). Currently, the THCP serves as a guideline for conservation requirements within the Reservation. If project activities have boundaries situated partially on the Reservation and partially off the Reservation, the Tribe may choose to defer to the CVMSHCP and allow those requirements to be imposed on the Reservation portion of the project.

The Tribe has entered into Land Use Agreements with the cities of Cathedral City, Palm Springs, and Rancho Mirage, and the County of Riverside that allow each of these jurisdictions to act as the land use regulatory agent for the Tribe. If projects proposed as part of the Master Plan Update are located within or adjacent to Reservation lands of the Tribe, the corresponding jurisdiction is required to notify the Tribe as part of the entitlement process and will instigate coordination with the Tribe regarding relevant resources prior to issuing a permit for projects that may affect Reservation lands. The Tribe will make required consistency determinations and work with local land use jurisdictions to ensure appropriate conditions are included on any Conditional Use Permits.

Local Policies and Regulations

Riverside County Ordinance No. 559 Regulating the Removal of Trees

Riverside County Ordinance No. 559 prohibits the removal of living native trees on parcels of property greater than one-half acre, located above 5,000 feet within the unincorporated area of Riverside County without first obtaining a permit.

Imperial County General Plan

The Imperial County General Plan provides direction for growth, particularly urban development, to provide for preservation and conservation of adequate scenic, recreational, and wildlife habitat open space; agricultural areas; mineral resources; and the air and water quality of Imperial County. The Imperial County General Plan Land Use Element (2015) and Conservation and Open Space Element (2016) contain objectives that are intended to ensure protection of biological resources in the county:

Land Use Element:

Objective 9.1: Preserve as open space those lands containing watersheds, aquifer recharge areas, floodplains, important natural resources, sensitive vegetation, wildlife habitats, historic and prehistoric sites, or lands which are subject to seismic hazards and establish compatible minimum lot sizes.

Conservation and Open Space Element:

Objective 2.1: Conserve wetlands, freshwater marshes, and riparian vegetation.

Objective 2.2: Protect significant fish, wildlife, plant species, and their habitats.

Objective 2.3: Protect unique, rare, and endangered plants and animals and their habitats.

4.2.3 Thresholds of Significance

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance and CVWD Local CEQA Guidelines (2019). The Master Plan would result in a significant impact to biological resources if it would do any of the following:

1) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

2) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

3) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

4) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

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

4.2.4 Environmental Impacts

Potential biological impacts resulting from implementation of the Master Plan Project would vary by project type (i.e., WRP facilities, pipelines, lift stations, and manholes), location, and project design. Location information on projects identified for the CIP is conceptual. The final location and design for each project will be determined over time as the phased program is implemented.

Special Status Plant and Wildlife Species

Impact BIO-1: Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Riverside County

Two special-status plant species (Coachella Valley milkvetch and Mecca aster), two special-status insect species (Coachella Valley giant sand-treader cricket and Coachella Valley Jerusalem cricket), three special-status reptile species (desert tortoise, flat-tailed horned lizard, and Coachella Valley fringe-toed lizard), nine special status bird species (southwestern willow flycatcher, yellow-breasted chat, California black rail, summer tanager, Yuma clapper rail, yellow warbler, crissal thrasher, Le Conte's thrasher, and least Bell's vireo), and four special-status mammal species (western yellow bat, Peninsular bighorn sheep, Palm Springs pocket mouse, and Coachella Valley round-tailed squirrel) occur within the BSA in Riverside County. Additionally, nesting bird species protected by the MBTA have the potential to occur within the BSA.

Direct impacts to special-status species could occur as a result of grading, vegetation removal, or other ground-disturbing activities that cause harm or loss of individual species, including nestlings and eggs of protected birds. Indirect impacts that could result from project activities include disturbance from increased human presence, dust, noise, and ground vibrations associated with construction activities, alteration and fragmentation of habitat, or the introduction of invasive exotic plant species that can replace native plants and habitat.

Potential impacts will vary by project and the effects will be dependent on several factors including, the location, the project footprint, the timing and duration of the project, the location of modeled species habitat, and the species and habitats affected. Although there is no CVMSHCP-modeled habitat for burrowing owl, this species also has the potential to occur throughout the BSA. If unmitigated, impacts to this species could be significant.

For projects occurring within a Conservation Area, through compliance with the provisions of the CVMSHCP requiring specific mitigation measures for each Conservation Area (included in **Mitigation Measures BIO-1 through BIO-3**) and implementation of **Mitigation Measures BIO-4 and BIO-5**, impacts to special-status species within Conservation Areas would be mitigated to a less than significant level. Outside of the Conservation Areas, implementation of **Mitigation Measures BIO-3 through BIO-6**, and payment of mitigation fees imposed by the responsible jurisdiction, would provide mitigation for impacts to special-status plant and wildlife species. Impacts would be less than significant with mitigation.

Imperial County

Four special-status plant species (Salton milkvetch, Hardwood's milkvetch, gravel milkvetch, and Orocopia sage), four special-status reptile species (Sonoran Desert toad, Couch's spadefoot toad, desert tortoise, and flat-tailed horned lizard), two bird special-status species (burrowing owl and mountain plover), and three special-status mammal species (pallid bat, western mastiff bat, and Palm Springs pocket mouse) were determined to have the potential to occur within the BSA in Imperial County. Additionally, nesting bird species protected by the MBTA have the potential to occur within the BSA.

The proposed project activities are expected to occur entirely within the existing WRP 1 facility and, therefore, significant impacts to special-status species are not anticipated. However, implementation of **Mitigation Measures BIO-3 and BIO-5** would ensure that impacts remain less than significant.

Sensitive Natural Communities

Impact BIO-2: Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Direct impacts to sensitive natural communities would result from the direct destruction of sensitive natural communities from clearing, grubbing, grading, and other initial land disturbance activities. Indirect effects to these natural communities could result from degradation of vegetation due to increased erosion and modified surface hydrology in graded or developed areas and/or invasion by non-native and invasive weed species. Impacts to sensitive natural communities in the Riverside County and Imperial County portions of the BSA are discussed below.

Riverside County

Sixteen CVMSHCP-modeled conserved natural communities are mapped within the Riverside County portion of the BSA. These communities are described in Section 4.2.1.1, and Table 4.2-1 lists the natural communities mapped within the BSA for each proposed project category. Direct impacts to sensitive natural communities would result from the direct destruction of sensitive natural communities from clearing, grubbing, grading, and other initial land disturbance activities. Indirect effects to these natural communities could result from degradation of vegetation due to increased erosion and modified surface hydrology in graded or developed areas and/or invasion by non-native and invasive weed species. Specific project-related impacts to sensitive vegetation communities would be identified during the individual project-specific review. Direct and indirect impacts from project activities could significantly impact sensitive natural communities if unmitigated.

The CVMSHCP provides for conservation of sensitive natural communities through the preservation of Conservation Areas and includes measures to avoid or minimize both direct and indirect impacts and prevent significant impacts to sensitive communities. These provisions of the CVMSHCP are included in **Mitigation Measures BIO-1 and BIO-2**. Additionally, projects planned in areas that support wetland or riparian habitats may require jurisdictional analysis and acquisition of regulatory permits from the USACE and/or CDFW, included as **Mitigation Measure BIO-6**. These regulatory permits would include mitigation measures to avoid or reduce impacts to the habitats.

Through compliance with the provisions of the CVMSHCP, as required by **Mitigation Measures BIO-1 and BIO-2**, and the implementation of **Mitigation Measure BIO-6**, impacts to sensitive natural communities identified by the CVMSHCP and the CDFW would be mitigated to a less than significant level.

Imperial County

Two CDFW-designated sensitive natural communities, fourwing saltbush Alliance and mesquite thickets Alliance, are mapped within the Imperial County portion of the BSA. Projects within the Imperial County are expected to be entirely within the footprint of the existing WRP 1 facility. The sensitive natural communities are mapped outside of the existing WRP 1 facility and no significant impacts to natural communities would occur.

Jurisdictional Aquatic Resources

Impact BIO-3: Would the Project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Federally protected aquatic resources as defined in Section 404 of the CWA include wetlands and waters of the United States and state protected aquatic resources as defined under Section 1602 of the CFGC, include streams, rivers, or lakes supporting fish or other aquatic life and wetlands. Wetlands typically include areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Wetlands and waters that are potentially under the jurisdiction of the USACE and the CDFW occur throughout the BSA (Figure 4.2-7). Additional aquatic resources may also occur throughout the BSA or may develop in the future due to changing hydrological conditions. Substantial impacts to federally and state protected aquatic resources would occur if construction of projects resulted in the direct removal, filling, or hydrological interruption of any jurisdictional wetlands or waters. Implementation of **Mitigation Measure BIO-6** would reduce impacts to jurisdictional aquatic resources to less than significant levels.

Wildlife Corridors and Nursery Sites

Impact BIO-4: Would the Project 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?

Riverside County

Within the Riverside County portion of the BSA, wildlife corridors and linkages occur primarily in the CVMSHCP-modeled corridors and Conservation Areas, but also occur within the Whitewater River floodplain and other drainage areas of the Riverside County BSA. Direct impacts to wildlife corridors resulting from the implementation of some of the proposed projects would occur from blocking movement or removal of habitat leading to fragmentation. Indirect impacts could also result from increased human disturbance, noise, lighting, and other edge effects. Impacts to wildlife corridors would be significant if unmitigated.

Wildlife nursery sites include areas that provide habitat for breeding locations, including nests, roosts, burrows, and dens. Direct impacts to wildlife nursery sites from the implementation of the Proposed Project would result from the removal of this habitat during project activities such as vegetation clearing, grading, or other ground disturbance. Indirect impacts to nursery sites could result from increased human disturbance, noise, lighting, change in hydrology, or introduction of non-native species.

Compliance with the CVMSHCP, through implementation of **Mitigation Measures BIO-1 and BIO-2**, would conserve large blocks of native habitat within the Conservation Areas that serve as wildlife corridors and provide wildlife nursery sites. Additionally, implementation of **Mitigation Measure BIO-3** would

protect burrowing owl burrows, **Mitigation Measures BIO-4 and BIO-5** would protect habitat of CDFW fully protected bird species and nests of birds protected under the MBTA and CFGC, and implementation of **Mitigation Measure BIO-6** would protect drainages that support wildlife movement. Implementation of these mitigation measures would reduce impacts to wildlife corridors and wildlife nursery sites to less than significant.

Imperial County

The open space and natural communities within the Imperial County portion of the BSA have the potential to support both wildlife movement and wildlife nursery sites. The proposed projects in the Imperial County portion of the BSA are expected to be limited to the existing WRP 1 facility and would not directly impact wildlife corridors or nursery sites in the vicinity. Indirect impacts from increased human disturbance, noise, lighting, or other edge effects could occur; however, based on the availability of habitat and open space surrounding the facility, impacts to wildlife movement and nursery sites would be less than significant.

Local Policies and Ordinances

Impact BIO-5: Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Riverside County

Local policies of relevant jurisdictions within Riverside County that protect biological resources are designed to support and adhere to the CVMSHCP. Compliance with the CVMSHCP, through the implementation of **Mitigation Measures BIO-1 through BIO-3**, and the implementation of **Mitigation Measure BIO-4** to avoid impacts to CDFW fully-protected bird species, **Mitigation Measure BIO-5** to minimize or avoid impacts to nesting birds, and **Mitigation Measure BIO-6** to minimize or avoid impacts to jurisdictional wetlands and riparian vegetation, would ensure that the Proposed Project remains consistent with local policies.

No portions of the BSA within the unincorporated area of Riverside County are located above 5,000 feet and, therefore, implementation of the Proposed Project would not conflict with Riverside County Ordinance No. 559, which prohibits the removal of living native trees. No other jurisdictions have tree preservation policies. No impact would occur.

Imperial County

The Imperial County General Plan Land Use Element and Conservation and Open Space Element contain objectives for the protection of biological resources. Although implementation of the Proposed Project is not expected to impact biological resources in the Imperial County portion of the BSA, implementation of **Mitigation Measures BIO-3 through BIO-6** would ensure that impacts that would potentially conflict with Imperial County's objectives for the protection of biological resources would be less than significant.

HCPs and NCCPs – CVMSHCP

Impact BIO-6: Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Riverside County

The Riverside County portion of the Proposed Project is within the boundary of the CVMSHCP, which includes an NCCP. Portions of the BSA for the Proposed Project are within Conservation Areas and will be subject to a JPR process and compliance with applicable avoidance, minimization, and mitigation measures in Section 4.4 of the CVMSHCP and the Land Use Adjacency Guidelines in Section 4.5 of the CVMSHCP. Through implementation of **Mitigation Measures BIO-1 through BIO-3**, impacts to resources covered under the CVMSHCP would be less than significant.

Although the Proposed Project also falls within the boundaries of the prepared THCP, no formal permit processing has currently been completed. Therefore, this document has not yet been implemented, and no impact would be associated with the THCP.

No other habitat conservation plan (HCP) or NCCP are within the project area in Riverside County.

Imperial County

The BSA does not occur within any HCP or NCCP areas in Imperial County; no impact would occur.

4.2.5 Mitigation Measures

The following mitigation measures have been developed based on the applicable avoidance, minimization, and mitigation measures in Section 4.4 of the CVMSHCP, the Land Use Adjacency Guidelines in Section 4.5 of the CVMSHCP, and other applicable avoidance and minimization measures to minimize significant adverse impacts to biological resources to a less than significant level.

BIO-1: **Conservation Area Surveys.** Prior to the start of project activities within a CVMSHCP Conservation Area, a preconstruction survey shall be conducted by a qualified biologist familiar with the biological resources associated with the associated Conservation Area. The preconstruction survey shall take place a maximum of 14 days prior to the start of ground disturbing activities and shall be conducted so that 100 percent coverage of the project site and surrounding areas is achieved or following the timing and protocol for relevant species, as appropriate. Surveys shall include the following species and associated actions as determined for each Conservation Area in Section 4.3 of the CVMSHCP. A JPR will also be required to ensure the project is in compliance with the CVMSHCP and consistent with the Conservation Area Conservation Objectives and required conservation measures.

Covered Riparian Bird Species: CVMSHCP covered activities in riparian habitat (including southern arroyo willow riparian forest, Sonoran cottonwood-willow riparian forest, desert fan palm oasis woodland, and southern sycamore-alder riparian woodland) in the Thousand

Palms, Coachella Valley Stormwater Channel and Delta, and Santa Rosa and San Jacinto Mountains Conservation Areas shall be conducted outside of the nesting season for least Bell's vireo (March 15 through September 15) and the nesting season for southwestern willow flycatcher, summer tanager, yellow warbler, and yellow-breasted chat, to the maximum extent feasible. If covered activities must occur during the nesting season, surveys shall be conducted to determine if any active nests are present. If active nests are identified, the covered activity shall not be conducted within 200 feet of an active nest or as otherwise determined in concurrence with CDFW. If surveys conducted during the nesting season document that covered nesting riparian bird species are not present, the covered activity may proceed.

Crissal thrasher: If covered activities intersect modeled crissal thrasher habitat in the Willow Hole, Thousand Palms, Indio Hills Palms, East Indio Hills, Dos Palmas, and Coachella Valley Stormwater Channel and Delta Conservation Areas, surveys will be conducted by a qualified biologist prior the start of construction activities during the breeding season (January 15 through June 15) to determine if active nest sites for this species occur in the project work area and/or within 500 feet of the project area (or to the edge of the property boundary if less than 500 feet). If nesting crissal thrashers are found, a 500-foot buffer (or a buffer to the edge of the property boundary if less than 500 feet) will be established around the nest site. The buffer will be staked and flagged. No construction activities will be permitted within the buffer during the breeding season or until the young have fledged.

Desert tortoise: If covered activities within a Conservation Area intersect modeled desert tortoise habitat, a qualified biologist shall conduct a presence/absence survey of the project area and adjacent areas within 200 feet of the project area (or to the property boundary if less than 200 feet and permission from the adjacent landowner cannot be obtained) for fresh sign of desert tortoise, including live tortoises, tortoise remains, burrows, tracks, scat, or egg shells. The presence/absence survey must be conducted during the window between February 15 and October 31. Presence/absence surveys require 100 percent coverage of the survey area.

If fresh sign is identified, the project area must be enclosed in tortoise-proof fencing and a clearance survey will be required during the clearance window (February 15 through June 15 and September 1 through October 31) or in accordance with the most recent protocol. Clearance surveys must be conducted during different tortoise activity periods (morning and afternoon) and include 100 percent of the project area. If no sign is found, a clearance survey is not required. A presence/absence survey is valid for 90 days or indefinitely if tortoise-proof fencing is installed around the project site.

Le Conte's thrasher: If covered activities occur in modeled Le Conte's thrasher habitat in a Conservation Area during the breeding season (January 15 through June 15), surveys will be conducted by a qualified biologist prior to the start of construction activities. Surveys will be conducted on the project site and within 500 feet of the site, or to the property boundary if less than 500 feet. If nesting Le Conte's thrashers are found, a 500-foot buffer (or to the

property boundary if less than 500 feet) will be established around the nest site. The buffer will be staked and flagged. No construction will be permitted within the buffer during the breeding season or until the young have fledged.

Palm Springs pocket mouse: If covered activities are planned within the Willow Hole Conservation Area, ground disturbing activities and clearing of vegetation shall be avoided during the peak breeding season of the Palm Springs pocket mouse (approximately March to May), and activity shall be limited as much as possible during the rest of the breeding season (January to February and June to August) to avoid impacts to the species and its habitat. If disturbance to Palm Springs pocket mouse habitat occurs, activity shall be phased to the extent feasible and practicable so that suitable habitat islands are no farther than 300 feet apart at any given time to allow pocket mice to disperse between habitat patches across non-suitable habitat (i.e., unvegetated and/or compacted soils). Prior to project construction, a biological monitor familiar with this species shall assist construction crews in planning access routes to avoid impacts to occupied habitat as much as feasible (i.e., placement of preferred routes on project plans and incorporation of methods to avoid as much suitable habitat/soil disturbance as possible). Furthermore, during construction activities, the biological monitor will ensure that connected, naturally vegetated areas with sandy soils and typical native vegetation remain intact to the extent feasible and practicable. If native vegetation (e.g., creosote, rabbitbrush, burrobush, cheesebush) is cleared, cleared areas shall be revegetated through natural reestablishment and other means that result in habitat types of equal or superior biological value for Palm Springs pocket mouse.

If trapping or subsequent translocation between distinct population groups is determined necessary, the activities shall be conducted in accordance with accepted protocols and by a qualified biologist who possesses a Memorandum of Understanding with CDFW for live trapping of the species in southern California. Translocation programs will be coordinated by or conducted by the CVCC to determine the appropriate trapping, holding, marking, and handling methods and potential translocation sites.

Peninsular bighorn sheep habitat: Covered activities in Peninsular bighorn sheep habitat in the Santa Rosa and San Jacinto Mountains Conservation Areas will be conducted outside of the lambing season (January 1 through June 30) unless otherwise authorized through a Minor Amendment to the CVMSHCP with concurrence from the USFWS and CDFW. For projects in this Conservation Area, no toxic or invasive plant species may be used for landscaping.

Fluvial sand transport: Covered activities in fluvial sand transport areas in the Whitewater Floodplain, Willow Hole, Long Canyon, Edom Hill, Thousand Palms, West Deception Canyon, and Indio Hills/Joshua Tree National Park Linkage Conservation Areas will be conducted in a manner to maintain the fluvial sand transport capacity of the system.

Mesquite hummocks and mesquite bosque natural communities: If covered activities occur in the Willow Hole, Thousand Palms, East Indio Hills, Coachella Valley Stormwater Channel and

Delta, and Santa Rosa and San Jacinto Mountains Conservation Areas, mesquite hummocks and mesquite bosque habitat will be flagged or fenced under the direction of a biologist or botanist prior to ground-disturbing activities, and impacts will be avoided to the maximum extent feasible.

BIO-2: **CVMSHCP Land Use Adjacency Guidelines.** Prior to final design approval for projects within or adjacent to a Conservation Area, compliance with Section 4.5 (Land Use Adjacency Guidelines) of the CVMSHCP shall be demonstrated. Such compliance shall include, but not necessarily be limited to, demonstrating the design of the project would not result in the release of toxins, chemicals, petroleum products, exotic plant materials, or other elements that might degrade or harm biological resources or ecosystem processes within or adjacent to a Conservation Area.

BIO-3: **Focused Burrowing Owl Surveys.** For covered activities in Conservation Areas, or other areas as designated in Section 4.4 of the CVMSHCP, preconstruction burrowing owl surveys will be conducted by a qualified biologist within 14 days and again 24 hours prior to the implantation of ground disturbing activities. The project area and within 500 feet of the project area (or to the edge of the property if less than 500 feet) will be surveyed for burrows that could be used by burrowing owl. If burrows are located, the biologist will determine if owls are present in the burrow. If the burrow is determined to be occupied, the burrow will be flagged and a 160-foot non-breeding season buffer or 250-foot breeding season buffer will be established around the burrow. No activities will be permitted within the buffer until the young are no longer dependent on the burrow.

If unoccupied burrows are identified, then burrow excavation and collapse activities will be necessary; however, burrow excavation and collapse activities shall only be conducted during the non-breeding season for burrowing owls (September 1 through January 31). Coordination with CDFW on burrow excavation and collapse activities will need to occur, and methods will follow the specific protocols and guidance outlined in the CDFW *Staff Report on Burrowing Owl Mitigation* (2012).

BIO-4: **Yuma Clapper (Ridgeway's) Rail and California Black Rail Surveys.** If covered activities occur in modeled or potential habitat for Yuma clapper (Ridgeway's) rail and/or California black rail, surveys conducted by a qualified biologist will be required prior to the start of activities. If rails are found, the habitat must be avoided, and measures approved by the USFWS and CDFW will be taken to ensure that no take of an individual of these species occurs.

BIO-5: **Preconstruction Survey for Nesting Birds.** Construction activities of projects shall be conducted during the non-breeding season for birds (September 16 through December 31). This will avoid violations of the MBTA and CFGC Sections 3503, 3503.5 and 3513. If activities with the potential to disrupt nesting birds are scheduled to occur during the bird breeding season (January 1 through July 31 for raptors and March 1 through September 15 for songbirds), a pre-construction nesting bird survey shall be conducted by a qualified biologist

within the project area and adjacent areas where project activities have the potential to cause nest failure. If no nesting birds are observed during the survey, implementation of project activities may begin. If nesting birds (including nesting raptors) are found to be present, then avoidance or minimization measures shall be undertaken in consultation with CDFW. Measures shall include establishment of an avoidance buffer until nesting has been completed. The width of the buffer will be determined by the biologist in consultation with CDFW. Typically, this is a minimum of 300 feet from the nest site in all directions (500 feet is typically recommended by CDFW for raptors), until the juveniles have fledged and there has been no evidence of a second attempt at nesting.

BIO-6: **Avoidance of Jurisdictional Waters.** Prior to construction of a project that could affect riparian/riverine or wetland habitat, as defined by Section 404 of the CWA or Section 1600 et seq. of the CFGC, necessary authorizations will need to be obtained from regulatory agencies for proposed impacts to jurisdictional waters, as applicable. Project specific delineation may be required to determine the limits of USACE, RWQCB, and CDFW jurisdiction. Required authorizations could include a Section 404 permit from the USACE, a Section 401 Water Quality Certification from the RWQCB, and a Section 1602 Streambed Alteration Agreement from CDFW.

4.2.6 Residual Impacts after Mitigation

Riverside County

Implementation of **Mitigation Measures BIO-1 through BIO-3** will ensure that projects will remain compliant with the CVMSHCP. **Mitigation Measure BIO-4** will ensure that impacts to CDFW fully protected bird species are avoided, **Mitigation Measure BIO-5** will ensure that impacts to MBTA-listed nesting bird species not covered by the CVMSHCP are less that significant, and **Mitigation Measure BIO-6** will reduce impacts to jurisdictional wetlands and riparian habitats to less than significant. Implementation of mitigation measures will reduce biological impacts to special-status plants and animals, sensitive natural communities, jurisdictional wetlands, wildlife movement corridors and nursery sites, local policies and ordinances protecting resources, and relevant conservation plans to a level less than significant. Residual impacts would be less than significant.

Imperial County

Within the Imperial County portion of the Proposed Project, individual projects are expected to be limited to the footprint of the existing WRP 1 facility. Significant impacts to special-status plants and animals, sensitive natural communities, wildlife movement corridors, and nursery sites are not anticipated. Additionally, the Imperial County portion of the Proposed Project is not within a habitat conservation or NCCP area. Implementation of **Mitigation Measures BIO-3 through BIO-6** will ensure that impacts to special-status plants and animals, sensitive natural communities, jurisdictional wetlands, wildlife movement corridors and nursery sites, local policies and ordinances protecting resources, and relevant conservation plans remain less than significant. Residual impacts would be less than significant.

4.2.7 Cumulative Impacts

The Proposed Project would involve a long-term phased implementation of proposed projects. Urban development and infrastructure projects within the project area would be constructed under local general plans. Although collectively projects would result in a loss of habitat, potential take of sensitive species, and other impacts to biological resources, these activities would be undertaken pursuant to the CVMSHCP. A conservation strategy to avoid, minimize, and mitigate for impacts to sensitive species, natural communities, and wetlands is included in this PEIR with the implementation of Mitigation Measures BIO-1 through BIO-6. Implementation of the CVMSHCP's comprehensive and balanced approach to natural resource preservation would provide protection of natural resources to ensure cumulative impacts are at a level that is less than significant.

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4.3 CULTURAL RESOURCES

A cultural resources technical report was completed for the Master Plan (ECORP 2020b). This technical report is provided in Appendix D and summarized in the following section.

4.3.1 Environmental Setting

Definition of Resources

Cultural resources include pre-contact (prehistoric) archaeological sites, historic archaeological sites, and historic structures, and generally consist of artifacts, food waste, structures, and facilities made by people in the past. Pre-contact archaeological sites are places that contain the material remains of activities carried out by the native population of the area (Native Americans) prior to the arrival of Europeans in southern California. Artifacts found in pre-contact sites include flaked stone tools such as projectile points, knives, scrapers, drills, and the resulting waste flakes from tool production; ground stone tools such as manos, metates, mortars, pestles for grinding seeds and nuts; bone tools such as awls ceramic vessels or fragments; and shell or stone beads. Pre-contact features include hearths or rock rings, bedrock mortars and milling slicks, rock shelters, rock art, fish traps, and burials.

Places that contain the material remains of activities carried out by people during the period when written records were produced after the arrival of Europeans are considered historic archaeological sites. Historic archaeological material usually consists of domestic refuse, i.e., bottles, cans, ceramics, and food waste, disposed of either as roadside dumps or near structure foundations. Historic-period built environment resources include houses, garages, barns, commercial structures, industrial facilities, community buildings, and other structures and facilities that are more than half a century old.

Cultural Background

Little archaeological material dating to the Early and Middle Holocene Periods (8,000 to 1,000 BC) is known from the Salton Trough area of the Colorado Desert. The only indications of use of this area during this long period of time consist of large bifacial dart points found on relic lake beds of Lake Cahuilla and on desert pavement. The sparse occupation during the middle Holocene may be related to extremely arid climatic conditions and of the lack of water in the Salton Trough with the absence of Lake Cahuilla. While the population of the region was probably sparse, small bands of mobile Desert Archaic people most likely moved among areas where water (at springs) and plant food resources were available.

A few temporary camps with living surfaces and hearths dating to the period 1,000 BC to AD 700 (Late Archaic Period) are located away from the lake bed in canyons and in the upper Coachella Valley above the maximum lake level. However, two temporary camps dating to the first millennium BC that contain fish and waterfowl bone in the Coachella Valley along the maximum Lake Cahuilla shoreline indicate there may have been a lake stand during this period (Schaefer and Laylander 2007:249).

Higher population and greater numbers of sites appear to correlate with the presence of Lake Cahuilla, which filled the Salton Trough when water flowed into the trough from the Colorado River. When water

ceased to flow from the river, the lake dried, markedly reducing the availability of resources. Occupation of the Salton Trough during the Late Prehistoric Period (AD 700 to Contact) correlates with three cycles of inundation and desiccation in Lake Cahuilla that occurred between AD 1200 and 1680 (Schaefer and Laylander 2007). When the lake was present, lacustrine resources such as fish, shellfish, and waterfowl, were available. When the lake was absent, very few resources were available and human population was low. Lake Cahuilla was much larger than the current Salton Sea. Whereas the current Salton Sea shoreline is about -70 meters (230 feet) below sea level, the maximum Lake Cahuilla shoreline was about sea level (Schaefer and Laylander 2007:Figure 16.1). To the northwest, in the Coachella Valley, the intermittent Whitewater River entered Lake Cahuilla near Point Happy between what is now Indian Wells and Indio. Several Late Prehistoric archaeological sites have been investigated along the ancient Lake Cahuilla shoreline in this area. To the south, the entire Imperial Valley between East Mesa and West Mesa was underwater when Lake Cahuilla was present.

During the Late Prehistoric Period, the northern part of the Salton Trough (northern Salton Sea area and the Coachella Valley) was occupied by ancestors of the Takic-speaking Cahuilla (Schaefer and Laylander 2007:Figure 16.1). They also occupied the adjacent Santa Rosa and San Jacinto mountains. Large multi-seasonal residential bases were occupied along the ancient shorelines in the Coachella Valley when Lake Cahuilla was present. These sites were likely occupied during the three Lake Cahuilla lake stands between AD 1200 and 1680. The final desiccation is marked by 15 episodes of fish trap construction (along 15 successively lower shorelines) as the lake receded (Warren 1984:407).

Ethnography

Ethnographic accounts of Native Americans indicate that the Study Area lies predominantly within the original territory of the Cahuilla. The Cahuilla spoke a Takic language. The Takic group of languages is part of the Uto-Aztecan language family. The Cahuilla occupied a territory ranging from the San Bernardino Mountains in the north to the Chocolate Mountains and Borrego Springs in the south, and from the Colorado Desert in the east to Palomar Mountain in the west. They engaged in trade, marriage, shared rituals, and war with other groups of Native Americans whose territories they overlapped, primarily the Serrano and Gabrielino (Bean 1978, 1972; Kroeber 1925).

Cahuilla subsistence consisted of hunting, gathering, and fishing. Villages were often located near water sources, most commonly in canyons or near drainages on alluvial fans. Major villages were fully occupied during the winter, but during other seasons task groups made periodic forays to collect various plant foods, with larger groupings from several villages organizing for the annual acorn harvest (Bean and Saubel 1972). Bean and Saubel (1972) have recorded the use of several hundred species of plants used for food, building/artifact materials, and medicines.

As many as 10,000 Cahuilla may have existed at the time of European contact in the eighteenth century (Bean 1978). Circa 1900, Cahuilla lived in the settlements of La Mesa, Toro, and Martinez on the Augustin and Toro Indian Reservations east and southeast of the Study Area (USGS Indio Quad 1904). As of 1974, approximately 900 people claimed Cahuilla ancestry (Bean 1978).

There was no substantial Euro-American settlement in the Coachella Valley until the Southern Pacific Railroad completed its line from Los Angeles to Indio (then known as Indian Wells) in 1876. The railroad

was completed to Yuma in 1877, linking southern California with Arizona and points east. Wells to supply water for the steam locomotives were dug at Indio, Coachella (originally named Woodspur), Thermal (originally named Kokell), and Mecca (originally named Walters). Settlement began around these wells and railroad stations, forming the nucleus of today's Coachella Valley towns.

History

The history of the Coachella Valley and Salton Sea region since European contact can be divided into several themes, including exploration, transportation, irrigation, and creation of the Salton Sea. Each of these is connected, to some degree, with the development of one of the least hospitable areas of North America into the productive population center it is today.

Exploration

The first exploration or crossing of the area by Europeans occurred in 1772 when Don Pedro Fages, the Spanish military governor of California, traveled east from San Diego to an Indian settlement located about 12 miles west of the current southwestern shore of the Salton Sea. Fages' expedition then traveled northwest along the western edge of the Colorado Desert to the Cajon Pass and continued on to San Luis Obispo. Two years later, the same Indian village west of the Salton Sea was visited by an expedition led by Captain Juan Bautista de Anza, who called the settlement San Sebastian. Anza was traveling west from present-day Arizona in an attempt to find an overland route from Old Mexico across the desert to the Pacific Ocean and the missions of Alta California. From San Sebastian, Anza led his party northwest across the Santa Rosa Mountains and eventually to Mission San Gabriel, which had been established three years earlier in 1771 (Hoyt 1948; Dowd 1960; Pourade 1971; Bannon 1974; Castillo 1978).

No trips through the Salton Sink region are mentioned in official records for several decades. By the Mexican Period (beginning in 1821) mail was being carried by Maricopa Indian messengers between Sonora and the California coast, via the northern Colorado Desert and the San Gorgonio Pass. During roughly the same period, from 1815 to the 1830s, Indians from San Gabriel Mission made annual trips into the Salton Sink to collect salt (Hoyt 1948; Fitch 1961; Johnston 1977; Nordland 1977).

In 1825, Captain Jose Maria Romero led a small party from the Los Angeles area through the San Gorgonio Pass and across the Coachella Valley east to Blythe in search of a transportation route from the Los Angeles/San Diego area to Arizona. Once reaching the Colorado River, they turned south towards Yuma. After the journey, a southern route, which ran directly from Yuma to San Diego via the present-day site of Brawley, was deemed preferable to the San Gorgonio-Blythe route and the "Southern Route" became the official road from Sonora to Alta California (Hoyt 1948; Johnston 1977; Nordland 1977; Pourade 1971).

Transportation

During the gold rush of the late 1840s and early 1850s, thousands of prospectors and other immigrants came to California by the Southern Route. Semi-weekly stage service by the Butterfield Overland Mail Company, crossing Imperial Valley from Yuma to San Diego and Los Angeles, was begun along this route in 1858 (Dowd 1960; Fitch 1961).

The Bradshaw trail was the main means of communication between southern California and the eastern part of the United States until the completion in 1877 of the Southern Pacific Railroad from Los Angeles to Santa Fe, New Mexico via Indio and Dos Palmas. During the last years of the Civil War, the Bradshaw Trail was the only stage route operating into and out of southern California. By the 1880s, however, passenger coaches were discontinued in favor of the railroad, and commerce predominantly took the form of express and mail contracts carried by mule trains and freight wagons. The Bradshaw trail was used as a freight route until the 20th century, and even accommodated automobile travel until the highway that eventually became Interstate 10 was built, farther to the north in the early part of the 20th century (Johnston 1977; Ross 1992).

Irrigation and Creation of the Salton Sea

Attempts to irrigate the Salton Sink region began as early as the 1850s but little progress was made until 1900 when work was started on the Imperial Canal. The canal was built to bring water from the Colorado River to the Imperial Valley and started at a diversion point near Pilot Knob, one mile north the International border. It ran south into Mexico to avoid extensive sand dunes west of Yuma and then turned northwest to re-enter the United States at Calexico. Water was flowing through this canal to the Imperial Valley by 1902 (Cory 1915; Kennan 1917; Dowd 1960; Fitch 1961). From little or no cultivation in 1900, agriculture in the Salton Sink area grew to 120,000 acres under cultivation by January of 1905. In the same time period, the population of the area grew from 2,000 to over 10,000. The demand for irrigation meant that all efforts were focused on keeping the water flowing, leaving maintenance as a low priority. Proposed levees to protect the canal were never built; however, a new intake to the canal from the Colorado River was built in Mexico just south of the international border to replace the previous canal head, which had become clogged with silt (Kennan 1917; Fitch 1961).

During the winter of 1904 to 1905, a series of five floods caused the Colorado River to break through the new temporary intake and caused the discharge of the entire river to pour into the Salton Sink, marking the creation of the Salton Sea. It was two years before the discharge was under control. The surface of the Salton Sea was at its highest point, approximately 198 feet below sea level, covering about 470 square miles with a maximum depth of 70 feet deep. Evaporation soon began to lower the surface to its current elevation of approximately 230 feet below sea level. Irrigation run-off and inflow from the Alamo and New Rivers kept the Salton Sea from evaporating further (Cory 1915; Kennan 1917; Fitch 1961; Duke 1974; Woerner 1989).

The Imperial Irrigation District (IID) was established in July 1911, covering an area of 817 square miles. Between 1916 and 1923, IID purchased the entire canal system and the network of distribution canals within the Imperial Valley. The CVWD was formed in 1918 and soon began to work with IID to plan and promote a new canal located entirely within the United States to irrigate both valleys. The All-American Canal was completed from the Colorado River to the Imperial Valley in 1942. By 1948, a branch of it called the Coachella Canal was extended to bring water to the Coachella Valley (Cory 1915; Dowd 1960; Fitch 1961; Nordland 1977, 1978).

