Draft Environmental Impact Report

Sacramento Regional County Sanitation District/Sacramento Power Authority/City of Sacramento Water Recycling Pipeline Project

State Clearinghouse Number: 2013122046
Date: July 16, 2014

PREPARED BY:
Sacramento Regional County Sanitation District
Regional San
10060 Goethe Road
Sacramento, CA 95827

WITH ASSISTANCE BY:

MWH Americas, Inc.

Ascent Environmental

Executive Summary

ES.1.1 Introduction

This section includes (1) a summary description of the proposed project; (2) alternatives to the proposed project and the environmentally superior alternative; (3) a discussion of the areas of controversy associated with the project; (4) issues to be resolved; (5) next steps for the environmental impact report (EIR); and (6) a summary of environmental impacts and mitigation measures for the project.

ES.1.2 Summary Description of the Proposed Project

ES.1.2.1 Background

Regional San is a special district that provides wastewater conveyance and treatment services throughout most of the urbanized areas of Sacramento County, including the cities of Folsom, Citrus Heights, Rancho Cordova, Sacramento, West Sacramento, and Elk Grove; the communities of Courtland and Walnut Grove; and urbanized portions of unincorporated Sacramento County.

Within the next decade, Regional San's Sacramento Regional Wastewater Treatment Plant (SRWTP) will be improved to produce tertiary effluent meeting Title 22 tertiary recycled water or equivalent effluent standards through Regional San's EchoWater Project.

The SRWTP currently houses Regional San's Water Reclamation Facility (WRF) which consists of a tertiary treatment plant, pump station, and storage reservoir. The WRF was originally designed to produce up to 5 million gallons per day (mgd) of tertiary effluent, but is permitted up to 10 mgd (State Water Resources Control Board, 1996).

The proposed Sacramento Regional County Sanitation District (Regional San or SRCSD) / Sacramento Power Authority (SPA)/ City of Sacramento (City) Water Recycling Pipeline Project (Project) would convey recycled water from Regional San's WRF and the future advanced wastewater treatment plant located at the SRWTP to SPA's Campbell Cogeneration Plant (SPA Cogeneration Plant) and other potential customers.

ES.1.3 CEQA-Plus

Project construction could be partially funded with a loan or grant from the State Water Resources Control Board (State Water Board) State Revolving Funds (SRF) Loan Program, which is partially funded by the U.S. Environmental Protection Agency (EPA). Therefore, this Draft EIR has been prepared to address certain Federal environmental regulations, including regulations guiding the General Conformity Rule for the Clean Air Act (CAA), the Endangered Species Act (ESA), and the National Historic Preservation Act (NHPA). EPA has allowed a modified California Environmental Quality Act

(CEQA) document, called CEQA-PLUS, to be the compliance base for projects applying for SRF monies.

ES.1.3.1 Objectives of the Proposed Program

The Project alignment contains recycled water main, laterals, lateral structures, and equipment lay-down areas. The Project's recycled water main would initially convey 1 mgd to serve the SPA Cogeneration Plant on a year-round basis but would be sized to convey a maximum of 4.6 mgd to serve additional future users with recycled water laterals and lateral structures within the study area. This additional capacity would be available after the completion of the EchoWater Project.

The objectives of the Project are to:

- Maximize the beneficial uses of Regional San's recycled water supplies from its treatment facilities located at the SWRTP, while minimizing total construction costs;
- provide recycled water to customers for allowable uses to offset existing potable water usage; and
- reduce groundwater pumping of potential customers in the Project Area.

ES.1.3.2 Project Alignment

The Project alignment consists of a pipeline (recycled water main) and necessary appurtenant facilities to convey recycled water from the SRWTP north to the SPA Cogeneration Plant. The recycled water main would initially convey 1mgd to serve the SPA Cogeneration Plant on a year-round basis but would be sized to convey a maximum of 4.2 mgd to serve additional future users with recycled water needs within the Project study area. Examples of future recycled water uses include landscaped areas such as common areas, medians, golf courses, parks, and school fields.

Recycled Water Main Alignment

The recycled water main would start with an 18-inch diameter and gradually taper to a 10-inch diameter, and would be constructed from the onsite WRF, approximately one mile north-northwesterly through Regional San property to the intersection of the future 24th Street extension and Cosumnes River Boulevard. In the vicinity of the intersection of 24th Street and Cosumnes River Boulevard, the recycled water main would follow 24th Street north approximately 4 miles to its terminus at the SPA Cogeneration Plant. The recycled water would be used by SPA's Cogeneration Plant which has an expected annual water demand of 1,000 AFY, a maximum day demand of 0.89 mgd, and a peak hour demand of 620 gpm.

Recycled Water Lateral Alignments

The proposed recycled water lateral alignments would start with a 10-inch diameter and gradually taper to a 4-inch diameter, and would be constructed to serve potential future recycled water uses along the route. Recycled water may potentially be used for urban irrigation, and identified potential users include cemeteries, commercial/business parks,

golf courses, industries, parks and schools. The potential recycled water demand to City customers is estimated to be approximately 3,650 AFY at build-out. One of the recycled water laterals, the Freeport Boulevard lateral, has two options for delivering water to Bartley Cavanaugh Golf Course (GC) and Bill Conlin Youth Sports Complex.

Recycled Water Lateral Structures

Additional structures associated with the Recycled Water Laterals include modifications to the WRF booster pump station (to include two new pumps) and a 1.9 mgd tank.

Construction Laydown Areas

Construction of the Project would involve establishing equipment laydown areas for both the recycled water main and laterals. Excavated material and debris, construction office, fences, sanitary facilities, and large stockpiles of construction material could be located within the laydown areas along the Project alignment.

ES.1.3.3 Agencies Roles and Responsibilities

Regional San is the lead agency, as defined by the CEQA, for this Draft EIR, and has the principal responsibility for ensuring that the requirements of CEQA have been met. After the EIR public review process is complete, Regional San's Board is the party responsible for certifying that the EIR adequately evaluates the environmental impacts of the r Project. The Board has the authority to approve, approve with modifications, or reject the Project.

This EIR may also be used by other Federal, State, and local agencies, which may have an interest in resources that could be affected by the project, or that have jurisdiction over portions of the project. These agencies, along with the specific permit, funding, and other approval actions likely to be required before implementation of the Project, are identified in Section 1.4.2, "Responsible and Trustee Agencies." This includes the State Water Board. The State Water Board will be able to rely on this EIR for approving an amendment to the Petition for Change (Application WW-28) for the place of use of treated wastewater (recycled water) pursuant to Sections 1210 and 1211 of the California Water Code.

ES.1.4 Alternatives to the Proposed Project

This Draft EIR evaluates the No Project Alternative and three alternatives to the proposed project in Chapter 4, "Alternatives." The three alternatives evaluated in detail are:

ES.1.4.1 No Project Alternative

Under the No-Project Alternative, the SPA Cogeneration Plant, and/or parks, schools, and GCs in south Sacramento would continue to use potable water supplied by the City for irrigation and industrial water demands. The Bartley Cavanaugh GC would continue to use groundwater for irrigation demands. The City would continue to use groundwater to narrow the gap between normal water supply reliability and single and multiple dry water years. The City has been generally able to meet water demands; however, in dry years (as in 2014) the water supply portfolio may require groundwater extraction greater than the long-term average use rate of the basin, resulting in a significant impact not identified with implementation of the proposed Project.

ES.1.4.2 Reduced Project Alternative

Identical to the proposed project, this alternative would include the same recycled water main and recycled water laterals along 24th Street. However, the recycled water main would tie-into the existing WRF pipeline and would continue east along Sims Road, then tie-into the abandoned PG&E 16" steel pipeline. The recycled water main would be within the PG&E 16" steel pipeline and travel north along the railroad from Sims road to Cosumnes River Boulevard. At this point the recycled water main would exit the PG&E pipeline and travel west on Cosumnes River Boulevard to 24th Street.

ES.1.4.3 Bufferlands Route Alternative

This alternative has the same alignment as the proposed Project along 24th Street and included the same recycled water laterals and lateral structures (i.e. booster pump station and storage tank), but included a different alignment of the pipeline exiting the SRWTP. This alternative connected to the WRF at the SRWTP and the recycled water main continued west along Laguna Station Road. The recycled water main would then exit the plant to the northwest through the Bufferlands and then north to the Cosumnes River Boulevard Extension.

Implementation of the Reduced Project Alternative would result in potentially less environmental impacts than the proposed Project as this alternative utilizes the steel pipeline obtained from PG&E from Sims Road to Cosumnes River Boulevard and would require less construction. Therefore, the Reduced Project Alternative would be the environmentally superior alternative, but, as described in Chapter 4 "Alternatives," this alternative would not meet the objectives of the project.