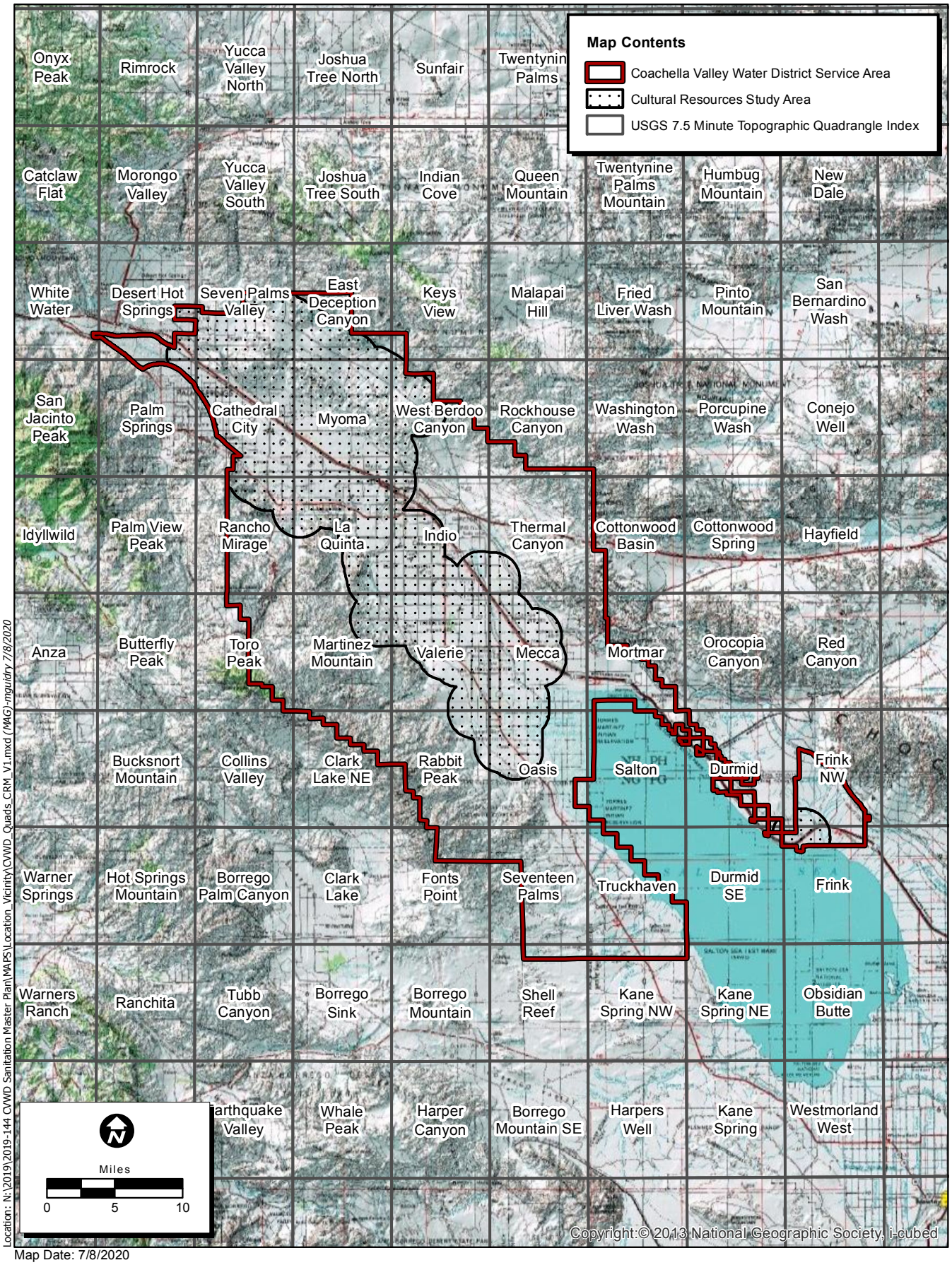
Study Area

The Study Area consists of portions of the CVWD service area in the Coachella Valley and includes all areas within which planned CVWD facility upgrades will occur during the various Master Plan phases between 2021 to 2040 plus a two-mile buffer on all sides, to allow for flexibility in the planning process (Figure 4.3-1). The Study Area encompasses 271,884 acres and stretches from the vicinity of the City of Desert Hot Springs and the community of North Palm Springs, extends southeast to the community of Mecca and the Torres-Martinez Indian Reservation, and includes a separate area encompassing the community of Bombay Beach. Individual projects and project components conducted by the CVWD, and for which this sensitivity analysis will provide guidance, will have their own demarcated Project Areas as determined through the necessary planning processes. As a technical term, a Project Area consists of the horizontal and vertical limits of a project and includes the area within which significant impacts to Historical Resources (as defined by CEQA, see below) could occur as a result of the project. The Project Area is defined for projects subject to CEQA. For the purpose of this document, the term Study Area refers to the cultural area reviewed for the current Master Plan Update. The terms Project and Project Area are used to refer to future facility upgrades that will be subject to individual CEQA studies.

4.3.2 Cultural Resources Assessment

On December 2 and 3, 2019, ECORP completed a records search for the Study Area at the Eastern Information Center (EIC) of the California Historical Resources Information System (CHRIS) at the University of California, Riverside. The records search area covered areas of proposed improvements plus a two-mile radius buffer. The purpose of the records search was to determine the extent of previous surveys, to ascertain the location of previously recorded resources, and to identify areas within the Study Area containing a dense distribution of previously recorded resources. ECORP gathered this information in order to inform a cultural resources sensitivity model for the Study Area. The identification and classification of individual resources was beyond the scope this study. This was a high-level effort that entailed the identification of the location of larger previously recorded resources and identification of clusters of previously recorded sites that would indicate areas highly sensitive for cultural resources, and to determine the previous survey coverage. For built environment features, ECORP relied on non-confidential maps on file at the EIC to inform the locations of previously recorded built environment resources. Later additions to the proposed facility updates and Master Plan description occurred in April 2020. These included additional small areas within lower Riverside County and a small area within Imperial County. For these additional areas, records search information was not obtained from the CHRIS Information Centers. Rather, these areas were reviewed using geological maps, historic-period maps, and aerial photographs.

In addition to the official maps for archaeological sites and surveys in Riverside County, ECORP archaeologists also reviewed historic USGS topographic maps and historic aerial photographs of the Study Area. The results show that 131,378 acres, or 45.83 percent, of the Study Area has been previously surveyed.



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Map Date: 7/8/2020
Base Source: USGS Topographic Quadrangles

Figure 4.3-1. Cultural Resources Study Area

2019-144 CVWD Sanitation Master Plan

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ENVIRONMENTAL CONSULTANTS

Cultural Sensitivity Models

ECORP utilized data gathered during the records search to create a cultural sensitivity model for the Study Area. For this purpose, the previously recorded sites within the CVWD Study Area were incorporated into a GIS model, upon which broad zones of sensitivity were developed. The sensitivity model includes confidential site location information and is not intended for public release.

The categories presented below are expected to shift over time; thus, they should be considered only for screening and are not definitive. For example, where a property is currently situated in an area of high sensitivity, and such property is subject to CEQA for identification, evaluation, and treatment of cultural resources, it will eventually be surveyed. If the survey concludes, with agency concurrence, that there are no cultural resources located within its boundaries, the model can be updated by CVWD to reflect a lower sensitivity, regardless if the project were to proceed. Also, with the passage of time, built environment resources age and new context statements emerge, so these resources may achieve higher sensitivity levels. Knowledge of the relative sensitivity of the project location may help inform project planning decisions. The categories presented below are intended to assist with planning and can be used to inform the level of effort needed for future project specific studies, they can inform CVWD of areas in which a project may present multiple issues, and, as such, they can also aid in the selection of a location or route for a proposed project.

Archaeological Sensitivity Model Criteria

The three categories depicted in the sensitivity model for archaeological sites are those of Known High Sensitivity, Assumed High Sensitivity, and Low Sensitivity. A description of each follows.

Known High Sensitivity

This category represents the areas that have previously yielded large and/or numerous archaeological sites that have been recorded by professionals on California Department of Parks and Recreation (DPR) 523 series forms and submitted to the Information Center, usually as a result of cultural resources management studies for previous projects subject to state or federal law. These include the locations of larger sites (measuring greater than 200 meters in length or width), as well as the areas between sites where there is a higher density of recorded resources (two or more sites within a 0.2-square-mile area). This model does not differentiate between previously recorded sites that have since been removed or impacted and those that remain intact; however, projects that will occur in a Known High-Sensitivity area should expect a higher likelihood of encountering archaeological sites.

Assumed High Sensitivity

This category represents those areas that can be classified neither as Known High nor Low, because they have not been surveyed for archaeological sites by professionals. Until these areas have been surveyed by professionals, they are assumed to be highly sensitive for archaeological sites. Should future surveys result in a negative finding for archaeological sites, the subject property would be converted to Low Sensitivity by CVWD planning staff, in consultation with qualified professionals.

Low Sensitivity

This category represents areas that are reflected in the files at the Information Center as having been previously surveyed by qualified professionals for which there was little to no density of recorded resources. Property within this category has been previously studied with few or no resources found; however, archaeological sites are not always visible from the surface and CVWD should not assume that, just because a property is located within the low sensitivity area, there are no resources present without conducting appropriate project-level studies as required by applicable state and federal laws.

Architectural History Sensitivity Model Criteria

The three categories depicted in the sensitivity model for architectural history (built environment resources) are those of Known High Sensitivity, Assumed High Sensitivity, and Low Sensitivity. A description of each follows.

Known High Sensitivity

This category represents the areas that have previously recorded historic buildings and structures that were documented by professionals on DPR 523 series forms and submitted to the Information Center, usually as a result of cultural resources management studies for previous projects subject to state or federal law. In some instances, high sensitivity areas were also identified based on the reviews of historic-period maps and aerial photographs. These areas include where a higher likelihood of historic-period built environment resources would be expected, such as older town centers and along older highways and major thoroughfares.

This model does not differentiate between previously recorded buildings that have since been removed, remodeled, or impacted and those that remain intact; however, projects that will occur in a Known High-Sensitivity area should expect a higher likelihood of encountering historic-period built environment resources.

Assumed High Sensitivity

This category represents those areas that can be classified neither as Known High nor Low, because they have not been surveyed for historic buildings and structures by professionals. Until these areas are surveyed by professionals, they are assumed to be Highly Sensitive for built environment resources.

Low Sensitivity

This category represents areas that are reflected in the files at the Information Center as having been previously surveyed by qualified professionals, for which no historic buildings or structures were observed or recorded. Property within this category is not expected to be constrained by cultural resources; however, built environment features may be present that have met the 50-year threshold for historic-period resources in the time that has elapsed since an area was last surveyed. Standard conditions and mitigation measures for unanticipated discovery should be utilized as appropriate, given the nature of the project.

4.3.3 Related Regulations

Federal

No Federal funding or permits are required for the Master Plan projects. Thus, compliance with Section 106 of the National Historic Preservation Act (NHPA) is not required for the current study. However, in the event that future, specific projects developed within the Study Area will receive funding from the Clean Water State Revolving Fund (subject to analysis referred to as federal cross-cutters or CEQA-Plus), those projects will be subject to Section 106 of the NHPA and the stipulations in the *Guidelines for Applicants and their Consultants on Preparing Historic Property Identification Reports for the Clean And Drinking Water State Revolving Fund (SRF) Programs* prepared by the State Water Resources Control Board.

State

California Environmental Quality Act

CEQA is the state law that applies to a project's impacts on cultural resources. A project is an activity that may cause a direct or indirect physical change in the environment and that is undertaken or funded by a state or local agency or requires a permit, license, or lease from a state or local agency. CEQA requires that impacts to Historical Resources be identified and, if the impacts will be significant, that mitigation measures to reduce the impacts be applied.

A Historical Resource is a resource that 1) is listed in or has been determined eligible for listing in the California Register of Historical Resources (CRHR) by the State Historical Resources Commission, or has been determined historically significant by the CEQA lead agency because it meets the eligibility criteria for the CRHR, 2) is included in a local register of historical resources, as defined in Public Resources Code 5020.1(k), or 3) has been identified as significant in an historical resources survey, as defined in Public Resources Code 5024.1(g) [California Code of Regulations [CCR] Title 14, Section 15064.5(a)].

The eligibility criteria for the CRHR are as follows [CCR Title 14, Section 4852(b)]:

1) It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;

2) It is associated with the lives of persons important to local, California, or national history.

3) It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or

4) It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition, the resource must retain integrity. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association [CCR Title 14, Section 4852(c)]. Resources that have been determined eligible for the National Register of Historic Places are automatically eligible for the CRHR.

Archaeological sites are usually evaluated under Criterion 4, the potential to yield information important in prehistory. An archaeological survey may be necessary to determine whether a site has the potential to yield important data. The CEQA lead agency, in this case, the CVWD, makes the determination of eligibility based on the results of the survey.

Assembly Bill 4239

AB 4239 established the Native American Heritage Commission (NAHC) as the primary government agency responsible for identifying and cataloging Native American cultural resources. The bill authorized the NAHC to act in order to prevent damage to and ensure Native American access to sacred sites and authorized the NAHC to prepare an inventory of Native American sacred sites located on public lands.

California Public Resources Code 5097.97

This code section states that no public agency and no private party using or occupying public property or operating on public property under a public license, permit, grant, lease, or contract made on or after July 1, 1977, shall in any manner whatsoever interfere with the free expression or exercise of Native American religion as provided in the United States Constitution and the California Constitution; nor shall any such agency or party cause severe or irreparable damage to any Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public property, except on a clear and convincing showing that the public interest and necessity so require.

Public Resources Code 5097.98 (b) and (e)

Public Resources Code 5097.98 (b) and (e) require a landowner on whose property Native American human remains are found to limit further development activity in the vicinity until he/she confers with the NAHC-identified Most Likely Descendants (MLD) to consider treatment options. In the absence of MLDs or of a treatment acceptable to all parties, the landowner is required to reenter the remains elsewhere on the property in a location not subject to further disturbance.

California Health and Safety Code 7050.5

This code makes it a misdemeanor to disturb or remove human remains found outside a cemetery. This code also requires a project owner to halt construction if human remains are discovered and to contact the county coroner.

4.3.4 Thresholds of Significance

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance and CVWD Local CEQA Guidelines (2019). The Master Plan would result in a significant impact to a cultural resource if it would do any of the following:

1) Cause a substantial adverse change in the significance of a Historical Resource as defined in CEQA Guidelines Section 15064.5.

2) Cause a substantial adverse change in the significance of an archaeological resource as defined in CEQA Guidelines Section 15064.5.

3) Disturb any human remains, including those interred outside of formal cemeteries.

The CEQA Guidelines state that a project that causes a substantial adverse change in the significance of a historical resource is considered to have a significant effect on the environment unless mitigated. Historical resources are buildings, structures, districts, sites, or objects that are listed in or considered eligible for listing in the CRHR or is on a local (city or county) inventory of historical resources (California Code of Regulations, Title 14, Section 15064.5).

The CEQA Guidelines (Section 15064.5 (a) (3)) define historical resources as any object building, structure, site, place, record, or manuscript which 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, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource has integrity and meets the criteria for listing on the CRHR. Thus, Historical Resources are cultural resources that are eligible for inclusion in the CRHR (see Section 3.5.1.2).

4.3.5 Environmental Impacts

Impacts CUL-1, -2, -3 Would the Project create a substantial adverse change in the significance of a historical resource as defined in Section 15064.; Cause a substantial adverse change in the significance of an archeological resource pursuant to Section 15064.5; Disturb any human remains, including those interred outside of formal cemeteries?

Archaeological Sensitivity results show that areas classified as Known Highly Sensitive for archaeological resources consist of 22,089 acres, or 8.12 percent of the Study Area; areas classified as Assumed High Sensitivity cover 137,171 acres, or 50.45 percent of the Study Area; and areas classified as Low-Sensitivity Areas cover 112,625 acres, or 41.42 percent of the Study Area (Table 4.3-1). Areas of Known High Sensitivity are distributed in and around hills and slopes, and along the vestigial shoreline of ancient Lake Cahuilla. Low Sensitivity Areas are most prevalent in the open valley floor. Sensitivity model maps are confidential in nature and not disclosed in a public document.

Table 4.3-1. Archaeological Sensitivity Results

Sensitivity Level	Sum of Acres	Percentage of Study Area*
Known High	22,089	8.12%
Assumed High	137,171	50.45%
Low	112,624	41.42%
TOTAL	271,884	100%

*rounded to the nearest hundredth

The Architectural History sensitivity results show that areas classified as Known High Sensitivity for Historic Resources consist of 2,772 acres, or 1.02 percent of the Study Area; areas classified as Assumed High Sensitivity cover 139,816 acres, or 51.42 percent of the Study Area; and areas classified as Low-Sensitivity

Areas cover 129,296 acres, or 47.56 percent of the Study Area (Table 4.3-2). Areas of known Known High Sensitivity are most prevalent in and around old town centers and former agricultural land and are distributed along major transportation arteries. Low-Sensitivity Areas are most common in undeveloped open desert.

Table 4.3-2. Architectural History Sensitivity Results

Sensitivity Level	Sum of Acres	Percentage of Study Area*
Known High	2,772	1.02%
Assumed High	139,816	51.42%
Low	129,296	47.56%
TOTAL	271,884	100%

*rounded to the nearest hundredth

A review of the sensitivity models in relation to proposed Master Plan projects indicates approximately 109,000-linear feet of proposed future pipe is located within archaeological Known High-Sensitivity areas, 246,000-linear feet of proposed pipelines are located in archaeological Assumed High-Sensitivity areas, and 520,000-linear feet of proposed pipelines are located within archaeological Low-Sensitivity areas. In addition, two proposed collections systems and four lift stations are located within archaeological Known High Sensitivity areas; two collections systems and six lift stations are located in archaeological Assumed High-Sensitivity areas; and eight collections systems and 15 lift stations are located within archaeological Low-Sensitivity areas.

In relation to the Architectural History sensitivity maps, a review of the Master Plan projects indicates approximately 2,050-linear feet of proposed future pipe is located within Known High-Sensitivity areas, 260,000-linear feet of proposed pipelines are located in Assumed High-Sensitivity areas, and 615,000-linear feet of proposed pipelines are located within Low-Sensitivity areas. In addition, two proposed collections systems and six lift stations are located within Assumed High-Sensitivity areas, and 10 collections systems and 19 lift stations are located within Low-Sensitivity areas.

If specific projects will damage or materially impair a Historical Resource or archaeological resource as defined by CEQA, they may result in a significant impact to those resources.

The impacts of specific proposed projects within the Study Area will need to be determined through project-specific studies completed in compliance with the applicable state and federal laws. For all projects, regardless of sensitivity level, if cultural resources are found within a project area, they need to be evaluated using CRHR criteria to determine whether they are Historical Resources for the purposes of CEQA. If resources are not eligible for the CRHR and do not qualify as an archaeological resource under CEQA, they are not considered a Historical Resources and the project would not result in significant impacts to known resources. If resources are found to be eligible for the CRHR, a determination would need to be made about whether or not the project would have a significant impact on the qualities that made them significant. If a known, significant cultural resource will be adversely affected by the Proposed Project, then efforts to avoid, reduce, or mitigate those impacts would be identified as mitigation. The

results of the evaluation and the impacts assessment/finding of effect, as well as the mitigation measures, shall be provided in the specific environmental document written for the project.

In order to reduce or avoid impacts to Historical Resources, future projects will need to implement **Mitigation Measures CUL-1 and CUL-2**. These mitigation measures include conducting project-specific cultural resources studies, evaluation studies (if applicable), impacts assessments (if applicable), and preparing project-specific mitigation measures that include measures for unanticipated discoveries during construction. Implementation of these mitigation measures would reduce impacts to a less than significant level. For projects receiving funding from the State Revolving Fund, federal law and State Water Resources Control Board regulations will also need to be implemented.

4.3.6 Mitigation Measures

CUL-1: For projects located within Known High-Sensitivity areas and Assumed High-Sensitivity areas, a qualified archaeologist shall conduct a project-specific CEQA-compliant Phase I Cultural Resources Study for inclusion in the project-specific CEQA document. The study shall include a records search at the applicable archaeological Information Center, a search of the Sacred lands File by NAHC, and a field survey using standard archaeological methods. These studies shall occur during the project-specific CEQA process.

For projects located within Low-Sensitivity areas a project-specific CEQA-Compliant Phase I Cultural Resources Study shall be conducted by a qualified archaeologist. However, because these areas have been subject to previous assessment, the CVWD may be able to utilize data from previous studies to reduce the effort necessary for a proposed project. Whether or not data from previous studies can be used to reduce study efforts will be dependent on the scope, methods, and age of the previous studies. These studies shall occur during the project-specific CEQA process.

CUL-2: If subsurface deposits believed to be cultural or human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for pre-contact and historic archaeologist, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

- If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately, and no agency notifications are required.
- If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, he or she shall immediately notify the Lead Agency, and applicable landowner. The agencies shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines. Work may not resume within the no-work radius until the lead agencies,

through consultation as appropriate, determine that the site either: 1) is not a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines; or 2) that the treatment measures have been completed to their satisfaction.

- If the find includes human remains, or remains that are potentially human, he or she shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the appropriate County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California Public Resources Code, and Assembly Bill 2641 will be implemented. If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the project (§ 5097.98 of the Public Resources Code). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (§ 5097.94 of the Public Resources Code). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 5097.98 of the Public Resources Code). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

4.3.7 Residual Impacts After Mitigation

After implementation of the above mitigation measures for all specific projects subject to CEQA within the Study Area, the Proposed Project would result in less than significant impacts to cultural resources.

4.3.8 Cumulative Impacts

After implementation of the above mitigation measures, the Proposed Project would not result in cumulative impacts to cultural resources.

4.4 ENERGY

This section of the EIR analyzes the Master Plan's potential impact on energy resources. This analysis was prepared pursuant to the CEQA Guidelines Appendix G Checklist (updated in 2019), which requires an EIR to include a discussion of potential energy impacts, with particular emphasis on avoiding or reducing the inefficient, wasteful, and unnecessary consumption of energy. In accordance with the goal of Appendix G to conserve energy by decreasing overall per capita energy consumption, decreasing reliance on fossil fuels, and increasing reliance on renewable energy source, this section focuses on the following two sources of energy that are relevant to the Master Plan: equipment-fuel necessary for Project construction and electricity for the increased pumping of wastewater.

This analysis focuses on the energy needed to refurbish existing assets, optimize operations, and satisfy projected capacity needs of the sanitation facilities (collection system including gravity pipelines, force mains, lift stations, and the five WRPs) in the CVWD service area.

The Master Plan has 12 project categories spanning unincorporated Imperial County, unincorporated Riverside County, and the cities of Desert Hot Springs, Cathedral City, Rancho Mirage, Palm Desert, Indian Wells, Indio, and La Quinta. This analysis also analyzes the operational electricity needed for the use of Master Plan improvements, primarily due to the increased pumping of wastewater necessary to accommodate anticipated population growth in the CVWD service area over the course of the 2021 to 2040 planning period. The Master Plan includes individual components spanning the CVWD service area consisting of two electrical utility companies, Southern California Edison and Imperial Irrigation District (IID).

4.4.1 Environmental Setting

Electricity Generation

Southern California Edison provides electrical services to much of Southern California, including parts of Riverside County including CVWD's service area, through State-regulated public utility contracts. Southern California Edison is the largest subsidiary of Edison International and provides 14 million people with electricity across a service territory of approximately 50,000 square miles. Southern California Edison allows its customer to obtain their electricity entirely from renewable sources by subscribing to a "green rate". In 2018, renewable energy constituted 40 percent of Southern California Edition's power content.

The IID, the sixth largest electrical utility in California serving more than 150,000 customers in Imperial County and parts of Riverside and San Diego counties, provides electrical services to portions of the CVWD service area. IID is the third largest public power utility in California and controls many megawatts of energy derived from a diverse resource portfolio that includes its own generation, and long- and short-term power purchases. Located in a region with abundant sunshine, enviable geothermal capacity, wind and other renewable potential, in what's been referred to as the "renewable energy capital of the world", IID has met or exceeded all Renewable Portfolio Standard requirements to date, procuring renewable energy from diverse sources including biomass, biowaste, geothermal, hydroelectric, solar, and wind.

The California Independent System Operator (CAISO) manages the flow of electricity across the high-voltage, long-distance power lines (high-voltage transmissions system) that make up 80 percent of California's and a small part of Nevada's grid. This nonprofit public benefit corporation keeps power moving to and throughout California by operating a competitive wholesale electricity market, designed to promote a broad range of resources at lower prices, and managing the reliability of the electrical transmission grid. In managing the grid, CAISO centrally dispatches generation and coordinates the movement of wholesale electricity in California. As the only independent grid operator in the western U.S., CAISO grants equal access to 26,000 circuit miles of transmission lines and coordinates competing and diverse energy resources into the grid where it is distributed to consumers. Every five minutes, CAISO forecasts electrical demand and dispatches the lowest cost generator to meet demand while ensuring enough transmission capacity for delivery of power.

CAISO conducts an annual transmission planning process that uses engineering tools to identify any grid expansions necessary to maintain reliability, lower costs, or meet future infrastructure needs based on public policies. CAISO engineers design, run, and analyze complex formulas and models that simulate grid use under wide-ranging scenarios, such as high-demand days coupled with wildfires. This process includes evaluating power plant proposals submitted for study into the interconnection queue to determine viability and impact to the grid. The long-term comprehensive transmission plan, completed every 15 months, maps future growth in electricity demand and the need to meet state energy and environmental goals that require the CAISO grid to connect to renewable-rich, but remote areas of the western landscape. CAISO promotes energy efficiency through resource sharing. CAISO electricity distribution management strategy designed so that an area with surplus electricity can benefit by sharing megawatts with another region via the open market. This allows the dispatch of electricity as efficiently as possible. By maximizing megawatts as the demand for electricity increases, CAISO helps keep electricity flowing during peak periods.

Energy Consumption

Electricity use is measured in kilowatt-hours (kWh), and natural gas use is measured in therms. Vehicle fuel use is typically measured in gallons (e.g., of gasoline or diesel fuel), although energy use for electric vehicles is measured in kWh. The consumptions for each county are presented in the tables below.

The electricity consumption associated with all land uses in Imperial County and Riverside County from 2014 to 2018 is shown in Table 4.4-1. As indicated, the demand has decreased since 2014 in Imperial County and increased in Riverside County.

Table 4.4-1. Electricity Consumption 2014 - 2018

Year	Electricity Consumption (kWh) in IID Service Area	Electricity Consumption (kWh) in Southern California Edison Service Area
2014	3,392,999,999	87,184,414,061
2015	3,348,999,999	85,961,871,162
2016	3,385,000,000	84,439,509,503
2017	3,441,632,432	85,601,999,999
2018	3,472,081,057	85,275,999,999

Source: Energy Consumption Data Management Database System 2019

Automotive fuel consumption in Imperial County and Riverside County from 2015 to 2019 is shown in Table 4.4-2. As shown, automotive fuel consumption has remained constant in Imperial County and Riverside County since 2015.

Table 4.4-2. Automotive Fuel Consumption 2015 – 2019

Year	Automotive Fuel Consumption (gallons) in Imperial County	Automotive Fuel Consumption (gallons) in Riverside County
2015	201,056,103	1,005,360,400
2016	208,822,214	1,050,081,403
2017	204,312,157	1,022,096,262
2018	201,793,138	1,013,901,868
2019	198,822,094	1,087,685,930

Source: CARB 2019

4.4.2 Related Regulations

Executive Order B-55-18

In September 2018 Governor Jerry Brown Signed Executive Order (EO) B-55-18, which establishing a new statewide goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." Carbon neutrality refers to achieving a net zero CO_2 emissions. This can be achieved by reducing or eliminating carbon emissions, balancing carbon emissions with carbon removal, or a combination of the two. This goal is in addition to existing statewide targets for GHG emission reduction. EO B-55-18 requires CARB to "work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal.

Senate Bill X1-2 of 2011, Senate Bill 350 of 2015, and Senate Bill 100 of 2018

SB X1-2 of 2011 requires all California electric utilities to generate 33 percent of their electricity from renewables by the end of 2020. SB X1-2 sets a three-stage compliance period requiring all California utilities, including independently owned utilities, energy service providers, and community choice aggregators, to generate 20 percent of their electricity from renewables by December 31, 2013; 25 percent by December 31, 2016; and 33 percent by December 31, 2020. SB X1-2 also requires the renewable electricity standard to be met increasingly with renewable energy that is supplied to the California grid from sources within, or directly proximate to, California.

In October 2015, SB 350 was signed by Governor Brown, which requires retail sellers and publicly owned electric utilities to procure 50 percent of their electricity from renewable resources by 2030. In 2018, SB 100 was signed by Governor Brown, codifying a goal of 60 percent renewable procurement by 2030 and 100 percent by 2045 Renewables Portfolio Standard (California Energy Commission 2020; IID 2020).

California Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24)

The Building and Efficiency Standards (Energy Standards) were first adopted and put into effect in 1978 and have been updated periodically in the intervening years. These standards are a unique California asset that have placed the state on the forefront of energy efficiency, sustainability, energy independence, and climate change issues. The 2019 Building Energy Efficiency Standards improve upon the 2016 Energy Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The 2019 update to the Building Energy Efficiency Standards focuses on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings. The 2019 standards are a major step toward meeting Zero Net Energy. The most significant efficiency improvement to the residential Standards include the introduction of photovoltaic into the perspective package, improvements for attics, walls, water heating and lighting. Buildings permitted on or after January 1, 2020, must comply with the 2019 Standards. These new standards, applicable to the Master Plan since many end-users are residences, require all residential development, three stories and under, to have 100 percent electricity production offset by solar.

4.4.3 Thresholds of Significance

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance and CVWD Local CEQA Guidelines (2019). The Master Plan would result in a significant impact to energy if it would do any of the following:

1) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

2) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

The impact analysis focuses on the two sources of energy that are relevant to the Master Plan: electricity and equipment fuel. Addressing energy impacts requires an agency to make a determination as to what constitutes a significant impact.

There are no established thresholds of significance, statewide or locally, for what constitutes a wasteful, inefficient, and unnecessary consumption of energy for a proposed project. For the purposes of this analysis, the amount of electricity is quantified and compared to that consumed by all land uses in the respective service provider's service area as a whole (IID's service area for WRP 1, WRP 2, WRP 4, WRP 7, Biosolids Capital Improvements, and Septic-to-Sewer Conversion Capital Improvements and Southern California's service area for WRP 10). Similarly, the amount of fuel necessary for construction is calculated and compared to that consumed in the county the Master Plan project category is located within (Riverside County or Imperial County).

4.4.4 Environmental Impacts

Impact E-1: Would the Project result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operations?

The impact analysis focuses on the two sources of energy that are relevant to the Master Plan: the equipment-fuel necessary for construction and electricity for the increased pumping of wastewater. Addressing energy impacts requires an agency to make a determination as to what constitutes a significant impact. As previously described, there are no established thresholds of significance, statewide or locally, for what constitutes a wasteful, inefficient, and unnecessary consumption of energy for a proposed land use project. For the purposes of this analysis, the amount of electricity is quantified and compared to that consumed by all land uses in the respective service provider's service area as a whole (IID's service area for WRP 1, WRP 4, WRP 7, Biosolids Capital Improvements, and Septic-to-Sewer Conversion Capital Improvements and Southern California's service area for WRP 10). Similarly, the amount of fuel necessary for construction is calculated and compared to that consumed in the county the Master Plan project category is located within (Riverside County or Imperial County. Only WRP 1 is located in Imperial County).

The analysis of electricity usage is based on CalEEMod modeling conducted for the Master Plan (see Appendix E), which quantifies energy use for the increased pumping of wastewater. The amount of total construction-related fuel use was estimated using ratios provided in the Climate Registry's General Reporting Protocol for the Voluntary Reporting Program, Version 2.1. The relative electricity consumption associated with the Master Plan is summarized in Table 4.4-3.

Table 4.4-3. Master Plan Electricity Consumption Due to Increased Wastewater Pumping

Energy Type	Annual Electricity Consumption	Percentage Increase Countywide
Imperial Irrigation District Service Area (WRP 1 WRP 2, WRP 4, WRP 7, Biosolids Capital Improvements, Septic-to-Sewer Conversion Capital Improvements)		
Electricity Consumption[1]	609,037 kWh	0.0175 percent
Southern California Edison Service Area (WRP 10)		
Electricity Consumption[1]	0 kWh	0.0000 percent

Source: [1]ECORP 2020
Notes: The Project increases in electricity is compared with all uses in the respective energy provider service area in 2018, the latest data available.

As shown in Table 4.4-3, the increase in electricity usage as a result of the Master Plan's improvements would constitute an approximate 0.0175 percent increase in the IID service area and no increase in the Southern California Edison service area compared to total electricity consumption in those respective areas. However, these estimates are conservative as they do not consider likely increases in electrical generation that will occur over the course of the 2021 to 2040 planning period. Additionally, California is shifting away from nonrenewable sources of energy in exchange for renewable sources, which by their very nature make them difficult to waste. For instance, in August of 2018 the California Legislature passed SB 100, the California 100 Percent Clean Energy Act, which sets the goal of powering the state with 100 percent clean and carbon free electricity by 2045. The proposed addition of solar at the WRP facilities, as well as infrastructure improvements that will reduce energy consumption, will help the Master Plan achieve this goal along with other state and local mandates. Additionally, one of the three main drivers for the Master Plan is capacity. The proposed infrastructure improvements are necessary in order to accommodate the projected growth of the region. For these reasons, the Master Plan would not result in the inefficient, wasteful, or unnecessary consumption of energy. The relative gasoline consumption associated with construction instigated by the Master Plan is summarized in Table 4.4-4.

Table 4.4-4. Master Plan Construction Fuel Consumption

Energy Type	Annual Energy Consumption (gallons)	Percentage Increase Countywide
Imperial County (WRP 1)		
Automotive Fuel Consumption • Project Construction[1]	1,675	0.0008
Riverside County (WRP 2, WRP 4, WRP 7, WRP 10, Biosolids Capital Improvements, Septic-to-Sewer Conversion Capital Improvements)		
Automotive Fuel Consumption • Project Construction[1]	180,690	0.0166

Source: [1]Climate Registry 2016 (CARB 2017) Notes: The Project increases in automotive fuel consumption is compared with the countywide fuel consumption in 2019, the most recent full year of data.

As indicated in Table 4.4-4, the Master Plan's gasoline fuel consumption during the construction period is estimated to be 1,675 gallons of fuel in Imperial County, resulting in an increase in the annual gasoline fuel use in the county by 0.0008 percent, and 180,690 gallons of fuel in Riverside County, resulting in an increase in the annual gasoline fuel use in the county by 0.0166 percent. However, this estimate is very conservative as the comparison was done as if all Master Plan components would be constructed at the same time over the course of one year. In actuality, the Master Plan would be implemented over the 2021 to 2040 planning period. Thus, the increase in annual gasoline fuel used in each county, as well as the percentage increase countywide, would be considerably less than shown in the table above. As such, construction would have a nominal effect on local and regional energy supplies. No unusual characteristics would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or the state. Construction contractors would purchase their own gasoline and diesel fuel from local suppliers and would conserve the use of their supplies to minimize costs to their profits. Additionally, construction equipment fleet turnover and increasingly stringent state and federal regulations on engine efficiency combined with state regulations limiting engine idling times and require recycling of construction debris, would further reduce the amount of transportation fuel demand during Project construction. For these reasons, it is expected that construction fuel consumption associated with the Master Plan would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature.

This impact is less than significant.

Impact E-2 Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

The Master Plan projects would be designed in a manner that is consistent with relevant energy conservation plans designed to encourage development that results in the efficient use of energy resources. All development in the cities and or counties, including future components of the Master Plan, would be required to adhere to all jurisdictional-adopted policy provisions, including those related to

energy conservation. As previously discussed, the Master Plan would be influenced by SB 100 and would achieve 100-percent clean and carbon-free electricity by 2040. In addition, it will be required to comply with local relevant energy conservation plans. This includes the Renewable Energy & Transmission Element of the Imperial County General Plan, specifically Goal 1, Goal 3, and Goal 4, and the Land Use Element of the Riverside County General Plan, specifically Policy LU 17.1. The Master Plan would not conflict or obstruct any local or state plans for renewable energy or energy efficiency. This impact is less than significant.

4.4.5 Mitigation Measures

No significant environmental impact would occur and, therefore, no energy mitigation measures are required.

4.4.6 Residual Impacts after Mitigation

No significant impacts to energy would occur with implementation of the Master Plan.

4.4.7 Cumulative Impacts

Project energy impacts are less than cumulatively considerable.

4.5 GREENHOUSE GAS EMISSIONS

4.5.1 Environmental Setting

Certain gases in the earth's atmosphere, classified as (greenhouse gases (GHGs), play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface and a smaller portion of this radiation is reflected back toward space. This absorbed radiation is then emitted from the earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. Because the earth has a much lower temperature than the sun, it emits lower-frequency radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead trapped, resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth. Without the greenhouse effect, the earth would not be able to support life as we know it.

Prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Fluorinated gases also make up a small fraction of the GHGs that contribute to climate change. Fluorinated gases include chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride; however, it is noted that these gases are not associated with typical land use development. Human-caused emissions of these GHGs in excess of natural ambient concentrations are believed to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. 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 GHG concentrations and other anthropogenic factors together (Intergovernmental Panel on Climate Change [IPCC] 2014).

Table 4.5-1 describes the primary GHGs attributed to global climate change, including their physical properties, primary sources, and contributions to the greenhouse effect.

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. CH_4 traps over 25 times more heat per molecule than CO_2, and N_2O absorbs 298 times more heat per molecule than CO_2 (IPCC 2014). Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO_2e), which weight each gas by its global warming potential. Expressing GHG emissions in CO_2e takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and TACs, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have long atmospheric lifetimes (one to several thousand years). GHGs persist in the atmosphere for long enough time periods to be dispersed around the globe. Although the exact lifetime of any particular GHG molecule is dependent on multiple

variables and cannot be pinpointed, it is understood that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, or other forms. Of the total annual human-caused CO_2 emissions, approximately 55 percent is sequestered through ocean and land uptakes every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO_2 emissions remains stored in the atmosphere (IPCC 2013).

Table 4.5-1. Greenhouse Gases

Greenhouse Gas	Description
CO_2	Carbon dioxide is a colorless, odorless gas. CO_2 is emitted in a number of ways, both naturally and through human activities. The largest source of CO_2 emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, industrial facilities, and other sources. A number of specialized industrial production processes and product uses such as mineral production, metal production, and the use of petroleum-based products can also lead to CO_2 emissions. The atmospheric lifetime of CO_2 is variable because it is so readily exchanged in the atmosphere.[1]
CH_4	Methane is a colorless, odorless gas and is the major component of natural gas, about 87 percent by volume. It is also formed and released to the atmosphere by biological processes occurring in anaerobic environments. Methane is emitted from a variety of both human-related and natural sources. Human-related sources include fossil fuel production, animal husbandry (intestinal fermentation in livestock and manure management), rice cultivation, biomass burning, and waste management. These activities release significant quantities of CH_4 to the atmosphere. Natural sources of CH_4 include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and other sources such as wildfires. The atmospheric lifetime of CH_4 is about 12 years.[2]
N_2O	Nitrous oxide is a clear, colorless gas with a slightly sweet odor. Nitrous oxide is produced by both natural and human-related sources. Primary human-related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, adipic acid production, and nitric acid production. N_2O is also produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N_2O is approximately 120 years.[3]

Sources: [1]USEPA 2016a, [2] USEPA 2016b, [3] USEPA 2016c

The quantity of GHGs that it takes to ultimately result in climate change is not precisely known; it is sufficient to say the quantity is enormous, and no single project alone would measurably contribute to a noticeable incremental change in the global average temperature or to global, local, or microclimates. From the standpoint of CEQA, GHG impacts to global climate change are inherently cumulative.

Sources of Greenhouse Gas Emissions

In 2019, CARB released the 2019 edition of the California GHG inventory covering calendar year 2017 emissions. In 2017, California emitted 424.1 million gross metric tons of CO_2e including from imported electricity. Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2017, accounting for approximately 41 percent of total GHG emissions in the state. This sector was followed by the industrial sector (24 percent) and the electric power sector including both in- and out-of-state sources (15 percent) (CARB 2019). Emissions of CO_2 are by-products of fossil fuel combustion. CH_4, a highly potent GHG, primarily results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is largely

associated with agricultural practices and landfills. N_2O is also largely attributable to agricultural practices and soil management. CO_2 sinks, or reservoirs, include vegetation and the ocean, which absorb CO_2 through sequestration and dissolution (CO_2 dissolving into the water), respectively, two of the most common processes for removing CO_2 from the atmosphere.

4.5.2 Related Regulations

State

Executive Order S-3-05

EO S-3-05, signed by Governor Arnold Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra Nevada snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the EO established total GHG emission targets for the state. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

While dated, this EO remains relevant because a more recent California Appellate Court decision, *Cleveland National Forest Foundation v. San Diego Association of Governments* (November 24, 2014) 231 Cal.App.4th 1056, examined whether it should be viewed as having the equivalent force of a legislative mandate for specific emissions reductions. While the California Supreme Court ruled that the San Diego Association of Governments did not abuse its discretion by declining to adopt the 2050 goal as a measure of significance in light of the fact that the EO does not specify any plan or implementation measures to achieve its goal, the decision also recognized that the goal of a 40 percent reduction in 1990 GHG levels by 2030 is "widely acknowledged" as a "necessary interim target to ensure that California meets its longer-range goal of reducing GHG emissions 80 percent below 1990 levels by the year 2050.

Assembly Bill 32 Climate Change Scoping Plan and Updates

In 2006, the California legislature passed AB 32 (Health and Safety Code § 38500 et seq., or AB 32), also known as the Global Warming Solutions Act. AB 32 requires CARB to design and implement feasible and cost-effective emission limits, regulations, and other measures, such that statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions). AB 32 anticipates that the GHG reduction goals will be met, in part, through local government actions. CARB has identified a GHG reduction target of 15 percent from current levels for local governments and notes that successful implementation relies on local governments' land use planning and urban growth decisions.

Pursuant to AB 32, CARB adopted a Scoping Plan in December 2008, which was re-approved by CARB on August 24, 2011, that outlines measures to meet the 2020 GHG reduction goals. To meet these goals, California must reduce its GHG emissions by 30 percent below projected 2020 business-as-usual emissions levels or about 15 percent from today's levels. The Scoping Plan recommends measures for further study and possible state implementation, such as new fuel regulations. It estimates that a reduction of 174 million metric tons of CO_2e (about 191 million U.S. tons) from the transportation, energy,

agriculture, and forestry sectors and other sources could be achieved should the State implement all the measures in the Scoping Plan.

The Scoping Plan is required by AB 32 to be updated at least every five years. The first update to the AB 32 Scoping Plan was approved on May 22, 2014 by CARB. The 2017 Scoping Plan Update was adopted on December 14, 2017. The Scoping Plan Update addresses the 2030 target established by SB 32 as discussed below and establishes a proposed framework of action for California to meet a 40 percent reduction in GHG emissions by 2030 compared to 1990 levels. The key programs on which the Scoping Plan Update builds include increasing the use of renewable energy in the state, the Cap-and-Trade Regulation, the Low Carbon Fuel Standard, and reduction of methane emissions from agricultural and other wastes.

Executive Order B-30-15

On April 20, 2015 Governor Edmund (Jerry) Brown, Jr., signed EO B-30-15 to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The Governor's EO aligns California's GHG reduction targets with those of leading international governments such as the 28-nation European Union, which adopted the same target in October 2014. California is on track to meet or exceed the target of reducing GHG emissions to 1990 levels by 2020, as established in the California Global Warming Solutions Act of 2006 (AB 32, discussed above). California's new emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the ultimate goal of reducing emissions 80 percent below 1990 levels by 2050. This is in line with the scientifically established levels needed in the U.S. to limit global warming below 2 degrees Celsius (˚C), the warming threshold at which major climate disruptions are projected, such as super droughts and rising sea levels.

Senate Bill 32 and Assembly Bill 197 of 2016

In August 2016, Governor Brown signed SB 32 and AB 197, which serve to extend California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include § 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by EO B-30-15 for 2030, which set the next interim step in the State's continuing efforts to pursue the long-term target expressed in EOs S-3-05 and B-30-15 of 80 percent below 1990 emissions levels by 2050.

Senate Bill X1-2 of 2011, Senate Bill 350 of 2015, and Senate Bill 100 of 2018

SB X1-2 of 2011 requires all California utilities to generate 33 percent of their electricity from renewables by 2020. SB X1-2 sets a three-stage compliance period requiring all California utilities, including independently owned utilities, energy service providers, and community choice aggregators, to generate 20 percent of their electricity from renewables by December 31, 2013; 25 percent by December 31, 2016; and 33 percent by December 31, 2020. SB X1-2 also requires the renewable electricity standard to be met increasingly with renewable energy that is supplied to the California grid from sources within, or directly proximate to, California.

In October 2015, SB 350 was signed by Governor Brown, which requires retail sellers and publicly owned utilities to procure 50 percent of their electricity from renewable resources by 2030. In 2018, SB 100 was signed by Governor Brown, codifying a goal of 60 percent renewable procurement by 2030 and 100 percent by 2045 Renewables Portfolio Standard.

Executive Order B-55-18

In September 2018 Governor Jerry Brown Signed EO B-55-18, which establishing a new statewide goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." Carbon neutrality refers to achieving a net zero CO_2 emissions. This can be achieved by reducing or eliminating carbon emissions, balancing carbon emissions with carbon removal, or a combination of the two. This goal is in addition to existing statewide targets for GHG emission reduction. EO B-55-18 requires CARB to "work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal."

2019 Building Energy Efficiency Standards for Residential and Nonresidential Buildings

The Building and Efficiency Standards (Energy Standards) were first adopted and put into effect in 1978 and have been updated periodically in the intervening years. These standards are a unique California asset that have placed the State on the forefront of energy efficiency, sustainability, energy independence and climate change issues. The 2019 Building Energy Efficiency Standards improve upon the 2016 Energy Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The 2019 update to the Building Energy Efficiency Standards focuses on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings. The 2019 standards are a major step toward meeting Zero Net Energy. The most significant efficiency improvement to the residential Standards include the introduction of photovoltaic into the perspective package, improvements for attics, walls, water heating and lighting. Buildings permitted on or after January 1, 2020, must comply with the 2019 Standards. These new standards require all residential development, three stories and under, to have 100 percent electricity production offset by solar.

Local

The Master Plan pertains to sanitation facility improvements located in the Riverside County and Imperial County portions of the SSAB. The majority of the CVWD Sanitation Master Plan Update individual project components are located within Riverside County, which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD) in terms of regulating GHG emissions. To provide guidance to local lead agencies on determining significance for GHG emissions in CEQA documents, SCAQMD staff is convening an ongoing GHG CEQA Significance Threshold Working Group. Members of the working group include government agencies implementing CEQA and representatives from various stakeholder groups that provide input to SCAQMD staff on developing the significance thresholds. On October 8, 2008, the SCAQMD released the Draft SCAQMD Staff CEQA GHG Significance Thresholds. These thresholds have not been finalized and continue to be developed through the working group. On September 28, 2010, SCAQMD Working Group Meeting #15 provided further guidance, including an interim screening level numeric "bright-line" threshold of 3,000 metric tons of CO_2e annually and an efficiency-based threshold of

4.8 metric tons of CO_2e per service population (defined as the people that live and work on the project site) per year in 2020 and 3.0 metric tons of CO_2e per service population per year in 2035. The SCAQMD has not announced when staff is expecting to present a finalized version of these thresholds to the governing board. The numeric bright line and efficiency-based thresholds were developed to be consistent with CEQA requirements for developing significance thresholds, are supported by substantial evidence, and provide guidance to CEQA practitioners and lead agencies with regard to determining whether GHG emissions from a proposed project are significant.

In *Center for Biological Diversity v. Department of Fish and Wildlife* (2015) 62 Cal. 4th 2014, 213, 221, 227, following its review of various potential GHG thresholds proposed in an academic study (Crockett, *Addressing the Significance of Greenhouse Gas Emissions: California's Search for Regulatory Certainty in an Uncertain World* (July 2011), 4 Golden Gate U. Envtl. L. J. 203), the California Supreme Court identified the use of numeric bright-line thresholds as a potential pathway for compliance with CEQA GHG requirements. The study found these thresholds are designed to determine when small projects were so small as to not cause a cumulatively considerable impact on global climate change was consistent with CEQA. Specifically, Public Resources Code section 21003(f) provides it is a policy of the state that "[a]ll persons and public agencies involved in the environmental review process be responsible for carrying out the process in the most efficient, expeditious manner in order to conserve the available financial, governmental, physical and social resources with the objective that those resources may be better applied toward the mitigation of actual significant effects on the environment." The Supreme Court-reviewed study noted, "[s]ubjecting the smallest projects to the full panoply of CEQA requirements, even though the public benefit would be minimal, would not be consistent with implementing the statute in the most efficient, expeditious manner. Nor would it be consistent with applying lead agencies' scarce resources toward mitigating actual significant climate change impacts." (Crockett, *Addressing the Significance of Greenhouse Gas Emissions: California's Search for Regulatory Certainty in an Uncertain World* (July 2011), 4 Golden Gate U. Envtl. L. J. 203, 221, 227.)

The lead agency may set a project-specific threshold based on the context of the Master Plan Update Project, including using the SCAQMD Working Group expert recommendation, as the Master Plan predominately involves projects in the same air quality basin that the experts analyzed. For the Master Plan Update Project, SCAQMD-recommended efficiency-based threshold of 3.0 metric tons of CO_2e per service population per year in 2035 is used as the significance threshold.

There is one individual project component, improvements to WRP 1, that is located within Imperial County. However, the air district in Imperial County, the Imperial County Air Pollution Control District (ICAPCD), does not promulgate GHG emission significance thresholds. As such, due to the close proximity of the WRP 1 project to Riverside County and the fact that all of the Master Plan projects are located in the SSAB, the thresholds promulgated by the SCAQMD are utilized to determine if the GHG emissions are potentially significant.

4.5.3 Thresholds of Significance

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance and CVWD Local CEQA Guidelines (2019). The Master Plan would result in a significant impact to greenhouse gas emissions if it would do any of the following:

1) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

2) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

The Appendix G thresholds for GHGs do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA. With respect to GHG emissions, the CEQA Guidelines Section 15064.4(a) states that lead agencies "shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions resulting from a project. The CEQA Guidelines note that an agency has the discretion to either quantify a project's greenhouse gas emissions or rely on a "qualitative analysis or other performance-based standards." (14 CCR 15064.4(b)). A lead agency may use a "model or methodology" to estimate GHG emissions and has the discretion to select the model or methodology it considers "most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change." (14 CCR 15064.4(c)). Section 15064.4(b) provides that the lead agency should consider the following when determining the significance of impacts from GHG emissions on the environment:

1. The extent a project may increase or reduce GHG emissions as compared to the existing environmental setting.

2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.

3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)).

In addition, Section 15064.7(c) of the CEQA Guidelines specifies that "[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence" (14 CCR 15064.7(c)). The CEQA Guidelines also clarify that the effects of GHG emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impact analysis (see CEQA Guidelines Section 15130(f)). As a note, the CEQA Guidelines were amended in response to Senate Bill 97. In particular, the CEQA

Guidelines were amended to specify that compliance with a GHG emissions reduction plan renders a cumulative impact insignificant.

Per CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of the project. To qualify, such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include a "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plans [and] plans or regulations for the reduction of greenhouse gas emissions." Put another way, CEQA Guidelines Section 15064(h)(3) allows a lead agency to make a finding of less than significant for GHG emissions if a project complies with adopted programs, plans, policies and/or other regulatory strategies to reduce GHG emissions.

The significance of the Master Plan's GHG emissions is evaluated consistent with CEQA Guidelines Section 15064.4(b)(2) by considering whether the Master Plan projects comply with applicable plans, policies, regulations and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. As previously described, the majority of individual Master Plan projects would occur in the Riverside County portion of the SSAB, which is under the regulatory jurisdiction of the SCAQMD with regard to GHG emissions. There is one individual Master Plan project, improvements to WRP 1, that is located within Imperial County. However, the air district in Imperial County, the ICAPCD, does not promulgate GHG emission significance thresholds. As such, due to the close proximity of the WRP 1 project to Riverside County and the fact that all Master Plan projects are located in the SSAB, the thresholds promulgated by the SCAQMD are utilized to determine if the GHG emissions are potentially significant. These thresholds are considered appropriate for the purposes of this analysis due to shared similarities between both the geomorphic and urban pattern of all the Master Plan project locations. Specifically, the Master Plan projects will be compared to the SCAQMD-recommended efficiency-based threshold of 3.0 metric tons of CO_2e per service population per year in 2035.

Methodology

GHG-related impacts were assessed in accordance with methodologies recommended by CARB and the SCAQMD. Where criteria air pollutant quantification was possible, emissions were modeled using the California Emissions Estimator Model (CalEEMod), version 2016.3.2. CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. Five of the 12 Master Plan project categories were not able to be modeled for GHG emissions at this time due to a lack of project specifications. These five project categories are instead evaluated qualitatively. In addition, prior to implementation, when greater detail is known, each project must go through another CEQA review process. Projects will be examined to determine if the project falls within the scope of the Master Plan as examined in this PEIR. If the Lead Agency finds that the project would be consistent with this PEIR, and

would not result in new effects or require new mitigation measures, the Lead Agency can approve the project as being within the scope of the project covered by this PEIR and no new environmental document would be required (CEQA Guidelines §15168). Otherwise, subsequent environmental documentation must be prepared.

Project construction-generated GHG emissions were calculated using a combination of CalEEMod model defaults for Riverside County and Imperial County, based on the location of the project site, and using details from the appropriate site plans and descriptions. Construction equipment defaults were altered to match the characteristics of the individual Project components.

Operational air pollutant emissions were calculated based on the site plans and Project component descriptions. The traffic fleet mix defaults contained in the CalEEMod model are based on the average fleet mix of Riverside and Imperial Counties, respectively. Although none of the projects are anticipated to generate additional vehicle trips, the CalEEMod model defaults remained in place to generate a conservative GHG emission analysis.

4.5.4 Environmental Impacts

Impact GHG-1 Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment or conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

A potent source of GHG emissions associated with the Master Plan would be combustion of fossil fuels during construction activities. The construction phases of the individual Project components are temporary but would result in GHG emissions from the use of heavy construction equipment and construction-related vehicle trips. The operational phase would also result in GHG emissions, predominately from vehicle trips to the project site.

Construction

Construction-related activities that would generate GHG emissions include worker commute trips, haul trucks carrying supplies and materials to and from the project site, and off-road construction equipment (e.g., bulldozers, loaders, excavators). As previously described, five of the 12 Master Plan project categories were not able to be modeled for GHG emissions at this time due to a lack of project specifications. Table 4.5-2 illustrates the specific construction-generated GHG emissions that would result from construction of seven of the Master Plan project categories.

As shown in Table 4.5-2, construction of these Master Plan project categories would result in the generation of approximately 1,851 metric tons of CO_2e over the course of construction. Once construction is complete, the generation of these GHG emissions would cease. The amortized construction emissions are added to the annual average operational emissions.

The seven modeled project categories each represent the maximum amount of proposed improvements, so the analysis remains relevant for future analysis of each project category. For example, the CVWD is not proposing to implement all components of the Biosolids CIP during the planning period. However, if

regulatory changes, biosolids markets development, treatment capacity needs, or other events should occur, CVWD may implement one or more of the project components. As such, despite these caveats, the Biosolids CIP was modeled to represent the maximum amount of proposed improvements.

Table 4.5-2. Construction-Related Greenhouse Gas Emissions

Emissions Source	CO_2e (Metric Tons)
WRP 1 Capital Improvement Projects	17
WRP 2 Capital Improvement Projects	6
WRP 4 Capital Improvement Projects	304
WRP 7 Capital Improvement Projects	44
WRP 10 Capital Improvement Projects	43
Septic-to-Sewer Conversion Capital Improvement Projects	910
Biosolids Capital Improvement Projects	527
Total CO_2e Emissions for All Modeled Master Plan Projects	**1,851**

Source: CalEEMod version 2016.3.2. Refer to Appendix F for Model Data Outputs.
Emissions account for the following acreage of soil disturbance and use of construction equipment for each project:

- Biosolids Capital Improvement Projects: 3 acres; Concrete/Industrial Saws (1), Excavators (2), Rubber Tired Dozers (1), Graders (1), Tractors/Loaders/Backhoes (2), Scrapers (1), Cranes (1), Forklifts (1), Pavers (1), Paving Equipment (1), Rollers (1).
- Septic-to-Sewer Conversion Capital Improvement Projects: 2 acres; Concrete/Industrial Saws (1), Excavators (1), Rubber Tired Dozers (2), Tractors/Loaders/Backhoes (2), Cranes (1), Forklifts (1), Generator Sets (1), Welders (1), Pavers (1), Paving Equipment (1), Rollers (1).
- WRP 10 Capital Improvement Projects: 4.5 acres; Graders (3), Tractors/Loaders/Backhoes (4), Concrete/Industrial Saws (1), Rubber Tired Dozers (1), Cranes (1), Forklifts (1), Cement and Mortar Mixers (1), Pavers (1), Rollers (1).
- WRP 2 Capital Improvement Projects: 0 acres; Pumps (2), Off-Highway Tractors (1).
- WRP 4 Capital Improvement Projects: 5.5 acres; Rubber Tired Dozers (2), Tractors/Loaders/Backhoes (4), Excavators (2), Graders (1), Scrapers (2), Cranes (1), Forklifts (1), Generator Sets (1), Welders (1), Pavers (1), Paving Equipment (1), Rollers (10).
- WRP 7 Capital Improvement Projects: 5 acres; Concrete/Industrial Saws (2), Rubber Tired Dozers (2), Tractors/Loaders/Backhoes (5), Graders (1), Rubber Tired Dozers (1), Cranes (1), Forklifts (1), Cement and Mortar Mixers (4), Pavers (1), Rollers (1).

The following five Master Plan project categories, each located in Riverside County, were not able to be modeled for GHG emissions at this time due to inadequate information: the WRP Asset Management Capital Improvement Projects, General Capital Improvement Projects, Collection System Capacity Capital Improvements Projects, Collection System Condition and Risk Assessment Capital Improvement Projects, and the Collection System Asset Management Capital Improvements Projects. The five project categories that have not been modeled for GHG emissions have many similar characteristics to the modeled projects. For instance:

- The WRP Asset Management Capital Improvement Projects include building, road, and power improvements to each of the WRP projects. The proposed improvements are likely to produce

little GHG emissions and are generally similar to each of the WRP projects modeled for GHG emissions in Table 4.5-2.

- The General Capital Improvement Projects include primarily building and energy efficiency improvements, equipment standardization, adding meters, and improvements of motors and pumps; similar in nature to each of the WRP projects modeled for GHG emissions in Table 4.5-2, but on a much smaller scale.
- The Collection System Capacity Capital Improvements Projects include construction of new pipeline and new sanitary infrastructure, as well as capacity increases; similar in nature to the Septic-to-Sewer Conversion Capital Improvement Projects modeled for GHG emissions in Table 4.5-2.
- The Collection System Condition and Risk Assessment Capital Improvement Projects include various renewal and operation and maintenance improvements with a focus on capacity improvements; similar in nature to each of the WRP projects modeled for GHG emissions in Table 4.5-2.
- Finally, the Collection System Asset Management Capital Improvements Projects include upgrades and rehabilitation of lift stations, improvements to a forced main, replacement of existing pipeline, and manhole refurbishing and improvements; similar in nature to the Septic-to-Sewer Conversion Capital Improvement Projects modeled for GHG emissions in Table 4.5-2.

Prior to construction, when greater construction and operational detail is known, each of the Master Plan projects must go through another CEQA review process. Projects will be examined to determine if the project falls within the scope of the Master Plan as examined in this PEIR. If the Lead Agency finds that the project would be consistent with this PEIR, and would not result in new effects or require new mitigation measures, the Lead Agency can approve the project as being within the scope of the project covered by this PEIR and no new environmental document would be required (CEQA Guidelines §15168). Otherwise, subsequent environmental documentation must be prepared.

Operations

Operation of the Master Plan projects would result in GHG emissions predominantly associated with the electricity consumed for wastewater pumping. Although the Master Plan is not anticipated to increase the number of employees employed at any of the project sites, and would not result in a significant number of new visitors to the project sites (and thus new operational traffic, a source of GHG emissions), the transportation defaults for industrial-type land uses in Riverside County and Imperial County were included to generate a conservative analysis. Long-term operational GHG emissions attributable to the Biosolids Capital Improvement Projects, Septic-to-Sewer Conversation Capital Improvement Projects, and all WRP Projects are identified in Table 4.5-3.

Table 4.5-3. Operational-Related GHG Emissions

Emissions Source	CO_2e (Metric Tons/Year)
WRP 1 Capital Improvement Projects	
Construction Emissions (amortized over life of the Master Plan – 19 years)	1
Area Source Emissions	0
Energy Source Emissions	0
Mobile Source Emissions	0
Solid Waste Emissions	0
Wastewater Pumping Emissions	0
Total Emissions	**1**
WRP 2 Capital Improvement Projects	
Construction Emissions (amortized over life of the Master Plan – 19 years)	0
Area Source Emissions	0
Energy Source Emissions	0
Mobile Source Emissions	0
Solid Waste Emissions	0
Wastewater Pumping Emissions	0
Total Emissions	**0**
WRP 4 Capital Improvement Projects	
Construction Emissions (amortized over the life of the Master Plan – 19 years)	16
Area Source Emissions	0
Energy Source Emissions	7

Table 4.5-3. Operational-Related GHG Emissions

Emissions Source	CO_2e (Metric Tons/Year)
Mobile Source Emissions	7
Solid Waste Emissions	1
Wastewater Pumping Emissions	48,954
Total Emissions	**48,985**
WRP 7 Capital Improvement Projects	
Construction Emissions (amortized over the life of the Master Plan – 19 years)	2
Area Source Emissions	0
Energy Source Emissions	29
Mobile Source Emissions	29
Solid Waste Emissions	2
Wastewater Pumping Emissions	9,726
Total Emissions	**9,788**
WRP 10 Capital Improvement Projects	
Construction Emissions (amortized over the life of the Master Plan – 19 years)	2
Area Source Emissions	0
Energy Source Emissions	0
Mobile Source Emissions	0
Solid Waste Emissions	0
Wastewater Pumping Emissions	116

Table 4.5-3. Operational-Related GHG Emissions

Emissions Source	CO_2e (Metric Tons/Year)
Total Emissions	**118**
Septic to Sewer Conversion Capital Improvement Projects	
Construction Emissions (amortized over the life of the Master Plan – 19 years)	48
Area Source Emissions	0
Energy Source Emissions	0
Mobile Source Emissions	0
Solid Waste Emissions	0
Wastewater Pumping Emissions	0
Total Emissions	**48**
Biosolids Capital Improvement Projects	
Construction Emissions (amortized over the life of the Master Plan – 19 years)	22
Area Source Emissions	0
Energy Source Emissions	358
Mobile Source Emissions	359
Solid Waste Emissions	29
Wastewater Pumping Emissions	97
Total Emissions	**865**
Total Annual CO_2e Emissions for All Modeled Master Plan Projects	**59,805**

Source: CalEEMod version 2016.3.2. Refer to Appendix F for Model Data Outputs.

As shown in Table 4.5-3, operation of all Master Plan projects would result in the generation of approximately 59,805 metric tons of CO_2e annually. It is noted that the Master Plan projects include the

addition of pipelines to expand the system and system upgrades that are necessary to accommodate anticipated population growth in the CVWD service area over the course of the 2021 to 2040 planning period. The Master Plan itself would not induce population growth; rather the system upgrades accommodate population growth that is anticipated in the area. Population growth is typically induced primarily by increased housing and job opportunities in an area. Thus, the majority of the GHG emissions presented in Table 4.5-3, specifically those associated with the pumping of wastewater, would actually be attributable to each of the individual residential and nonresidential land use development projects anticipated to be proposed and developments in the CVWD service area through the year 2040.

As previously described, the significance of the Master Plan's GHG emissions is evaluated consistent with CEQA Guidelines Section 15064.4(b)(2) by considering whether the Master Plan complies with applicable plans, policies, regulations and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. The Master Plan is compared to the SCAQMD service population threshold to determine the significance of the GHG emissions.

To determine the significance of the GHG emissions from the Master Plan, the total emissions of all modeled projects is compared with the efficiency-based threshold of 3.0 metric tons of CO_2e per Project service population per year in 2035. The SCAQMD's approach is to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions. The SCAQMD efficiency-based threshold describes an efficiency limit using "per service population." The per capita or per service population metrics represent the rates of emissions needed to achieve a fair share of the state's emission reduction mandate. The use of "fair share" in this instance indicates the GHG efficiency level that, if applied statewide or to a defined geographic area, would meet the year 2020 and post-2020 emissions targets. The intent of AB 32 and SB 32 is to accommodate population and economic growth in California but do so in a way that achieves a lower rate of GHG emissions, as evidenced in the statement from CARB's Scoping Plan. If projects can achieve targeted rates of emissions per the sum of residents served by the project (i.e., service population), California can accommodate expected population growth and achieve economic development objectives, while also abiding by AB 32's emissions target and future post-2020 targets.

The purpose of the Master Plan is to plan the expansion of and upgrades to the CVWD sanitation system within the boundaries of CVWD for the 2021 to 2040 planning period in order to provide sustainable, cost-effective service to CVWD's current and future customers. Thus, the service population for the Master Plan is represented by CVWD's future customers, who would be served by the expanded and updated sanitation facilities.

CVWD's service area spans a combined total of 23 cities and numerous unincorporated communities (census designated places) (Figure 3-1), currently serving a population of more than 215,000 people (CVWD 2020). The Master Plan sanitation projects are based on the Master Plan's conservative near-term population growth projections followed by a reduced population growth rate in the longer-term (2035 – 2045). This projection averages 3.3 percent from 2018 through 2045, and the 2045 growth horizon population is estimated at 489,194. Thus, the service population for the Master Plan is 274,194 (Project 2045 population of 489,194 subtracted from the current population of 215,000 = 274,194).

As described, 274,194 is the service population for the Master Plan. As shown in Table 4.5-4, dividing the GHG emissions for each time period yields a metric ton per service population ratio of 0.22.

Table 4.5-4. Greenhouse Gas Emissions per Service Population

Per Capita Emissions	Project Emissions	Service Population Increase	Metric Tons of CO_2e/SP/Year	*SCAQMD Threshold*	Exceed Threshold?
Year 2045 Project Buildout	59,805	274,194	0.22	*3.0*	**No**

Source: CalEEMod version 2016.3.2. Refer to Appendix F for Model Data Outputs.
SP = service population

As shown in Table 4.5-4, the modeled projects would not surpass the SCAQMD efficiency-based significance threshold.

The following five project categories were not able to be modeled at this time due to insufficient project information: the WRP Asset Management Capital Improvement Projects, General Capital Improvement Projects, Collection System Capacity Capital Improvements Projects, Collection System Condition and Risk Assessment Capital Improvement Projects, and the Collection System Asset Management Capital Improvements Projects.

However, these five project categories include built-in characteristics which would help reduce emissions. One of the four service goals of the Master Plan is to minimize the impacts to operations and maintenance by reducing maintenance and operational needs that over-stretch the staff by looking at replacing problematic equipment, remote monitoring and controls to check and clear alarms, improvements to the process that will addresses the causes of alarm conditions, frequent checks and fixes. Thus, the Master Plan includes characteristics aimed at reducing future maintenance needs and subsequently reducing emissions associated with staff needing to more frequently drive to a location and perform maintenance activities which may themselves produce emissions. In addition, beneficial reuse, reusing byproducts or waste material, is a goal of the Master Plan. Beneficial reuse would help further reduce the GHG emissions of all projects.

Furthermore, the WRP 10 Capital Improvement Projects include the installation of solar panels, which would offset some of the GHG emissions attributable to that Project component. At the time of future project implementation, when more detail is available, the offset of emissions attributable can be quantified.

In addition, the five project categories which were not modeled have many similar characteristics to the modeled projects.

- The WRP Asset Management Capital Improvement Projects include building, road, and power improvements to each of the WRP projects. The improvements are likely to produce little GHG emissions and are generally similar to each of the WRP projects modeled for GHG emissions in Table 4.5-3.

- The General Capital Improvement Projects include primarily building and energy efficiency improvements, equipment standardization, adding meters, and improvements of motors and pumps; similar in nature to each of the WRP projects modeled for air pollutant emissions in Table 4.5-3, but on a much smaller scale.
- The Collection System Capacity Capital Improvements Projects include construction of new pipeline and new sanitary infrastructure, as well as capacity increases; similar in nature to the Septic-to-Sewer Conversion Capital Improvement Projects modeled for GHG emissions in Table 4.5-3.
- The Collection System Condition and Risk Assessment Capital Improvement Projects include various renewal and operation and maintenance improvements with a focus on capacity improvements; similar in nature to each of the WRP projects modeled for GHG emissions in Table 4.5-3.
- Finally, the Collection System Asset Management Capital Improvement Projects include upgrades and rehabilitation of lift stations, improvements to a forced main, replacement of existing pipeline, and manhole refurbishing and improvements; similar in nature to the Septic-to-Sewer Conversation Capital Improvement Projects modeled for GHG emissions in Table 4.5-3.

As shown in Table 4.5-4, the seven modeled project categories combined would produce GHG emissions that together fall far below the SCAQMD annual service population threshold for construction and operation. Specifically, the GHG emissions for those seven project categories combined would be 0.22 metric tons of CO_2e per service population with a significance threshold of 3.0 metric tons of CO_2e per service population. As such, the addition of the GHG emissions of the five unmodeled project categories would not result in a significant GHG impact.

SCAQMD thresholds were developed based on substantial evidence that such thresholds represent quantitative levels of GHG emissions, compliance with which means that the environmental impact of the GHG emissions will normally not be cumulatively considerable under CEQA. These thresholds were developed as part of the SCAQMD GHG CEQA Significance Threshold Working Group. The working group was formed to assist the SCAQMD's efforts to develop a GHG significance threshold and is composed of a wide variety of stakeholders including the state Office of Planning Research, CARB, the Attorney General's Office, a variety of city and county planning departments, various utilities such as sanitation and power companies throughout the basin, industry groups, and environmental and professional organizations. Compliance with such thresholds will be part of the solution to the cumulative GHG emissions problem, rather than hinder the state's ability to meet its goals of reduced statewide GHG emissions.

This impact is less than significant.

4.5.5 Mitigation Measures

No significant environmental impact would occur; and therefore, no greenhouse gas mitigation measures are required.

4.5.6 Residual Impacts After Mitigation

No significant impacts to energy would occur with implementation of the Master Plan.

4.5.7 Cumulative Impacts

It is generally the case that an individual project of this size and nature is of insufficient magnitude by itself to influence climate change or result in a substantial contribution to the global GHG inventory. GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective. The additive effect of Project-related GHGs would not result in a reasonably foreseeable cumulatively considerable contribution to global climate change. In addition, the Master Plan as well as other cumulative related projects would also be subject to all applicable regulatory requirements, which would further reduce GHG emissions. Thus, the Master Plan would not have a significant cumulative impact due to GHG emissions.

4.6 HYDROLOGY AND WATER QUALITY

The following section identifies potential impacts to hydrology and water quality at a program level from construction and operation of facilities described in the CVWD Sanitation Master Plan Update 2020 (Master Plan or Proposed Project). The timeframe of Master Plan implementation spans the years 2021 to 2040. It is anticipated that there could be some changes to regulatory requirements during this planning period that could affect any analysis of the Proposed Project's impact to water quality. Some probable changes are discussed in the Environment Setting subsection below.

4.6.1 Environmental Setting

The project area for the hydrology and water quality impact analysis is the CVWD sanitation service area which contains both groundwater basins and surface waters, including the northern end of the Salton Sea. The Salton Sea is the terminal water body receiving water for all of the watershed (Figure 4.6-1). Most of the CVWD service area is within Riverside County and extends into northern Imperial and northeastern San Diego counties. The service area lies within the Colorado River Basin Region of the California SWRCB (Colorado River RWQCB 2019a). The southern boundary of the CVWD service area is the Salton Sea with the Chocolate Mountains on the eastern boundary, the Santa Rosa Mountains on the western boundary and the southern tip of the San Bernardino Mountains to the north. The sanitation service area spans from Palm Springs on the west side of the Coachella Valley to the northern end of the Salton Sea on the east side of the Coachella Valley. The service area includes the cities of Cathedral City, Indian Wells, La Quinta, Palm Desert, Rancho Mirage and portions of the City of Indio in Riverside County, and several unincorporated communities that are also included in the service area within Riverside and Imperial counties (CVWD 2015). Land uses within the service area include residential, commercial, agricultural, and industrial uses.

The CVWD service area is entirely within the Salton Sea Transboundary Watershed which is about 8,360 square miles. The five main surface water bodies in the watershed include: the Salton Sea, the New River, the Alamo River, CVWD and Imperial surface agricultural drains, and the Whitewater River Stormwater Channel/Coachella Valley Stormwater Channel (Colorado River RWQCB 2017).

The Whitewater River Stormwater Channel/Coachella Valley Stormwater Channel is a 50-mile long regional flood conveyance system that spans from the Whitewater area north of Palm Springs to the Salton Sea. The western region is the Whitewater River Stormwater Channel that is within the natural alignment of the Whitewater River that travels southeasterly to La Quinta and is considered ephemeral, and the eastern region is the man-made Coachella Valley Stormwater Channel which terminates at the Salton Sea and is considered perennial. The only main perennial surface waters within the CVWD service area is the Whitewater River Stormwater Channel/Coachella Valley Stormwater Channel and the northern portion of the Salton Sea which creates the southern boundary of the service area.

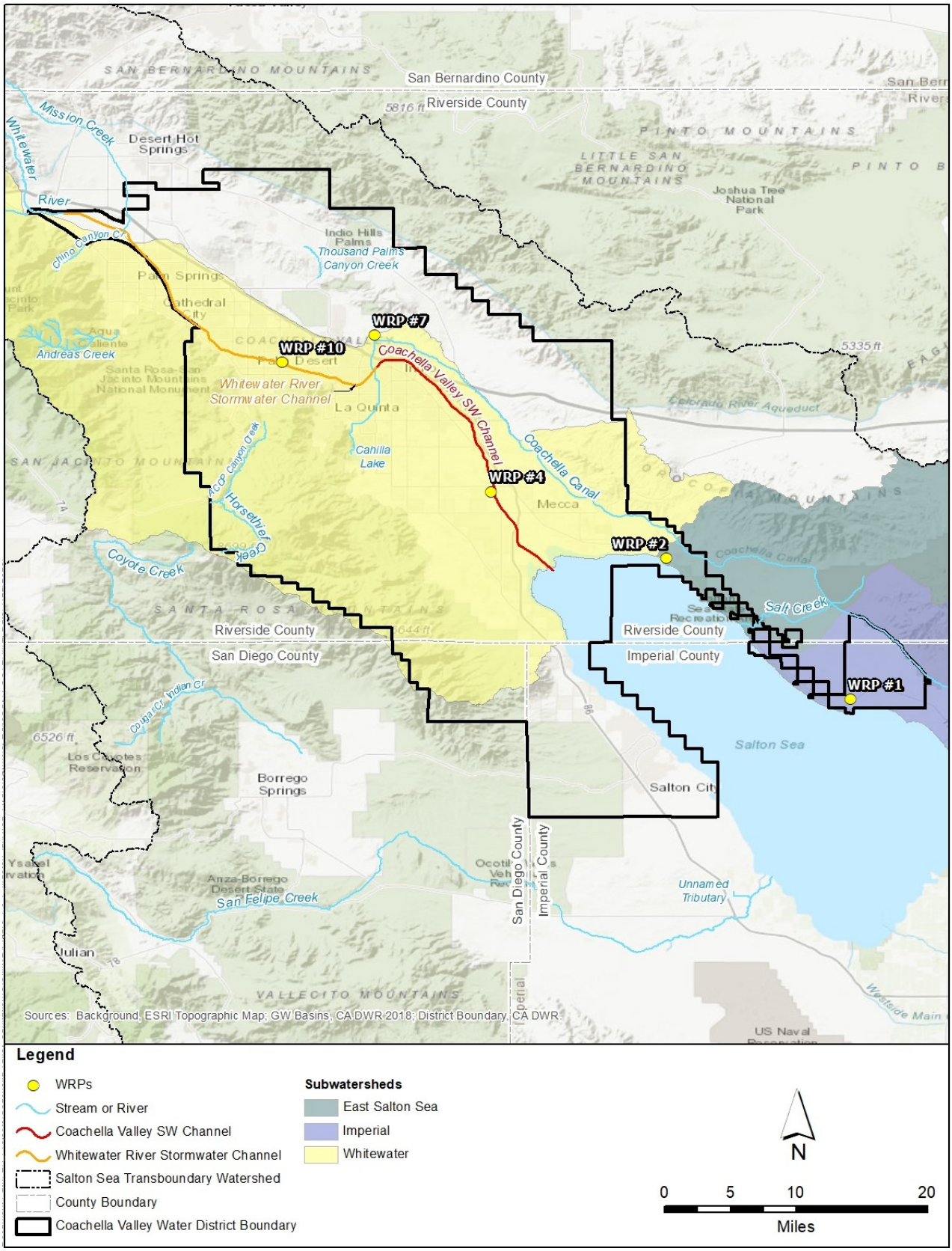

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Figure 4.6-1. Master Plan Area Hydrology

2019-144 CVWD Sanitation Master Plan

Existing CVWD sanitation facilities are located within the Whitewater, East Salton Sea, and Imperial subwatersheds of the Salton Sea Transboundary Watershed. The Master Plan proposes facilities within these subwatersheds.

The Colorado River Basin Region is divided into several planning areas by the Colorado River RWQCB as designated by the Water Quality Control Plan for the Colorado River Basin Region. Most of the CVWD service area lies within the Coachella Valley Planning Area. The very southern portions of the service area, east and west of the Salton Sea, lie within the Imperial Valley and Anza Borrego planning areas. The Salton Sea Planning Area includes the saline lake and the receiving water of the surface flows from all of the rivers within the entire watershed. The subwatershed boundaries are generally the same as the Whitewater, East Salton Sea, West Salton Sea, and Imperial Hydrologic Unit boundaries (Colorado River RWQCB 2019a).

The existing and proposed future improvements within the project area are on the Coachella Valley floor with a relatively gentle topography, with the Salton Sea being the low point in the Coachella Valley at 233 feet below mean sea level. The landscape in the Coachella Valley floor is primarily desert vegetation with the exception of land irrigated with pumped groundwater or imported water from the Colorado River. The mountain peaks surrounding the Coachella Valley reach to over 10,000 feet above mean sea level. The climate in the Coachella Valley is considered arid, with an average yearly temperature of 75 °F, and an average high temperature of 94 °F. Annual precipitation throughout Coachella Valley ranges between three and five inches, generally taking the form of monsoonal thunderstorms occurring in the summer season. The average annual precipitation in the surrounding mountains ranges between 30 and 40 inches in the form of rain and seasonal snow in the higher elevations feeding perennial streams that include the upper reaches of the San Gorgonio and Whitewater Rivers, and several creeks.

4.6.1.1 Surface Waters

The Coachella Valley Planning Area includes the Whitewater and East Salton Sea Hydrologic Units. Surface waters include the perennial streams in the upper elevations including: the San Gorgonio River and upper reaches of the Whitewater River, Mission Creek, Palm Canyon Wash, Tahquitz Creek, Snow Creek, Deep Canyon Creek, Falls Creek, Chino Creek, and Andreas Creek. These perennial surface flows percolate into the basin causing the Whitewater River, which is the major drainage way within the project area, to be ephemeral downstream in the Whitewater River Stormwater Channel. The Coachella Valley Storm Water Channel is the constructed extension of the Whitewater River Stormwater Channel and is the drainage way for irrigation return flows, treated community wastewater, and stormwater runoff. The Coachella Valley Storm Water Channel terminates at the Salton Sea. A waste discharge permit change petition has been submitted by CVWD to reduce the community wastewater flow from WRP 4 to the Coachella Valley Storm Water Channel. CVWD is currently awaiting a decision.