ES.1.5 Areas of Known Controversy

During the environmental review process, NOP comment letters were received from various parties that raised issues of concern. These comment letters and verbal comments received at the public scoping meeting were used to determine the areas of potential controversy and issues to be resolved. These issues are discussed within the technical sections of this document, and are potential impacts associated with the:

- Change in operations at the SPA Cogeneration Plant
- Removal of the SRWTP's effluent from the normal release stream into the Sacramento River
- Special status species and habitats
- Utilities and traffic
- General permit requirements

ES.1.6 Issues to be Resolved

The discussion of environmental impacts, mitigation measures, and project alternatives, as evaluated in detail in this draft EIR, constitutes the identification of issues to be

resolved as required for compliance with CEQA Guidelines Section 15123(b)(2). In addition, a summary of Environmental Impacts and Mitigation Measures are summarized in Table ES-1.

ES.1.7 Next Steps for the EIR

This EIR is being released for public review and comment for 45 days. The comment period begins on July 16, 2014, and ends on August 27, 2014.

The Draft EIR may be reviewed during normal business hours at the following locations:

- Sacramento County Central Library, 828 "I" Street, Sacramento, California 95814
- Regional San, 10060 Goethe Road, Sacramento, California 95827

The Draft EIR is available on the following websites where it may be viewed or downloaded:

http://www.regionalsan.com/

http://www.per.saccounty.net/EnvironmentalDocuments/Pages/default.aspx

Comments on the EIR should be provided to the Regional San on or before August 27, 2014. Please indicate a contact person for your agency and send your responses and comments to:

José Ramirez, Project Manager
Regional San
10060 Goethe Road
Sacramento, California 95827
(916) 876-6059
or via e-mail at: ramirezj@sacsewer.com

Comments may also be provided orally or in writing at public meetings to be held on the following dates: July 30, 2014 from 5:00 p.m. to 7:00 p.m. at the Sacramento City Hall, Council Chambers, 915 I Street, 1st Floor, Sacramento, California

ES.1.8 Summary of Environmental Impacts and Mitigation Measures for the Project

Below is a summary of environmental impacts and mitigation measures for the Project (See table ES-1).

This page left blank intentionally.

Table ES-1. Impacts and Recommended Mitigation Measures

Impact	Description	Significance	Proposed Mitigation	Significance After Mitigation
Aesthetics				
Impact 3.2-1: Impacts to Scenic Corridors or Highways.	SR 160 is a designated State scenic highway. The Freeport lateral line (option A) would cross under I-5, and either option A or B would be placed in the SR 160 right-of-way. Construction activities required for installing the Freeport lateral would be visible for travelers on SR 160 and I-5. However, once completed, the facilities would be underground and would have no long-term effect on visual resources. Thus, the views of the Project alignment from designated State scenic highway or county-designated scenic corridor would not substantially change from existing conditions, and substantial adverse change to scenic views would not occur.	LTS	N/A	LTS
Impact 3.2-2: Impacts to Visual Character or Quality.	The quality of views of the Project alignment would be temporarily degraded by the presence of equipment, vehicles, pipes, and materials stored at laydown areas during construction. However placement of the pipe within roadways would not result in removal of large trees. For the most part, impacts to scenic resources would be minor and temporary; the open cut trench would be filled and pavement and park vegetation would be restored following construction. Long-term impacts to visual resources at Chorley Park are possible due to the installation of a water tank and access road in a naturalized area as well as the potential removal or damage to oak trees as a result of the extension of a lateral line to the Bing Maloney GC.	PS	Mitigation Measure 3.2-2a. Avoid damage or removal of oak trees in Chorley Park. Mitigation Measure 3.2-2b. Screen views of the water tank from developed recreation areas in Chorley Park.	LTS
Impact 3.2-3: Lighting impacts	Neither construction nor operation of the Project would result in substantial changes to light and glare conditions; nighttime construction may take place at two intersections to avoid high volume traffic periods. Operational lighting at the WRF would remain similar to existing lighting. Lighting on the WRF may be visible from the residential area along Dwight Road, but due to distance (1 mile) lighting would be substantially diffused such that it would not be intrusive.	LTS	N/A	LTS
Agricultural Resources				
Impact 3.3-1: Impacts to agricultural resources or operations	All areas temporarily disturbed by construction would be restored upon completion of construction, and all pipelines would be underground. Operation of the proposed Project would have no effect on continued agricultural use of affected areas. Additionally, Regional San will coordinate with agricultural leaseholders and modify construction timing to ensure that the proposed alignment is constructed while fields are fallowed.	LTS	N/A	LTS
Air Quality				
Impact 3.4-1: Short-term construction emissions of criteria air pollutants and precursors (NOX, ROG, PM10, and PM2.5).	Construction-related activities would result in Project-generated emissions of ROG, NO_X, PM_{10} and $PM_{2.5}$ (a subset of PM_{10}) from site preparation (e.g., excavation, clearing), trenching, off-road equipment, material and equipment delivery trips, worker commute trips, and other miscellaneous activities. The maximum construction day for either the main pipeline or the future laterals would not exceed SMAQMD's NO_X threshold of 85 lb/day. However, fugitive dust related to construction activities could contribute to the existing nonattainment status of the SVAB with respect to PM_{10} and $PM_{2.5}$.	PS	Mitigation Measure 3.4-1: Implement construction emission control practices.	LTS
Impact 3.4-2: Long-term operational emissions of ROG, NOX, PM10 and PM2.5.	Implementation of the Project would not result in long-term operational emissions of ROG, NO_X, PM_{10}, or $PM_{2.5}$ that exceed SMAQMD's thresholds of significance (65 lb/day for ROG and 65 lb/day for NO_X) or substantially contribute to an exceedance of the NAAQS or CAAQS.	LTS	N/A	LTS
Impact 3.4-3: Exposure of sensitive receptors to TACs.	Short-term construction activities would result in emissions of diesel PM within 50 feet of sensitive receptors. However, construction activities would vary over the construction period, with peak emissions at any one location occurring for approximately 4 days. Operation of the Project would not result in any additional sources of TACs. Thus, levels of TACs from Project-related construction would not result in a substantial increase in health risk exposure at offsite sensitive receptors, increases in cancer risk that are greater than 10 in one million, or a hazard index greater than one.	LTS	N/A	LTS
Impact 3.4-4: Exposure of sensitive receptors to offensive odors.	Construction of the proposed recycled water pipelines, storage tank, and pumps would involve the use of heavy equipment that would generate exhaust pollutants and may create short-term odors. However, any construction-related odors would be temporary and limited to the immediate vicinity of the equipment. The pumping and use of recycled water, treated to Title 22 tertiary recycled water or equivalent effluent standards (fully-oxidized water for reclamation purposes, so no odor-generating compounds remain the water), would not create objectionable odors affecting a substantial number of people.	LTS	N/A	LTS

This page left blank intentionally.

Table ES-1. Impacts and Recommended Mitigation Measures (contd.)