The portion of the project area within the Anza Borrego Planning Area is within the West Salton Sea Hydrologic Unit. Surface waters include several washes that contain periodic drainage and all drain into the Salton Sea. The small portion of the project area within the Imperial Valley Planning Area is within the northern portion of the Imperial Hydrologic Unit. Similar to the other planning areas, all surface waters drain to the Salton Sea.

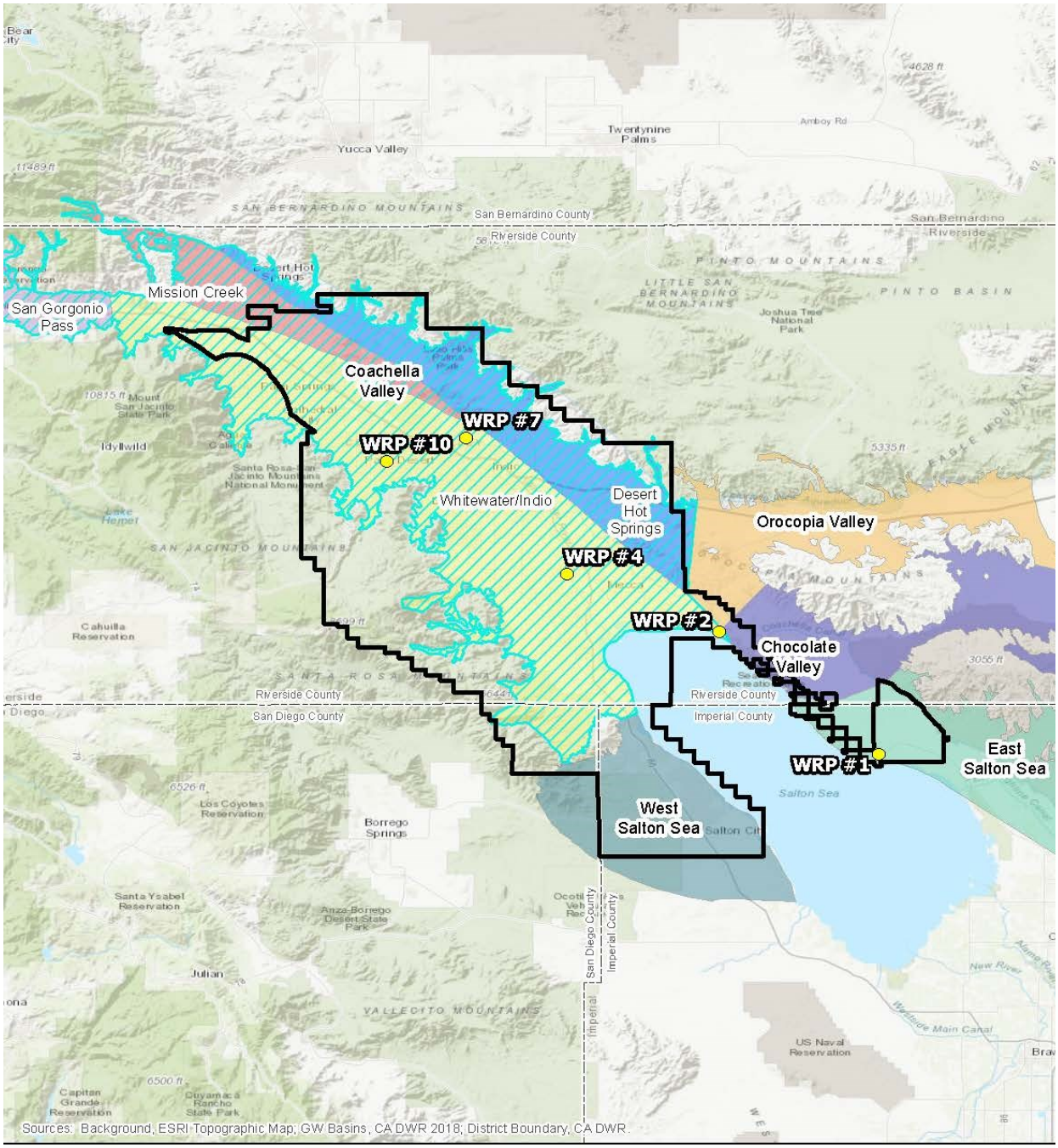
The Salton Sea Planning Area is the Salton Sea itself. The Salton Sea is a saline and terminal lake for area drainage. Ancient Lake Cahuilla formed the lakebed of the Salton Sea that has fluctuated between wet and dry spells throughout history. Between 1905 and 1907 floodwaters breached a temporary diversion for the Colorado River where it changed course and filled the lakebed. The breach was eventually closed, and the Salton Sea remained and is now the largest inland lake in California by surface area. It serves as a drainage reservoir for agriculture in the Coachella and Imperial Valleys. Drainage, seepage, and stormwater runoff all contribute to the Salton Sea (Colorado River RWQCB 2019a).

4.6.1.2 Groundwater

The Coachella Valley Planning Area mostly overlies the Coachella Valley, and portions of the West Salton Sea, East Salton Sea, Orocopia Valley, and Chocolate Valley Groundwater Basins. The Coachella Valley Groundwater Basin underlies the majority of the Coachella Valley Planning Area, and includes the Indio (Whitewater), Desert Hot Springs, San Gorgonio Pass, and Mission Creek Subbasins (Figure 4.6-2). CVWD manages portions of the Indio (Whitewater River) and Mission Creek Subbasins in coordination with other water agencies including the Desert Water Agency, the Indio Water Authority, Mission Springs Water District, and the Coachella Water Authority.

CVWD operates three groundwater replenishment facilities (GRFs). In the Indio (Whitewater River) Subbasin, natural flows and snow melt from the Whitewater River channel and Colorado River water from Metropolitan Water District of Southern California's (MWD's) Colorado River Aqueduct are replenished in the western portion of the subbasin at the Whitewater River GRF near Palm Springs. Also, in the Indio (Whitewater River) Subbasin, Colorado River Water from the Coachella Canal is replenished at the Thomas E. Levy GRF located in La Quinta and provides groundwater replenishment to the eastern portion of the subbasin (CVWD 2017). Also, in the Indio (Whitewater River) Subbasin, the Palm Desert GRF became operational in 2019 replenishing Colorado River Water from the Coachella Canal and is located in the central portion of its service area in the City of Palm Desert. The Mission Creek Subbasin receives imported Colorado River water that is transported by MWD's Colorado River Aqueduct at the Mission Creek GRF constructed and operated by Desert Water Agency. CVWD relies on imported water delivery for groundwater replenishment to meet the objectives of the Coachella Valley Water Management Plan and Update (2002 and 2010) and Mission Creek-Garnet Hill Water Management Plan (2013).

Groundwater flows within the Anza-Borrego Planning Area flow in the same general direction as surface water to the Salton Sea. Groundwater pumping in this area does affect subsurface flows to the Salton Sea each year. There is very little groundwater movement within the project area of the Imperial Valley Planning Area. The Salton Sea does receive subsurface flows each year from groundwater seepage (Colorado River RWQCB 2019a).



Legend

- WRPs
- Coachella Valley Water District Boundary
- County Boundary

Groundwater Basins

- Coachella Valley
- Chocolate Valley
- East Salton Sea
- Orocopia Valley
- West Salton Sea

Coachella Valley Groundwater Basin Subbasins

- Desert Hot Springs
- Mission Creek
- San Gorgonio Pass
- Whitewater/Indio

N

0 5 10 20

Miles

Source: CDM Smith, Inc.

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Figure 4.6-2. Master Plan Area Groundwater Basins

2019-144 CVWD Sanitation Master Plan

Groundwater Sustainability Planning

Enacted in 2014, the Sustainable Groundwater Management Act (SGMA) requires local agencies to form Groundwater Sustainability Agencies (GSAs) in all high- and medium-priority basins to evaluate conditions in their local groundwater basins, and adopt locally based Groundwater Sustainability Plans (GSPs), or Alternatives to a GSP (Alternative Plan), tailored to their regional economic and environmental needs. CVWD is the GSA for the portions of the Indio (Whitewater River) and Mission Creek Subbasins that are within CVWD's service areas. CVWD in collaboration with other GSA's including Desert Water Agency, Indio Water Authority, and Coachella Water Authority, submitted the 2010 Coachella Valley Water Management Plan Update, and an associated Bridge Document, as an Alternative Plan for the Indio (Whitewater River) Subbasin. Also, CVWD in collaboration with Desert Water Agency and Mission Springs Water District, submitted the 2013 Mission Creek-Garnet Hill Water Management Plan, and associated Bridge Document, as an Alternative Plan for the Mission Creek Subbasin. Both Alternative Plans were approved in 2019, and the 2022 Alternative Plan Updates are in progress. Under SGMA, those GSA's working under an approved Alternative Plan are required to submit annual reports that include data about groundwater elevations and extractions, total water use, and change in groundwater storage (CVWD 2019a). The agencies have collaboratively prepared Annual Reports for Water Years 2016-2017 through 2018-2019 for both subbasins.

State Water Code 31630-31639 provides CVWD with the authority to levy and collect water replenishment assessments to implement groundwater replenishment programs (GRPs) within its jurisdictional boundary. Groundwater replenishment is necessary to mitigate overdraft of the groundwater basin and associated undesirable results. The jurisdictional areas that benefit from the GRPs, and where CVWD levies replenishment assessments on groundwater production, are termed Areas of Benefit (AOBs). The Indio (Whitewater) Subbasin has been divided into two AOBs, subsequently there are three AOBs within CVWD's boundary: the Mission Creek Subbasin AOB, the West Whitewater River Subbasin AOB, and the East Whitewater River Subbasin AOB. CVWD is required to prepare Annual Engineer's Reports on Water Supply and Replenishment Assessment and must include: a summary of the conditions of groundwater supply; the need for replenishment; a description of the replenishment programs, including source and amount of replenishment waters; the costs associated with the GRP; the areas directly or indirectly benefited by the GRP and the amount of groundwater produced in each area during the prior year; and a recommendation for the Replenishment Assessment Charge to be levied on each AOB.

4.6.1.3 Water Quality

The SWRCB regulates water quality within California where jurisdiction is divided into RWQCBs. The Coachella Valley is within the Colorado River RWQCB which has established water quality standards for all ground and surface waters for the region within the Colorado River Water Quality Control Plan, also referred to as the Basin Plan. The RWQCB has divided the region into several planning areas as described above. This section will focus on the water quality within the Coachella Valley Planning Area primarily within the Whitewater and East Salton Sea subwatersheds since this is where water quality could be affected by future improvements described within this PEIR.

Receiving water bodies within the project area include: the Salton Sea, Coachella Valley Agricultural Drains, and the Coachella Valley Stormwater Channel. Receiving waters are potentially subject to both point source and non-point source pollutant discharges which impact water quality. Point source discharges come from a specific facility such as a wastewater treatment plant or industrial facility. Non-point discharges come from many different sources including stormwater, snowmelt, or irrigation water. The types of pollutants vary depending on land uses in the watershed.

Water quality impairments have been identified for beneficial uses of assessed water bodies in accordance with Sections 303(d) and 305(b) of the Clean Water Act. The assessed receiving waterbodies for the 2018 Integrated Report within the project area include: the Salton Sea and the Coachella Valley Stormwater Channel. Waterbodies that exceed water quality standards for pollutants based on collected data and cannot support assigned beneficial uses are recommended for listing on the 303(d) list. When a water body is added to the list, the RWQCB staff must identify a specific control plan to account for all sources of the pollutant that caused the waterbody to be listed. This plan is known as a Total Maximum Daily Load (TMDL) limit for each pollutant. The current 303(d) list (2012) was approved by the USEPA in 2015. The Colorado River RWQCB recently adopted a Resolution to approve the updated 303(d) list (2018) which will be submitted to the SWRCB for public review and approval to be included in the California Integrated Report. Once the California Integrated Report is approved by the SWRCB it will be submitted to the USEPA for final approval (Colorado River RWQCB 2019b). This process could take several years to complete but may be completed as projects are implemented under the Proposed Project. Table 4.6-1 below shows the current 303(d) listing and the proposed updates to each of the potentially affected water bodies and updated total maximum daily load (TMDL) completion dates.

Table 4.6-1. Impaired Waters 303(d) Current 2012 Listings and Updated/Recommended 2018 Listings

Assessed Water body	Current 303(d) Listing (2012)		Updated 303(d) Listing (2018)[1]	
	Pollutant	TMDL Status[2]	Pollutant	TMDL Status
Salton Sea	Arsenic	2021	Arsenic	2030
	Chloride	2025	Chloride	2030
	Chlorpyrifos	2021	Chlorpyrifos	2030
			DDE[3]	
	DDT	2021	DDT	2030
	Enterococcus	2021	Enterococcus	2030
	Low Dissolved Oxygen	2021	Low Dissolved Oxygen	

Table 4.6-1. Impaired Waters 303(d) Current 2012 Listings and Updated/Recommended 2018 Listings

Assessed Water body	Current 303(d) Listing (2012)		Updated 303(d) Listing (2018)[1]	
	Pollutant	TMDL Status[2]	Pollutant	TMDL Status
	Ammonia (formerly Nitrogen, ammonia (Total Ammonia))	2025	Nitrogen, ammonia (Total Ammonia)	2030
	Nutrients	2019	Nutrients	2030
	Salinity	2025	Salinity	2030
	Toxicity	2025	Toxicity	2030
Coachella Valley Stormwater Channel	DDT		DDT	
	Dieldrin		Dieldrin	
			Dissolved Oxygen	
			Disulfoton	
	Indicator Bacteria	2019	Indicator Bacteria	2021
	Nitrogen, ammonia (Total Ammonia)		Nitrogen, ammonia (Total Ammonia)	
	PCBs		PCBs	
	Toxaphene		Toxaphene	
	Toxicity		Toxicity	

[1]Updated 303(d) listing approved by Colorado RWQCB through Resolution R7-1019-0054. Updated listing still subject to SWRCB review and approval and USEPA approval.
[2]Future adoption date of TMDL.
[3]Additional listing currently under high-level review.
Key:
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane
f NFIP = Not applicable
PCBs = Polychlorinated biphenyls
TMDL = Total Maximum Daily Load
Source: Colorado River RWQCB 2019b - Attachment 1: 2012 303(d) Listings and Status, Sections 2.1 Recommended Updates to the 303(d) List of Impaired Waterbodies and Section 3.1 Updated TMDL Completion Dates.

4.6.1.4 Regulatory Status of Area Water Bodies

Water quality standards and objectives for ground and surface waters within the project area are developed and regulated by the Colorado River RWQCB and defined within their Basin Plan in accordance with the Federal Clean Water Act and California Water Code (i.e., Porter Cologne Water Quality Control Act). The Basin Plan defines the beneficial uses of specific water bodies; the narrative and numeric levels (water quality objectives) that must be attained and maintained to protect the beneficial uses and meet California's anti-degradation policy; and identifies programs and actions to achieve the Basin Plan water quality objectives.

There are two types of beneficial uses, consumptive which deplete water supplies (e.g., municipal, industrial, and irrigation) and non-consumptive which does not significantly deplete supplies (e.g., recreation, hydropower generation, wildlife). Table 4.6-2 displays the project area receiving waters and their designated beneficial uses.

Table 4.6-2. Beneficial Uses of Surface Receiving Waters in the Project Area

Receiving Waters	303(d) List Impairments (2012)	Designated Beneficial Uses
Salton Sea	Arsenic, salinity, chloride, chlorpyrifos, DDT, low dissolved oxygen, enterococcus, nutrients, nitrogen and ammonia (total ammonia), toxicity	AQUA, IND[P], REC I, REC II, WARM, WILD, RARE
Coachella Valley Stormwater Channel[3]	DDT, dieldrin, indicator bacteria, nitrogen and ammonia (total ammonia), PCBs, toxaphene, toxicity	FRSH, REC I[1], REC II[1], WARM, WILD, RARE[2]
Coachella Valley Agricultural Drains	None	FRSH, REC I[1], REC II[1], WARM, WILD, RARE[2]

Definitions of Beneficial Uses	
AQUA	Aquaculture waters 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.
FRSH	Freshwater Replenishment waters for natural or artificial maintenance of surface water quantity or quality.
IND	Industrial Service Supply waters 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 and oil well repressurization.
RARE	Preservation of Rare, Threatened, or Endangered Species waters that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened or endangered.
REC I	Water Contact Recreation waters 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, and use of natural hot springs.

Table 4.6-2. Beneficial Uses of Surface Receiving Waters in the Project Area

Receiving Waters	303(d) List Impairments (2012)	Designated Beneficial Uses
REC II	Non-Contact Water Recreation waters for recreational activities involving proximity to water, but not normally involving 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.	
WARM	Warm Freshwater Habitat waters that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.	
WILD	Wildlife Habitat waters that support terrestrial ecosystems including, but not limited to, the preservation and enhancement of terrestrial habitats, vegetation, wildlife, or wildlife water and food sources.	

[P] Potential uses
[1]Some very limited spillage of canal water occurs providing freshwater replenishment to Salton Sea.
[2]Unauthorized use.
[3]Section of perennial flow from approximately Indio to the Salton Sea.
Sources: Colorado River RWQCB 2019b - Attachment 1: 2012 303(d) Listings and Status; Colorado River RWQCB 2019a – Chapter 2 Beneficial Uses.

Water Quality Objectives for the region are described in the Basin Plan. These objectives include acceptable levels of water quality constituents and other characteristics established to protect the beneficial uses of the waters. Development of the water quality objectives considers federal and state requirements. The Colorado River RWQCB regulates projects and industrial discharges through their permitting programs which require conformance with water quality standards and attainment.

4.6.1.5 Existing Facilities and Regulatory Permits

Sanitary Collection Systems

The CVWD sanitary collection sewer system includes more than 1,130 miles of sanitary sewer pipeline, which are comprised of approximately 1,060 miles of gravity pipelines and 70 miles of force mains. The 8-inch and 10-inch diameter gravity mains account for more than 75 percent of the total gravity sewer lengths. Smaller gravity sewers sizes such as 4-inch and 6-inch account for less than one percent of the total sewer pipe lengths, while larger gravity sewer sizes ranging from 24-inch to 42-inch account for less than five percent of the total gravity sewer lengths. More than 70 percent of the total length of force mains are 18-inch in diameter, with the remaining sizes varying between 4-inches and 30-inches in diameter. A vast majority of the 18-inch force mains are a part of the Mid-Valley Force Main System, which conveys collected sanitary sewer flows from Lift Station 81-01 to WRP 4. As a part of the sanitary sewer system, CVWD operates and maintains 27 lift stations, which convey flow by pressure to the gravity sewer systems or the Mid-Valley Force Main System.

Water Reclamation Plants

There are five operating water reclamation plants (WRPs) owned and operated by CVWD: WRPs 1, 2, 4, 7, and 10. WRP 9 was decommissioned in 2016. WRP 1 is located in the unincorporated community of Bombay Beach in Imperial County along the north bank of the Salton Sea. WRP 2 is located near the northeast shore of the Salton Sea in the community of North Shore in Riverside County in the East Salton Sea Planning Area and Hydrologic Unit. WRPs 4, 7, and 10 are all located within the Whitewater Hydrologic Unit and Coachella Valley Planning Area.

WRPs 1, 2, 7, and 10 each have individual permits approved by the Colorado River RWQCB defining Waste Discharge Requirements (Table 4.6-3). At WRP 4, wastewater is treated, disinfected, and discharged to the Coachella Valley Stormwater Channel. WRP 4 is operating under Board Order R7-2017-006, NPDES Permit CA0104973. The five permits describe discharge prohibitions, effluent limitations, and discharge specifications within the permit. Monitoring and Reporting Program requirements are also defined within the permit and compliance determination criteria. Additional detail and current discharge requirements for each WRP is described below.

WRPs 10 and 7 manage stormwater onsite through internal stormwater drainage systems and are not required to enroll under the SWRCB General Permit for Storm Water Discharges associated with Industrial Activities. CVWD submitted a Notice of Intent (NOI) to the RWQCB for compliance with the terms of the General Permit for Storm Water Discharges Associated with Industrial Activity (Order 2014-0057-DWQ) for WRP 4. A Notice of Applicability of compliance with the General Permit was provided by the RWQCB for WRP 4. WRPs 1 and 2 currently do not require enrollment into the stormwater program because inflow is less than what is required for enrollment in the program.

Four of the WRPs (WRP 1, 2, 7, and 10) discharge to groundwater the secondary treated water (undisinfected) that cannot be stored on-site or sent directly into the non-potable water system after tertiary disinfection. Only one of the WRPs, WRP 4, discharges the fully treated effluent flow to an NPDES outfall into the Coachella Valley Stormwater Channel. The effluent is disinfected and de-chlorinated prior to discharging to the Coachella Valley Stormwater Channel. WRPs 1 and 2 provide 100 percent of the treated secondary water plant effluent (undisinfected) to groundwater through percolation ponds. WRP 4 currently has no percolation ponds and discharges zero percent of the plant effluent to groundwater; however, plans exist to implement a recycled water system in the future which will undergo separate environmental review and is not included as part of this PEIR. WRPs 7 and 10 discharge annually a portion of the treated secondary water plant effluent (undisinfected) to percolation ponds. The majority of the flow is conveyed as recycled water (treated tertiary disinfected) into the non-potable system to serve customers for landscape and golf course irrigation.

Table 4.6-3. CVWD Wastewater Facilities RWQCB Current Permits

Facility and Location	Level of Treatment	Disposition of Wastewater or Recycled Water/Other	Receiving Water	RWQCB Permit
WRP 1 Bombay Beach	Secondary undisinfected	Evaporation-infiltration basins	Groundwater	Order No. R7-2013-0024
WRP 2 North Shore	Secondary undisinfected	Evaporation-infiltration basins	Groundwater	Order No. R7-2013-0025
WRP 4 Thermal	Secondary disinfected	Discharge to the Coachella Valley Storm Channel (CVSC)/ Stormwater Discharge at Industrial Sites	Surface water	Order No. R7-2017-0006 NPDES CA0104973 WDID # 33NNA00035 – General Industrial Storm Water Permit
WRP 7 North Indio	Secondary undisinfected and Tertiary disinfected	Non-potable use (irrigation); excess recycled water to percolation ponds	Groundwater	Order No. R7-2013-0026
WRP 10 Palm Desert	Secondary undisinfected and Tertiary disinfected	Non-potable use (irrigation); excess recycled water to percolation ponds	Groundwater	Order No. R7-2018-0001

Water Reclamation Plant 1 – Bombay Beach

WRP 1 was constructed in 1975 and treats wastewater collected from the community of Bombay Beach and is within the Imperial Valley Planning Area and Imperial Hydrologic Unit. WRP 1 is a lagoon treatment system with a design maximum month average daily flow treatment capacity of 150,000 gallons per day (gpd) (0.150 million gallons per day (mgd)). Influent flows have declined steadily from an average daily flow of 73,000 gpd in 1998 to 13,000 gpd in 2017. Wastewater is treated in aerated lagoons prior to discharge to unlined evaporation/percolation ponds. The water evaporates and recharges groundwater. The ponds are inspected periodically and annually, and accumulated sludge is transported off-site to a landfill.

Current Discharge Requirements

The discharge requirements for WRP 1 effluent, which is discharged to percolation ponds, are from the 2013 WRP 1 Waste Discharge Requirements (WDR) issued by the Colorado River RWQCB. The discharge requirements are summarized as follows:

- The 30-day monthly average volume of wastewater treated shall not exceed 0.150 mgd
- The carbonaceous biochemical oxygen demand (CBOD5) shall not exceed a monthly average of 40 milligrams per liter (mg/L) or weekly average of 60 mg/L

- pH shall not be below 6.0 or above 9.0
- Dissolved oxygen in the upper zone (one foot) shall not be less than 1.0 mg/L
- Discharges shall not increase total dissolved solids (TDS) content of receiving waters unless it can be demonstrated to the satisfaction of the RWQCB that such an increase in TDS does not adversely affect beneficial uses of receiving waters

Water Reclamation Plant 2 – North Shore

WRP 2 provides sewerage service to the North Shore, Desert Beach, and Marina areas. WRP 2 was originally constructed in 1974 with a design treatment capacity of 180,000 gpd. Until recently, the facility consisted of an aerated pond, an activated sludge treatment plant including tertiary filters, three sludge drying beds, and two evaporation/percolation ponds. Like WRP 1, the influent flow to WRP 2 has steadily declined over the last couple of decades, averaging 12,000 gpd in 2017. In 2018, the activated sludge treatment plant, tertiary filters, and sludge drying beds were demolished after being abandoned for many years. The remaining treatment process units consist of one lined oxidation ponds, two unlined evaporation/percolation ponds and a standby pond. The facility has a maximum month average daily flow permit capacity of 33,000 gpd. The effluent is disposed of by evaporation and percolation to groundwater, and remaining sludge is dredged as necessary and transported off-site to a landfill.

Current Discharge Requirements

The WDRs for WRP 2 effluent, which is discharged to percolation ponds, are from the 2013 WRP 2 WDR issued by the Colorado River RWQCB. The discharge requirements are summarized as follows:

- The 30-day monthly average volume of wastewater treated shall not exceed 0.033 mgd
- CBOD5 shall not exceed a monthly average of 40 mg/L or weekly average of 60 mg/L
- pH shall not be below 6.0 or above 9.0
- Dissolved oxygen in the upper zone (one foot) shall not be less than 1.0 mg/L
- Discharges shall not increase TDS content of receiving waters, unless it can be demonstrated to the satisfaction of the RWQCB that such an increase in TDS does not adversely affect beneficial uses of receiving waters.

Water Reclamation Plant 4 - Thermal

WRP 4 is in the unincorporated community of Thermal and is CVWD's second largest wastewater reclamation plant. WRP 4 provides service to approximately 63,000 people in the City of La Quinta and a portion of the City of Palm Desert, and the unincorporated areas of Mecca and Thermal. The facility is permitted under a NPDES permit to discharge a maximum monthly average daily effluent flow of 9.9 mgd to the Coachella Valley Storm Water Channel. WRP 4 annual average influent flows have remained relatively constant over the past few years, averaging 4.9 mgd. WRP 4 uses two secondary treatment systems operating in parallel to provide CBOD and TSS reduction: a lagoon treatment system with a permit capacity of 7.0 mgd and a Biolac® activated sludge treatment system with a permit capacity of 2.9

mgd. In addition to the secondary treatment systems, WRP 4 also has a new headworks facility (constructed in 2015), a disinfection and dechlorination system, and solids handling facilities. Treated and disinfected effluent water is discharged to the Coachella Valley Stormwater Channel. Mechanical dredging of solids from the polishing ponds is conducted five days a week. Solids are dried onsite and disposed in a landfill.

Current Discharge Requirements

The discharge requirements from the 2017 WRP 4 NPDES permit issued by the Colorado River RWQCB for effluent discharged at Discharge Point 001 to the Coachella Valley Storm Water Channel are summarized in Table 4.6-4 for the activated sludge treatment system, for the lagoon treatment system, and for the combined flow from all treatment systems.

Table 4.6-4. WRP 4 Current Effluent Limitations

Parameter	Units	Effluent Limitation				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Activated Sludge Treatment System						
Flow	mgd	2.9	--	--	--	--
$CBOD_5$	mg/L	25	40	--	--	--
	lb/day[1]	600	970	--	--	--
$CBOD_5$ % Removal	%	85	--	--	--	--
TSS	mg/L	30	45	--	--	--
	lb/day[1]	730	1,100	--	--	--
TSS % Removal	%	85	--	--	--	--
pH	s.u.	--	--	--	6.0	9.0
Oil and Grease, Total	mg/L	--	--	25	--	--
	lb/day[1]	--	--	605	--	--

Table 4.6-4. WRP 4 Current Effluent Limitations

Parameter	Units	Effluent Limitation				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Lagoon Treatment System						
Flow	mgd	7.0	--	--	--	--
$CBOD_5$	mg/L	40	60	--	--	--
	lb/day[2]	2,300	3,500	--	--	--
$CBOD_5$ % Removal	%	65	--	--	--	--
TSS	mg/L	45	65	--	--	--
	lb/day[2]	2,630	3,790	--	--	--
pH	s.u.	--	--	--	6.0	9.0
Oil and Grease, Total	mg/L	--	--	25	--	--
	lb/day[2]	--	--	1,460	--	--
Combined Flow from All Treatment Systems						
Flow	mgd	9.9	--	--	--	--
pH	Standard Units	--	--	--	6.0	9.0
4,4'DDT	µg/L	0.00059	--	0.00118	--	--
	lbs/day[3]	0.000049	--	0.00010	--	--
Total Residual Chlorine	mg/L	0.01	--	--	--	0.02
	lbs/day[3]	0.83	--	--	--	--

[1]Mass-based effluent limitations are based upon a maximum flow of 2.9 mgd
[2]Mass-based effluent limitations are based upon a maximum flow of 7.0 mgd
[3]Mass-based effluent limitations are based on a design capacity of 9.9 mgd

In addition to the limitations shown in Table 4.6-4, the following receiving water limitations are also listed in the NPDES permit:

- Dissolved Oxygen (DO): The discharge shall not cause the concentration of DO in the receiving water to fall below 5.0 mg/L. When the DO in the receiving water is already below 5.0 mg/L, the discharge shall not cause any further depression.

- Temperature: The discharge shall not result in the natural receiving water temperature to be altered unless it can be demonstrated to the satisfaction of the Colorado River RWQCB that such alteration in temperature does not adversely affect beneficial uses
- pH: The discharge shall not result in the normal ambient pH of the receiving water to fall below 6.0 or exceed 9.0 units
- TDS: discharges of wastes or wastewater shall not increase the TDS content of receiving waters unless it can be demonstrated to the satisfaction of the Colorado River RWQCB that such increase in TDS does not adversely affect beneficial uses of receiving waters

Water Reclamation Plant 7 - Indio

WRP 7 is in the City of Indio and provides service to portions of the cities of Cathedral City, Rancho Mirage, Palm Desert, and some unincorporated areas of Riverside County including Bermuda Dunes and Thousand Palms. The facility has a secondary treatment permit capacity of 5.0 mgd and a tertiary treatment capacity of 2.5 mgd. WRP 7 consists of a headworks facility followed by an activated sludge system, tertiary filters, and chlorine disinfection. The secondary effluent is either pumped to the tertiary treatment system, stored in the advanced water treatment equalization basin for further treatment, or diverted to on-site and/or off-site percolation ponds for land disposal. The tertiary treatment system includes dual-media filtration and chlorine disinfection to meet Title 22 requirements for recycled water. The treated effluent from the advanced water treatment equalization basin is recycled water used for irrigation and is either stored in a covered storage reservoir or pumped offsite to an open reservoir near the Del Webb Sun City Golf Course for irrigation. Solids are hauled offsite for disposal in a landfill.

Current Discharge Requirements

The discharge requirements from the 2013 WRP 7 WDR permit issued by the Colorado River RWQCB are summarized in Table 4.6-5 for treated effluent discharged for recycled water or to the percolation ponds.

Table 4.6-5. WRP 7 Current Effluent Limitations for Recycled Water or to Percolation Ponds

Parameter	Units	Effluent Limitation			
		30-Day Arithmetic Mean Discharge Rate	7-Day Arithmetic Mean Discharge Rate	Instantaneous Minimum	Instantaneous Maximum
$CBOD_5$	mg/L	25	40	--	--
TSS	mg/L	30	45	--	--
pH	s.u.	--	--	6.0	9.0

In addition to the limitations shown in Tables 4.6-5, the following process related limitations are also listed in the discharge permit:

- TDS: The concentration of TDS in the wastewater discharged to the percolation ponds shall not exceed 400 mg/L over the TDS concentration of the public water supply
- The 30-day average monthly dry weather discharge flow for secondary treated effluent shall not exceed 5.0 mgd
- The DO content in the upper zone (one foot) of wastewater treatment ponds or process units shall not be less than 1.0 mg/L
- Disinfected tertiary treated recycled water directly reused shall conform to the following:
    - The filtered wastewater has been disinfected by either:
        1. A chlorine disinfection process following filtration that provides a contact time value of not less than 450 milligrams-minute per liter at all times with a modal contact time of at least 90 minutes, based on peak dry weather design flow; or
        2. A disinfection process that, when combined with the filtration process, has been demonstrated to inactivate and/or remove 99.999 percent of the plaque-forming units of F-specific bacteriophage MS2, or polio virus in the wastewater.
- The median concentration of total coliform bacteria measured in the disinfected effluent does not exceed a Most Probable Number (MPN) of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform bacteria does not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30-day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.

Water Reclamation Plant 10 – Palm Desert

Located in the City of Palm Desert, WRP 10 serves the cities of Indian Wells, Palm Desert, Rancho Mirage, and a portion of Cathedral City. WRP 10 is an activated sludge wastewater treatment plant, and among CVWD's WRPs, has the greatest treatment capacity of 18 mgd. The facility contains three separate liquid-stream secondary treatment trains, referred to as Plant A, Plant B, and Plant C. WRP 10 also contains two tertiary treatment trains with effluent discharge to percolation ponds or as recycled water. The total tertiary treatment capacity available to meet Title 22 requirements is 15.0 mgd. The recycled water pumping system has two large equalization basins that add buffering volume. The plant can emergency overflow to 14 storage ponds totaling approximately 20 million gallons. The plant also processes solids. Waste activated sludge is pumped to dissolved air flotation thickening systems to further separate liquid from solids, then run through a thickener before being dewatered in belt filter presses. Effluent discharged to the percolation ponds is infiltrated to recharge groundwater. Tertiary treated effluent is pumped to on- and off-site irrigation facilities which include golf courses for 18 different customers in the cities of Palm Desert and Indian Wells. The dewatered solids are then hauled offsite for landfill disposal.

Current Discharge Requirements

The discharge requirements from the 2013 WRP 10 WDR permit issued by the Colorado River RWQCB are summarized in Table 4.6-6 for treated effluent discharged for recycled water or to the percolation ponds.

Table 4.6-6. WRP 10 Current Effluent Limitations for Recycled Water or to Percolation Ponds

Parameter	Units	Effluent Limitation			
		30-Day Arithmetic Mean Discharge Rate	7-Day Arithmetic Mean Discharge Rate	Instantaneous Minimum	Instantaneous Maximum
$CBOD_5$	mg/L	20	30	--	--
TSS	mg/L	20	30	--	--
Settleable Solids	mg/L	0.3	0.5	--	--
pH	-	--	--	6.0	9.0

In addition to the limitations shown in Tables 4.6-6, the following process related limitations are also listed in the discharge permit:

- TDS: The concentration of TDS in the wastewater discharged to the percolation ponds shall not exceed 530 mg/L over the TDS concentration of the public water supply
- The 30-day average monthly dry weather discharge flow for secondary treated effluent shall not exceed 18.0 mgd
- The 30-day average monthly dry weather discharge flow for tertiary treated effluent shall not exceed 15.0 mgd
- The DO content in the upper zone (one foot) of wastewater treatment ponds or process units shall not be less than 1.0 mg/L
- Flow shall not exceed 5 gpm per square foot of surface area in mono, dual or mixed media gravity, upflow or pressure filtration system or shall not exceed 2 gpm per square foot of surface area in traveling bridge automatic backwash filters
- Wastewater that has been coagulated: Turbidity of the filtered watewater shall not exceed 2 Nephelometric Turbidity Unit (NTU) within a 24-hour period, 5 NTU more than 5 percent of the time within a 24-hour period, and 10 NTU at any time
- Wastewater that has not been coagulated: Turbidity of the filtered effluent shall not exceed 2 NTU within a 24-hour period, 5 NTU more than 15 minutes, and never exceed 10 NTU at any time
- Disinfected tertiary treated recycled water directly reused shall conform to the following:

- A chlorine disinfection process following filtration that provides a contact time value of not less than 450 milligrams-minute per liter at all times with a modal contact time of at least 90 minutes, based on peak dry weather design flow; or
- A disinfection process that, when combined with the filtration process, has been demonstrated to inactivate and/or remove 99.999 percent of the plaque-forming units of F-specific bacteriophage MS2, or polio virus in the wastewater.
- The median concentration of total coliform bacteria measured in the disinfected effluent does not exceed an MPN of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed and the number of total coliform bacteria does not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30-day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.
- Turbidity from microfiltration shall not exceed 0.2 NTU more than 5 percent of the time within a 24-hour period and 0.5 NTU at any time

4.6.1.6 Master Plan Area Drainage and Flood Management

CVWD provides stormwater protection and flood control services for 590 square miles within the Coachella Valley. The area's proximity to the Coachella Valley floor and the surrounding mountains results in susceptibility to unpredictable and severe flash flooding. CVWD constructed and maintains 16 stormwater protection channels along naturally flowing dry creeks from the mountains into the Whitewater River. Dikes and levees along the channels were constructed to collect flood waters from the mountains into the Coachella Valley. The largest facility is the 50-mile long Whitewater River Stormwater Channel/Coachella Valley Stormwater Channel which spans from the Whitewater area north of Palm Springs to the Salton Sea. The western portion of the channel is within the natural alignment of the Whitewater River which travels southeasterly to La Quinta then enters the man-made Coachella Valley Stormwater Channel which terminates at the Salton Sea (CVWD 2019b). Most of the Master Plan area is protected from flooding; however, some areas are not currently protected. Unprotected areas include Thousand Palms and the rural areas in eastern Coachella Valley from Oasis to the Salton Sea which is within the study area of the Eastern Coachella Valley Stormwater Master Plan 2018 (CVWD 2018). The Stormwater Master Plan provides guidance for implementation of drainage facilities to improve flood control in portions of the project area. Improvements are also being proposed for the Coachella Valley Stormwater Channel.

Flood Insurance Rate Maps (FIRMs) have recently been updated for a portion of the Coachella Valley Stormwater Channel 100-year inundation area since 2018. According to the updated maps, much of the project area that was previously designated as an area of undetermined flood risk (Zone D), has been rated at a higher risk flood zone or Special Flood Hazard Area (SFHA). Figure 4.6-3 shows the areas designated as SFHA zones within the project area which is primarily located along the low lying areas adjacent to the Coachella Valley Stormwater Channel.