Impact	Description	Significance	Proposed Mitigation	Significance After Mitigation
Biology				
Impact 3.5-1: Construction of the Project could result in temporary disturbance of nesting habitat for special-status birds, including those protected under the MBTA	Trees and grasslands along and near the proposed Project alignment could provide nesting habitat for a number of special-status avian species known to nest in the area, including great egret, great blue heron, American bittern, northern harrier, white-tailed kite, least bittern, loggerhead shrike, song sparrow, double-crested cormorant and other bird species, including those protected by the MBTA.	PS	Mitigation Measure 3.5-1: Special-status birds, including those protected under the MBTA	LTS
Impact 3.5-2: Construction of the proposed Project could result in the disturbance of nesting habitat for Swainson's hawks.	Potential nesting trees are found along the proposed alignment at the SRWTP and in the northeast portion of the Bufferlands and Delta Shores area north of the SRWTP. Construction activities associated with the proposed Project could disturb nesting birds possibly resulting in nest abandonment, forced fledging and/or mortality. Some examples of Project related activities that could cause nest abandonment or forced fledging are: demolition, large mobile construction equipment such as large bulldozers, and earth movers working directly under the nest trees for a significant amount of time and people trying to climb the nest tree.	PS	Mitigation Measure 3.5-2: Swainson's hawk (nesting)	LTS
Impact 3.5-3: Construction of the proposed Project could result in the loss of active burrowing owl nest burrows.	The CNDDB shows four recorded occurrences of burrowing owls along the Project alignment. Burrowing owls are a State and Federal species of concern and; therefore, protected under Section 3503 of the CDFW Code and the MBTA. Ground squirrel burrows present in the irrigation ditches along the proposed alignment in agricultural areas north of the SRWTP are considered potential nesting habitat for burrowing owls.	PS	Mitigation Measure 3.5-3: burrowing owl (nesting)	LTS
Impact 3.5-4: Construction impacts to Giant Garter Snake upland habitat from Freeport Lateral Option A	Morrison Creek, Laguna Creek, and other aquatic features within the Bufferlands are considered suitable habitat for GGS. Construction of the main line will include tunneling under these areas, and no above-ground work will occur within 200 feet of suitable habitat. However, Laydown Area 6, associated with construction of the Freeport Lateral, occurs within 200 feet of a wetland that is connected to Morrison Creek and is therefore considered GGS upland habitat. No soil disturbance is planned for this area, but construction activities in this area could result in take of GGS.	PS	Mitigation Measure 3.5-4: Giant Garter Snake upland habitat	LTS
Impact 3.5-5: Impacts to elderberry shrub from construction of Freeport Lateral Option A	No elderberry shrubs would be affected by construction of the main line. Construction of the Freeport Lateral may impact one small, multi-stemmed shrub. This shrub has two stems over 1 inch in diameter, with no evidence of exit holes. However, it has potential to support VELB.	PS	Mitigation Measure 3.5-5: Elderberry shrub impacts	LTS
Impact 3.5-6: Construction of the proposed Project could result in the disturbance of native perennial grassland.	A portion of the SRWTP, located west of Morrison Creek and east of the North Beach Lake Levee was restored to perennial native grassland as part of a restoration project in 2004. This project was completed under a cost-share agreement with USACE as part of the South Sacramento County Streams Project. This area may be disturbed by open-cut construction and Laydown Area 6 if the Freeport Lateral Option A is constructed.	PS	Mitigation Measure 3.5-6: Perennial grassland	LTS
Impact 3.5-7: Construction of the proposed Project could result in the loss of native oak, heritage oak, or street/public trees.	Trees protected by the County and City General Plans may be removed or damaged during construction of the proposed Project.	PS	Mitigation Measure 3.5-7: Tree removal	LTS
Cultural Resources				
Impact 3.6-1: Damage to or destruction of documented significant cultural resources	No evaluated or documented significant cultural resources have been identified within the Project alignment. Two locally significant cultural resources have been identified immediately adjacent to the Project alignment, and will be avoided during Project-related ground disturbance, maintenance, and operations.	LTS	N/A	LTS
Impact 3.6-2: Damage to or destruction of previously undiscovered cultural resources	Subsurface disturbances could potentially destroy or damage as-yet undiscovered prehistoric or historic cultural resources. Newly discovered cultural resources could be eligible for listing in the NRHP, CRHR, or Sacramento Register or be unique archaeological resources.	PS	Mitigation Measure 3.6-2: Implement inadvertent discovery measures for the protection of cultural resources	LTS
Impact 3.6-3: Ground disturbance could affect undocumented human remains	Although there is a low potential for human remains to be discovered during ground disturbance for the Project, construction activities could potentially uncover or disturb unanticipated discoveries of human remains, including those interred outside of formal cemeteries.	PS	Mitigation Measure 3.6-3: Implement inadvertent discovery measures for the protection of human remains	LTS
Impact 3.6-4: Ground disturbance could affect undocumented paleontological resources	Due to the known presence of paleontological resources in the region, construction activities in the Riverbank Formation geologic unit have the potential to disturb or destroy newly discovered paleontological resources.	PS	Mitigation Measure 3.6-4: Implement inadvertent discovery measures for the protection of paleontological resources	LTS

See FEIR Pg. 3-10

This page left blank intentionally.

Table ES-1. Impacts and Recommended Mitigation Measures (contd.)

Impact	Description	Significance	Proposed Mitigation	Significance After Mitigation
Geology & Soils				
Impact 3.7-1: Expose people or structures to seismic hazards	The Project would be constructed in an area that may be subject to strong seismic ground shaking from active earthquake faults. Seismic ground shaking could cause structural failure of the proposed recycled water main, laterals, and storage tanks.	PS	N/A	LTS
Impact 3.7-2: Expose people or structures to risks associated with expansive soils	The Project alignment is underlain by multiple soil types with high shrink-swell potential. The shrinking and swelling of expansive soils as a result of moisture changes can damage building foundations, underground utilities, and other subsurface facilities if these facilities are not designed and constructed to resist the changing soil conditions. All recycled water main and laterals, and lateral structures (storage tank and booster pump stations), would be designed, engineered, and constructed in conformance with standard engineering practices and CBC requirements to minimize potential damage from expansive soils to the Project alignment and facilities.	LTS	N/A	LTS
Impact 3.7-3: Soil Erosion	Soils along the Project alignment have a low erosion potential (erodibility) and, therefore, would not likely be subject to substantial increases in wind and/or water erosion. However, standard construction practices, such as compliance with best management practices (BMPs) included within a SWPPP (as described in Section 3.10, “Hydrology and Water Quality”), would minimize wind and/or water erosion.	LTS	N/A	LTS
Impact 3.7-4: Expose people or structures to risks associated with unstable soils	Deep trench backfills (i.e. deeper than about 10 feet) may undergo some settlement following construction even with proper construction techniques. This condition is especially prevalent when newly place backfill materials become saturated. However, the proposed Project would backfill only trenches 8 feet or less in depth. These backfilled trenches would have minimal potential for post-construction settling. Construction of portions of the proposed Project that occur at greater depths will be with trenchless methods, HDD, or pipe jacking, which would occur at depth of approximately 30-40 feet. Subsidence is not expected to affect construction activities at this depth. The topography and soils along the Project alignment are not prone to on- or offsite landslides, lateral spreading, liquefaction, or collapse, and the Project would not change this condition.	LTS	N/A	LTS
Climate Change				
Impact 3.8-1: Generation of greenhouse gas emissions.	The Project would result in GHG emissions from construction activities including exhaust from worker commute trips, materials delivery, and the use of heavy-duty construction equipment. In addition, new pumps and increased usage of pumps for the recycled water alignment would result in operational emissions of GHGs associated with electricity consumption. Construction-generated GHG emissions would result in a temporary increase of 1,638 MT CO_2e and operation of the pumps for the new recycled water alignment would result in a long-term increase of approximately 118 MT CO2e/year.	LTS	N/A	LTS
Impact 3.8-2: Impacts of climate change on the Project.	Climate change is expected to result in a variety of effects in the Project area including changes to timing and intensity of precipitation events resulting in increased flood risk and impacts associated with increased storm water runoff. Climate change could also result in increased temperatures, leading to increased wildland fire and elevated sea levels. However, the Project is not located in an area prone to wildland fire and is located far enough away from the California coast and San Francisco Bay and at a high enough elevation above sea level such that projected sea level rise would not affect the Project location.	LTS	N/A	LTS
Hazards & Hazardous Materials				
Impact 3.9-1: Exposure of people and the environment to hazardous materials	Known contaminants along the Project alignment include USTs and hydrocarbon-contaminated soils. Although known contaminant sites will be avoided during construction, previously unknown subsurface contaminants may exist, and construction activities could potentially result in the disturbance of such contaminants. These actions could result in the exposure of project construction workers or members of the public to hazardous materials.	PS	Mitigation Measure 3.9-1: Remediate contaminated soils discovered during construction	LTS

This page left blank intentionally.

Table ES-1. Impacts and Recommended Mitigation Measures (contd.)