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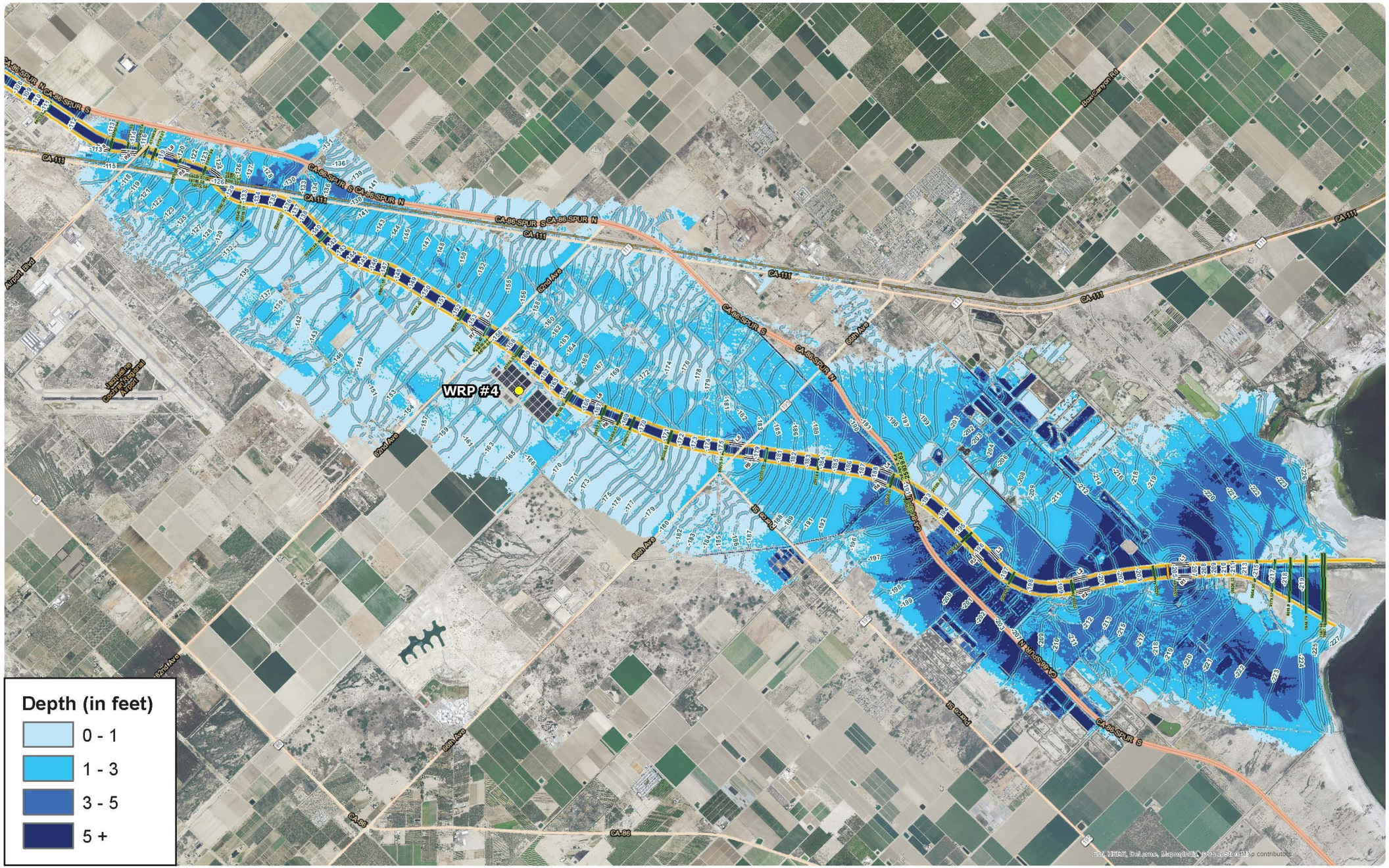

Source: CVWD Stormwater Protection & Flood Control 2019c; CDM Smith, Inc.

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 4.6-3. Coachella Valley Stormwater Channel 100-Year Inundation Depth Map

2019-144 CVWD Sanitation Master Plan

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These SFHAs include the following flood risk designations (Federal Emergency Management Agency [FEMA] 2019a):

- Zone A: The Special Flood Hazard Area (except coastal V Zones) shown on a community's Flood Insurance Rate Map. Zone A includes five different sub-designations:
- A: SFHA where no base flood elevation is provided.

A#: Numbered A Zones (e.g., A7 or A14), SFHA where the FIRM shows a base flood elevation in relation to the National Geodetic Vertical Datum (NGVD):

- AE: SFHA where base flood elevations are provided. AE Zone delineations are now used on new FIRMs instead of A# Zones.
- AO: SFHA with sheet flow, ponding, or shallow flooding. Base flood depths (feet above grade) are provided.
- AH: Shallow flooding SFHA. Base flood elevations in relation to NGVD are provided.

Other, lower flood risk designations include the following:

- Zone B: Area of moderate flood hazard, usually depicted on Flood Insurance Rate Maps as between the limits of the base and 500-year floods. B Zones are also used to designate base floodplains of little hazard, such as those with average depths of less than 1 foot.
- Zone C: Area of minimal flood hazard, usually depicted on Flood Insurance Rate Maps as above the 500-year flood level. B and C Zones may have flooding that does not meet the criteria to be mapped as a Special Flood Hazard Area, especially ponding and local drainage problems.
- Zone D: Area of undetermined but possible flood hazard.
- Zone V: The Special Flood Hazard Area subject to coastal high hazard flooding. There are three types of V Zones: V, V#, and VE, and they correspond to the Zone A designations.
- Zone X: Newer Flood Insurance Rate Maps show Zones B and C (see above) as Zone X.

Some of the existing CVWD sanitation facilities are within SFHA areas and some are located in Zone X and other zones with moderate to minimal flood hazard. Only WRP 4 is within the CVSC 100-Year flood inundation area, however, most of the WRP facility is shown to be in Zone X and surrounded by Zone AE with Base Flood Elevation (BFE) identified. Existing and proposed conveyance structures and piping are within an SFHA and the 1-year flood inundation area. Table 4.6-7 below describes the current flood hazard risk from the most recent FIRM map at each of the five WRPs.

Table 4.6-7. WRP Sites FEMA Flood Risk Designation

WRP	FIRM Risk Designation	FIRM Panel Number/Year	Within CVSC 100-Year Inundation Study Area
WRP 1 Bombay Beach	Zone A: Southeastern portion – no BFE Zone X: Area of Minimal Flood Hazard	06025C0380C 9/26/2008	No
WRP 2 North Shore	Zone A: no BFE	06065C2975G 8/28/2008	No
WRP 4 Thermal	Zone AE: with BFE Zone X: 0.2% Annual Chance Flood Hazard, areas of 1% annual chance flood with average depth less than 1 foot with drainage areas of less than 1 square mile. Zone X: Area of Minimal Flood Hazard	06065C2910H 3/6/2018 06065C2930H 3/6/2018	Yes, but still determined to be Zone X for most of the property on the FIRM
WRP 7 North Indio	Zone A: no BFE	06065C1620G 8/28/2008	No
WRP 10 Palm Desert	Zone X: Area of Minimal Flood Hazard	06065C2226H 4/19/2017	No

Source: FEMA Flood Map Service Center

4.6.1.7 Seiche and Tsunami Risk

A seiche is a disturbance or oscillation (i.e., wave) in surface water levels of an inland lake usually caused by an earthquake. Within the project area, the Salton Sea could potentially be susceptible to a seiche in the event of a large earthquake. Some CVWD facilities near the shoreline of the Salton Sea could be affected if a seiche were to occur. However, the lake is relatively shallow and would likely not cause a substantial wave.

A tsunami is a disturbance also caused by earthquakes in the ocean and coastal regions. The project area is approximately 80 miles from the ocean and would not be affected by a tsunami.

4.6.2 Related Regulations

4.6.2.1 Federal

Clean Water Act

In the early 1970s, the public awareness and concern for controlling water pollution led to enactment of the Federal Water Pollution Control Act Amendments of 1972. As amended in 1977, this law became commonly known as the Clean Water Act (CWA). The CWA established the basic structure for regulating

discharges of pollutants into the waters of the U.S. It gave the USEPA the authority to implement pollution control programs such as setting wastewater standards for industrial and municipal dischargers. The CWA also continued requirements to set water quality standards for all known contaminants in surface waters. The CWA made it unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit was obtained under its provisions (USEPA 2019).

Section 303(d) of the 1972 CWA requires States, territories and authorized tribes to develop a list of water quality-impaired segments of waterways. The 303(d) list includes water bodies that do not meet water quality standards for the specified beneficial uses of that waterway, even after point sources of pollution have installed the minimum required levels of pollution control technology. The law requires that these jurisdictions establish priority rankings for water bodies on their 303(d) lists and implement a process, called TMDLs, to meet water quality standards (Colorado River RWQCB 2019b).

The TMDL process is a tool for implementing water quality standards and is based on the relationship between pollution sources and in-stream water quality conditions. The TMDL establishes the maximum allowable loadings of a pollutant that can be assimilated by a water body while still meeting applicable water quality standards. The TMDL provides the basis for the establishment of water quality-based controls. These controls should provide the pollution reduction necessary for a water body to meet water quality standards. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. The TMDLs allocation calculation for each water body must include a margin of safety to ensure that the water body can be used for the uses the State has designated. Additionally, the calculation also must account for seasonal variation in water quality (Colorado River RWQCB 2019b).

TMDLs are intended to address all significant stressors that cause or threaten to cause water body beneficial use impairments, including point sources (e.g., wastewater treatment plant discharges), nonpoint sources (e.g., runoff from fields, streets, range, or forest land), and naturally occurring sources (e.g., runoff from undisturbed lands). TMDLs may be based on readily available information and studies. In some cases, complex studies or models are needed to understand how stressors are causing water body impairment. In many cases, simple analytical efforts provide an adequate basis for stressor assessment and implementation planning. TMDLs are developed to provide an analytical basis for planning and implementing pollution controls, land management practices, and restoration projects needed to protect water quality. States are required to include approved TMDLs and associated implementation measures in State water quality management plans. Within California, TMDLs implementation is through regional Basin Plans.

The CWA also establishes the basic structure for regulating discharges of pollutants into the waters of the U.S. and gives the USEPA the authority to implement pollution control programs such as setting wastewater standards for industries (USEPA 2019). In certain States such as California, the USEPA has delegated authority to State agencies.

Water quality of waters of the U.S. subjected to a discharge of dredged or fill material is regulated under Section 404 of the CWA. These actions must not violate Federal or State water quality standards. Specifically, in the State of California, the applicable Regional Water Quality Control Board (RWQCB)

administers Section 401 and either issues or denies water quality certifications depending upon whether the proposed discharge or fill material complies with applicable State and Federal laws.

In addition to complying with State and Federal water quality standards, all point sources that discharge into waters of the U.S. must obtain a NPDES permit under provisions of Section 402 of the CWA. In California, the SWRCB and RWQCBs are responsible for the implementation of the NPDES permitting process at the State and regional levels, respectively.

The NPDES permit process also provides a regulatory mechanism for the control of non-point source pollution created by runoff from construction and industrial activities, and general and urban land use, including runoff from streets. Projects involving construction activities (e.g., clearing, grading, or excavation) involving land disturbance greater than one acre must file an NOI with the applicable RWQCB to indicate their intent to comply with the State General Permit for Stormwater Discharges Associated with Construction Activity (General Permit). The State General Permit specifies Best Management Practices (BMPs), to achieve compliance as well as numeric action levels (NALs) in order to achieve Federal standards to minimize sediment and pollutant loadings. The General Permit requires preparation and implementation of a SWPPP as well as a Rain Event Action Plan (REAP) prior to construction. The SWPPP and REAP are intended to help identify the sources of sediment and other pollutants and assess the effectiveness of BMPs in preventing or reducing pollutants in storm water discharges and authorized non-storm water discharges. The CWA also requires that a permit be obtained from the USEPA and the USACE when discharge of dredged or fill material into wetlands and waters of the U.S. occurs. Section 404 of the CWA requires the USEPA and USACE to issue individual and general permits for these activities.

Executive Order 11990, Protection of Wetlands

EO 11990 requires Federal agencies to take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands. This requirement extends to actions involved with construction activities or increased storage in existing reservoirs which would affect wetlands. Federal agencies must provide opportunities for early public review of any plans or proposals for new construction in wetlands.

Executive Order 11988, Floodplain Management

EO 11988 (*Floodplain Management)* addresses floodplain issues related to human safety, health, and welfare. It requires Federal agencies to avoid adverse impacts due to occupancy and modification of floodplains and support of development within floodplains (FEMA 2015). The EO also encourages the restoration and preservation of the beneficial aspects of floodplains through the following actions:

- acquiring, managing, and disposing of federal lands and facilities
- providing federally-undertaken, financed, or assisted construction and improvements
- conduct federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulation, and licensing activities

National Flood Insurance Program

FEMA administers the National Flood Insurance Program (NFIP) to provide affordable flood insurance to property owners and encourage communities to comply with FEMA regulations including enforcement of floodplain management regulations (FEMA 2019b). FEMA issues Flood Insurance Rate Maps (FIRMs) for communities participating in NFIP. These maps delineate flood hazard zones in the community.

The CVWD provides stormwater protection and flood control services within the Coachella Valley. Most of the project area is within areas where flood protection is provided; however, some areas are not currently protected. Unprotected areas include Thousand Palms and the rural areas in eastern Coachella Valley from Oasis to Salton Sea which is within the study area of the Eastern Coachella Valley Stormwater Master Plan 2018 (CVWD 2018). The Stormwater Master Plan provides guidance for implementation of drainage facilities to improve flood control in portions of the project area. Improvements are also being proposed for the Coachella Valley Stormwater Channel.

4.6.2.2 State

California Porter-Cologne Water Quality Control Act

The California Porter-Cologne Water Quality Act (Porter-Cologne Act) was enacted in 1969 and established the SWRCB. The Porter-Cologne Act defines water quality objectives as the limits or levels of water constituents that are established for reasonable protection of beneficial uses. Unlike the CWA, the Porter-Cologne Act applies to both surface and groundwater. The Porter-Cologne Act requires that each of nine semi-autonomous RWQCB establish water quality objectives, while acknowledging that water quality may be changed to some degree without unreasonably affecting beneficial uses. Beneficial uses, together with the corresponding water quality objectives, are defined as standards, per Federal CWA regulations. Therefore, the regional plans provide the regulatory framework for meeting State and Federal requirements for water quality control. Changes in water quality are only allowed if the change is consistent with the most restrictive beneficial use designation identified by the State, does not unreasonably affect the present or anticipated beneficial uses, and does not result in water quality less than that prescribed in the water quality control plans (SWRCB 2019).

NPDES and Waste Discharge Permits

The Regional Water Quality Control Board, Colorado River Basin (RWQCB) regulates the treatment, discharge, and use of wastewater through the issuance of discharge permits. The RWQCB regulates discharges to surface waters through the issuance of federal NPDES permits. The RWQCB regulates

wastewater discharges to surface/ground (or in effect groundwater) through the issuance of waste discharge requirements.[1,2]

Table 4.6-3, above, presents current RWQCB permits that regulate CVWD wastewater operations. Discharge permits issued by the RWQCB implement:

- State and federal water quality standards, regulations, and policies established by the USEPA
- State water quality policies and standards established by the SWRCB
- Regional water quality policies and water quality objectives established by the RWQCB within the Basin Plan

A State of California General Permit for Discharges of Stormwater Associated with Construction Activity Construction General Permit Order 2009-0009-DWQ (as amended in 2010 and 2012) will be required prior to any ground disturbance that is greater than one acre or is part of a common plan of development greater than one acre. An NOI and SWPPP must be developed and electronically submitted to the Storm Water Multiple Application and Report Tracking System, an online database maintained by the SWRCB. A Linear Undergrounding Project (LUP) for pipelines and conveyance structures is regulated differently than site development projects under the General Permit. A Qualified SWPPP Developer (QSD) must prepare the SWPPP. The SWPPP, other permit-required documents, and monitoring data must be maintained on the construction site. A Qualified SWPPP Practitioner must implement the SWPPP during construction including installation, inspection, and maintenance of BMPs required by the General Permit.

The General Permit requires dischargers to determine the relative risk levels at each construction site or LUP corridor. The risk factors are based on the potential for sedimentation and impacts to downstream receiving waters.

Based on the site's or LUP risk level, the SWPPP must list BMPs the discharger will use to protect stormwater runoff as well as the placement of those BMPs. These measures may include but would not be limited to revegetation, silt fences, turbidity fences, mulching of unstabilized areas, dewatering structures, stormwater drainage system, and construction fencing. The SWPPP will require a visual monitoring program, a chemical monitoring program for the "non-visual" pollutants to be implemented if there is a failure of BMPs, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. This monitoring program will assess compliance with NALs appropriate to the project. The SWPPP should also contain a site map(s) which shows the construction site perimeter, existing and proposed buildings, lots, roadways, storm water collection and discharge points, general topography both before and after construction, and drainage patterns across the project. At higher risk

[1] Waste discharge requirements (which may also be called water recycling requirements or master recycled water requirements) are established by RWQCBs pursuant to Article 4, Sections 13260-13276, Division 7 (Porter Cologne Water Quality Act) of the California Water Code.

[2] The Porter Cologne Water Quality Act authorizes RWQCBs to regulate discharges of "waste." The RWQCB does not regulate transfers of untreated water, percolation discharges of imported water, or any other such water system operations not associated with wastewater treatment or disposal.

sites, REAPs must be developed ensure that active construction sites have adequate erosion and sediment controls implemented prior to forecasted storm events.

Municipal Stormwater Permit Program

The SWRCB regulates stormwater dischargers from municipal separate storm sewer systems (MS4s) in California through their Municipal Stormwater Program. MS4s are conveyance systems which include roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels or storm drains. Clean Water Act Section 402 requires permits for discharges from an MS4 serving a population of 100,000 or more. In California, the State manages a Phase I Permit Program for municipalities with a population of over 100,000, a Phase II Permit Program for municipalities of less than 100,000 people, and a Statewide Stormwater Permit for Caltrans. The RWQCBs implement and enforce the Municipal Stormwater Permits within their separate jurisdictions and the State Water Board implements and enforces the Caltrans MS4 Permit.

The County of Riverside is the main MS4 Permittee within the region, and several other agencies with jurisdiction within the project area are co-permittees including: CVWD and the cities of Cathedral City, Rancho Mirage, Palm Desert, La Quinta, Indio, Indian Wells, and Coachella. Board Order R7-2001-0011 describes the NPDES Permit and WDRs for Municipal Separate Storm Sewer Systems within the Whitewater River Watershed. Each party to the permit must comply with stormwater discharge requirements for their facilities under the permit. In addition, construction project proponents must comply with the MS4 permit for construction discharges associated with land disturbance of less than one acre.

Clean Water Act Section 401

Any person who has applied for a federal permit under CWA Section 404 is required to obtain water quality certification from the State in which the activity is located. The State certifies that the project is in compliance with all applicable water quality standards, limitations, and restrictions. Federal CWA permits for an activity may not be issued until State water quality certification has been obtained by the applicant. The Colorado River RWQCB has the authority to review and issue CWA Section 401 Water Quality Certifications. California approved the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Materials to Waters of the State* in August 2019, and these procedures became effective on May 28, 2020. The California wetlands and jurisdictional waters boundary may be broader in some instances than the federal jurisdictional boundary which prompted the need for additional protections. The SWRCB action is to protect wetlands and jurisdictional waters that meet the State definition but may not be protected under the CWA Section 401 regulations (SWRCB 2020).

Water Code Section 13240, Regional Water Quality Control Plans

The California Water Code (Section 13240) requires the preparation and adoption of water quality control plans (Basin Plans), and the Federal CWA (Section 303) supports this requirement. According to Section 13050 of the California Water Code, Basin Plans consist of a designation or establishment for the waters within a specified area of beneficial uses to be protected, water quality objectives to protect those uses, and an implementation program needed for achieving the objectives. State law also requires that Basin

Plans conform to the policies set forth in the Water Code, beginning with Section 13000, and any State policy for water quality control. The Basin Plans are regulatory references for meeting the State and Federal requirements for water quality control (40 Code Federal Regulations 131.20). One significant difference between the State and Federal programs is that California's Basin Plans also establish standards for groundwater in addition to surface water.

Basin Plans complement other water quality control plans adopted by the SWRCB, such as the Water Quality Control Plan for Temperature Control and Ocean Waters. The SWRCB and the regional water boards maintain each Basin Plan in an updated and readily available edition that reflects the current water quality control programs.

The Colorado River RWQCB governs water bodies and groundwater within the project area of analysis. The Colorado River Region Basin Plan covers approximately 20,000 square miles and includes all of Imperial County and portions of San Bernardino, Riverside, and San Diego counties. The main hydrologic feature of the region is the Colorado River which supplies most of the water to the Coachella Valley. The Salton Sea is the largest body of water in the Basin and is replenished primarily by irrigation drainage and stormwater (Colorado River RWQCB 2019a).

The Basin Plan designates beneficial uses for surface waters and groundwaters of the Colorado River Basin, establishes water quality objectives to protect the beneficial uses, and establishes implementation policies for achieving the objectives.

Surface Water

The Basin Plan establishes bacteriological objectives for the Coachella Valley Storm Channel and establishes a goal to stabilize salinity in the Salton Sea at 35,000 mg/L.

Groundwater

Municipal water supply is a designated beneficial use for all groundwaters of the Coachella Valley. The Basin Plan requires that wastewater discharges to groundwater be regulated to:

- Maintain existing water quality where feasible
- Not impact taste and odor of municipal or domestic supplies

- Comply with primary drinking water Maximum Contaminant Levels (MCLs)[3] and action levels[4] established within the *California Code of Regulations*, including the nitrate MCL of 10 mg/L as nitrogen[5] and the arsenic MCL of 0.01 mg/L[6]

The Basin Plan also establishes a prohibition against the discharge of water softener wastes, brines, or toxic wastes to treatment facilities whose discharge can percolate to groundwater used for municipal or domestic supply.

The Basin Plan does not establish specific numerical objectives for TDS or related minerals, but the Basin Plan prohibition against impacting the taste of municipal or domestic supplies implies the need to ensure that groundwater used for municipal and domestic supply comply with secondary drinking water MCLs. Tables 4.6-8 and 4.6-9 summarize secondary MCLs for key non-toxic constituents that commonly appear in CVWD's wastewater.

Table 4.6-8. Secondary Drinking Water MCLs for Consumer Acceptance[7]

Constituent	Consumer Acceptance Secondary MCL (mg/L)
Foaming agents[8]	0.5
Iron	0.3
Manganese	0.05

[3] Primary MCLs are established within Sections 64431 and 64444, Title 22, Division 4, Chapter 15 of the *California Code of Regulations* for inorganic chemicals (including toxic metals, nitrate and nitrate, asbestos and perchlorate), organic chemicals (volatile organic chemicals and non-volatile synthetic organic chemicals), and radioactivity.

[4] Action levels for copper and lead are established within Section 64678, Title 22, Division 4, Chapter 17.5 of the *California Code of Regulations*.

[5] The primary MCL for nitrate is of particular importance to wastewater operations, as nitrate is normally found in domestic wastewater in concentrations that significantly exceed the nitrate as nitrogen (NO_3-N) (MCL of 10mg/L), and nitrogen is not readily removed from wastewater in conventional secondary and tertiary wastewater treatment processes.

[6] Arsenic is also a constituent of concern in CVWD wastewater operations, as arsenic is naturally present in groundwaters within the eastern portion of the Coachella Valley.

[7] Table 4.6-8 (above) presents selected secondary MCLs that are of interest in CVWD wastewater operations. Secondary MCLs are established in Table 64449-A, Section 64449, Title 22, Division 4, Chapter 15 of the California Code of Regulations. Secondary MCLs are established to reflect desired consumer acceptance levels for aesthetics, taste and odor.

[8] Methylene blue active substances (MBAS).

Table 4.6-9. Secondary MCL Ranges for Consumer Acceptance[9]

Constituent	MCL Ranges (mg/L)		
	Recommended	Upper	Short Term
Total dissolved solids	500	1,000	1,500
Or Specific Conductance, uS/cm	900	1,600	2,200
Chloride	250	500	600
Sulfate	250	500	600

Antidegradation Provisions

The Basin Plan implements the State of California Antidegradation Policy established by SWRCB Resolution No. 68-16. The antidegradation policy requires maintaining existing water quality even if the water quality is better than applicable water quality standards. Under this policy, water quality degradation is only allowed if such degradation is protective of beneficial uses, ensures compliance with applicable water quality standards, and is consistent with maximum benefit to the people of California.

Water Code (Section §10750) or Assembly Bill 3030

AB 3030, commonly referred to as the Groundwater Management Act of 1992, permits local agencies to develop groundwater management plans. Subsequent legislation has further amended the Water Code to make the adoption of a management program mandatory if an agency is to receive public funding for groundwater projects, creating an incentive for the development and implementation of management plans. In 2002, CVWD prepared and adopted the Coachella Valley Water Management Plan (CVWMP) and performed an update to the CVWMP in 2010. CVWD, the DWA, and Mission Springs Water District (MSWD) jointly prepared and adopted the Mission Creek-Garnet Hill Water Management Plan in 2013.

Sustainable Groundwater Management Act

Enacted in 2014, the Sustainable Groundwater Management Act (SGMA) requires local agencies to form GSAs in all high and medium priority basins to evaluate conditions in their local groundwater basins and adopt locally based Groundwater Sustainability Plans (GSPs) or Alternatives to a GSP (Alternative Plan) tailored to their regional economic and environmental needs. CVWD is the GSA for the portions of the Indio (Whitewater River) and Mission Creek Subbasins that are within CVWD's service areas and

[9] From Table 64449-B, Section 64449, Title 22, Division 4, Chapter 15 of the California Code of Regulations. Recommended secondary MCLs represent desirable concentrations for a higher degree of consumer acceptance. Concentrations ranging to the upper level are acceptable if it is neither reasonable nor feasible to provide a source supply that has lower salinity concentrations.

designated as medium priority subbasins. CVWD in collaboration with other GSAs including DWA, Indio Water Authority, and Coachella Water Authority, submitted the 2010 Coachella Valley Water Management Plan Update, and an associated Bridge Document, as an Alternative Plan for the Indio (Whitewater River) Subbasin. Also, CVWD in collaboration with DWA and MSWD, submitted the 2013 Mission Creek-Garnet Hill Water Management Plan, and associated Bridge Document, as an Alternative Plan for the Mission Creek Subbasin. Both Alternative Plans were approved in 2019, and the 2022 Alternative Plan Updates are in progress. Under SGMA, those GSAs working under an approved Alternative Plan are required to submit annual reports that include data about groundwater elevations and extractions, total water use, and change in groundwater storage (CVWD 2019a). The agencies have collaboratively prepared Annual Reports for Water Years 2016-2017 through 2018-2019 for both subbasins.

State Recycled Water Policy

The SWRCB adopted the State Recycled Water Policy in 2009[10] to establish state-wide water recycling goals and to provide guidance to RWQCBs on the regulation of recycled water projects. To facilitate the management of salts and nutrients in groundwater, the Recycled Water Policy requires stakeholders to develop Salt and Nutrient Management Plans (SNMPs) which identify proposed implementation strategies for optimizing recycled water use in a manner that is consistent with protecting groundwater quality and beneficial uses. To promote water recycling, the Recycled Water Policy also provides that a complete antidegradation analysis need not be performed for a recycled water project that utilizes less than 10 percent of the available assimilative capacity[11] or for multiple recycled water projects that utilize less than 20 percent of the available assimilative capacity.[12]

At the discretion of the RWQCB, SNMPs recommendations may be incorporated into the Basin Plan, or the SNMP may be adopted by the RWQCB in its entirety as an amendment to the Basin Plan.

4.6.2.3 Regional Regulations

Coachella Valley Salt and Nutrient Management Plan

Through a public participation process that invited input from all Coachella Valley stakeholders, CVWD and other regional stakeholders developed draft and final versions of a proposed Coachella Valley Groundwater Basin SNMP in 2015. The SNMP addressed a study area that included the Indio (Whitewater River) Subbasin, as well as surrounding topographically upgradient subbasins that included the Garnet Hill Subarea of the Indio (Whitewater River) Subbasin, Mission Creek Subbasin, and Desert Hot Springs Subbasin. As part of the SNMP, the Indio (Whitewater River) Subbasin was divided into the West Whitewater Management Zone (area northeast of Palm Desert) and East Whitewater Management Zone (Indio, Coachella, and downstream areas).

[10] The SWRCB updated the State Recycled Water Policy in 2013 and amended the policy in 2018 with numeric goals.

[11] Assimilative capacity is the capacity of a groundwater basin to accept additional salt and nutrient loads without causing exceedance of Basin Plan numerical concentration objectives.

[12] An antidegradation analysis acceptable to the RWQCB must be performed for recycled water projects that exceed the 10-percent (single project) and 20-percent (multiple project) assimilative capacity thresholds.

Through the SNMP process, regional stakeholders initially identified 14 constituents of concern. Of these constituents, nitrate and TDS were selected for detailed analysis within the SNMP as having relevance to salt and nutrient management. For each groundwater subarea, the SNMP:

- Assessed basin characteristics and summarized available water quality data
- Evaluated depth-averaged water quality using a volumetric approach and a groundwater model
- Compared groundwater quality with threshold targets
- Quantified existing and projected salt and nutrient loads
- Projected future water quality trends on the basis of the projected loads
- Quantified existing and projected assimilative capacity
- Identified potential management strategies for ensuring compliance with water quality objectives
- Presented a monitoring plan for future assessment of water quality

SNMP findings for the East and West Whitewater Management Zones are of particular relevance to CVWD wastewater planning, as discharges from WRP 1, WRP 2, WRP 4, WRP 7, and WRP 10 can contribute recharge to these management zones. The SNMP concluded that, on a depth-averaged basis, groundwater quality in both the East and West Whitewater Management Zones complied with (1) the drinking water nitrate MCL of 10 mg/L (as N), and (2) the secondary MCL "upper" threshold for TDS of 1,000 mg/L.

Recent Permit Provisions for Discharge of Recycled Water

The final version of the Coachella Valley Groundwater Basin SNMP was submitted to the RWQCB in June 2015. On February 19, 2020, the Colorado River RWQCB provided specific findings and recommendations regarding the 2015 Coachella Valley Groundwater Basin SNMP. CVWD along with partner agencies which include City of Palm Springs, City of Coachella Water Authority and Sanitary District, Desert Water Agency, Indio Water Authority, Mission Springs Water District, Myoma Dunes Mutual Water Company, and Valley Sanitary District, agreed with the Regional Board to prepare an SNMP Development Workplan by December 2020 to provide a comprehensive path to manage salts and nutrients from all sources within the Basin in a manner that ensures attainment of water quality objectives and protection of beneficial uses, comply with the 2018 Revised Recycled Water Policy, and address the Regional Board's specific findings and recommendations.

The 2015 Coachella Valley Groundwater Basin SNMP concluded that adequate assimilative capacity exists for TDS and nitrate within the East and West Whitewater Management Zones based on a management zone-wide, volume-averaged approach. Recent actions by the RWQCB indicate that the RWQCB deems the SNMP analysis too "coarse" to adequately assess impacts from individual wastewater operations on local water quality. Subsequent to submittal of the SNMP, the RWQCB (see Table 4.6-10) has adopted discharge permits that implement comprehensive project-specific monitoring and assessment requirements for wastewater operations discharging to percolation ponds. The project-specific monitoring

required within these permits is consistent with SWRCB Recycled Water Policy recommendations that emphasize the need for monitoring to assess potential impacts on nearby water supply wells.

Table 4.6-10. Special Requirements in Recent Coachella Valley Recycled Water Permits

Order	Discharger	Permit Provision or Conclusion
R7-2017-0013	City of Palm Springs Palm Springs Wastewater Treatment Plant	• Finding No. 36 concludes that wastewater nitrate concentrations may be impacting groundwater causing exceedance of the nitrate MCL. • Special Provision E.1 requires the City to assess the adequacy of the existing groundwater monitoring network and analyze existing data to assess potential impacts. • Special Provision E.3 requires the City to assess the fate and transport of nitrogen discharged to groundwater and determine of the percolation operation is causing nitrogen impairment to groundwater. • Special Provision E.3 requires the City to complete a nitrogen control feasibility study to assess treatment options (including costs and impacts on sewer rates) for achieving a total nitrogen effluent concentration of 10 mg/L. • Special Provision E.4 requires the City to conduct a comprehensive investigation of sources of salinity and develop a source control program to minimize salinity concentrations in the recycled water.
R7-2018-0001	CVWD WRP 10	• Special Provision F.1 requires CVWD to develop and submit a work plan and implementation schedule for (1) assessing the vertical and lateral extent of groundwater that exceeds a 10 mg/L (as N) nitrate concentration in the vicinity of WRP 10, and (2) assessing the potential threat to existing water supply wells.

Thus, while the SNMP conclusions indicate that (on a management zone basis) recycled water use represents no threat to groundwater water quality within the Coachella Valley, recent RWQCB permitting actions (see Table 4.6-10) indicate that the RWQCB is focusing on assessing and preventing groundwater impacts on a project-specific and site-specific basis. Given this current RWQCB approach, it is probable that future RWQCB requirements on CVWD wastewater and recycled water operations will, in part, depend on the results of these project-specific assessments. Since these project-specific assessments are not completed, it is uncertain how their results may affect future RWQCB regulation of CVWD wastewater facilities. CVWD's future wastewater planning must thus cover the range of regulatory outcomes that may occur when these project-specific water quality assessments are complete. It is probable that regulatory direction could change with regard to salinity and nitrate concentrations at percolation operations, and potentially recycled water irrigation application.

Probable Future Regulatory Changes Affecting Permit Compliance

It is reasonable to consider probable future regulatory changes to discharge limits implemented during the life of this Master Plan Update that would affect discharge permits for WRPs in the future. Discharge limits for TDS, nitrogen, and phosphorus may potentially change affecting WRP permits. WRP 1 and WRP

2 are an exception, currently located in an impaired groundwater area. It is unlikely that those plants will see different limits imposed or CVWD could seek an exemption.

The TDS limit would apply to percolation ponds. Currently the State of California encourages the use of recycled water for irrigation and is typically silent on salt contributions from conventional recycled water uses. A phosphorus limit could be imposed on discharges to the Coachella Valley Stormwater Channel as part of plans for restoring the Salton Sea only impacting WRP 4.

Elevated chronic toxicity results have occurred sporadically in WRP 4 effluent monitoring. Toxicity reduction evaluations triggered by these results have been unable to confirm the presence or identify the source of these elevated chronic toxicity results. It is unknown whether these results are an artifact of the variability observed in chronic toxicity tests or chronic toxicity caused by constituents in the effluent that may need to be addressed in the future.

4.6.3 Thresholds of Significance

Pursuant to the 2020 State CEQA Guidelines, Appendix G Thresholds of Significance potential impacts would be significant if they resulted in one or more of the following conditions or situations:

1) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality

2) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin

3) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:

    a) result in substantial erosion or siltation on or off-site
    b) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site
    c) 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
    d) impede or redirect flood flows

4) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation

5) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan

4.6.4 Environmental Impacts

Impact HYD-1 Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Land-disturbing activities during the construction of planned improvements could generate water quality impacts from erosion and sediment deposition or interfere with shallow groundwater in some locations violating water quality standards.

The Proposed Project includes upgrades to existing underground and above-ground infrastructure and new infrastructure which would require grading activities during implementation of the various projects. Construction activities would require the use of heavy equipment, hazardous chemicals, and other potential pollutants to water quality that would be used and stored onsite. Construction activities could result in the release of pollutants such as sediment, construction materials, and hazardous materials to surface waters and/or groundwater. Other potential sources of pollutants would be the accidental spill or release of hazardous materials from leaking equipment, unsecured stored materials, and stockpiling and staging areas.

Grading activities during construction would result in the temporary removal of impervious surfaces, landscaping, and soil excavation to access areas to replace or construct new pipeline and other underground improvements. Areas temporarily disturbed during construction would be restored to existing or improved stabilized conditions. Site restoration activities would include re-paving and replacement of impervious surfaces, backfilling of trenches and excavations with native or new material, and replanting of landscaping or native vegetation. Temporary staging areas would also be restored once construction is completed.

The Proposed Project would be implemented over the 2021 to 2040 planning period and includes several individual projects to be completed incrementally during this period. Thus, there would be no single construction discharge permitting and each proposed construction project would be permitted individually. Most of the projects would require one acre or more of disturbance and require coverage under the General Construction Stormwater permit (Board Order 2009-009-DWQ). To apply for coverage under the required Construction General Permit an NOI for compliance under the permit and a SWPPP prepared by a QSD is submitted to the SWRCB. For pipeline construction the project would be covered under the provisions for LUPs also described within the General Permit. The SWPPP describes BMPs to be implemented during construction to control erosion, sedimentation, and hazardous materials releases from the construction site into surface waters. These construction BMPs will be implemented and include many different methods for control and spill prevention depending on each project's conditions. BMPs would address minimization of disturbed areas, stabilization of disturbed areas, and water quality protection. Site perimeter and erosion controls are identified in the SWPPP to retain sediment onsite. The SWPPP would also describe management of equipment, building materials, stockpiling and storage areas, and equipment maintenance to avoid the release of sediment and hazardous materials to receiving waters. If a project would disturb less than one acre CVWD would not apply for coverage under the Construction General Permit and would comply with the requirements of the MS4 Permit for the Whitewater River Basin (Board Order R7-2013-0011) or a future permit applicable at the time of

construction. If a project requires dewatering due to the presence of shallow groundwater, a separate dewatering permit may also be required from the RWQCB which describes the management and waste discharge requirements for the groundwater discharge.

CVWD would require each contractor to comply with all applicable NPDES regulations and water quality standards including Municipal and General Permits. The contractor will be directed to implement sediment and erosion control, post-construction BMPs for permanent disturbance, and restoration standard practices and requirements. Areas temporarily disturbed during construction would be restored to existing conditions and stabilized. Therefore, impacts to water quality from erosion, sedimentation, or interference with shallow groundwater during construction of the proposed projects would be less than significant.

Land-disturbing activities during the construction of planned improvements located in wetlands and other jurisdictional waters could impact water quality, violating water quality standards.

Some areas preliminarily proposed for construction of new or replacement pipelines and WRP improvements have potential for the presence of wetlands or jurisdictional after review of the defined service area on the National Wetlands Inventory (NWI) Wetlands Mapper (USFWS NWI 2020). However, due to changing regulatory policy, definitions, and legal court –challenges, forecasting regulatory jurisdiction into the future can be difficult granted the unique climate and ephemeral watershed features of the Coachella Valley. The biological impacts associated with work in wetlands, including compliance with California and the federal ESAs, are assessed in Section 4.2 – Biological Resources. Disturbance to wetlands and jurisdictional waters are also regulated by the SWRCB and the USACE in accordance with the Clean Water Act Section 404, as well as, the CDFW.

If disturbance to wetlands or other state or federally jurisdictional waters is unavoidable, CVWD will acquire coverage under the CDFW Fish and Game Code Section 1602, Lake and Streambed Alteration Agreement and applicable Section 404 Nationwide Permit, or apply for an Individual Permit if the proposed action would not quality for coverage under a Nationwide Permit. Pipeline maintenance and construction within wetlands or at waterway crossings may qualify for coverage under a Nationwide Permit 3 – *Maintenance* or 12 – *Utility Lines* respectively. Proposed project improvements at the WRPs within wetlands, specifically for pond improvements and linear replacements, may qualify for coverage under Nationwide Permit 3 – *Maintenance* or 39 – *Commercial and Institutional Developments*. Preconstruction Notification may be required in order to obtain coverage under the applicable Nationwide Permit. General and USACE District Regional Conditions for compliance are defined for each Nationwide Permit. The USACE Los Angeles District has jurisdiction over the project area and provides specific regional conditions for each type of Nationwide Permit.

The USACE will require Water Quality Certification from the SWRCB under Clean Water Act Section 401 prior to granting approval for coverage under a Nationwide Permit or Individual Permit. California SWRCB issued the Clean Water Act Section 401 General Water Quality Certification and Order in March 2017. Under this Order certain Nationwide Permits are conditionally certified included Nationwide Permit (NWP) 12. NWPs 3 and 39 are not conditionally certified and require acquisition of an Individual Water Quality Certification for actions proposed for coverage under Section those NWPs.

As each Master Plan project is undertaken, a review of potential impacts to wetlands and/or other federal jurisdictional waters will be conducted to determine if Section 404 or Section 401 permits are required. If permits are required then CVWD will work with the USACE Los Angeles District for CWA Section 404 permitting and the Colorado River RWQCB for CWA Section 401 permit acquisition and compliance during project planning and prior to construction. NWP and State Water Quality Certification conditions will address construction controls and BMPs to be implemented during construction to minimize impacts to water quality in addition to other resource impacts. Therefore, impacts to water quality during construction of the proposed projects in jurisdictional waters and wetlands would be less than significant.

Changes to WRP treatment and disposal systems and operations could result in discharges that do not meet current or future waste discharge requirements or water quality standards.

The Master Plan Update identifies many improvements to the five operating WRPs. All of these improvements are described in detail within the Sanitation Master Plan Update (Volumes 1 through 4) and are being implemented to improve systems and operations. An analysis of existing WRP deficiencies are also described which include capacity and effluent water quality standards. CVWD has been granted separate waste discharge permits from the Colorado RWQCB for each WRP discharging treated effluent to percolation ponds and/or recycled water use systems. WRP 4 has been issued an NPDES Waste Discharge Permit for discharge to the Coachella Valley Stormwater Channel. Each permit identifies WDRs and limits for various pollutants for discharge. Where information is available, the Sanitation Master Plan Update describes future State Water Board discharge limits that may be required in the future and some of those future conditions are also described in Section 4.6.2.3. It is possible that some future discharge limitations have not been anticipated since the Proposed Project implementation timeframe is 19 years. CVWD may not discharge effluent to a surface water, percolation ponds, or allow re-use of recycled water unless the treated effluent complies with the pollutant limitations described in each permit. CVWD must also comply with inflow requirements as well and inflow amounts at each WRP which may change over a 19-year period as the area population or number and makeup of industrial dischargers to the sanitary sewer system changes.

The CVWD is considering reuse of up to 100 percent of all effluent at WRPs 4, 7, and 10 in the future, which would reduce the amount of water discharged to percolation ponds and provide more water for re-use for irrigation in-lieu of groundwater. Separate environmental documentation would be prepared should these projects move forward in the future and are not covered in this PEIR. All planned improvements at the WRPs would require review by the Colorado River RWQCB and possible changes or amendments to their individual Waste Discharge Permits. CVWD will work with the RWQCB to modify the permits and comply with the new WDRs. Therefore, the impact to water quality from implementation of operational changes at the WRPs would be less than significant because CVWD would comply with mandated WDRs.

Impact HYD-2 Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

During future operations, conversion of some or all treated wastewater at WRPs 4, 7, and 10 from percolation pond discharge to recycled water use could change the amount of groundwater supply impacting sustainable groundwater management of the basin.

Groundwater is a receiving water for treated effluent from four of the operating WRPs except WRP 4. WRPs 1 and 2 fully discharge treated effluent to groundwater through evaporation and infiltration basins and WRPs 7 and 10 discharge a small portion of treated effluent to groundwater through percolation ponds and the majority of treated effluent as recycled water to the non-potable water system used for landscape and golf course irrigation. Use of recycled water for irrigation instead of stored groundwater reduces groundwater pumping and prevents undesirable results. CVWD and other area water districts submitted the 2010 Coachella Valley Water Management Plan and 2013 Mission Creek-Garnet Hill Water Management, with associated Bridge Documents, as Alternative Plans to comply with SGMA. Under SGMA, the agencies are required to submit annual reports, and the agencies have collaboratively prepared Annual Reports for Water Years 2016-2017 through 2018-2019 for both subbasins. The Alternative Plans provide a road map for managing the basin in a sustainable manner and preventing overdraft. Groundwater management to prevent overdraft conditions in the region's groundwater subbasins includes percolation of imported surface water as well as in-lieu replenishment. In-lieu replenishment is defined as the use of imported surface water or recycled water for irrigation to reduce or eliminate the use of pumped groundwater. Future groundwater management projects are described in the Alternative Plans and include CVWD's continued prioritization to convert golf courses from using pumped groundwater and using more recycled and imported surface water for irrigation.

These future water recycling operations and water source substitution projects are also described in the Master Plan Update. Therefore, the planned conversion of some or all treated wastewater at the WRPs from percolations pond discharge to recycled water use would decrease groundwater pumping and would not negatively impact sustainable groundwater management of the subbasins.

Impact HYD-3 Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:

- result in substantial erosion or siltation on or off-site;
- substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
- create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; and/or
- impede or redirect flood flows?

Construction of new buildings and impervious surfaces at WRPs and along linear infrastructure would alter the existing drainage pattern causing erosion of siltation on-or offsite.

The Proposed Project does include many improvements at the WRPs and along new and existing linear underground infrastructure routes that would add impervious surfaces that could affect the existing drainage patterns in the region increasing onsite erosion and sediment transport during storm events. The new impervious surfaces would not be located within any streams or rivers so these drainage areas would not be impacted. As described under the Impact HYD-2 analysis above, the CVWD would comply with Municipal, Industrial, and Construction General permits for stormwater management. Post-construction BMPs constructed at each site would reduce or eliminate the potential for substantial erosion or siltation to be transported offsite. Stormwater drainage at the individual WRPs will be managed onsite. Therefore, the impacts to existing drainage patterns and increases in erosion and siltation on or off-site would be less than significant with implementation of stormwater permit compliance measures and post-construction BMPs.

Construction of new buildings and impervious surfaces at WRPs could alter the existing drainage pattern causing an increase in the rate or amount of surface runoff resulting in flooding on- or offsite or exceed the capacity of existing or planned stormwater drainage systems.

The CVWD recently prepared the Eastern Coachella Valley Stormwater Master Plan Project which includes a portion of the project area and the Coachella Valley Stormwater Channel north of the Salton Sea. The Stormwater Master Plan describes planning and implementation of improvements to the stormwater infrastructure and capacity and guidelines for future development in the area for stormwater management.

The proposed addition of impervious surfaces at each project site would contribute to the amount of surface runoff that could potentially create additional flooding on- or offsite. The area of new impervious surfaces would be relatively small within each of the individual project areas. There would be some changes to site drainage patterns, surface runoff, and flood management. Impacts to drainage patterns from these new structures and impervious surfaces could cause flooding on- or off-site which could be a significant impact. However, with implementation of **Mitigation Measure HYD-1 Stormwater Management Facilities** impacts to drainage and flooding would be reduced to a less than significant level.

Construction of new buildings and impervious surfaces at WRPs located within the 100-year floodplain could impede or redirect flood flows.

Some of the WRPs are either partially or fully located within designated 100-year floodplain as depicted on the most recent FEMA FIRM map. Table 4.6-7, above, describes the FIRM Flood Risk Designation(s) at each WRP. The proposed improvement projects described within the Master Plan Update at each WRP have been compared to the FIRM Flood Risk designation on each map to determine if construction of the proposed improvements would impede or redirect flood flows.

WRP 10 is not within the 100-year floodplain. WRP 7 is within Zone A which is within the 100-year floodplain, and existing flood control dikes constructed by the Bureau of Reclamation are located to the north of the WRP and south of off-site percolation ponds. Planned above-ground improvements to WRP 7 within the 100-year floodplain include projects to improve secondary and tertiary treatment processes with new structures and existing facility improvements, and a new blower/control building. Most of WRP 4

is located within Zone X – area of minimal flood hazard. The reclamation plant sits on a large parcel. The plant site is built up seven to 10 feet higher than the surrounding parcel. The majority of the plant is also around two feet higher than the Coachella Valley Stormwater Channel berm further protecting it from flood waters that could inundate the 100-year floodplain area. However, some of the WRP 4 area is within Zone AE designated as 100-year floodplain. Improvements proposed within the Zone AE area at WRP 4 include chemical system safety upgrade, tertiary treatment expansions, primary treatment improvements, activated sludge expansion, and headworks expansion. This work would involve expanding existing buildings and/or constructing new buildings, basins, decommissioning of existing lagoons, and seasonal recycled water storage. Currently, CVWD is implementing the CVSC Avenue 62 to Avenue 64 Improvement Project, a slope lining project designed to protect WRP4 from the 100-year flood and this project is scheduled for completion in 2021. WRP 2 is entirely within the 100-year floodplain, however proposed improvements do not include new structures but does include replacing a liner in one of the existing ponds and installation of new aerators. Improvements proposed at WRP 1 are located within Zone X, area of minimal flood hazard.

Project improvements proposed to be constructed within the 100-year floodplain, if all are constructed, will be phased over a 19-year period. Many of the improvements discussed may not be implemented and their implementation depends on future studies and pilot tests which will inform the need for future planned capital improvements. Constructed improvements may cause flood flows to be redirected around new improvements. Improvements constructed within the 100-year floodplain could impede or redirect flood flows during flood events which could be a significant impact to hydrology and water quality. However, these impacts could be reduced to a less than significant level with implementation of **Mitigation Measure HYD-2**.

Impact HYD-4 Would the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Operation and/or expansion of new wastewater treatment facilities sited at WRPs within designated 100-year floodplains and seiche zones could increase the risk of release of pollutants due to project inundation compared to the existing condition.

As mentioned above some improvements are proposed at WRPs within designated 100-year floodplain areas and there are several existing facilities already constructed and operating within the 100-year floodplain. The new improvements proposed at the WRPs include new basins and other above ground improvements for water treatment. New facilities could include exposed ponds or tanks containing untreated water and chemicals used for water treatment. During a 100-year flood event, release of untreated wastewater or treatment chemicals into floodwaters could be a significant impact to water quality. As described above, proposed improvements at WRPs 2, 4, and 7 are located within the 100-year floodplain. Improvements proposed at WRP 2 are minimal and involve replacing a liner in an existing pond which would not increase the risk of release of pollutants during flood inundation. However, proposed improvements at WRPs 4 and 7 could increase the risk of the release of untreated wastewater and/or chemicals into the environment during a flood event. Improvements constructed within the 100-year floodplain at WRPs 4 and 7 could be damaged during extreme flood events which could be a

significant impact to public wastewater treatment services and water quality of receiving waters. However, these impacts would be reduced to a less than significant level with implementation of **Mitigation Measure HYD-3**.

Impact HYD-5 Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Master Plan Update improvements would require changes to operations which could conflict with implementation of the Colorado River Basin Water Quality Control Plan or the Coachella Valley Sustainable Groundwater Management Plans.

Section 4.6.1.6 describes the existing CVWD Sanitation Facilities and their regulatory permits from the Colorado River RWQCB in accordance with their Colorado River Basin Water Quality Control Plan. Under each of these permits for the WRPs, changes made to the WRPs through construction of new improvements and operational changes must be approved by the RWQCB with modified or amended permits. CVWD will work with the RWQCB to modify or amend permits as needed which would then comply with implementation of the Basin Water Quality Control Plan.

All of the Proposed Project improvements comply with the RWQCB Goals and Management Principals for implementation of the Water Quality Control Plan for the basin as stated below:

- Encourage reclamation of wastewaters, wherever feasible, in order to preserve freshwater supplies to protect water quality to the maximum extent possible
- Waste collection, treatment, discharge systems in addition to their primary function, shall also be oriented towards optimization of the quality of state waters and the reclamation of wastewaters for beneficial use
- Source control and pretreatment of wastes will be required wherever necessary to minimize degradation of water quality
- Evaporative loss of reclaimable wastewater is to be minimized

Many of the proposed improvements would allow for additional use of treated wastewater for irrigation. New underground conveyance improvements at areas with no current sewer systems would encourage a reduction in septic systems and connection to the CVWD sanitary sewer system reducing impacts to groundwater quality from on-site systems. The discussion above under Impact HYD-2 describes how the Proposed Project will comply with the area sustainable groundwater management plans. The increase in recycled water supplied by the WRPs for irrigation use from the Proposed Project improvements would help meet the objectives of the sustainable groundwater management plans by reducing reliance on pumped groundwater for golf course irrigation and other irrigation users. Therefore, the Proposed Project would have no impact to implementation of the Colorado River Basin Water Quality Control Plan nor the sustainable groundwater management plans.

4.6.5 Mitigation Measures

HYD-1: **Stormwater Management Facilities.** To mitigate for Impact HYD-3, CVWD will consider surface water runoff increases from new impervious surfaces and drainage patterns during planning and design phases of each project. Each site would include design of improved stormwater management facilities onsite to avoid offsite discharge that would exceed the capacity of the stormwater system or cause flooding. A grading and drainage plan will be included in each improvement plan set for construction. The plan will identify and implement temporary and permanent BMPs and other construction controls to ensure that increases in stormwater flows off-site are minimized.

HYD-2: **Prepare Drainage Study and Revise FEMA FIRM Maps As Needed.** During planning and design phases for project improvements to be located within designated 100-year floodplain and to mitigate for Impact HYD-3, CVWD shall prepare a drainage study prior to final design of facilities improvements to accurately determine a site's potential for flooding during a 100-year event and drainage improvements around new facilities to minimize changes to direction of flood flows. CVWD will work with FEMA to revise FIRM maps as needed through their Conditional Letter of Map Revision (CLOMR)/Conditional Letter of Map Amendment (CLOMA) processes..

HYD-3: **Floodproofing for Facilities with Flood Risk.** During planning and design phases for project improvements to be located within designated 100-year floodplain and to mitigate for Impact HYD-4, CVWD shall consider the risk to public facilities being located within the 100-year floodplain. Project designs shall include measures to floodproof new or modified structures and systems so service can continue during flood events and protect human life for workers present during flood events. Flood proofing measures could include the construction of a new dike around new structures or raising the ground elevations under new structures to elevate them above the floodplain. CVWD will work with FEMA to revise FIRM maps as needed through their Conditional Letter of Map Revision/Amendment (CLOMR/CLOMA) processes.

4.6.6 Residual Impacts After Mitigation

The environmental impact analysis reveals some potentially significant impacts to hydrology and water quality from individual projects. However, these potentially significant impacts will be reduced to a less than significant level with implementation of prescribed mitigation measures. CVWD is also mandated by federal and state laws and regulations which limit the potential impacts to hydrology and water quality from implementation of projects and changes to operations of sanitation facilities proposed under the Master Plan Update to either no impact or to a less than significant level.

4.6.7 Cumulative Impacts

The Hydrology and Water Quality environmental analysis has determined Master Plan implementation will have a less than significant impact to surface and groundwater quality; and groundwater supply, recharge and management. The Master Plan will not conflict with the *Water Quality Control Plan for the Colorado River Basin Region* (Colorado River RWQCB 2019a), the Alternative Plan for Indio (Whitewater River) Subbasin or the Alternative Plan for the Mission Creek Subbasin. Master Plan implementation impacts to hydrology and water quality associated with alterations to drainage patterns and new impervious surfaces and flood inundation risks will be less than significant with mitigation (Mitigation Measures HYD-1, HYD-2, and HYD-3). With implementation of Mitigation Measures HYD-1, HYD-2, and HYD-3 impacts would be less than cumulatively considerable.

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4.7 LAND USE, PLANNING, AND AGRICULTURE

This section describes the environmental and regulatory setting for land use and planning, and agricultural resources. This section also discusses, at a program level, the potential land use impacts and impacts related to conflicts with and conversion of agricultural resources from construction and operational activities of the facilities identified in the Master Plan.

As part of the master planning and project scoping processes, CVWD has determined that the environmental effects on forestry resources are not significant and are therefore not carried forward for further analysis in this Draft PEIR.

4.7.1 Environmental Setting

Land Use and Planning

Within incorporated cities in the CVWD's service area, land use planning is provided by general plans developed by each municipality. Within unincorporated communities of Riverside County and Imperial County, land use planning is provided by their respective General Plans. The purpose of general plans is to guide future development by establishing goals and policies concerning seven elements that are required by state law. These elements include land use, circulation, housing, conservation, open space, noise, and safety. General plans include descriptions and maps of where certain types of land uses and their intensity are allowed.

A summary of general plans in the CVWD's service area is located in Section 2.7, Documents Incorporated by Reference, of this PEIR.

Agriculture Resources

The agriculture industry remains a major foundation of the economy of Riverside County and Imperial County. While there are fewer agricultural resources within the urbanized western portions of the Coachella Valley (Riverside County) the more rural eastern portion of the Coachella Valley contains prominent agricultural resources. It should be noted that while there is one facility (WRP 1) located within Imperial County, the area where this facility is located is not within agricultural lands or near state-designated farmland (California Department of Conservation [DOC] 2016a). Therefore, this section focuses on the agricultural resources within Riverside County.

The eastern Coachella Valley is one of California's most important agricultural producing areas (Riverside County 2016). The eastern portion of the Coachella Valley is located within CVWD's Improvement District 1 (ID1). The gross crop production within ID1 for Calendar Year 2018 was valued at $585,715,889 (CVWD 2018). The gross farmed acreage for 2018 was 61,933 acres (CVWD 2018).

State Designated Farmland

Farmland throughout California is classified and mapped by the DOC's Farmland Mapping and Monitoring Program (FMMP). The FMMP produces maps and statistical data used for analyzing impacts

on California's agricultural resources. Agricultural land is rated according to soil quality and irrigation status; the best quality land is called Prime Farmland. The maps are updated every two years with the use of a computer mapping system, aerial imagery, public review, and field reconnaissance (DOC 2020a).

For environmental review purposes under CEQA, the categories of Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, and Grazing Land constitute 'agricultural land' (Public Resources Code Section 21060.1). The remaining categories are used for reporting changes in land use as required for FMMP's biennial farmland conversion report. The categories are defined below.

Prime Farmland

Farmland with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Farmland of Statewide Importance

Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Unique Farmland

Farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.

Farmland of Local Importance

Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee. In some counties, Confined Animal Agriculture facilities are part of Farmland of Local Importance, but they are shown separately.

Grazing Land

Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities.

Urban and Built-up Land

Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

Other Land

Land not included in any other mapping category. Common examples include low-density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines and borrow pits; and water bodies smaller than forty acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

Figure 4.7-1 depicts FMMP farmland mapped in the CVWD service area along with proposed facilities.

4.7.2 Related Regulations

Federal Regulations

No federal plans, policies, regulations, and/or laws related to land use and agricultural lands are applicable to the Master Plan.

State Regulations

California Land Conservation Act of 1965 (Williamson Act)

The Williamson Act, also known as the California Land Conservation Act of 1965, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments which are much lower than normal because they are based upon farming and open space uses as opposed to full market value (DOC 2020b). Riverside County adopted Ordinance No. 509 allowing the establishment of agricultural preserves pursuant to the Williamson Act on lands to be devoted to agricultural and compatible uses. Figure 4.7-2 depicts Williamson Act Parcels in CVWD's service area.

Local Regulations

Riverside County Adopted Ordinance No. 509

This ordinance allows Riverside County to establish agricultural preserves pursuant to the Williamson Act on lands to be devoted to agricultural and compatible uses. The ordinance lists uses that are determined to be agricultural and compatible uses within an agricultural preserve (Riverside County 1988).

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Desert Hot Springs
Cathedral City
Rancho Mirage
Palm Springs
Palm Desert
Indian Wells
La Quinta
Indio
Coachella
WRP #7
WRP #10
10
111
74

Map Features

Coachella Valley Water District Service Area

Project Components

W WRP

L Lift Station

A Collection System Asset Management CIPs (Sewer Pipelines and Manholes)

Capacity Pipe Improvements

Force Main

Gravity Main

Renewal Pipe Improvements/Risk Management

Whitewater River/Coachella Valley Stormwater Channel

FMMP Farmland Designations

Prime Farmland

Farmland of Local Importance

Unique Farmland

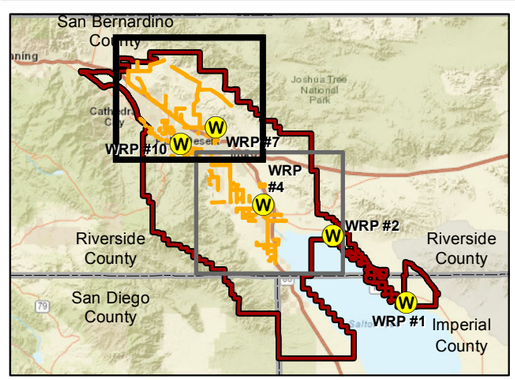
Other Land

Urban and Built-up Land

Water

Not Inventoried

Sources: CVWD, USFWS, Esri



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Map Date: 5/6/2020

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Figure 4.7-1.
Farmland in Service Area Sheet 1 of 2

2019-144 CVWD Sanitation Master Plan

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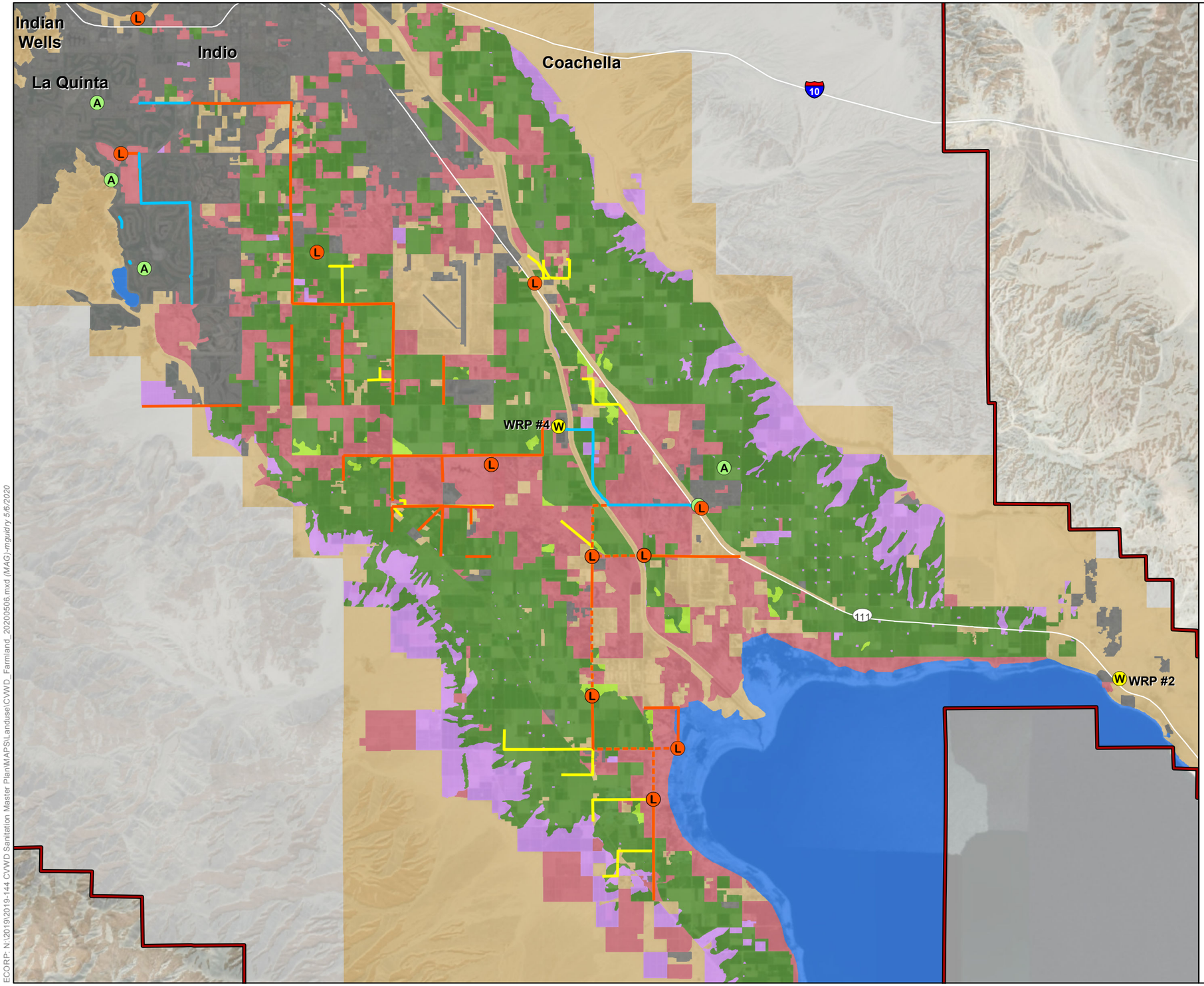


Map Features

- Coachella Valley Water District Service Area

Project Components

- WRP
- Lift Station
- Collection System Asset Management CIPs (Sewer Pipelines and Manholes)

Capacity Pipe Improvements

- Force Main
- Gravity Main

Septic to Sewer

- Force Main
- Gravity Main

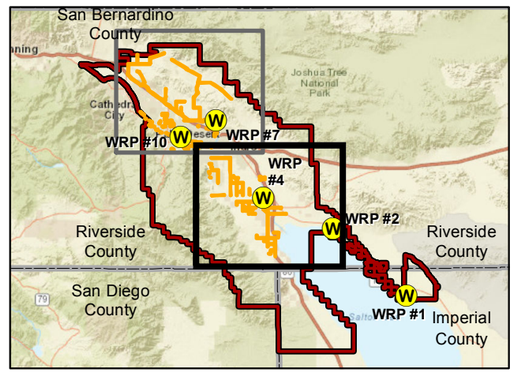
Renewal Pipe Improvements

- Whitewater Canal

FMMP Farmland Designations

- Prime Farmland
- Farmland of Statewide Importance
- Farmland of Local Importance
- Unique Farmland
- Other Land
- Urban and Built-up Land
- Water
- Not Inventoried

Sources: CVWD, USFWS, Esri



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Map Date: 5/6/2020

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Figure 4.7-1.
Farmland in Service Area Sheet 2 of 2

2019-144 CVWD Sanitation Master Plan

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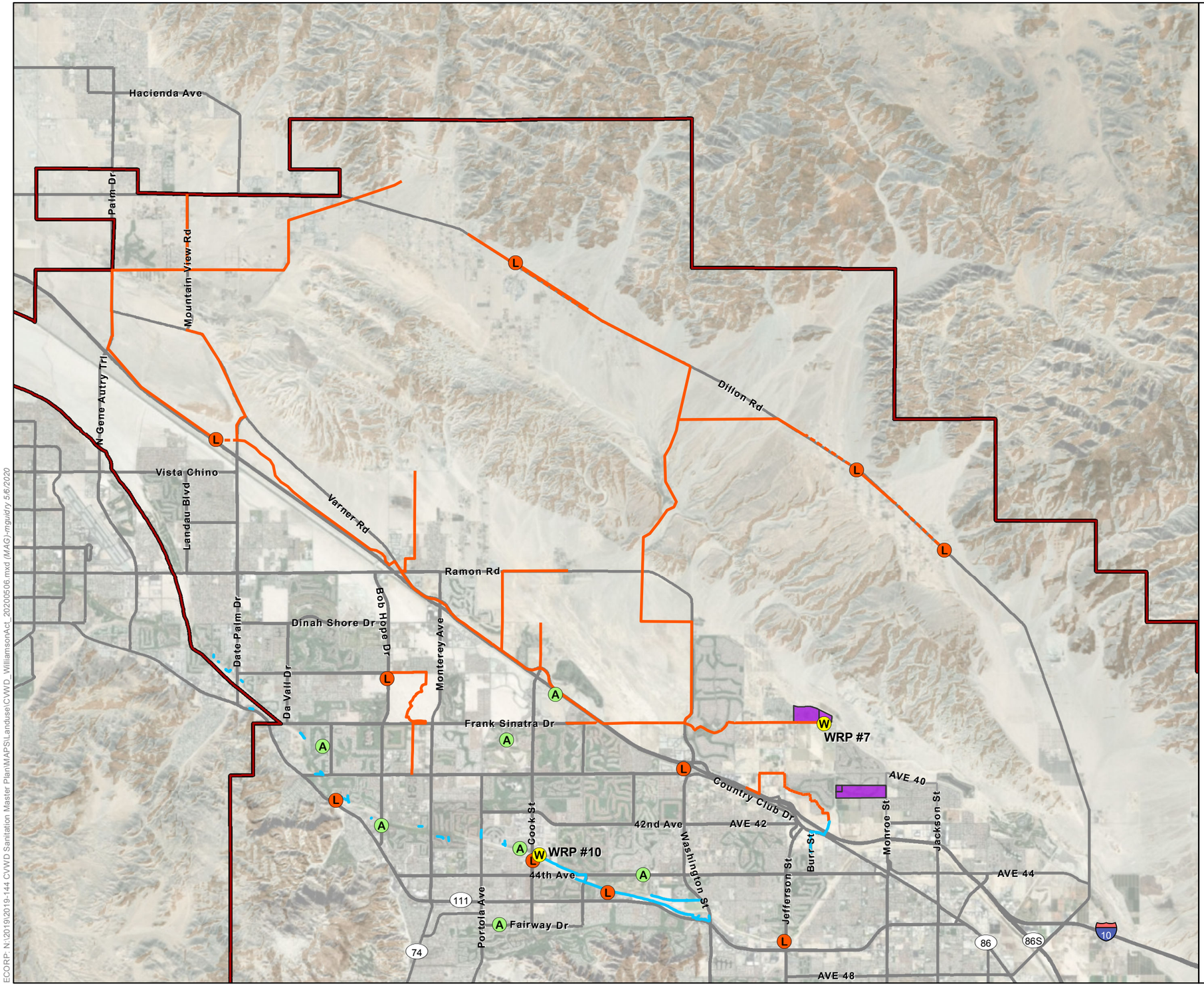

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Map Features

- Coachella Valley Water District Service Area
- Parcels Under Williamson Act Contract

Project Components

- W — WRP
- L — Lift Station
- A — Collection System Asset Management CIPs (Sewer Pipelines and Manholes)

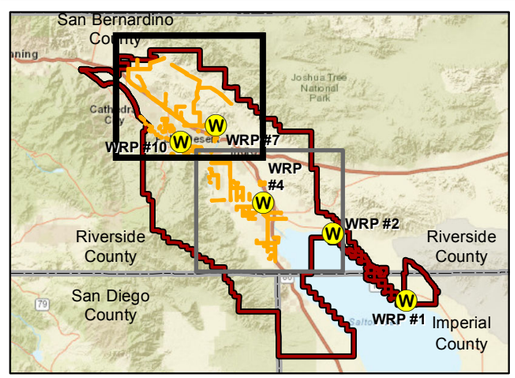
Capacity Pipe Improvements

- Force Main
- Gravity Main

Renewal Pipe Improvements/Risk Management

- Whitewater River/Coachella Valley Stormwater Channel

Sources: CVWD, USFWS, Esri



Map Date: 5/6/2020

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Figure 4.7-2.
Williamson Act Parcels in Service Area Sheet 1 of 2

2019-144 CVWD Sanitation Master Plan

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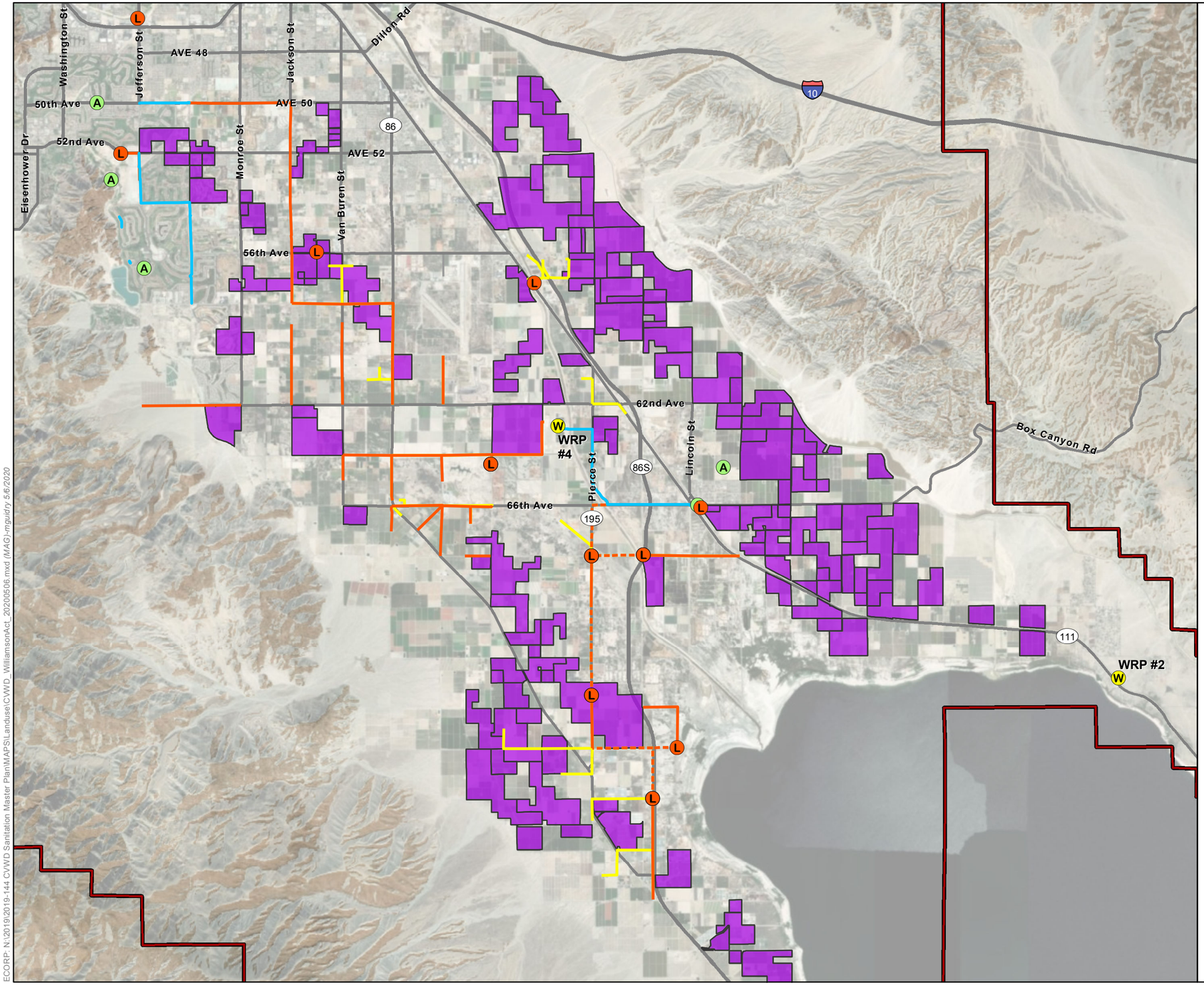


Map Features

- Coachella Valley Water District Service Area
- Parcels Under Williamson Act Contract

Project Components

- W — WRP
- L — Lift Station
- A — Collection System Asset Management CIPs (Sewer Pipelines and Manholes)

Capacity Pipe Improvements

- Force Main
- Gravity Main

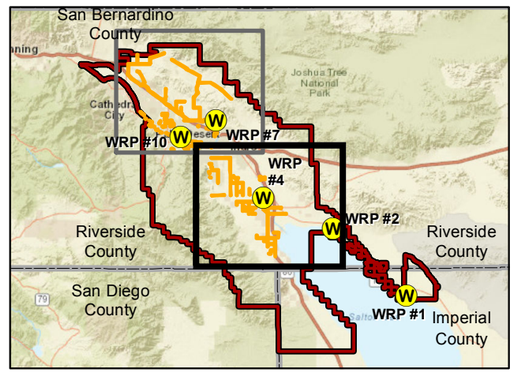
Septic to Sewer

- Force Main
- Gravity Main

Renewal Pipe Improvements/Risk Management

- Whitewater River/Coachella Valley Stormwater Channel

Sources: CVWD, USFWS, Esri



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Map Date: 5/6/2020

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Figure 4.7-2.
Williamson Act Parcels in Service Area Sheet 2 of 2

2019-144 CVWD Sanitation Master Plan

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4.7.3 Thresholds of Significance

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance and CVWD Local CEQA Guidelines (2019). The Master Plan would result in a significant impact to the land use and planning environment or to agricultural resources if it would do any of the following:

Land Use and Planning

1) Physically divide an established community.

2) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

Agricultural Resources

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) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use.

4.7.4 Environmental Impacts

Impact LU-1: Would the project physically divide an established community?

The Master Plan includes improvements to existing WRPs and lift stations; rehabilitation of existing sewer pipelines; construction of new sewer pipelines and lift stations; and operation and maintenance improvements. Proposed improvements to existing sanitation facilities are not expected to divide established communities.

New sewer pipelines would primarily be located within the existing right-of-way of existing roadways. There are locations where sewer pipelines would need to traverse open land; however, sewer pipelines would be located underground which would not divide an established community. New lift stations would be sited directly adjacent to existing or proposed sewer pipelines. New lift stations are needed to increase system capacity to serve future growth. As such, proposed lift stations are generally located in areas that are sparsely developed. Furthermore, lift stations have a relatively small footprint compared to other sanitation infrastructure and would not present a physical barrier to surrounding areas. For these reasons the construction of new lift stations is not expected to divide established communities. No impact would occur.

Impact LU-2: Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The Master Plan would include improvements to existing sanitation facilities and construction of new facilities to serve sanitation capacity needs as planned development occurs. The proposed infrastructure improvements would support existing and future land uses in the project area. Improvements to existing facilities would continue the current use of each facility; as such, these improvements would be compatible and not conflict with land use plans, policies, or regulations. The Master Plan also includes the construction and operation of new sewer pipelines and lift stations. New sewer pipelines would primarily be located within the existing right-of-way of existing roadways. There are locations where sewer pipelines would need to traverse open land; however, sewer pipelines would be located underground. Lift stations would be sited adjacent to sewer pipelines. Infrastructure uses, such as sewer pipelines, are generally an allowed use in land use designations as these facilities provide support for other land uses. Therefore, the Master Plan is not anticipated to conflict with the land use plans, policies, or regulations set forth by the various agencies located in CVWD's service area. No impact would occur.

Environmental effects due to the construction and operation of the Master Plan sanitation projects are discussed throughout this Draft PEIR.

Impact AG-1: Would the project 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?

Table 4.7-1 summarizes the amount of FMMP farmland within the CVWD service area and the acreage within the impact footprint of the proposed sanitation facilities. For projects located within the WRPs the impact footprint is the WRP boundary. The impact footprint for the new lift stations is a one-acre circle centered at the lift station center point. A 20-foot-wide impact footprint is assumed for the proposed pipelines.