Impact	Description	Significance	Proposed Mitigation	Significance After Mitigation
Hydrology & Water Quality				
Impact 3.10-1: Hydrology Impacts	The existing WRF is rated and permitted to produce up to 5 mgd of recycled water. The Project's recycled water main will initially convey 1 mgd of water produced at the WRF to serve the SPA Cogeneration Plant on a year-round basis, but will be sized to convey a maximum of 4.6 mgd to serve additional future users via recycled water laterals, storage tanks, and booster pump stations. This 4.6-mgd of recycled water is currently released to the Sacramento River through the SRWTP outfall. Therefore, operation of the proposed Project may have hydrologic effects on the Sacramento River by slightly reducing flows through the SRWTP outfall. An analysis of Sacramento River flows at Freeport, with a period of record of October 1, 1949 to January 31, 2013, showed that during that period, the maximum flow was 115,000 cfs (during the 1986 flood), and a minimum of 3,970 cfs (during the drought of 1977) (USGS 2013). Using a daily timestep, the 90 percent exceedence flow is 9,180 cfs. The 90 percent exceedence flow is the low flow rate that is typically used in the design of water intakes and fish screens. The lowest monthly 90 percent exceedence is 7,500 cfs, and occurs in October. At the lowest Sacramento River flow on record at Freeport, this would result in a reduction of in total flows of 0.2 percent, or a reduction of 0.1 percent during the 90 percent exceedance flow for October.	LTS	N/A	LTS
Impact 3.10-2: Construction-related stormwater quality impacts.	Stormwater runoff from construction-related activities could cause temporary water quality degradation in nearby waterways within the Morrison Creek watershed and to the Sacramento River. Construction of the proposed Project would involve grading and excavation, trenching, backfilling, hauling, compaction, soil disposal activities, the use and on-site storage of chemicals (petroleum and other potentially polluting substances), and construction material delivery. Construction of storage tanks and booster pump stations may also involve paving, lighting, drainage, reinforced concrete/steel structures. These activities have the potential to cause or increase soil erosion and could accidentally discharge waste petroleum products or other construction-related substances containing metals that could enter waterways in runoff.	PS	Mitigation Measure 3.10-2: Implement construction erosion control and water quality BMPs	LTS
Impact 3.10-3: Flood Management Impacts	Construction of the proposed Project will require tunneling under levees via the HDD method. Tunneling under levees will be required between Laydown Areas 1 and 2, where the recycled water main will pass under the SRWTP emergency storage basin, Laguna and Morrison Creeks, and thus the north and south levees that contain the creeks. Additionally, Freeport Lateral Option A will require tunneling under levees via the pipe jacking method to cross under the levee adjacent to I-5	LTS	N/A	LTS
Impact 3.10-4: Water Quality Impacts Due to Project Operation	The use of recycled water in close proximity to surface water supplies and domestic groundwater wells during operation of the proposed Project may result in adverse water quality effects that could have health risks. Title 22 sets bacteriological water quality standards based on the expected degree of public contact with recycled water. Disinfected tertiary treatment of recycled water is required for use involving direct public contact; this is the level of treatment provided by the WRF for conveyance by the proposed Project.	LTS	N/A	LTS
Noise				
Impact 3.11-1: Short-term construction noise impacts	Existing noise-sensitive receptors are located approximately 50 feet from the proposed Project alignment. Construction activities would take place primarily during the daytime hours with occasional nighttime work at the intersections of 24th Street and Florin Road and 24th Street and Meadowview Road. Construction-related activities could occur outside of the exempt daytime hours. Therefore, construction-related noise could exceed applicable nighttime standards.	S	Mitigation Measure 3.11-1: Construction traffic	SU
Impact 3.11-2: Ground vibration impacts	Construction- and operational-related Project activities would not result in vibration levels at the nearest sensitive land use that exceed the Caltrans recommended level of 0.2 in/sec PPV with respect to the prevention of structural damage for normal buildings or the FTA maximum acceptable level of 80 VdB with respect to human response for residential uses (i.e., annoyance). Thus, implementation of the Project would not result in the exposure of existing sensitive receptors to excessive ground vibration or noise levels.	LTS	N/A	LTS
Impact 3.11-3: Operational stationary source noise impacts	Proposed lateral structures would include booster pump stations, which would be new stationary noise sources. Project-generated stationary source noise levels would not exceed applicable noise standards and, therefore, would not result in a substantial increase in ambient noise levels at nearby existing noise-sensitive receptors.	LTS	N/A	LTS

This page left blank intentionally.

Table ES-1. Impacts and Recommended Mitigation Measures (contd.)

Impact	Description	Significance	Proposed Mitigation	Significance After Mitigation
Recreation				
Impact 3.12-1: Substantial temporary restrictions to parks or GCs	Construction of a storage tank and booster pump station at Chorley Park, and construction of recycled water laterals on Bartley Cavanaugh GC and Bing Maloney GC, could require temporary restrictions on use of these recreational areas. This impact would be minor and temporary.	LTS	N/A	LTS
Impact 3.12-2: Permanent displacement of existing recreational facilities or substantial permanent decrease in access to existing recreational facilities or opportunities	The Project includes two alternative locations for a storage tank and booster pump station: at Chorley Park, or at the SPA Cogeneration Plant on 47th Avenue. The Project would not result in the permanent displacement of any existing recreational facilities or opportunities at either location.	LTS	N/A	LTS
Transportation and Traffic				
Impact 3.13-1: Short-term increase in construction traffic on roadways	Construction-related activities would result in a short-term lane closures and increases in traffic on the roadway network, which could reduce the level of service on local roadways and highways.	PS	Mitigation Measure 3.13-1: Implement construction traffic management plan	LTS
Impact 3.13-2: Emergency Access	Construction-related activities would result in short-term lane closures and increases in traffic on area roadways, which could impede emergency access.	PS	Mitigation Measure 3.13-2: Maintain Emergency Access During Construction	LTS
Impact 3.13-3: Short-term disruption to transit, pedestrian, and bicycle facilities	Construction-related activities would result in short-term lane closures and increases in traffic on area roadways, which could disrupt transit services or the safe use of pedestrian and bicycle facilities.	PS	Mitigation Measure 3.13-2: Maintain pedestrian and bicyclist safety during construction	LTS
Environmental Justice				
Impact 3.14-1: Disproportionate Effects on Minority and Low Income Populations	The proposed recycled water pipeline would be constructed across several census tracts that include minority and low-income populations. The effects of construction would be short term and would not result in a substantial adverse effect on the population within the study area.	LTS	N/A	LTS

Key:
CAAQS = California Ambient Air Quality Standards
CBC = California Building Commission
cfs = cubic feet per second
CO_2e = Carbon dioxide equivalent
CRHR = California Register of Historic Resources
FTA = Federal Transit Administration
GGS = Giant garter snake
GHG = Greenhouse gas
HDD = Horizontal directional drilling
I-5 = Interstate 5
LTS = Less Than Significant
MBTA = Migratory Bird Treaty Act
MT = million tons
N/A = Not applicable
NAAQS = National Ambient Air Quality Standards
NO_x = Nitrogen oxide
NRHP = National Register of Historic Places
PM = Particulate matter
PM_{10} = Particulate matter – 10 micron
$PM_{2.5}$ = Particulate matter – 2.5 micron
PPV = Peak particle velocity
PS = Potentially Significant
ROG = Reactive organic gases
SMAQMD = Sacramento Metropolitan Air Quality Management District
SPA = Sacramento Power Authority
SR = State Route
SRF = State Revolving Fund
SRWTP = Sacramento Regional Wastewater Treatment Plant
SVAB = Sacramento Valley Air Basin
SWPPP = Stormwater Pollution Prevention Plan
TAC = Toxic air contaminants
USGS = U.S. Geological Survey
UST = Underground storage tank
VELB = Valley elderberry longhorn beetle
WRF = Water Reclamation Facility

This page left blank intentionally.

Table of Contents

Executive Summary ES-1
ES.1.1 Introduction ES-1
ES.1.2 Summary Description of the Proposed Project ES-1
ES.1.2.1 Background ES-1
ES.1.3 CEQA-Plus ES-1
ES.1.3.1 Objectives of the Proposed Program ES-2
ES.1.3.2 Project Alignment ES-2
ES.1.3.3 Agencies Roles and Responsibilities ES-3
ES.1.4 Alternatives to the Proposed Project ES-3
ES.1.4.1 No Project Alternative ES-3
ES.1.4.2 Reduced Project Alternative ES-4
ES.1.4.3 Bufferlands Route Alternative ES-4
ES.1.5 Areas of Known Controversy ES-4
ES.1.6 Issues to be Resolved ES-4
ES.1.7 Next Steps for the EIR ES-5
ES.1.8 Summary of Environmental Impacts and Mitigation Measures for the Project ES-5

1.0 Introduction 1-1
1.1 Background 1-2
1.1.1 State and Regional Recycled Water Regulations and Initiatives 1-3
1.1.2 Title 22, Chapter 3 Regulations 1-4
1.2 Project Study Area 1-6
1.3 CEQA Public Review Process 1-8
1.3.1 Notice of Preparation 1-8
1.3.2 Draft EIR Public Review 1-8
1.3.3 Final EIR 1-9
1.4 Agency Roles and Responsibilities 1-9
1.4.1 Lead Agency 1-9
1.4.2 Responsible and Trustee Agencies 1-9
1.5 Purpose and Intended Use of Draft EIR 1-10
1.6 Scope of Environmental Analysis 1-11
1.6.1 Effects Found Not to be Significant 1-12

1.7 Relationship to Other EIRs 1-14
1.8 Draft EIR Organization 1-15
1.9 Standard Terminology 1-16

2.0 Project Description 2-1
2.1 Project Purpose and Objectives 2-1
2.2 Regional San Existing Facilities and Capacities 2-2
2.2.1 Sacramento Regional Wastewater Treatment Plant 2-2
2.2.2 Water Reclamation Facility 2-2
2.3 Project Alignment 2-3
2.3.1 Recycled Water Main Alignment 2-3
2.3.2 Recycled Water Lateral Alignments 2-5
2.3.3 Lateral Structures 2-9
2.3.4 Construction Laydown Areas 2-10
2.4 Construction Characteristics 2-12
2.4.1 Type of Construction 2-12
2.4.2 Nighttime Construction 2-14
2.4.3 Construction Equipment 2-14
2.5 Operations and Maintenance 2-15
2.5.1 SPA Alignment and WRF Booster Pump Station 2-15
2.5.2 SPA Cogeneration Plant 2-16