Table 4.7-1. FMMP Acreage within CVWD Sanitation Master Plan Update 2020 Project Area

FMMP Farmland Categories	Farmland in Service Area (acres)[1]	Project Facilities Temporary Impact Footprint (acres)[2]	Project Facilities Permanent Impact Footprint (acres)	Project Facilities Temporary Impact on FMMP Farmland (%)	Project Facilities Permanent Impact on FMMP Farmland (%)
Prime Farmland	48,088.1	167.6	2.9	0.35	<0.01
Farmland of Statewide Importance	762.0	2.2	0.0	0.29	0.0
Unique Farmland	9,975.0	3.0	0.0	0.03	0.0

Table 4.7-1. FMMP Acreage within CVWD Sanitation Master Plan Update 2020 Project Area

FMMP Farmland Categories	Farmland in Service Area (acres)[1]	Project Facilities Temporary Impact Footprint (acres)[2]	Project Facilities Permanent Impact Footprint (acres)	Project Facilities Temporary Impact on FMMP Farmland (%)	Project Facilities Permanent Impact on FMMP Farmland (%)
Farmland of Local Importance	26,419.3	152.9	3.0	0.058	0.01
Total (Farmland):	***85,244.4***	***325.7***	***5.9***	***<0.01***	***<0.02***

Notes: 1 = 2016 FMMP, 2 = Project facilities footprint assumptions: WRPs – parcel boundary of WRP location; lift stations – one-acre circle centered at the lift station center point; and pipelines – 20-foot wide impact zone

As shown in Table 4.7-1, complete build-out of the Master Plan projects would temporarily affect 325.7 acres of farmland during construction over the 19-year planning period, which represents less than 0.01 percent of the total farmland in the CVWD service area. Temporary impacts include approximately 167.6 acres (0.35%) of Prime Farmland, 2.2 acres (0.29%) of Farmland of Statewide Importance, and approximately 3.0 acres (0.03%) of Unique Farmland. These acreages represent farmland mapped by the FMMP in 2016, the latest farmland data available during the preparation of this Draft PEIR. The Master Plan would be implemented over a 19-year planning period and it is possible for farmland to change from one category to another during this implementation period.

It should be noted that the potentially affected farmland within the impact footprint does not represent a permanent conversion of agricultural land to non-agricultural uses. Above-ground components, such as new lift stations, if located within state designated farmland, could result in permanent conversion. Proposed pipelines would be located underground and predominantly within the right-of-way of existing roadways (including unpaved access roads in agricultural areas) or the edge areas of agricultural fields. Agricultural operations on adjacent fields would continue. Proposed sewer pipelines would not permanently convert existing farmland. Existing surface conditions would be restored to pre-project uses upon completion of construction. Proposed pipelines are shown in Figure 4.7-1. Approximately 5.9 acres (less than 0.02%) of farmland would be permanently converted (Table 4.7-1). This does not represent a significant conversion of farmland within the CVWD service area and a less than significant impact would occur.

Impact AG-2: Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

Zoning for Agricultural Use

Proposed facilities and proposed improvements to existing facilities located within the cities of Desert Hot Springs, Cathedral City, Rancho Mirage, Palm Desert, Indian Wells, La Quinta, and Indio are generally located within the right-of-way of existing streets or within lands zoned for urban, industrial, commercial, public, open space, or residential uses, which reflects the suburban nature of those cities. As such, the

Master Plan would not conflict with existing zoning for agricultural use within these respective cities. No impact would occur.

The majority of proposed facilities within unincorporated areas of Riverside County would be located along the right-of-way of existing roadways or consist of improvements to existing sanitation facilities. However, there are instances where some of the proposed facilities located within unincorporated areas of Riverside County would traverse lands designated and zoned for agricultural use. Specifically, in the southeast portion of the CVWD's service area, where agricultural uses are more prevalent. While some facilities would traverse lands designated for agricultural use in unincorporated Riverside County, the construction, operation, and maintenance of facilities included in the Master Plan is an activity that is exempt from Riverside County's zoning regulations per Ordinance No. 348, *Providing for Land Use Planning and Zoning Regulations and Related Functions of the County of Riverside*, Section 18.2. B. Public Projects (Riverside County 2019).

Ordinance No. 348 Section 18.2. B. Public Projects, states:

1. *No federal, state, county or city governmental project shall be subject to the provisions of this ordinance, including such projects operated by any combination of these agencies or by a private person for the benefit of any such government agency, unless the agency provides by contract or otherwise that the project shall be constructed or operated in compliance with any or all provisions of this ordinance.*

As such, the Master Plan would not conflict with existing zoning for agricultural use within unincorporated Riverside County. No impact would occur.

Williamson Act Contract

Figure 4.7-2 depicts the location of parcels under Williamson Act contract within the CVWD service area. Table 4.7-2 summarizes the acreage of parcels under a Williamson Act contract within the CVWD service area and the acreage within the impact footprint of the proposed sanitation facilities.

Table 4.7-2. Williamson Act Lands in the CVWD Sanitation Master Plan Update 2020 Project Area

Jurisdiction	Active Williamson Act Contract Lands within CVWD Service Area (acres)	Project Facilities Impact Footprint within Active Williamson Act Contract Lands (acres)[1]	Percent of Existing Acreage
Unincorporated Riverside County	20,779.3	14.1	0.07
Unincorporated Imperial County	0	0	0
City of Desert Hot Springs	0	0	0
Cathedral City	0	0	0
City of Rancho Mirage	0	0	0
City of Palm Desert	0	0	0
City of Indian Wells	0	0	0
City of Indio	342.6	0	0
City of La Quinta	917.7	0	0

Notes:
[1]Project facilities footprint assumptions: WRPs – parcel boundary of WRP location; lift stations – one-acre circle centered at the lift station center point; and pipelines – 20-foot-wide impact zone

As shown on Figure 4.7-2, proposed sewer pipelines and lift stations are generally located near roadways or edge areas of agricultural fields and other properties. Existing surface conditions would be restored to pre-project uses upon completion of construction. Lift stations would be sited directly adjacent to sewer pipelines near roadways or edge areas of agricultural fields.

As set forth in Riverside County Ordinance 509.2, Section A (3), sanitation facilities are considered compatible uses within an agricultural preserve.

Ordinance No. 509.2, Section A, Uniform Rules for Agricultural Preserves, states:

> *A. The following uses are hereby determined to be agricultural and compatible uses within an agricultural preserve, and all other uses of land are prohibited therein:*
>
> *3. Gas, electric, water, and communication utility facilities, and public service facilities of like nature operated by a public agency or mutual water company.*

The Master Plan is the construction, operation, and maintenance of public service facilities by a public agency (CVWD); therefore, the proposed facilities would be considered a compatible use with agricultural preserves. No impact to parcels under Williamson Act contract would occur.

Impact AG-3: Would the project involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?

Proposed improvements to existing facilities would not result in changes that would result in the conversion of farmland to non-agricultural use as these improvements would be located within land currently used for sanitation infrastructure. The majority of proposed facilities within the incorporated cities in the northwest area of the CVWD's service area would occur within developed areas and/or within the existing rights-of-way of existing roadways. As such, these improvements are not anticipated to result in the conversion of farmland to non-agricultural use.

Based on the current conceptual locations and sizing of proposed sanitation facilities, construction of new facilities in the southeastern portion of the CVWD's service area, where agricultural uses are more prevalent, could potentially result in the conversion of existing farmland to a non-agricultural use. However, for the most part, as shown on Figure 4.7-1, proposed sewer pipelines and lift stations are located near roadways or edge areas of agricultural fields and other properties. Therefore, the construction, operation, and maintenance of these proposed facilities would not significantly affect any existing or future agricultural operations. Impacts would be less than significant.

4.7.5 Mitigation Measures

No mitigation measures are required.

4.7.6 Residual Impacts After Mitigation

No residual impacts after mitigation would occur.

4.7.7 Cumulative Impacts

The Master Plan would result in the conversion of state-designated farmland to non-agricultural use. The permanent conversion of approximately 5.9 acres, representing less than 0.02 percent of the total farmland in CVWD's service area, would not represent a considerable contribution to a cumulative impact. No mitigation is required.

4.8 NOISE

4.8.1 Environmental Setting

Noise Fundamentals

Noise is generally defined as sound that is loud, disagreeable, or unexpected. The selection of a proper noise descriptor for a specific source is dependent on the spatial and temporal distribution, duration, and fluctuation of the noise. The noise descriptors most often encountered when dealing with traffic, community, and environmental noise include the average hourly noise level (in L_{eq}) and the average daily noise levels/community noise equivalent level (in L_{dn}/CNEL). The L_{eq} is a measure of ambient noise, while CNEL is a measures of community noise. Each is applicable to this analysis and defined as follows:

- **Equivalent Noise Level (L_{eq})** is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
- **Day-Night Average (L_{dn})** is a 24-hour average L_{eq} with a 10-dBA "weighting" added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.4 dBA L_{dn}.
- **Community Noise Equivalent Level (CNEL)** is a 24-hour average L_{eq} with a 5-dBA weighting during the hours of 7:00 p.m. to 10:00 p.m. and a 10-dBA weighting added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively.

Noise can be generated by a number of sources, including mobile sources, such as automobiles, trucks and airplanes, and stationary sources, such as construction sites, machinery, and industrial operations. Sound spreads (propagates) uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately 6 dB for each doubling of distance from a stationary or point source. Sound from a line source, such as a highway, propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of approximately 3 dB for each doubling of distance from a line source, such as a roadway, depending on ground surface characteristics (Federal Highway Administration [FHWA] 2011). No excess attenuation is assumed for hard surfaces like a parking lot or a body of water. Soft surfaces, such as soft dirt or grass, can absorb sound, so an excess ground-attenuation value of 1.5 dB per doubling of distance is normally assumed. For line sources, an overall attenuation rate of 3 dB per doubling of distance is assumed (FHWA 2011).

Noise levels may also be reduced by intervening structures; generally, a single row of detached buildings between the receptor and the noise source reduces the noise level by about 5 dBA (FHWA 2008), while a solid wall or berm generally reduces noise levels by 10 to 20 dBA (FHWA 2011). However, noise barriers or enclosures specifically designed to reduce site-specific construction noise can provide a sound

reduction 35 dBA or greater (Western Electro-Acoustic Laboratory, Inc. 2000). To achieve the most potent noise-reducing effect, a noise enclosure/barrier must physically fit in the available space, must completely break the "line of sight" between the noise source and the receptors, must be free of degrading holes or gaps, and must not be flanked by nearby reflective surfaces. Noise barriers must be sizable enough to cover the entire noise source and extend lengthwise and vertically as far as feasibly possible to be most effective. The limiting factor for a noise barrier is not the component of noise transmitted through the material, but rather the amount of noise flanking around and over the barrier. In general, barriers contribute to decreasing noise levels only when the structure breaks the "line of sight" between the source and the receiver.

The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows. The exterior-to-interior reduction of newer residential units is generally 30 dBA or more.

Sensitive Noise Receptors

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as hospitals, historic sites, cemeteries, and certain recreation areas are considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses.

The Master Plan is proposing to refurbish existing assets, optimize operations, and satisfy projected capacity needs of all sanitation facilities (collection system including gravity pipelines, force mains, lift stations, and the five WRPs) in the CVWD service area. Master Plan has 12 individual project categories spanning unincorporated Imperial County, unincorporated Riverside County, and the cities of Desert Hot Springs, Cathedral City, Rancho Mirage, Palm Desert, Indian Wells, Indio, and La Quinta. In the Environmental Impacts subsection below, the nearest noise-sensitive land uses that could potentially be affected by each project component are identified. However, the Master Plan proposes updates to, and the expansion of, CVWD wastewater infrastructure over the course of the 2021 to 2040 planning period. As such, the surrounding land uses of each project site could change by the time of implementation of each specific project component and new sensitive receptors may be developed adjacent to, or in closer proximity to any of the project sites within the planning period.

Existing Noise Environment

The noise environment that encompasses the CVWD service area is affected by various noise sources. Mobile sources of noise, especially cars and trucks traveling on area roadways, are common and significant sources of noise. Other sources of noise are the various land uses (i.e., residential, commercial, and institutional) throughout the area that generate stationary-source noise.

Vibration Fundamentals

Ground vibration can be measured several ways to quantify the amplitude of vibration produced. This can be through peak particle velocity or root mean square velocity. These velocity measurements measure maximum particle at one point or the average of the squared amplitude of the signal, respectively. Vibration impacts on people can be described as the level of annoyance and can vary depending on an individual's sensitivity. Generally, low-level vibrations may cause window rattling but do not pose any threats to the integrity of buildings or structures.

4.8.2 Related Regulations

A summary of applicable regulations and policies for the appropriate jurisdictions are presented below. As previously described, the Master Plan is proposing improvements to existing infrastructure. None of the individual Project components would be a source of new operational noise beyond what is already experienced. As such, the regulations below focus on construction noise.

Riverside County Municipal Code

Riverside County Municipal Code Chapter 9.52, *Noise Regulations*, regulates the time that construction can take place but does not provide quantitative limits for noise from construction activity. Construction is prohibited between the hours of 6:00 p.m. to 6:00 a.m. during the months of June through September and is prohibited between the hours of 6:00 p.m. and 7:00 a.m. during the months of October through May.

Imperial County General Plan Noise Element

The Noise Element of the Imperial County General Plan examines noise sources and provides information to be used in setting land use policies to protect noise sensitive land uses and for developing and enforcing a local noise ordinance. Construction equipment operation is limited to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday, and 9:00 a.m. to 5:00 p.m. on Saturday. No commercial construction operations are permitted on Sunday or holidays. In cases of a person constructing or modifying a residence for himself/herself, and if the work is not being performed as a business, construction equipment operations may be performed on Sundays and holidays between the hours of 9:00 a.m. and 5:00 p.m. Additionally, construction noise, from a single piece of equipment or a combination of equipment, cannot exceed 75 dB L_{eq}, when averaged over an eight hour period, and measured at the nearest sensitive receptor. This standard assumes a construction period, relative to an individual sensitive receptor of days or weeks. In cases of extended length construction times, the standard may be tightened so as not to exceed 75 dB L_{eq} when averaged over a one-hour period.

City of Desert Hot Springs Municipal Code

The City of Desert Hot Springs regulates construction noise through Municipal Code Sections 8.12.100 and 9.04.030, which limit construction activities to the hours between 7:00 a.m. and 5:00 p.m., Monday through Saturday. During daylight savings time, construction is permitted between 6:00 a.m. and 6:00 p.m. Monday through Saturday. Construction is not permitted on Sundays.

City of Cathedral Municipal Code

The Cathedral City regulates construction through Chapter 11.96, *Noise Control*, of its Municipal Code. It states that no person shall be engaged or employed, or cause any other person to be engaged or employed, in any work of construction, erection, alteration, repair, addition, movement, demolition, or improvement to any building or structure except within the hours from 7:00 a.m. to 5:30 p.m., Monday through Friday, and 8:00 a.m. to 5:00 p.m. on Saturday from October 1st thought April 30th. Construction activities are also permitted from 6:00 a.m. to 7:00 p.m., Monday through Friday, and 8:00 a.m. to 5:00 p.m. on Saturday May 1st through September 30th. No construction is allowed on Sunday or State holidays.

City of Rancho Mirage Municipal Code

Chapter 15.04 of the City of Rancho Mirage Municipal Code prohibits construction between the hours of 7:00 p.m. to 7:00 a.m. or on Sundays and holidays.

City of Palm Desert Municipal Code

The City of Palm Desert Municipal Code, Chapter 9.24, regulates the time that construction can take place but does not provide quantitative limits for noise from construction activity. No person shall perform, nor shall any person be employed nor shall any person cause any other person to be employed to work for which a building permit is required by the City in any work of construction, erection, demolition, alteration, repair, addition to or improvement of any building, structure, road or improvement to realty except between the permitted hours. Construction is permitted from 7:00 a.m. to 5:30 p.m., Monday through Friday, and 8:00 a.m. to 5:00 p.m. on Saturday from October 1st thought April 30th. It is also permitted from 5:30 a.m. to 7:00 p.m., Monday through Friday, and 8:00 a.m. to 5:00 p.m. on Saturday May 1st through September 30th. No construction is allowed on Sunday or government code holidays.

City of Indian Wells Municipal Code

Chapter 9.06 of the City of Indian Wells Municipal Code allows construction between the hours of 7:00 a.m. to 5:00 p.m., Monday through Friday, and 8:00 a.m. to 5:00 p.m. on Saturday. Construction is not allowed on Sundays or National Holidays.

City of Indio Municipal Code

The City of Indio regulates construction noise through chapter 95C, *Noise Control*, of the City's Municipal Code. Construction is allowed between the hours of 7:00 a.m. to 6:00 p.m., Monday through Friday, 8:00 a.m. to 6:00 p.m. on Saturday, and 9:00 a.m. to 5:00 p.m. on Sunday and Government Holidays from early November to mid-March (Pacific Standard Time). Construction is allowed between the hours of 6:00 a.m. to 6:00 p.m., Monday through Friday, 7:00 a.m. to 6:00 p.m. on Saturday, and 9:00 a.m. to 5:00 p.m. on Sunday and government holidays from early March to November (Pacific Daylight Time).

City of La Quinta Municipal Code

The City of La Quinta regulates construction through Chapter 6.08, *Nuisances*, of the Municipal Code. It states that it is a nuisance and it is unlawful, for any person to be engaged or employed, or for any person to cause any other person to be engaged or employed, in any work of construction, erection, alteration, repair, addition to, or improvement to realty, except between the hours deemed acceptable. Construction hours deemed acceptable include the hours from 7:00 a.m. to 5:30 p.m., Monday through Friday, and 8:00 am. to 5:00 p.m. on Saturday from October 1st thought April 30th. It is also permitted from 6:00 a.m. to 7:00 p.m., Monday through Friday, and 8:00 a.m. to 5:00 p.m. on Saturday May 1st through September 30th. No construction is allowed on Sunday or holidays.

4.8.3 Thresholds of Significance

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance and CVWD Local CEQA Guidelines (2019). The Master Plan would result in a significant impact to noise if it would do any of the following:

1) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

2) Generation of excessive groundborne vibration or groundborne noise levels.

3) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

Methodology

This analysis focuses on construction noise as a result of refurbishing existing assets, optimizing operations, and satisfying projected capacity needs of sanitation facilities in the CVWD service area. Due to the nature of the Master Plan, construction noise is the main focus of the analysis, however operational noise is discussed for full disclosure purposes. In order to estimate the worst-case construction noise levels that may occur at the nearest noise-sensitive receptors in the vicinity of each project component (currently), predicted construction noise levels were referenced from the FHWAs Roadway Construction Model (2008). In the case of WRP 1, which is the only project component located in an area where the regulatory body (County of Imperial) promulgates a numeric noise threshold, the FHWA's Roadway Construction Model was operated to specifically calculate construction noise emanating from the WRP 1 site. Groundborne vibration levels associated with construction-related activities for the Master Plan were evaluated utilizing typical groundborne vibration levels associated with construction equipment, obtained from the Caltrans guidelines set forth above. Potential groundborne vibration impacts related to structural damage and human annoyance were evaluated, taking into account the distance from construction activities to nearby land uses.

4.8.4 Environmental Impacts

Impact NOI-1 Would the Project result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Construction Noise

Construction noise associated with the Master Plan would be temporary and would vary depending on the nature of the activities being performed. Noise generated would primarily be associated with the operation of off-road equipment for onsite construction activities as well as construction vehicle traffic on area roadways. Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., building construction, paving). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Other primary sources of acoustical disturbance would be random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts). During construction, exterior noise levels could negatively affect sensitive receptors in the vicinity of the construction site.

Noise levels associated with common pieces of individual construction equipment are summarized in Table 4.8-1.

Table 4.8-1. Typical Construction Equipment Noise Levels

Type of Equipment	Maximum Noise (L_{max}) at 50 Feet (dBA)	Maximum 8-Hour Noise (L_{eq}) at 50 Feet (dBA)
Crane	80.6	72.6
Dozer	81.7	77.7
Excavator	80.7	76.7
Generator	80.6	77.6
Grader	85.0	81.0
Other Equipment (greater than five horsepower)	85.0	82.0
Paver	77.2	74.2
Roller	80.0	73.0
Tractor	84.0	80.0

Table 4.8-1. Typical Construction Equipment Noise Levels

Type of Equipment	Maximum Noise (L_{max}) at 50 Feet (dBA)	Maximum 8-Hour Noise (L_{eq}) at 50 Feet (dBA)
Dump Truck	76.5	72.5
Concrete Pump Truck	81.4	74.4
Welder	74.0	70.0

Source: FHWA, Roadway Construction Noise Model (FHWA-HEP-05-054), dated January 2008.
Note: L_{eq} is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eg} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or night, L_{max} is the maximum and minimum A-weighted noise level during the measurement period.

WRP 10 Capital Improvement Projects

WRP 10 is located in the City of Palm Desert in Riverside County. It is surround by commercial land uses to the north, residents to the east, residents and Palm Desert High School to the south, as well as residents and the first tee of the Coachella Valley golf complex to the west. The nearest existing noise-sensitive land use to proposed onsite construction activity is the residential development located to the east with the closest residence located approximately 60 feet away at the end of the Via Cortona cul-de-sac.

As shown in Table 4.8-1, noise levels from construction equipment at 50 feet range from 70.0 dBA L_{eq} to 82.0 dBA L_{eq}. The noise levels from construction operations decrease at a rate of approximately 6.0 dB per doubling of distance. Thus, the noise levels at the nearest residences, approximately 60 feet away, would range from 68.4 to 80.4 dBA L_{eq}. The City of Palm Desert restricts the time that construction can take place but does not promulgate numeric thresholds pertaining to the noise associated with construction. Specifically, Section 9.42 of the Municipal Code allows construction during the following times:

- October 1st through April 30th: 7:00 a.m. to 5:30 p.m., Monday through Friday, and 8:00 a.m. to 5:00 p.m. on Saturday
- May 1st through September 30th: 5:30 a.m. to 7:00 p.m., Monday through Friday, and 8:00 a.m. to 5:00 p.m.

No construction is allowed on Sunday or government code holidays. It is typical to regulate construction noise in this manner since construction noise is temporary, short-term, intermittent in nature, and would cease on completion of the construction. Furthermore, the City of Palm Desert is a developing urban community and construction noise is generally accepted as a reality within the urban environment. Additionally, construction would occur throughout the WRP 10 site and would not be concentrated at one point. Noise generated during construction activities would be limited to the hours specified in the Municipal Code. With implementation of **Mitigation Measure NOI-1** construction noise would not exceed the City of Palm Desert noise standards and impacts would be less than significant.

WRP 7 Capital Improvement Projects

WRP 7 is located in the City of Indio in Riverside County. It is surrounded by residential developments and vacant land to the north and east as well as vacant land and residents beyond to the south and west. The nearest existing noise-sensitive land use to the site is the residential development to the north with the closest residence located approximately 160 feet distant, across Avenue 38. It is acknowledged that future development in the area could result in sensitive land uses located even closer than 160 feet.

As shown in Table 4.8-1, noise levels from construction equipment at 50 feet range from 70.0 dBA L_{eq} to 82.0 dBA L_{eq}. The noise levels from construction operations decrease at a rate of approximately 6.0 dB per doubling of distance. Thus, the noise levels at the nearest residences, approximately 160 feet away, would range from 59.9 to 71.9 dBA L_{eq}. The City of Indio does not promulgate numeric thresholds pertaining to the noise associated with construction. Instead, the City limits construction to the following times (Municipal Code Chapter 95C):

- Early November to mid-March (Pacific Standard Time): 7:00 a.m. to 6:00 p.m., Monday through Friday, 8:00 a.m. to 6:00 p.m. on Saturday, and 9:00 a.m. to 5:00 p.m. on Sunday and government holidays
- Early March to November (Pacific Daylight Time): 6:00 a.m. to 6:00 p.m., Monday through Friday, 7:00 a.m. to 6:00 p.m. on Saturday, and 9:00 a.m. to 5:00 p.m. on Sunday and government holidays

As previously described, it is typical to regulate construction noise in this manner because construction noise is temporary, short-term, intermittent in nature, and would cease on completion of the construction. The City of Indio is a developing urban community and construction noise is generally accepted as a reality within the urban environment. Additionally, construction would occur throughout the WRP 7 site and would not be concentrated at one point. Noise generated during construction activities would be limited to the hours specified in the Municipal Code. With implementation of **Mitigation Measure NOI-1** construction noise would not exceed the City of Indio noise standards and impacts would be less than significant.

WRP 4 Capital Improvement Projects

WRP 4 is located in Thermal, an unincorporated community within Riverside County. It is surrounded by farmland and rural residents in all directions. The nearest residence of concern is located approximately 600 feet east of the site adjacent to 62nd Avenue.

As shown in Table 4.8-1, noise levels from construction equipment at 50 feet range from 70.0 dBA L_{eq} to 82.0 dBA L_{eq}. The noise levels from construction operations decrease at a rate of approximately 6.0 dB per doubling of distance. Thus, the noise levels at the nearest residences, approximately 600 feet away, would range from 48.4 to 60.4 dBA L_{eq}. The County of Riverside does not promulgate numeric thresholds pertaining to the noise associated with construction. Instead, the County limits the times that construction can take place. Construction is prohibited between the hours of 6:00 p.m. to 6:00 a.m. during the months of June through September and is prohibited between the hours of 6:00 p.m. and 7:00 a.m. during the months of October through May. Construction would occur throughout the WRP 4 site and would not be

concentrated at one point. Noise generated during construction activities would be limited to the hours specified in the Municipal Code. With implementation of **Mitigation Measure NOI-1** construction noise would not exceed the County of Riverside noise standards and impacts would be less than significant.

WRP 2 Capital Improvement Projects

WRP 2 is located in the unincorporated community of North Shore in Riverside County. It is surround by vacant land with rural residents beyond. The nearest existing noise-sensitive land use to the site is a resident to the northwest approximately 500 feet away across State Route 111. It is acknowledged that future development in the area could result in sensitive land uses located even closer than 500 feet.

As shown in Table 4.8-1, noise levels from construction equipment at 50 feet range from 70.0 dBA L_{eq} to 82.0 dBA L_{eq}. The noise levels from construction operations decrease at a rate of approximately 6.0 dB per doubling of distance. Thus, the noise levels at the nearest residences, approximately 500 feet away, would range from 50.0 to 62.0 dBA L_{eq}. As previously stated, the County of Riverside does not promulgate numeric thresholds pertaining to the noise associated with construction. Instead, the County limits the times that construction can take place. Construction is prohibited between the hours of 6:00 p.m. to 6:00 a.m. during the months of June through September and is prohibited between the hours of 6:00 p.m. and 7:00 a.m. during the months of October through May. Noise generated during construction activities would be limited to the hours specified in the Municipal Code. With implementation of **Mitigation Measure NOI-1** construction noise would not exceed the County of Riverside noise standards and impacts would be less than significant.

WRP 1 Capital Improvement Projects

WRP 1 is located in the unincorporated community of Bombay Beach in Imperial County. It is surrounded by vacant land in all directions with the small community of Bombay Beach located approximately 0.5 miles south across State Route 111. The nearest existing noise-sensitive land uses to the site are the residents in the community of Bombay Beach, approximately 0.5 miles away. It is acknowledged that future development in the area could result in sensitive land uses located even closer.

As previously described, the Noise Element of the Imperial County General Plan limits the time that construction can take place, 7:00 a.m. to 7:00 p.m. on weekdays and 9:00 a.m. to 5:00 p.m. on weekends and holidays, while also promulgating a numeric threshold pertaining to the noise associated with construction. In accordance with the Noise Element, construction noise from a single piece of equipment or a combination of equipment, shall not exceed 75 dB L_{eq}, when averaged over an eight-hour period, and measured at the nearest sensitive receptor. This standard assumes a construction period, relative to an individual sensitive receptor of days or weeks. In cases of extended length construction times, the standard may be tightened so as not to exceed 75 dB L_{eq} when averaged over a one-hour period.

To estimate the worst-case construction noise levels that may occur at the nearest noise-sensitive receptors in the project vicinity, the construction equipment noise levels were calculated using the Roadway Noise Construction Model for the grading and repair/replacement construction phases. The anticipated short-term construction noise levels generated for the necessary equipment is presented in Table 4.8-2.

Table 4.8-2. Construction Average (dBA) Noise Levels at Nearest Receptor

Equipment	Estimated Exterior Construction Noise Level @ Nearest Residence	Construction Noise Standards (dBA Leq)	Exceeds Standard at Nearest Residence?
Grading			
Cement and Mortar Mixers (1)	42.5	75	**No**
Graders (1)	46.6	75	**No**
Rubber Tired Dozers (1)	43.2	75	**No**
Tractors/Loaders/Backhoes (1)	45.6	75	**No**
Combined Grading Equipment	50.8	75	**No**
Repair/Replacement			
Cranes (1)	38.1	75	**No**
Forklifts (1)	45.0	75	**No**
Generator Sets (1)	43.2	75	**No**
Tractors/Loaders/Backhoes (1)	45.6	75	**No**
Welders (3)	35.6 (each)	75	**No**
Combined Repair/Replacement Equipment	50.2	75	**No**

Source: Construction noise levels were calculated by ECORP Consulting, Inc. using the FHWA Roadway Noise Construction Model (FHWA 2008). Refer to Appendix G for Model Data Outputs.

Notes: Construction equipment used during construction derived from CalEEMod 2016.3.2. CalEEMod is designed to calculate air pollutant emissions from construction activity and contains default construction equipment and usage parameters for typical construction projects based on several construction surveys conducted in order to identify such parameters. The distance to the nearest sensitive receptor property line was calculated from the property line of the Project site closest to the residence (approximately 2640 feet).

As shown, no individual or cumulative construction equipment would exceed 75 dBA at the closest residence to the WRP 1 site. Noise generated during construction activities, would be limited to the hours specified in the General Plan. With implementation of **Mitigation Measure NOI-1** construction noise would not exceed the Imperial County noise standards and impacts would be less than significant.

Additionally, due to the 2021 to 2040 planning period timeframe, it is possible that future development in the area could result in sensitive land uses located even closer than 0.5 miles during the time of construction. As such, the Roadway Noise Construction Model was used to calculate the distance at which a noise level of 75 dB L_{eq} would occur from construction of the WRP 1 site, beyond which noise levels

would fall below the 75-dB threshold. This was done using the grading phase only since it is it the phase that was shown could produce the highest noise levels for individual and cumulative construction equipment. The results are presented in Table 4.8-3 below.

Table 4.8-3. Construction Average (dBA) Noise Levels at 170 Feet

Equipment	Estimated Exterior Construction Noise Level @ 170 Feet	Construction Noise Standards (dBA Leq)
Grading		
Cement and Mortar Mixers (1)	66.4	75
Graders (1)	70.4	
Rubber Tired Dozers (1)	67.1	
Tractors/Loaders/Backhoes (1)	69.4	
Combined Grading Equipment	74.6	

Source: Construction noise levels were calculated by ECORP Consulting, Inc. using the FHWA Roadway Noise Construction Model (FHWA 2008). Refer to Appendix G for Model Data Outputs.

As shown, future sensitive receptors would have to encroach on the WRP 1 site to within 170 feet to fall within the 75-dBA construction noise contour.

Biosolids Capital Improvement Projects

The Biosolids Capital Improvement Projects are proposed at WRP 10, located in the City of Palm Desert, and WRP 4, located in Riverside County. As discussed above, both locations do not promulgate numeric thresholds pertaining to the noise associated with construction but limit the time that construction can take place. With implementation of **Mitigation Measure NOI-1** construction noise would not exceed the applicable noise standards and impacts would less than significant.

WRP Asset Management Capital Improvement Projects

The WRP Asset Management Capital Improvement Projects will take place at WRP 1, WRP 2, WRP 4, WRP 7, and WRP 10. As discussed above, all locations are located within jurisdictions that do not promulgate numeric thresholds pertaining to the noise associated with construction but limit the time that construction can take place, except WRP 1. WRP 1, located in an unincorporated community in Imperial County, limits the time that construction can take place and promulgates a numeric threshold for individual and cumulative pieces of construction equipment.

Construction taking place at WRP 2, WRP 4, WRP 7, and WRP 10 would not exceed its city's or County of Riverside's noise standards as long as noise generated during construction activity is conducted within the permitted hours specified for that jurisdiction as explained above. With implementation of **Mitigation**

Measure NOI-1 construction noise would not exceed the applicable noise standards and impacts would be less than significant. As previously discussed, construction equipment noise levels can be calculated using the Roadway Noise Construction Model to determine if construction noise falls under the 75-dB threshold for Imperial County. However, due to the lack of specific information pertaining to the proposed improvements at WRP 1, construction noise model would be over speculative at the time of this analysis. As such, prior to implementation of the WRP 1 Asset Management CIP, when more information is known, construction activity at WRP 1 shall be examined to determine if construction noise will fall under the 75-dB threshold.

General Capital Improvement Projects

The General Capital Improvement Projects are proposed to take place at WRP 1, WRP 2, WRP 4, WRP 7, and WRP 10. As discussed above, all locations are located within jurisdictions that do not promulgate numeric thresholds pertaining to the noise associated with construction but limit the time that construction can take place, except WRP 1. WRP 1, located in an unincorporated community in Imperial County, limits the time that construction can take place and promulgates a numeric threshold for individual and cumulative pieces of construction equipment.

Construction taking place at WRP 2, WRP 4, WRP 7, and WRP 10 would not exceed its city's or County of Riverside's noise standards as long as noise generated during construction activity is conducted within the permitted hours specified for each jurisdiction as explained above. With implementation of **Mitigation Measure NOI-1** construction noise would not exceed the applicable noise standards and impacts would be less than significant. As previously discussed, construction equipment noise levels can be calculated using the Roadway Noise Construction Model to determine if construction noise falls under the 75-dB threshold for Imperial County. However, due to the lack of specific information pertaining to the proposed improvements at WRP 1, construction noise model would be over speculative at the time of this analysis. As such, prior to implementation of the WRP 1 Capital Improvements, and when more information is known, construction activity at WRP 1 shall be examined to determine if construction noise will fall under the 75-dB threshold.

Collection System Capacity Capital Improvement Projects

The Collection System Capacity Capital Improvement Projects would take place at WRP 4, WRP 7, and WRP 10 as well as pipeline improvements on area roadways. The pipeline improvements will take place in areas of unincorporated Riverside County, the City of Rancho Mirage, the City of Palm Desert, the City of Indian Wells, and the City of La Quinta. The sensitive receptors in proximity to the WRP locations have previously been discussed, however due to the nature of pipeline improvements, construction activity has the potential to be as close as 25 feet to some sensitive receptors. Therefore, those receptors would experience noise levels exceeding those presented in Table 4.8-1. As discussed above, these locations do not promulgate numeric thresholds pertaining to the noise associated with construction but limit the time that construction can take place. With implementation of **Mitigation Measure NOI-1** construction noise would not exceed the applicable noise standards and impacts would be less than significant.

Collection System Condition and Risk Assessment Capital Improvement Projects

The Collection System Condition and Risk Assessment Capital Improvement Projects will take place in Riverside County, the City of Rancho Mirage, the City of Palm Desert, the City of Indian Wells, the City of Desert Hot Springs, the City of La Quinta, the City of Indio, and the City of Cathedral City. This project category will be grouped into six phases and will be completed on area roadways. There are numerous noise sensitive receptors in the area, some as close as 25 feet from proposed construction activity. Therefore, those receptors will experience noise levels exceeding those presented in Table 4.8-1. As discussed above, these locations do not promulgate numeric thresholds pertaining to the noise associated with construction but limit the time that construction can take place With implementation of **Mitigation Measure NOI-1** construction noise would not exceed the applicable noise standards and impacts would be less than significant.

Septic-to-Sewer Conversion Capital Improvement Projects

The Septic-to-Sewer Conversion Capital Improvement Projects are proposed to take place in unincorporated areas of Riverside County. The infrastructure improvements would occur on area roadways and construction activity will be as close as 25 feet to some sensitive receptors. Therefore, those receptors would experience noise levels exceeding those presented in Table 4.8-1. As previously discussed, the County of Riverside does not promulgate numeric thresholds pertaining to the noise associated with construction but limit the time that construction can take place. With implementation of **Mitigation Measure NOI-1** construction noise would not exceed the applicable noise standards and impacts would be less than significant.

Additionally, it should be noted that the City of Coachella is located directly north of where construction activities are proposed, and noise sensitive receptors could be negatively impacted. However, similar to the County of Riverside, the City of Coachella does not promulgate numeric thresholds pertaining to the noise associated with construction but limits the time that construction can take place. Per Chapter 7.04 of the City of Coachella Municipal Code, construction is permitted from 6:00 a.m. to 5:30 p.m. on weekdays and 8:00 a.m. to 5:00 p.m. on weekends and holidays, from October 1st thought April 30th. It is also permitted from 5:00 a.m. to 7:00 p.m. on weekdays, and 8:00 a.m. to 5:00 p.m. on weekends and holidays May 1st through September 30th.

Collection System Asset Management Capital Improvement Projects

The Collection System Asset Management Capital Improvement Projects are proposed to take place in unincorporated areas of Riverside County, the City of La Quinta, the City of Indio, the City of Indian Wells, the City of Desert Hot Springs, the City of Palm Desert, and the City of Rancho Mirage. The infrastructure improvements would occur on area roadways and construction activity would be as close as 25 feet to some sensitive receptors. Therefore, those receptors would experience noise levels exceeding those presented in Table 4.8-1. As previously discussed, the areas where construction would occur do not promulgate numeric thresholds pertaining to the noise associated with construction but limit the time that construction can take place. With implementation of **Mitigation Measure NOI-1** construction noise would not exceed the applicable noise standards and impacts would be less than significant.

Operational Noise Impacts

The Master Plan is proposing to refurbish existing assets, optimize operations, and satisfy projected capacity needs of sanitation facilities (collection system including gravity pipelines, force mains, lift stations, and the five WRPs) in the CVWD service area. It would not be a substantial source of mobile or stationary noise sources beyond what is already experienced for current operations. Therefore, the Master Plan would not be a source of new operational noise.

Impact NOI-2 Would the Project result in the generation of excessive vibration or groundborne noise levels?

Construction Vibration

Excessive groundborne vibration impacts result from continuously occurring vibration levels. Increases in groundborne vibration levels attributable to the Master Plan would be primarily associated with short-term construction-related activities. Construction on the project sites would have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and the operations involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance.

Construction-related ground vibration is normally associated with impact equipment such as pile drivers, jackhammers, and the operation of some heavy-duty construction equipment, such as dozers and trucks. It is not anticipated that pile drivers would be necessary during Project construction. Vibration decreases rapidly with distance and it is acknowledged that construction activities would occur throughout the service area and would not be concentrated at the point closest to sensitive receptors. Groundborne vibration levels associated with construction equipment are summarized in Table 4.8-4.