3.0 Environmental Setting, Environmental Impacts and Mitigation Measures 1
3.1 Geographic Scope 1
3.2 Aesthetics 3.2-1
3.2.1 Regulatory Setting 3.2-1
3.2.2 Environmental Setting 3.2-3
3.2.3 Environmental Impacts and Recommended Mitigation Measures 3.2-17
3.2.4 Impact Analysis and Mitigation Measures 3.2-19
3.3 Agricultural Resources 3.3-1
3.3.1 Regulatory Setting 3.3-1
3.3.2 Environmental Setting 3.3-4
3.3.3 Environmental Impacts and Recommended Mitigation Measures 3.3-7
3.3.4 Impact Analysis and Mitigation Measures 3.3-7
3.4 Air Quality 3.4-1
3.4.1 Introduction 3.4-1

3.4.2 Regulatory Setting 3.4-1
3.4.3 Environmental Setting 3.4-8
3.4.4 Environmental Impacts and Recommended Mitigation Measures 3.4-15
3.4.5 Impact Analysis and Mitigation Measures 3.4-17
3.5 Biological Resources 3.5-1
3.5.1 Regulatory Setting 3.5-1
3.5.2 Environmental Setting 3.5-14
3.5.3 Effects Determination for Federally listed Species from Construction of the Recycled Water Main, Laterals and Associated Equipment Laydown Areas 3.5-43
3.5.4 Environmental Impacts and Recommended Mitigation Measures 3.5-45
3.5.5 Impact Analysis and Mitigation Measures 3.5-47
3.6 Cultural Resources 3.6-1
3.6.1 Introduction 3.6-1
3.6.2 Regulatory Setting 3.6-1
3.6.3 Environmental Setting 3.6-9
3.6.4 Environmental Impacts and Recommended Mitigation Measures 3.6-22
3.6.5 Impact Analysis and Mitigation Measures 3.6-23
3.7 Geology and Soils 3.7-1
3.7.1 Introduction 3.7-1
3.7.2 Regulatory Setting 3.7-1
3.7.3 Environmental Setting 3.7-5
3.7.4 Environmental Impacts and Recommended Mitigation Measures 3.7-9
3.7.5 Impacts Analysis and Mitigation Measures 3.7-10
3.8 Climate Change Introduction 3.8-1
3.8.1 Regulatory Setting 3.8-1
3.8.2 Environmental Setting 3.8-4
3.8.3 Environmental Impacts and Recommended Mitigation Measures 3.8-7
3.8.4 Impact Analysis and Mitigation Measures 3.8-9
3.9 Hazards and Hazardous Materials 3.9-1
3.9.1 Introduction 3.9-1
3.9.2 Regulatory Setting 3.9-1
3.9.3 Environmental Setting 3.9-10
3.9.4 Environmental Impacts and Recommended Mitigation Measures 3.9-13

3.9.5 Environmental Impacts and Recommended Mitigation Measures 3.9-15
3.10 Hydrology and Water Quality 3.10-1
3.10.1 Regulatory Setting 3.10-1
3.10.2 Environmental Setting 3.10-16
3.10.3 Environmental Impacts and Recommended Mitigation Measures 3.10-21
3.10.4 Environmental Impacts and Recommended Mitigation Measures 3.10-23
3.11 Noise 3.11-1
3.11.1 Introduction 3.11-1
3.11.2 Regulatory Setting 3.11-1
3.11.3 Environmental Setting 3.11-15
3.11.4 Environmental Impacts and Recommended Mitigation Measures 3.11-16
3.11.5 Impact Analysis and Mitigation Measures 3.11-18
3.12 Recreation 3.12-1
3.12.1 Regulatory Setting 3.12-1
3.12.2 Environmental Setting 3.12-3
3.12.3 Environmental Impacts and Recommended Mitigation Measures 3.12-4
3.12.4 Impact Analysis and Mitigation Measures 3.12-5
3.13 Transportation and Traffic 3.13-1
3.13.1 Introduction 3.13-1
3.13.2 Regulatory Setting 3.13-1
3.13.3 Environmental Setting 3.13-3
3.13.4 Environmental Impacts and Recommended Mitigation Measures 3.13-8
3.13.5 Impact Analysis and Mitigation Measures 3.13-11
3.14 Environmental Justice 3.14.1-1
3.14.1 Introduction 3.14.1-1
3.14.2 Regulatory Setting 3.14.2-1
3.14.3 Environmental Setting 3.14.3-3
3.14.4 Environmental Impacts and Recommended Mitigation Measures 3.14-10
3.14.5 Impact Analysis and Mitigation Measures 3.14-11

4.0 Alternatives 4-1
4.1 Alternative Analysis 4-1
4.2 Alternatives Considered but Rejected 4-1
4.3 Alternatives Carried Forward for Analysis 4-3
4.3.1 No-Project Alternative 4-3
4.3.2 Reduced Project Alternative 4-4
4.3.3 Bufferlands Route Alternative 4-5
4.4 Environmentally Superior Alternative 4-5

5.0 Other CEQA Requirements 5-1
5.1 Growth-Inducing Impacts 5-1
5.1.1 Direct Growth Inducement 5-1
5.1.2 Indirect Growth Inducement 5-2
5.2 Cumulative Impacts 5-3
5.2.1 Cumulative Impact Approach 5-4
5.2.2 Geographic Scope of Cumulative Impacts 5-4
5.2.3 List of Related Major Projects 5-5
5.2.4 Aesthetics 5-7
5.2.5 Agricultural Resources 5-8
5.2.6 Air Quality 5-8
5.2.7 Biological Resources 5-10
5.2.8 Climate Change 5-11
5.2.9 Cultural Resources 5-11
5.2.10 Geology, Soils and Mineral Resources 5-12
5.2.11 Hazard and Hazardous Materials 5-12
5.2.12 Hydrology and Water Quality 5-12
5.2.13 Noise 5-13
5.2.14 Recreation 5-14
5.2.15 Traffic and Transportation 5-15
5.2.16 Environmental Justice 5-15
5.3 Significant and Unavoidable Adverse Effects 5-17
5.3.1 Air Quality (Cumulative) 5-17
5.3.2 Noise (Individual and Cumulative) 5-18
5.3.3 Traffic (Cumulative) 5-18

6.0 Compliance with Federal Environmental Laws and Regulations 6-1
6.1 Introduction 6-1
6.1.1 Clean Air Act of 1963, as amended 6-1

6.1.2 Coastal Barrier Resources Act of 1982, as amended 6-2
6.1.3 Coastal Zone Management Act of 1972, as amended 6-2
6.1.4 Endangered Species Act of 1973, as amended 6-3
6.1.5 Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations 6-3
6.1.6 Farmland Protection Policy Act of 1981 6-4
6.1.7 Executive Order 11988, Floodplain Management 6-5
6.1.8 National Historic Preservation Act of 1966, as amended 6-6
6.1.9 Sustainable Fisheries Act 6-7
6.1.10 Migratory Bird Treaty Act 6-7
6.1.11 Executive Order 11990, Protection of Wetlands 6-7
6.1.12 Safe Drinking Water Act of 1974, as amended 6-8
6.1.13 Wild and Scenic Rivers Act of 1968, as amended 6-8

7.0 List of Preparers 7-1

8.0 References 8-1
8.1 Chapter 1 8-1
8.2 Chapter 2 8-2
8.3 Chapter 3 8-2
8.3.1 Section 3.1 8-2
8.3.2 Section 3.2 8-2
8.3.3 Section 3.3 8-3
8.3.4 Section 3.4 8-4
8.3.5 Section 3.5 8-5
8.3.6 Section 3.6 8-8
8.3.7 Section 3.7 8-9
8.3.8 Section 3.8 8-10
8.3.9 Section 3.9 8-12
8.3.10 Section 3.10 8-13
8.3.11 Section 3.11 8-14
8.3.12 Section 3.12 8-15
8.3.13 Section 3.13 8-15
8.3.14 Section 3.14 8-16
8.4 Chapter 4 8-17
8.5 Chapter 5 8-17
8.6 Chapter 6 8-17

Tables

Table ES-1. Impacts and Recommended Mitigation Measures ES-7
Table 1-1. Allowed Uses of Disinfected Tertiary Recycled in California 1-6
Table 1-2. Potential Federal, State, Regional, and Local Agency Approval Actions 1-10
Table 2-1. Recycled Water Main Alignment Locations and Pipeline Lengths 2-5
Table 2-2. Recycled Water Laterals Alignment Location and Pipeline Lengths 2-7
Table 2-3. Potential Recycled Water Lateral Customers 2-8
Table 2-4. Laydown Area Type and Acres 2-12
Table 3.4-1. Ambient Air Quality Standards and Designations 3.4-2
Table 3.4-2. General Conformity De Minimis Thresholds 3.4-4
Table 3.4-3. Sources and Health Effects of Criteria Air Pollutants 3.4-10
Table 3.4-4. Attainment Status Designations for Sacramento County 3.4-11
Table 3.4-5. Summary of Annual Data on Ambient Air Quality (2010-2012)1 ..... 3.4-12
Table 3.4-6. Summary of Modeled Short-term Construction-Generated Emissions Associated with Project Construction Activities (lb/day) 3.4-18
Table 3.5-1. Special Status Animal Species Potentially Occurring Along the Project Alignment 3.5-23
Table 3.5-2. Special Status Species Plants Potentially Occurring Along the Project Alignment 3.5-33
Table 3.6-1. Previous Cultural Resources Inventories Within 0.25 Mile of Project Alignment 3.6-12
Table 3.6-2. Cultural Resources Previously Recorded in or Within ¼ Mile of the Project Alignment 3.6-14
Table 3.6-3. Summary of Cultural Resources in or Immediately Adjacent to Project Alignment 3.6-19
Table 3.7-1. Project Alignment Soils 3.7-9
Table 3.7-2. Excavation Volumes 3.7-12
Table 3.8-1. Summary of Net Increase in GHG Emissions Associated with the Proposed Project[1] 3.8-10
Table 3.10-1. 2010 CWA Section 303(d)-listed Pollutants and Sources for Morrison Creek the Sacramento River, and the Sacramento-San Joaquin Delta 3.10-19
Table 3.11-1. Typical Noise Levels 3.11-1
Table 3.11-2. Human Response to Different Levels of Ground Noise and Vibration 3.11-5
Table 3.11-3. Ground-Borne Vibration Impact Criteria for General Assessment 3.11-6
Table 3.11-4. Caltrans Recommended Vibration Levels 3.11-7
Table 3.11-5. Non-Transportation Noise Standards Median (L_{50})/Maximum (L_{max})[1] 3.11-8
Table 3.11-6. Significance Increase in Transportation Noise 3.11-9
Table 3.11-7. Exterior Noise Standards 3.11-9

Table 3.11-8. Maximum Allowable Noise Exposure from Transportation Noise Sources by Land Use Type 3.11-10
Table 3.11-9. Performance Standards for Typical Stationary Noise Sources 3.11-11
Table 3.11-10. Performance Standards for Stationary Noise Sources Which are Tonal, Impulsive, Repetitive, or Consist Primarily of Speech or Music 3.11-11
Table 3.11-11. Exterior Noise Standards 3.11-11
Table 3.11-12. City of Sacramento 2030 General Plan – Exterior Noise Compatibility Standards for Various Land Uses 3.11-12
Table 3.11-13. City of Sacramento 2030 General Plan – Exterior Incremental Noise Impact Standards for Noise-Sensitive Uses (dB) 3.11-13
Table 3.11-14. Existing Traffic Noise Levels 3.11-16
Table 3.11-15. Noise Emission Levels from Construction Equipment 3.11-19
Table 3.11-16. Summary of Construction-Related Traffic Noise Levels 3.11-21
Table 3.11-17. Representative Ground Vibration and Noise Levels for Construction Equipment 3.11-22
Table 3.13-1. Estimated Construction Truck Trips 3.13-10
Table 3.14-1 Demographics and Income Status of the Census Tracts in the Project Study Area 3.14-7
Table 3.14-2 Poverty Status 3.14-9
Table 5-1. City of Sacramento Water Supply and Demand Comparison 5-3
Table 5-2. Geographic Scope of Cumulative Impacts 5-5
Table 5-3. List of Related Major Projects 5-5

Figures

Figure 1-1. Project Study Area 1-7
Figure 2-1. Recycled Water Main Alignment 2-4
Figure 2-2. Recycled Water Lateral Alignment 2-6
Figure 2-3. Laydown Areas 2-11
Figure 3.2-1. Photographic Location Points 3.2-7
Figure 3.2-2a. Viewpoint 1: View to the Northwest at Dwight Road, South of SRWTP 3.2-9
Figure 3.2-2b. Viewpoint 2: View of 24th Street to the North from Meadowview Park 3.2-9
Figure 3.2-3a. Viewpoint 3: View to the Northwest of the 24th Street and Meadowview Road Intersection from the Pannell/Meadowview Community Center 3.2-10
Figure 3.2-3b. Viewpoint 4: View of the 4th Street Bypass Park (on the left) and the site of Laydown Area 3 (on the right), Looking North 3.2-10
Figure 3.2-4. Viewpoint 5: View to the Northeast from the Southwest Corner of the 47th Street Light Rail Station 3.2-11
Figure 3.2-5a. Viewpoint 6a: View to Northwest from Picnic Area at Chorley Park 3.2-11

Figure 3.2-5b. Viewpoint 6b: View to the West from Pedestrian Path in Chorley Park 3.2-12
Figure 3.2-6. Viewpoint 7: View to the North Along SR 160 from a Point Near the Freeport Bridge and Across from the Bartley Cavanaugh GC 3.2-12
Figure 3.2-9. Typical HDD Construction Site 3.2-21
Figure 3.2-10. Typical Pipe Jacking Operation 3.2-21
Figure 3.3-1. Recycled Water Alignment Farmland Suitability 3.3-6
Figure 3.4-1. Sacramento County Air Pollutant Summary 3.4-14
Figure 3.5-1. Habitat Map 3.5-17
Figure 3.7-1. Regional Faults 3.7-3
Figure 3.7-2. Soils Occurring Along Project Alignment 3.7-8
Figure 3.8-1. Sea Level Rise 3.8-7
Figure 3.10-1. Legal Delta Boundary 3.10-10
Figure 3.13-1. Existing Street System and Proposed Project Alignments 3.13-6
Figure 3.13-2. Construction Laydown Areas 3.13-12
Figure 3.14-1. Project Area Census Tracts 3.14.3-4

Appendices

Appendix A – Notice Of Preparation

Appendix B – Scoping Comments

Appendix C – Air Quality and GHG Modeling

Appendix D – Noise

List of Abbreviations and Acronyms

°C	Degrees Celsius
°F	Degrees Fahrenheit
AB	Assembly Bill
ACHP	Advisory Council on Historic Preservation
ADWF	Average dry weather flow
AFY	Acre-feet per year
AP Zone Act	Alquist-Priolo Special Studies Zone Act of December 1972
ARB	Air Resources Board
AST	Aboveground storage tank
Basin Plan	Water Quality Control Plan for the Sacramento River and San Joaquin River Basins
Bay-Delta WQCP	Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary
BCC	USFWS Bird of Conservation Concern
Bhp	Brake horsepower
BMPs	Best management practices
Board	Regional San Board of Directors
C	Commercial
CAA	Clean Air Act
CAAA	Federal Clean Air Act Amendments of 1990
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire Protection
Cal/EPA	California Environmental Protection Agency
Cal/OSHA	California Occupational Safety and Health Administration
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CBC	California Building Standards Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CDMG	California Department of Mines and Geology
CDPH	California Department of Public Health Services
CE	Listed as endangered by the State of California
CEC	California Energy Commission
Central Valley Water Board	Central Valley Regional Water Quality Control Board
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
cfs	Cubic feet per second
CH_4	Methane
CHHSLs	California Human Health Screening Levels

City	City of Sacramento
CNDDB	California Natural Diversity Database
CNEL	Community noise equivalent level
CNPS	California Native Plant Society
CNRA	California Natural Resources Agency
CO	Carbon monoxide
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
COLD	Cold Freshwater Habitat
Cortese List	Hazardous Waste and Substances Sites List
CR	California Rare Species
CRHR	California Register of Historic Resources
CRPR	California Rare Plant Rank
CSC	California Species of Specially Concern
CSMP	Corridor System Management Plan
CT	Cooling tower
CT	Listed as threatened by the State of California
CTR	California toxics rule
CUPA	Certified Unified Program Agency
CVP	Central Valley Project
CWA	Clean Water Act
CWC	California Water Code
dB	Decibels
dbh	Diameter at breast height
Delta	Sacramento River-San Joaquin River Delta
DLD	Dedicated land disposal
DTSC	California Department of Toxic Substances Control
DWR	Department of Water Resources
EC	Electrical conductivity
EDD	California Employment Development Department
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
EST	Estuarine Habitat
Farmland	Prime Farmland, Unique Farmland, Farmland of Statewide Importance
FE	Federally listed as endangered
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FMMP	Farmland Mapping and Monitoring Program
FMP	Fisheries Management Plans
FP	CDFW Fully Protected Animal
FPPA	Federal Farmland Protection Policy Act
FSC	Federal Species of Concern