Table 4.8-4. Representative Vibration Source Levels for Construction Equipment

Equipment Type	PPV at 25 Feet (inches per second)
Large Bulldozer	0.089
Pile Driver	0.170
Caisson Drilling	0.089
Loaded Trucks	0.076
Rock Breaker	0.089
Jackhammer	0.035
Small Bulldozer/Tractor	0.003

Source: Federal Transit Administration 2018; Caltrans 2013

None of the jurisdictions affected by Project construction regulate vibrations associated with construction. However, a discussion of construction vibration is included for full disclosure purposes. For comparison purposes, the Caltrans (2013) recommended standard of 0.2 inch per second peak particle velocity (PPV)

with respect to the prevention of structural damage for older residential buildings is used as a threshold. This is also the level at which vibrations may begin to annoy people in buildings.

It is acknowledged that construction activities would occur throughout the various project sites and would not be concentrated at the point closest to the nearest structure. The component of the Project with the nearest structures of concern to construction activity are the buildings located adjacent to infrastructure improvements that are proposed to occur on area roadways. The closest buildings were found to be approximately 25 feet away. Based on the vibration levels presented in Table 4.8-4, ground vibration generated by heavy-duty equipment would not be anticipated to exceed approximately 0.170 inch per second PPV at 25 feet. Thus, the structure located 25 feet away would not be negatively affected. Predicted vibration levels at the nearest structures would not exceed recommended criteria. However, it is acknowledged that future development in the area could result in sensitive land uses located even closer than 25 feet. As such, prior to implementation, it may be necessary to reevaluate vibration impacts.

Construction-related noise impacts would be less than significant.

Operational Vibration Impacts

Project operations would not include the use of any stationary equipment that would result in excessive groundborne vibration levels. There is no impact.

Impact NOI-3: Would the Project expose people residing or working in the project area to excessive noise levels due to its location within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport?

Each of the individual project categories are located more than two miles from any public airport or public use airport. Implementation of the Master Plan would not affect airport operations nor result in increased exposure of noise-sensitive receptors to aircraft noise. This impact is less than significant.

4.8.5 Mitigation Measures

Construction of proposed improvements would involve several types of activities (i.e., demolition, grading, paving, building construction). Construction activities are typically short term and intermittent resulting in temporary noise impacts to nearby receptors. However, implementation of the Master Plan would involve construction activities associated with various improvements over an extended time period. During the construction period for each improvement there would be periods of more intense activity, followed by longer periods of reduced or no activity.

As discussed earlier, all locations where construction would occur, except Imperial County, do not promulgate numeric thresholds pertaining to the noise associated with construction but limit the time that construction can take place. For these jurisdictions, **Mitigation Measure NOI-1** shall be applied. Construction proposed in Imperial County is limited to the hours described above. Additionally, construction noise from a single piece of equipment or a combination of equipment, shall not exceed 75 dB L_{eq} at the nearest sensitive receptor. It was concluded that the proposed construction would not exceed 75 dB for a single piece of equipment or a combination of equipment that is anticipated to be

used at the nearest residence. However, it is acknowledged that future development in the area could result in sensitive land uses located even closer than the current residence.

NOI-1: Construction shall be limited to the hours specified by the County of Riverside, Imperial County, the City of Rancho Mirage, the City of Palm Desert, the City of Indian Wells, the City of La Quinta, City of Desert Hot Springs, City of Cathedral City, City of Indio, and City of La Quinta, where appropriate. The appropriate limits shall be determined by the location of the affected receptors. For instance, construction affecting receptors in the City of La Quinta shall adhere to that jurisdiction's prohibitions.

4.8.6 Residual Impacts After Mitigation

After implementation of the above mitigation measure the Proposed Project would result in less than significant impacts to noise.

4.8.7 Cumulative Impacts

Construction Noise

Construction activities associated with the Master Plan and other construction projects in the area may overlap, resulting in construction noise in the area. However, construction noise impacts primarily affect the areas immediately adjacent to the construction site. Construction noise for the Master Plan was determined to be less than significant following compliance with the appropriate jurisdiction General Plan or Municipal Code. Cumulative development in the vicinity of the project sites could result in elevated construction noise levels at sensitive receptors in the project area. However, each project would be required to comply with the applicable noise limitations on construction. Therefore, the Master Plan would not contribute to cumulative impacts during construction.

Operational Noise

Once construction is complete none of the Master Plan components would be a source of operational noise beyond what is currently experienced. The Master Plan would not contribute to cumulative impacts during operations.

Project noise impacts are less than cumulatively considerable.

4.9 TRIBAL CULTURAL RESOURCES

4.9.1 Environmental Setting

Ethnographic accounts of Native Americans indicate that the Study Area (as defined in Section 4.3, Cultural Resources, of this Draft PEIR) lies predominantly within the original territory of the Cahuilla. The Cahuilla spoke a Takic language. The Takic group of languages is part of the Uto-Aztecan language family. The Cahuilla occupied a territory ranging from the San Bernardino Mountains in the north to the Chocolate Mountains and Borrego Springs in the south, and from the Colorado Desert in the east to Palomar Mountain in the west. They engaged in trade, marriage, shared rituals, and war with other groups of Native Americans whose territories they overlapped, primarily the Serrano and Gabrielino (Bean 1978, 1972; Kroeber 1925).

Cahuilla subsistence consisted of hunting, gathering, and fishing. Villages were often located near water sources, most commonly in canyons or near drainages on alluvial fans. Major villages were fully occupied during the winter, but during other seasons task groups made periodic forays to collect various plant foods, with larger groupings from several villages organizing for the annual acorn harvest (Bean and Saubel 1972). Bean and Saubel (1972) have recorded the use of several hundred species of plants used for food, building/artifact materials, and medicines. The major plant foods included acorns, pinyon nuts, and various seed-producing legumes. These were complemented by agave, wild fruits and berries, tubers, cactus bulbs, roots and greens, and seeds.

Hunting focused on both small- to medium-sized mammals, such as rodents and rabbits, and large mammals, such as pronghorn sheep, mountain sheep, and mule deer. Hunting was done using the throwing stick or the bow and arrow, though nets and traps were also used for small animals (Bean 1972).

Cahuilla buildings consisted of dome-shaped or rectangular houses, constructed of poles covered with brush and above-ground granaries (Bean 1978; Strong 1929). Other material culture included baskets, pottery, and grinding implements; stone tools, arrow shaft straighteners and bows; clothing (e.g., loincloths, blankets, rope, sandals, skirts, and diapers); and various ceremonial objects made from mineral, plant, and animal substances (Bean 1972).

As many as 10,000 Cahuilla may have existed at the time of European contact in the eighteenth century (Bean 1978). Circa 1900, Cahuilla lived in the settlements of La Mesa, Toro, and Martinez on the Augustin and Toro Indian Reservations east and southeast of the Study Area (USGS Indio Quad 1904). As of 1974, approximately 900 people claimed Cahuilla ancestry (Bean 1978).

4.9.2 Related Regulations

Assembly Bill 52

Effective July 1, 2015, AB 52 amended CEQA to require that: 1) a lead agency provide notice to those California Native American tribes that requested notice of projects proposed by the lead agency; and 2) for any tribe that responded to the notice within 30 days of receipt with a request for consultation, the

lead agency must consult with the tribe. Topics that may be addressed during consultation include Tribal Cultural Resources (TCRs), the potential significance of project impacts, type of environmental document that should be prepared, and possible mitigation measures and project alternatives.

Pursuant to AB 52, Section 21073 of the Public Resources Code (PRC) defines California Native American tribes as "a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of the Statutes of 2004." This includes both federally and non-federally recognized tribes.

Section 21074(a) of the PRC defines TCRs for the purpose of CEQA as:

1) Sites, features, places, cultural landscapes (geographically defined in terms of the size and scope), sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

    a. included or determined to be eligible for inclusion in the California Register of Historical Resources; and/or
    b. included in a local register of historical resources as defined in subdivision (k) of Section 5020.1; and/or
    c. 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 Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Because criteria a and b also meet the definition of a Historical Resource under CEQA, a TCR may also require additional consideration as a Historical Resource. TCRs may or may not exhibit archaeological, cultural, or physical indicators.

Recognizing that California tribes are experts in their tribal cultural resources and heritage, AB 52 requires that CEQA lead agencies provide tribes that requested notification an opportunity to consult at the commencement of the CEQA process to identify TCRs. Furthermore, because a significant effect on a TCR is considered a significant impact on the environment under CEQA, consultation is used to develop appropriate avoidance, impact minimization, and mitigation measures.

4.9.3 Thresholds of Significance

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance and CVWD Local CEQA Guidelines (2019). The Master Plan would result in a significant impact to TCRs if it would do any of the following:

1) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.

AB 52 established that a substantial adverse change to a TCR has a significant effect on the environment. In assessing substantial adverse change, CVWD must determine whether or not the project will result in a significant impact to the qualities of the resource that convey its significance. The qualities are expressed through integrity. Integrity of a resource is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association [CCR Title 14, Section 4852(c)]. Impacts are significant if the resource is demolished or destroyed or if the characteristics that made the resource eligible are materially impaired [CCR Title 14, Section 15064.5(a)]. Accordingly, impacts to a TCR would likely be significant if the project negatively affects the qualities of integrity that made it significant in the first place. In making this determination, CVWD need only address the aspects of integrity that are important to the TCR's significance.

4.9.4 Environmental Impacts

Impact TCR-1: Would the Project cause a substantial adverse change in the significance of a Tribal Cultural Resource as defined in CEQA Guidelines Section 21074?

Summary of Native American Consultation

AB 52 establishes a formal project consultation process for California Native American tribes and lead agencies regarding TCRs, referred to as government-to-government consultation. Per PRC Section 21080.3.1.(b), the AB 52 consultation process must begin prior to release of an EIR. Native American tribes to be included in the formal consultation process are those that have requested notice of projects proposed within the jurisdiction of the lead agency. The intent of AB 52 consultation is to facilitate information sharing between a tribal government and the lead agency (CVWD).

CVWD coordinated with the Native American Heritage Commission to establish a list of tribal recipients for the purpose of AB 52 consultation. On June 23, 2020, CVWD distributed AB 52 consultation offer letters to each of the seven following Native American tribes previously requesting to consult on CVWD projects in the area. The offer letters included project information, a map of the Proposed Project, and a notification that each tribe has 30 days to respond to the offer to consult:

- Agua Caliente Band of Cahuilla Indians
- Augustine Band of Cahuilla Mission Indians
- Cabazon Band of Mission Indians
- Morongo Band of Mission Indians

- Soboba Band of Luiseño Indians
- Torres Martinez Desert Cahuilla Indians
- Twenty-Nine Palms Band of Mission Indians

As a result of the initial notification letters, the Agua Caliente Band of Cahuilla Indians requested to consult with CVWD about the Proposed Project pursuant to PRC Section 21080.3.1. No responses to the notification letter were received from the remaining six tribes.

On July 28, 2020 CVWD formally initiated consultation with the Agua Caliente Band of Cahuilla Indians, in accordance with PRC Section 21080.3.1(e). AB 52 consultation is ongoing as of the release of this Draft PEIR (August 2020). The results of the AB 52 consultation will be included as part of the Final PEIR.

4.9.5 Mitigation Measures

AB 52 consultation is ongoing. The results of the AB 52 consultation, including any mitigation measures, if necessary, will be included as part the Final PEIR for the Master Plan.

4.9.6 Residual Impacts After Mitigation

No residual impacts to TCRs are anticipated with the implementation of appropriate mitigation, if deemed necessary and as summarized in the Final PEIR.

4.9.7 Cumulative Impacts

No cumulative impacts to TCRs are anticipated with the implementation of the Master Plan.

5.0 OTHER CEQA TOPICS

CEQA Guidelines Sections 15120 to 15132 set forth the general content requirements of an EIR. CEQA Guidelines Section 15126 lists certain subjects that need to be considered and discussed. These subjects include:

a) Significant Environmental Effects of the Proposed Project

b) Significant Environmental Effects Which Cannot be Avoided if the Proposed Project is Implemented

c) Significant Irreversible Environmental Changes Which Would be Involved in the Proposed Project Should it be Implemented

d) Growth-Inducing Impact of the Proposed Project

e) The Mitigation Measures Proposed to Minimize the Significant Effects

f) Alternatives to the Proposed Project

Subjects a and b are discussed below in Section 5.1, subject c is discussed below in Section 5.2, and subject d is discussed below in Section 5.3. Subject e is discussed throughout Section 4.0, Environmental Assessment. Subject f is discussed in Section 6.0, Alternatives to the Proposed Project.

5.1 Significant and Unavoidable Adverse Impacts

CEQA Guidelines section 15126.2(c) require that the EIR "*describe any significant impacts, including those which can be mitigated but not reduced to a level of insignificance. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons why the project is being proposed, notwithstanding their effect, should be described*."

No significant and unavoidable adverse impacts were identified as part of this Draft PEIR.

5.2 Significant Irreversible Environmental Changes from the Project

The CEQA Guidelines require that an EIR identify and focus on significant environmental effects, including significant irreversible environmental changes that would be caused by the Proposed Project should the Proposed Project be implemented.

The CEQA Guidelines Section 15126.2 (d) states that "*Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.*"

Implementation of the Proposed Project would result in an irretrievable commitment of renewable and nonrenewable resources including land, water, energy resources, and construction materials. As land is developed and redeveloped in the region, the commitment of these resources to the Proposed Project removes these resources from other uses. However, the amount of resources to be committed is not considered to be significant given the size of the individual projects and the availability of the resources in the Proposed Project area.

5.3 Growth-Inducing Impacts

CEQA Guidelines Section 15126.2(e) require that EIRs "*Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment.*"

Growth-inducing impacts can occur in a variety of ways, including the construction of new homes and businesses, and the resultant extension of public services, such as utilities and improved roads, to previously undeveloped areas. Proposed individual projects are either programmed to address current capacity needs, meet regulatory requirements, address deficiencies, or accommodate future population growth and capacity needs. Projects to accommodate future population growth would be implemented as needed based on proposed development. Capacity improvements are based on a conservative near-term population growth projection followed by a reducing population growth rate in the longer-term (2035 – 2045). This projection averages 3.3 percent from 2018 through 2045, and the 2045 growth horizon population is estimated at 489,194 (CVWD 2020). The Master Plan would accommodate this planned growth and not in itself induce population growth.

6.0 ALTERNATIVES TO THE PROPOSED PROJECT

CEQA requires that an EIR consider a reasonable range of alternatives to a proposed project that can attain most of the basic project goals, but has the potential to reduce or eliminate significant adverse impacts of the proposed project and may be feasibly accomplished in a successful manner, considering the economic, environmental, social, and technological factors involved. An EIR must evaluate the comparative merits of the alternatives (CEQA Guidelines Section 15126.6(a), (d) and (e)). If certain alternatives are found to be infeasible, the analysis must explain the reasons and facts supporting that conclusion.

Section 15126.6(d) also requires that, if an alternative would cause one or more significant effects in addition to those caused by the proposed project, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed. One of the alternatives analyzed must be the "No Project" alternative (CEQA Guidelines Section 15126.6(e)). The EIR must also identify alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and should briefly explain the reasons underlying the lead agency's determination (CEQA Guidelines Section 15126.6(c)).

CEQA Guidelines Section 15126.6(e)(2) requires that the EIR identify the environmentally superior alternative. If that alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives. The environmentally superior alternative is discussed in Section 6.6.

6.1 Project Drivers and Goals

6.1.1 Project Drivers

The drivers of the Sanitation Master Plan Update 2020 are:

- **Asset management** – sustainable reinvestment in public infrastructure
- **Capacity and regulatory** – build or adapt infrastructure to meet predicted growth and anticipated permit requirements
- **Level of service** – deliver customer-focused, cost-effective service through improved operational strategies, automation, and expansion of economical, beneficial reuse (recycled water and biosolids)

6.1.2 Project Goals

The main goal of the Sanitation Master Plan Update 2020 is to create a comprehensive Capital Improvement Program to be implemented in a phased program between 2021 and 2040. The four service level goals of the Proposed Project are:

1. **Improve Water Quality Performance** – Reduce/eliminate the potential for sanitary sewer overflows (SSOs) and upsets within the plant process.

2. **Improve Treatment Plant Process and Efficiency** – Achieve optimal operation of the treatment processes where equipment is operating near best efficiency, and process performance is as expected.

3. **Maximize Beneficial Reuse** – Increase water recycling and biosolids reuse through expanding the water recycling market, and alternative option for biosolids reuse rather than disposal.

4. **Minimize the Impacts to Operations and Maintenance** – Reduce maintenance and operational needs that over-stretch the staff by looking at replacing problematic equipment, remote monitoring and controls to check and clear alarms, improvements to the process that will address the causes of alarm conditions, frequent checks and fixes.

6.2 Rationale for Alternative Selection

Alternatives were identified and evaluated as to whether the alternative would attain most of the project goals, avoid or substantially lessen significant effects identified for the Proposed Project, and would be feasible.

6.3 Alternatives Considered and Rejected from Consideration

In accordance with CEQA Guidelines Section 15126.6(c), the PEIR needs to examine in detail a reasonable range of alternatives that could feasibly attain most of basic goals of the project. The PEIR also needs to identify any alternatives that were considered by the lead agency and provide a brief explanation explaining why they were rejected. Factors that could cause rejection are failure to meet most of the project goals, infeasibility, or inability to avoid significant environmental impacts.

6.3.1 Alternate Projects

Options for sustainable reinvestment and beneficial reuse that were considered but rejected include: *biosolids reuse for agricultural land application, composting, and waste-to-energy conversion*. Biosolids reuse for agricultural land application and composting requires a higher level of treatment, microbial testing, and obtaining a permit. There is not a viable market or customers to take the biosolids. Waste-to-energy conversion is a large capital and operating cost and generates emissions that can impact air quality. There are not enough projected biosolids to make this option cost-feasible.

An option to meet anticipated regulatory permit changes for TDS limits was considered but ultimately rejected: *add an NPDES surface discharge (outfall) at WRPs 7 and 10*. This option presents a high cost, potential environmental impacts, requires obtaining new permits, long-term monitoring and reporting, and runs counter to the goal for increased beneficial reuse.

These projects are not cost-feasible due to the lack of an established market for biosolids in the area, high costs, lengthy and uncertain permit processes, and associated potential environmental effects (e.g., air quality and greenhouse gas) greater than the Proposed Project.

6.3.2 Alternate Locations

The Proposed Project is located at various locations in unincorporated Riverside County and Imperial County and in the cities of Desert Hot Springs, Cathedral City, Rancho Mirage, Palm Desert, Indian Wells, Indio, and La Quinta within the CVWD service area. The locations of the Proposed Project components underwent a rigorous planning and cost-benefit analysis based on community needs. Several types and locations for projects were considered throughout the service area and were continually refined as part of the Master Planning process in coordination with various stakeholders. Locations outside the service area were not considered, as CVWD does not have jurisdiction and such locations would not be feasible. Therefore, it was determined that an alternative project location would not substantially lessen significant effects and has been rejected as a viable project alternative.

6.4 Description and Evaluation of Alternatives

6.4.1 No Project Alternative

CEQA requires that the No Project Alternative be analyzed in an PEIR. In accordance with Section 15126.6(e)(3)(B), the No Project Alternative consist of an analysis of the circumstance under which the project does not proceed. With the No Project Alternative, the proposed Sanitation Master Plan Update 2020 would not be implemented, and its goals would not be fully achieved.

Per CEQA Guidelines Section 15126.6(e)(3)(A), when the project is the revision of an existing plan, policy, or operation, the "no project" alternative will be the continuation of the existing plan into the future. Following this guidance, the No Project Alternative is continuance of the 2009 Sanitation Master Plan. The planning horizon for the 2009 Sanitation Master Plan is the year 2030.

The No Project Alternative would continue the beneficial reuse of biosolids, including distribution. In addition, the 2009 Sanitation Master Plan does not include projects to address potential regulatory changes to existing permits and total dissolved solid (TDS) limits that could be imposed on WRPs 4, 7, and 10. No additional sanitation facility improvements (collection system including gravity pipelines, force mains, lift stations, and improvements at the five WRPs) would occur.

6.4.2 Alternative 1 (Regional Biosolids Facility at WRP 4)

To meet Goal 3: Maximize Beneficial Reuse, this alternative includes the Proposed Project plus additional construction of a Regional Biosolids Facility at WRP 4 that consists of digesters, solar drying facility, solids handling, and an operations building. This alternative also includes addition of primary clarifiers at WRPs 4, 7, and 10, and a sludge pump station and force main between WRPs 10 and 4.

By comparison, the Proposed Project would continue biosolids disposal and implement dewatering improvements and pilot of drying technology to reduce the cost of transport. All other Proposed Project components would be the same under this alternative.

6.4.3 Alternative 2 (Addition of TDS Removal at WRPs 4, 7, and 10)

To meet the Capacity and Regulatory driver of anticipating regulatory changes (potential TDS limits), this alternative includes the Proposed Project plus additional construction of treatment processes at WRPs 4, 7, and 10 to lower TDS below 500 mg/L. This alternative would allow the continued effluent discharge to the existing percolation ponds and NPDES outfall at WRP 4. The improvements would include a reverse osmosis treatment plant, large evaporation ponds, and brine disposal.

By comparison, the Proposed Project includes tertiary filter process improvements at WRPs 7 and 10 to increase to 100 percent recycled water capacity and the addition of recycled water capacity at WRP 4. All other Proposed Project components would remain the same under this alternative.

6.5 Evaluation of Alternatives

Table 6-1 provides a comparison of anticipated impacts of the Project Alternatives with the Proposed Project per State CEQA Guidelines Section 15126.6(d). It also provides a determination of **(✚)** *Impacts would be greater than the Proposed Project*; **(=)** *Impacts would be similar to the Proposed Project*; and **(–)** *Impacts would be less than the Proposed Project* with respect to each environmental issue area. Table 6-2 provides a comparison of project goals across all alternatives and the Proposed Project.

Table 6-1. Comparison of Alternatives

No Project Alternative	Alternative 1 (Regional Biosolids Facility at WRP 4)	Alternative 2 (Addition of TDS Removal at WRPs 4, 7, and 10)
AIR QUALITY		
(–) Impacts would be less than the Proposed Project: Impacts would be less than the Proposed Project because the various individual sanitation projects throughout the CVWD service area proposed as part of the Sanitation Master Plan Update 2020 would not be built and no emissions would result. CVWD would continue to comply with existing air quality plans and regulations from the SCAQMD and ICAPCD for the 2009 Sanitation Master Plan.	**(=) Impacts would be similar to the Proposed Project:** As part of the Proposed Project CVWD is not proposing to implement any biosolids Capital Improvement Projects (CIPs) during the planning period. However, if regulatory changes, biosolids markets development, treatment capacity needs, or other events should occur; CVWD may wish to consider implementing one or more of the components of the Biosolids CIP components listed in Section 3.0, Project Description. The Proposed Project was modeled for its air pollutant emissions as though full implementation of all Biosolids CIPs would occur, and as such represents a worst-case scenario for air quality emissions and consideration of Alternative 1. Air quality emissions would be the same as the Proposed Project. It should be noted that this alternative would reduce the amount of biosolids transport to other treatment facilities; the biosolids would instead be treated at the new WRP 4 Regional Biosolids Facility. Alternative 1 would have the same impact related to criteria pollutant emissions generated during construction. Emission of these pollutants would not exceed the thresholds of significance established by the SCAQMD. This Alternative would not result in an increase in the frequency or severity of existing air quality violations and would not have the potential to cause or affect a violation of the ambient air quality standards. Impacts from odors are anticipated to be greater than the Proposed Project from additional odors associated with the proposed Regional Biosolids Facility. Impacts would be less than significant.	**(✚) Impacts would be greater than the Proposed Project:**. Air quality impacts associated with this alternative would be greater than the Proposed Project due to the construction and operation of additional treatment facilities including a reverse osmosis treatment plant, large evaporation ponds, and brine disposal which would require a greater amount of construction equipment and energy to build and would result in additional maintenance activities and vehicle trips.
BIOLOGICAL RESOURCES		

No Project Alternative	Alternative 1 (Regional Biosolids Facility at WRP 4)	Alternative 2 (Addition of TDS Removal at WRPs 4, 7, and 10)
(–) Impacts would be less than the Proposed Project: Impacts would be less than the Proposed Project because the various individual sanitation projects throughout the CVWD service area proposed as part of the Sanitation Master Plan Update 2020 would not be built and no additional impacts to biological resources would occur. CVWD would continue to comply with the CVMSHCP and other local, state, and federal regulations that protect biological resources for the 2009 Sanitation Master Plan.	**(=) Impacts would be similar to the Proposed Project:** Biological impacts would be similar to the Proposed Project as the majority of potential impacts to biological resources would be from linear features and not the WRPs. Direct impacts to special-status species could occur as a result of grading, vegetation removal, or other ground disturbing activities that cause harm or loss of individual species, including nestlings and eggs of protected birds. Indirect impacts that could result from project activities include disturbance from increased human presence, dust, noise, and ground vibrations associated with construction activities, alteration and fragmentation of habitat, or the introduction of invasive exotic plant species that can replace native plants and habitat. Impacts to jurisdictional aquatic resources and wildlife corridors would be similar to the Proposed Project. **Mitigation Measures BIO-1 through BIO-6** would apply to this Alternative and would reduce impacts to a less than significant level.	**(✚) Impacts would be greater than the Proposed Project:** Biological impacts for Alternatively 2 would be similar to the Proposed Project for the pipelines, force mains, lift stations, manholes and most of the WRPs. However, biological impacts from the proposed reverse osmosis treatment plant, large evaporation ponds, and brine disposal activities may result in biological impacts to bird species attracted to the ponds and other treatment features. Impacts to jurisdictional aquatic resources and wildlife corridors would be similar to the Proposed Project. **Mitigation Measures BIO-1 through BIO-6** would apply to Alternative 2 and would reduce impacts to a less than significant level.
CULTURAL RESOURCES		
(–) Impacts would be less than the Proposed Project: Similar to biological resources, cultural resources impacts related to the No Project Alternative would continue as the 2009 Sanitation Master Plan is implemented. Impacts would be less than the Proposed Project because the various individual sanitation projects throughout the CVWD service area proposed as part of the Sanitation Master Plan Update 2020 would not be built and no additional impacts to archaeological and historical resources would occur.	**(=) Impacts would be similar to the Proposed Project:** Cultural resources impacts would be similar to the Proposed Project as the majority of potential impacts to cultural resources would be from linear features and not the WRPs. Similar to the Proposed Project, direct impacts to archaeological resources are more likely to occur during proposed projects that include ground disturbing activities (pipeline trenching, grading, installation of subsurface project components at WRP facilities). Direct impacts to built environment resources are more likely to occur from proposed projects that would demolish or alter a historic-period structure or object. These may include pipeline trenches through historic-period roads, repairs or replacement	**(=) Impacts would be similar to the Proposed Project:** Impacts to cultural resources would be the same as Alternative 1 and the Proposed Project.

No Project Alternative	Alternative 1 (Regional Biosolids Facility at WRP 4)	Alternative 2 (Addition of TDS Removal at WRPs 4, 7, and 10)
	of existing pipelines or levees, or the demolition or alteration of existing WRP facilities. Proposed projects that do not contain any ground disturbing components or demolition/alterations to historic-period structures (i.e. alterations to modern structures with no ground disturbance required) are unlikely to result in a direct impact to a cultural resource. **Mitigation Measures CUL-1, CUL-2, and CUL-3** would reduce impacts to a less than significant level.	
ENERGY		
(✚) Impacts would be greater than the Proposed Project: The Proposed Project would adhere to new renewable energy policies that were not in place when the 2009 Sanitation Master Plan was prepared. California is shifting away from nonrenewable sources of energy in exchange for renewable sources, which by their very nature make them difficult to waste. For instance, in August of 2018 the California Legislature passed SB 100, the California 100 Percent Clean Energy Act, which sets the goal of powering the state with 100 percent clean and carbon free electricity by 2045. The proposed addition of solar at the WRP facilities, as well as infrastructure improvements that will reduce energy consumption, will help the Proposed Project achieve this goal along with other state and local mandates. Additionally, one of the three main drivers for the Proposed Project is capacity. The proposed infrastructure improvements are necessary in order to accommodate the projected growth of the region. For these reasons, the Proposed Project would not result in the inefficient, wasteful, or unnecessary consumption of energy.	**(–) Impacts would be less than the Proposed Project:** Biosolids are the nutrient-rich organic materials resulting from the treatment of domestic sewage in a wastewater treatment facility (e.g., treated sewage sludge). Biosolids are a beneficial resource, containing essential plant nutrients and organic matter and are recycled as a fertilizer and soil amendment (Michigan Department of Environmental Quality 2014). Similar to the Proposed Project, Alternative 1 would be designed in a manner that is consistent with relevant energy conservation plans designed to encourage development that results in the efficient use of energy resources. Alternative 1 would be influenced by SB 100 and will achieve 100 percent clean and carbon free electricity by 2040. In addition, it will be required to comply with local relevant energy conservation plans. This includes the Renewable Energy & Transmission Element of the Imperial County General Plan and the Land Use Element of the Riverside County General Plan. This alternative would reduce the amount of biosolids transport to other treatment facilities; the biosolids would instead be treated at the new WRP 4 Regional Biosolids Facility. Like the Proposed Project, Alternative 1 would not conflict or obstruct any local or state plans for renewable energy or energy efficiency. This impact is less than significant.	**(=) Impacts would be similar to the Proposed Project:** Impacts to energy would be similar to the Proposed Project.

No Project Alternative	Alternative 1 (Regional Biosolids Facility at WRP 4)	Alternative 2 (Addition of TDS Removal at WRPs 4, 7, and 10)
GREENHOUSE GAS EMISSIONS		
(–) Impacts would be less than the Proposed Project: Impacts would be less than the Proposed Project because the various individual sanitation projects throughout the CVWD service area proposed as part of the Sanitation Master Plan Update 2020 would not be built and no additional greenhouse gas emissions would result. CVWD would continue to comply with existing air quality plans and regulations from the SCAQMD and ICAPCD for the 2009 Sanitation Master Plan.	**(=) Impacts would be similar to the Proposed Project:** Though CVWD is not proposing to implement all components of the Biosolids CIP during the planning period for the Proposed Project the Biosolids CIP was modeled to represent the maximum amount of proposed improvements. As such, greenhouse gas emissions for Alternative 1 are the same as the Proposed Project. A less than significant would occur.	**(✚) Impacts would be greater than the Proposed Project:** Greenhouse gas impacts associated with this alternative would be greater due to the construction and operation of additional treatment facilities including a reverse osmosis treatment plant, large evaporation ponds, and brine disposal which would require a greater amount of construction equipment and energy to build and would result in additional maintenance activities and vehicle trips.
HYDROLOGY AND WATER QUALITY		
(–) Impacts would be less than the Proposed Project: Impacts would be less than the Proposed Project because the various individual sanitation projects throughout the CVWD service area proposed as part of the Sanitation Master Plan Update 2020 would not be built and no additional impacts to hydrology would occur. CVWD would continue to comply with the Colorado River Basin Water Quality Control Plan, Coachella Valley Sustainable Groundwater Management Plan, and other local, state, and federal regulations that protect hydrological resources and water quality.	**(=) Impacts would be similar to the Proposed Project:** Impacts to water quality from erosion, sedimentation, or interference with shallow groundwater during construction of Alternative 1 would be less than significant. Impacts to water quality during construction of Alternative 1 in jurisdictional waters and wetlands would be less than significant. Similar to the Proposed Project, all planned improvements at the WRPs (including the Regional Biosolids Facility) would require review by the Colorado River RWQCB and possible changes or amendments to their individual Waste Discharge Permits. CVWD will work with the RWQCB to modify the permits and comply with the new WDRs. Therefore, the impact to water quality from implementation of operational changes at the WRPs would be less than significant because CVWD would comply with mandated WDRs. The proposed addition of impervious surfaces at each project site would contribute to the amount of surface runoff that could potentially create additional flooding on or off-site.	**(–) Impacts would be less than the Proposed Project:** Hydrology impacts for Alternative 2 would be similar to the Proposed Project except for the proposed reverse osmosis treatment plant, large evaporation ponds, and brine disposal activities that may result in beneficial hydrology and water quality impacts related to brine treatment and improved groundwater quality. **Mitigation Measures HYD-1 through HYD-3** would apply to Alternative 2 and would reduce impacts to a less than significant level.

No Project Alternative	Alternative 1 (Regional Biosolids Facility at WRP 4)	Alternative 2 (Addition of TDS Removal at WRPs 4, 7, and 10)
	Impacts to drainage patterns from these new structures and impervious surfaces could cause flooding on or off-site which could be a significant impact. However, with implementation of **Mitigation Measure HYD-1** impacts to drainage and flooding would be reduced to a less than significant level. Improvements constructed within the 100-year floodplain could impede or redirect flood flows during flood events which could be a significant impact to hydrology and water quality. However, these impacts could be reduced to a less than significant level with implementation of **Mitigation Measure HYD-2**. Improvements constructed within the 100-year floodplain at WRPs 4 and 7 could be damaged during flood events which could be a significant impact to public wastewater treatment services and water quality of receiving waters. However, these impacts would be reduced to a less than significant level with implementation of **Mitigation Measure HYD-3**. Like the Proposed Project, Alternative 1 would have no impact to implementation of the Colorado River Basin Water Quality Control Plan nor the Coachella Valley Sustainable Groundwater Management Plan.	
LAND USE, PLANNING, AND AGRICULTURE		
(–) Impacts would be less than the Proposed Project: Impacts would be less than the Proposed Project because the various individual sanitation projects throughout the CVWD service area would not be built and no additional land use or agricultural impacts would result. CVWD would continue to comply with existing land use and zoning designations, as applicable.	**(=) Impacts would be similar to the Proposed Project:** Land use and agricultural impacts would be the same as the Proposed Project as the majority of the potential impacts would be from linear features and not the WRPs. Alternative 1 would not conflict with the land use plans, policies, or regulations (including Williamson Act) set forth by the various agencies located in CVWD's service area or with zoning for agricultural uses. No impact would occur.	**(=) Impacts would be similar to the Proposed Project:** Impacts to land use and agriculture would be similar to the Proposed Project and Alternative 1.

No Project Alternative	Alternative 1 (Regional Biosolids Facility at WRP 4)	Alternative 2 (Addition of TDS Removal at WRPs 4, 7, and 10)
	Like the Proposed Project, the proposed sewer and lift station facilities under Alternative 1 are not expected to divide established communities. New sewer pipelines would primarily be located within the existing right-of-way of existing roadways. New lift stations would be sited directly adjacent to existing or proposed sewer pipelines. No impact would occur. Above ground components, such as new lift stations, if located within state designated farmland, could result in permanent conversion of agricultural land to non-agricultural uses. However, proposed pipelines would be located underground and would not permanently convert existing farmland. Existing surface conditions would be restored to pre-project uses upon completion of construction. Similar to the Proposed Project, Alternative 1 would not convert significant areas of designated farmland to non-agricultural use.	
NOISE		
(–) Impacts would be less than the Proposed Project: Impacts would be less than the Proposed Project because the various individual sanitation projects throughout the CVWD service area proposed as part of the Sanitation Master Plan Update 2020 would not be built and no additional noise impacts would occur. CVWD would continue to comply with existing noise ordinances, as applicable.	**(=) Impacts would be similar to the Proposed Project:** Noise generated during construction activities, as long as conducted within the permitted hours, would not exceed City or County noise standards. Construction- and operational-related vibration impacts would be less than significant. Alternative 1 would not be a substantial source of mobile or stationary noise sources beyond what is already experienced for current operations. Therefore, like the Proposed Project, Alternative 1 would not be a source of new operational noise. Each of the individual project categories are located more than two miles from any public airport or public use airport. Implementation of Alternative 1 would not affect airport operations nor result in increased exposure of noise-sensitive receptors to aircraft noise. This impact is less than significant.	**(=) Impacts would be similar to the Proposed Project:** Impacts to noise would be similar to the Proposed Project and Alternative 1.

No Project Alternative	Alternative 1 (Regional Biosolids Facility at WRP 4)	Alternative 2 (Addition of TDS Removal at WRPs 4, 7, and 10)
TRIBAL CULTURAL RESOURCES		
(–) Impacts would be less than the Proposed Project: Compliance with AB 52 would not be required under the No Project Alternative. Existing laws pertaining to projects on tribal lands would continue to apply.	**(=) Impacts would be similar to the Proposed Project:** Under Alternative 1 AB 52 compliance would be required and impacts to TCRs would be similar to the Proposed Project.	**(=) Impacts would be similar to the Proposed Project:** Under Alternative 2 AB 52 compliance would be required and impacts to TCRs would be similar to the Proposed Project.
Notes: ✚ = Impacts would be greater than the Proposed Project **=** = Impacts would be similar to the Proposed Project **–** = Impacts would be less than the Proposed Project		

Table 6-2. Comparison of Project Goals by Alternative

Project Goal	Proposed Project	Alternative 1	Alternative 2	No Project
1. **Improve Water Quality Performance** – Reduce/eliminate the potential for SSOs and upsets within the plant process.	Yes	Yes	Yes	No
2. **Improve Treatment Plant Process and Efficiency** – Achieve optimal operation of the treatment processes where equipment is operating near best efficiency, and process performance is as expected.	Yes	Yes	Yes	No
3. **Maximize Beneficial Reuse** – Increase water recycling and biosolids reuse through expanding the water recycling market, and alternative option for biosolids reuse rather than disposal.	Yes	Yes	No	No
4. **Minimize the Impacts to Operations and Maintenance** – Reduce maintenance and operational needs that over-stretch the staff by looking at replacing problematic equipment, remote monitoring and controls to check and clear alarms, and improvements to the process that will addresses the causes of alarm conditions and reduce the need for frequent checks and fixes.	Yes	Yes	Yes	No

6.6 Environmentally Superior Alternative

CEQA Guidelines Section 15126.6 requires that an EIR identify the environmentally superior alternative. The No Project Alternative would be the environmentally superior alternative because it would avoid all impacts associated with the Proposed Project. However, the No Project Alternative would not meet any of the project goals.

According to the CEQA Guidelines, if the environmentally superior alternative is the No Project Alternative, then the EIR shall identify an environmentally superior alternative among the other alternatives. Each of the alternatives (Proposed Project, Alternative 1, and Alternative 2) would have potential environmental impacts requiring mitigation to reach a threshold of less than significant.

Alternative 1 (*Regional Biosolids Facility at WRP 4*) has very similar impacts to the Proposed Project except for a reduced operational energy impact due to the improved treatment and transport of biosolids. Similar to the Proposed Project, Alternative 1 would be designed in a manner that is consistent with relevant energy conservation plans designed to encourage development that results in the efficient use of energy resources. The Proposed Project and any Alternative would be influenced by SB 100 and will achieve 100-percent clean and carbon free electricity by 2040, in addition, to the requirement to comply with local relevant energy conservation plans. Alternative 1 would reduce the amount of biosolids transport to other treatment facilities; and, the biosolids would instead be treated at the new WRP 4 Regional Biosolids Facility. Therefore, Alternative 1 has been identified as the environmentally superior alternative because it would meet all of the project goals and would result in an improved energy impact in comparison to the Proposed Project and Alternative 2.

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