FT	Federally listed as threatened
FTA	Federal Transit Administration
GBV	Ground-borne vibration
GC	Golf course
GCD	General conformity determination
GGS	Giant garter snake
GHG	Greenhouse gases
gpm	Gallons per minute
Guidelines	State of California General Plan Guidelines 2013
HAP	Hazardous Air Pollutants
HAZMP	Hazardous Material Plans
HDD	Horizontal directional drilling
HMP	Hydromodification Management Plan
HPC	Habitat Conservation Plan
HRA	Health Risk Assessments
I	Industrial
I-5	Interstate 5
I-80	Interstate 80
IPCC	Intergovernmental Panel on Climate Change
Irr	Irrigation
lb/day	Pounds per day
LD	Laydown
Ldn	Day-Night noise level
Leq	Equivalent noise level
Lmax	Maximum noise level
Lmin	Minimum noise level
LOS	Level of service
LU	Land use
LUST	Leaking underground storage tank
MBTA	Migratory Bird Treaty Act
MCL	Maximum contaminant levels
mg	Million-gallon
mgd	Million gallons per day
MIGR	Migration of Aquatic Organisms, Warm and Cold
MMT	Million metric tons
mph	Miles per hour
msl	Mean sea level
MT	Metric Tons
MTP/SCS	2035 Metropolitan Transportation Plan/Sustainable Communities Strategy
MUN	Municipal water supply
N_2O	Nitrous oxide
NA	Not applicable
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NAL	Numerical action levels

NEHRP	National Earthquake Hazards Reduction Program
NEPA	National Environmental Policy Act
NESHAP	National emissions standards for HAPs
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO_2	Nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NOP	Notice of preparation
NO_x	Oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NTR	National toxics rule
NWR	National Wildlife Refuge
O&M	Operations and maintenance
OEHHA	Office of Environmental Health Hazard Assessment
OSHA	Occupational Safety and Health Administration
P	Parks
PG&E	Pacific Gas and Electric
PL	Public Law
PM	Particulate matter
PM_{10}	Respirable particulate matter
$PM_{2.5}$	Fine particulate matter
ppm	Parts per million
PPV	Peak particle velocity
PRC	Public Resources Code
PRMP	City of Sacramento Parks and Recreation Master Plan
Project	Water Recycling Pipeline Project
Proposition 65	Safe Drinking Water and Toxics Enforcement Act of 1986
PSD	Prevention of significant deterioration
R	Restoration
RARE	Rare, threatened, or endangered species
RCRA	Resource Conservation and Recovery Act
Reclamation	U.S. Department of the Interior, Bureau of Reclamation
Regional San	Sacramento Regional County Sanitation District
Regional Water Board	California Regional Water Quality Control Board
RMP	Risk Management Plan
RMS	Root-mean-square
ROG	Reactive organic gases
RT	Sacramento Regional Transit District
SACOG	Sacramento Area Council of Governments
SAFCA	Sacramento Area Flood Control Agency
SC	Schools
SCWA	Sacramento County Water Agency
SDWA	Safe Drinking Water Act
SF_6	Sulfur hexafluoride

SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMUD	Sacramento Municipal Utilities District
SO_2	Sulfur dioxide
SOI	Sphere of Influence
SPA Cogeneration Plant	SPA's Campbell Cogeneration Plant
SPA	Sacramento Power Authority
SPCC	Spill Prevention Control and Countermeasures Plan
SPWN	Spawning, Reproduction, and/or Early Development, Warm
SR	State Route
SRCSD	Sacramento Regional County Sanitation District
SRF	State Revolving Funds
SRWTP	Sacramento Regional Wastewater Treatment Plant
SSB	Solid storage basin
SSCHCP	South Sacramento County Habitat Conservation Plan
ST	Streetscapes
Sta	Station
State Water Board	State Water Resources Control Board
STLC	Soluble threshold limit concentration
SVAB	Sacramento Valley Air Basin
SVP	Society of Vertebrate Paleontology
SWP	State Water Project
SWPPP	Stormwater Pollution Prevention Plan
TAC	Toxic Air Contaminants
TCLP	Toxicity characteristic leaching procedure
TDH	Total dynamic head
TDS	Total dissolved solids
Thermal Plan	Water Quality Control Plan for Control of Temperatures in Coastal and Interstate Waters and Enclosed Bays and Estuaries of California
TMDL	Total maximum daily load
TMP	Traffic Management Plan
TPY	Tons per year
UBC	Federal Uniform Building Code
UCMP	University of California Museum of Paleontology
Unified Program	Unified Hazardous Waste and Hazardous Materials Management Regulatory Program
UPRR	Union Pacific Railroad
USACE	U.S. Army Corps of Engineers
USB	Urban Services Boundary
USC	United States Code
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
UST	Underground storage tank

UWMP	City of Sacramento Urban Water Management Plan
VdB	Vibration decibels
VELB	Valley elderberry longhorn beetle
VOC	Volatile organic compounds
WARM	Warm Freshwater Habitat
WDR	Waste discharge requirements
Williamson Act	California Land Conservation Act of 1965
WL	CDFW Watch List
WPCP	Water Pollution Control Plan
WPRR	Western Pacific Railroad
WRCC	Western Regional Climate Center
WRF	Water Reclamation Facility
WROS	Water Recycling Opportunities Study
WSMP	Water Supply Master Plan
µ	Micro
$\mu g/m^3$	Micrograms per cubic meter
X_2	the position at which 2 parts per thousand salinity occurs in the Delta estuary

This page left blank intentionally.

1.0 Introduction

This Draft EIR evaluates the potential environmental impacts of the proposed Regional San / SPA/ City Project.

Regional San is a special district that provides wastewater conveyance and treatment services throughout most of the urbanized areas of Sacramento County, including the cities of Folsom, Citrus Heights, Rancho Cordova, Sacramento, West Sacramento, and Elk Grove; the communities of Courtland and Walnut Grove; and urbanized portions of unincorporated Sacramento County.

Within the next decade, Regional San's SRWTP will be improved to produce tertiary effluent meeting Title 22 "disinfected tertiary recycled water" equivalent standards through Regional San's EchoWater Project. (See Section 1.1, "Background," for additional information on the Title 22 regulations and Section 2.2.1, "Regional San's EchoWater Project," for information on the EchoWater Project.)

The SRWTP currently houses Regional San's WRF which consists of a tertiary treatment plant, pump station, and storage reservoir. The WRF was originally designed to produce up to 5 mgd of tertiary effluent, but is permitted up to 10 mgd (State Water Resources Control Board, 1996). The Project would convey recycled water from Regional San's WRF and the future advanced wastewater treatment plant located at the SRWTP to the SPA Cogeneration Plant and other potential customers.

The Project alignment contains recycled water main, laterals, lateral structures, and equipment lay-down areas. The Project's recycled water main would initially convey 1 mgd to serve the SPA Cogeneration Plant on a year-round basis but would be sized to convey a maximum of 4.6 mgd to serve additional future users with recycled water laterals and lateral structures within the study area (See Figure 1-1). This additional capacity would be available after the completion of the EchoWater Project.

This Draft EIR has been prepared under the direction of Regional San in accordance with the requirements of CEQA (Public Resources Code [PRC] Section 21000-21177) and the State CEQA Guidelines (California Code of Regulations [CCR], Title 24, Division 6, Chapter 3, Sections 15000-15387).

Additionally, Project construction could be partially funded with a grant or loan from the State Water Board SRF Loan Program, which is partially funded by the EPA. Therefore, this Draft EIR has been prepared to address certain Federal environmental regulations, including regulations guiding the General Conformity Rule for the CAA, the ESA, and the NHPA. EPA has allowed a modified CEQA document, called CEQA-Plus, to be the compliance base for projects applying for SRF monies. The additional regulatory components in compliance with CEQA-Plus requirements are addressed in Sections 3.4 "Air Quality," 3.5 "Biological Resources," 3.6, "Cultural Resources," 3.14

"Environmental Justice," and Section 6.0 "Compliance with Federal Environmental Laws and Regulations" of this EIR, respectively.

Regional San is the lead agency for consideration of this EIR and potential Project approval; CCR Section 151367 defines the lead agency as the agency with principal responsibility for carrying out and approving a project. Regional San meets these criteria, as further explained in Section 1.4.1, "Lead Agency," below. The primary use of this Draft EIR is to inform Regional San Board of Directors (Board) about potential environmental effects and mitigation measures as a result of the Project, as described in Section 1.5, "Purpose and Intended Use of Draft EIR."

1.1 Background

In 1996, the State Water Board approved Regional San's petition to change the amount of discharge, place of use, and purpose of use of SRWTP treated wastewater under sections 1211 and 1700 of the California Water Code. This approval allowed Regional San to reduce its discharge to the Sacramento River by reclaiming up to 10 mgd of treated wastewater (recycled water). Within the Project's study area, the place of use of the reclaimed water was to be within the SRWTP property boundary, the City of Sacramento's Bartley Cavanaugh Golf Course, Laguna West, Lakeside, and Elliott Ranch South developments. The purpose of use was to be for irrigation of publicly-owned areas of residential neighborhoods, parks, streetscapes, schools, greenbelts, landscaped road medians, Boulevards, commercial areas and properties, at the treatment plant, and also for fish and wildlife enhancement and industrial (construction and process needs.)

In 2007, Regional San's Water Recycling Opportunities Study (WROS) took a county-wide look at a variety of potential recycled water projects and identified a goal of recycling 30 to 40 mgd in the region over the next 20 years. The WROS concluded that water recycling projects near the vicinity of the SRWTP are the most promising projects for implementation since they are the closest to recycled water supply, would have the shortest lengths of conveyance, and would therefore have lower capital cost. Thus far, Regional San has partnered with Sacramento County Water Agency (SCWA) to deliver and use approximately 2 – 2.5 mgd of recycled water that is available in the Laguna West, Lakeside, and Laguna Stonelake developments (Phase 1). Delivery to East Franklin and Laguna Ridge developments (Phase 2) is still pending.

In 2009, the City initiated the process to update its Water Supply Master Plan (WSMP). As part of this effort, the City evaluated the feasibility of using recycled water within its service area. As with the WROS, the most promising recycled water opportunities identified in the WSMP evaluation were located in the southwest portion of the City due to their close proximity to the SRWTP. In particular, the SPA Cogeneration Plant located in unincorporated Sacramento County is currently using potable water from the City of Sacramento to supply its cooling tower water needs, and could be converted to recycled water without significant changes to its operation.

In 2010, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) issued Regional San a new National Pollutant Discharge Elimination System (NPDES) permit and Waste Discharge Requirements that require all effluent to be treated

to a Title 22 tertiary equivalent quality by 2023 (final legal decision is pending). After the planned process upgrades on the SRWTP, all effluent produced by Regional San will have the potential to be reused as Title 22 tertiary or equivalent effluent.

In 2012, Regional San was selected to receive funding, in the form of two grants from the U.S. Department of the Interior, Bureau of Reclamation (Reclamation) WaterSMART program, to assist Regional San in studying new uses for recycled water in the Sacramento Region.

In 2014, Regional San completed a feasibility study, funded in part by the WaterSMART grants (mentioned above), which focused on evaluating the feasibility of a water recycling project near the SWRTP. The feasibility study completed a recycled water market assessment and evaluated the potential of recycled water projects north of the SWRTP, east of the Sacramento River, south of Broadway, and west of Franklin Boulevard. The feasibility study described and evaluated six recycled water alternatives (Regional San 2014). These alternatives were then further refined through the Regional San's Facilities Plan Report process in 2014 (Regional San 2014a). Through this process, the proposed Project was selected as the preferred alternative. The alternatives to the Project are discussed further in Chapter 4.0, "Alternatives."

The Project involves extending the recycled water system to the SPA Cogeneration Plant, with the potential to extend the system to other selected users along the alignment in the surrounding City service area. The proposed Project is described further in Chapter 2.0, "Project Description."

The proposed Project is consistent with State and regional recycled water regulations and initiatives, and would be permissible under Title 22, Chapter 3 Regulations of the California Administrative Code, as described below.

1.1.1 State and Regional Recycled Water Regulations and Initiatives

Regional San's use of recycled water aligns with the following State and regional regulations and initiatives:

- California Senate Bill X7 and the resulting 20 by 2020 Plan dictate that per capita urban water use must be reduced by 20 percent by year 2020. Recycled water does not count toward this water use. This Regional San project would assist regional water users to conserve and offset current potable water use to reach this 20 by 2020 goal.

- The State Water Board's 2009 Recycled Water Policy states that one of its goals is to increase "the use of recycled water over 2002 levels by at least 1 million acre-feet per year (AFY) by 2020 and by at least 2 million AFY by 2030." Reuse of Regional San's effluent could be a large part of this broader statewide effort.

- California Water Code, Chapter 7, Article 7, encourages the increased use of recycled water. Specifically, Section 13552.2 states that irrigation of residential landscaping is a waste or unreasonable use of potable domestic water, if recycled

water is available for this use. Section 13577 established a statewide goal to recycle a total of 700,000 AFY by year 2000 and 1 million AFY by year 2010.

- The Water Forum Agreement, signed by over 40 agencies and organizations throughout the greater Sacramento area, includes two coequal objectives of water supply reliability and environmental protection of the lower American River. This recycled water project would support the first goal of enhancing water supply reliability of the region. Recycled water is considered highly reliable and hydrology-independent.

- The 2013 American River Basin Integrated Regional Water Management Plan (RWA 2013) includes the Sacramento region's region-wide water vision, goals, objectives, and strategies. Increasing use of recycled water is stated as one of the region's 17 objectives. A supporting strategy targets increasing recycled water use by 55,000 AFY by 2030.

- The Sacramento City Code (Section 13.04.845) states: "To reduce demand on the city water distribution system and promote water conservation, the director may require water for the irrigation of areas exceeding five acres to be obtained from a private well, recycled water supply, or other water source, instead of allowing an irrigation service connection from the city water distribution system."

- The Sacramento City Code (Section 15.92.180.A) states: "Irrigation systems and decorative water features for new landscape and rehabilitated landscape projects shall use recycled water unless a written determination is made by the local water purveyor that recycled water meeting all public health codes and standards is not available to the project."

1.1.2 Title 22, Chapter 3 Regulations

See FEIR Pg. 3-1

The use of water recycled from domestic sewage is regulated by the California Regional Water Quality Control Board (Regional Water Board). California Water Code Section 13551 establishes a State policy to encourage the use of recycled water. Permission to use recycled water is based on the ability to adequately treat domestic wastewater to the point that the recycled water (effluent) meets the requirements of existing Title 22, Chapter 3 Regulations of the California Administrative Code. Title 22, "Disinfected Tertiary Recycled Water," was promulgated by the California Department of Public Health Services (CDPH) to ensure proper health protection and specify the level of treatment appropriate for the intended applications (California Department of Public Health, 2014). Locally, Sacramento County's Environmental Management Division and Department of Health and Human Services ensure high quality treatment of recycled water in Sacramento County.

Treatment typically consists of filtration to remove suspended solids, some bacteria, and other pollutants. Disinfection then destroys any remaining bacteria and viruses, using chemicals (such as chlorine) or non-chemical methods like ultraviolet light. Recycled water is safe and suitable for a variety of non-drinking uses, including irrigating school fields, parks, street medians, commercial landscaping and sports fields.

Allowed Uses of Recycled Water

Regulations stipulate water quality standards in conjunction with requirements for treatment, sampling, and monitoring. With recycled water, a key concern is the potential risk of human exposure to pathogenic organisms. The CDPH is responsible for regulating the use of recycled water in California. The Regional Water Board's issue requirements for individual projects in conformance with the CDPH regulations. Article 4 in Title 22 of the CCR sets water quality standards and treatment reliability criteria for recycled water, including Title 22 regulatory requirements for use of recycled water to protect the beneficial uses of recycled water for land applications, such as irrigation of fields, golf courses, or public access lands. Table 1-1 lists the regulatory requirements for the recycled water quality permitted for different uses.

Table 1-1. Allowed Uses of Disinfected Tertiary Recycled in California

Use	Disinfected Tertiary Recycled Water
Irrigation Uses	
Food crops where recycled water contacts the edible portion of the crop, including all root crops	Allowed
Parks and playgrounds	Allowed
School yards	Allowed
Residential landscaping	Allowed
Unrestricted-access golf courses	Allowed
Any other irrigation uses not prohibited by other provisions of the California Code of Regulations	Allowed
Food crops, surface-irrigated, above-ground edible portion, and not contacted by recycled water	Allowed
Cemeteries	Allowed
Freeway landscaping	Allowed
Restricted-access golf courses	Allowed
Ornamental nursery stock and sod farms with unrestricted public access	Allowed
Pasture for milk animals for human consumption	Allowed
Nonedible vegetation with access control to prevent use as a park, playground or school yard	Allowed
Orchards with no contact between edible portion and recycled water	Allowed
Vineyards with no contact between edible portion and recycled water	Allowed
Non-food-bearing trees, including Christmas trees not irrigated less than 14 days before harvest	Allowed
Fodder and fiber crops and pasture for animals not producing milk for human consumption	Allowed
Seed crops not eaten by humans	Allowed
Food crops undergoing commercial pathogen- destroying processing before consumption by humans	Allowed
Supply for Impoundment	
Nonrestricted recreational impoundments, with supplemental monitoring for pathogenic organisms	Allowed
Restricted recreational impoundments and publicly accessible fish hatcheries	Allowed
Landscape impoundments without decorative fountains	Allowed
Supply for Cooling or Air Conditioning	
Industrial or commercial cooling or air conditioning involving cooling tower, evaporative condenser, or spraying that creates a mist	Allowed

1.2 Project Study Area

The geographic scope of the Project is the area generally located north of the SWRTP, east of the Sacramento River, south of Fruitridge Road, and west of Franklin Boulevard, as shown in Figure 1-1. See Figures 2-1, 2-2, and 2-3 in Chapter 2.0 “Project Description” for the proposed Project alignment.

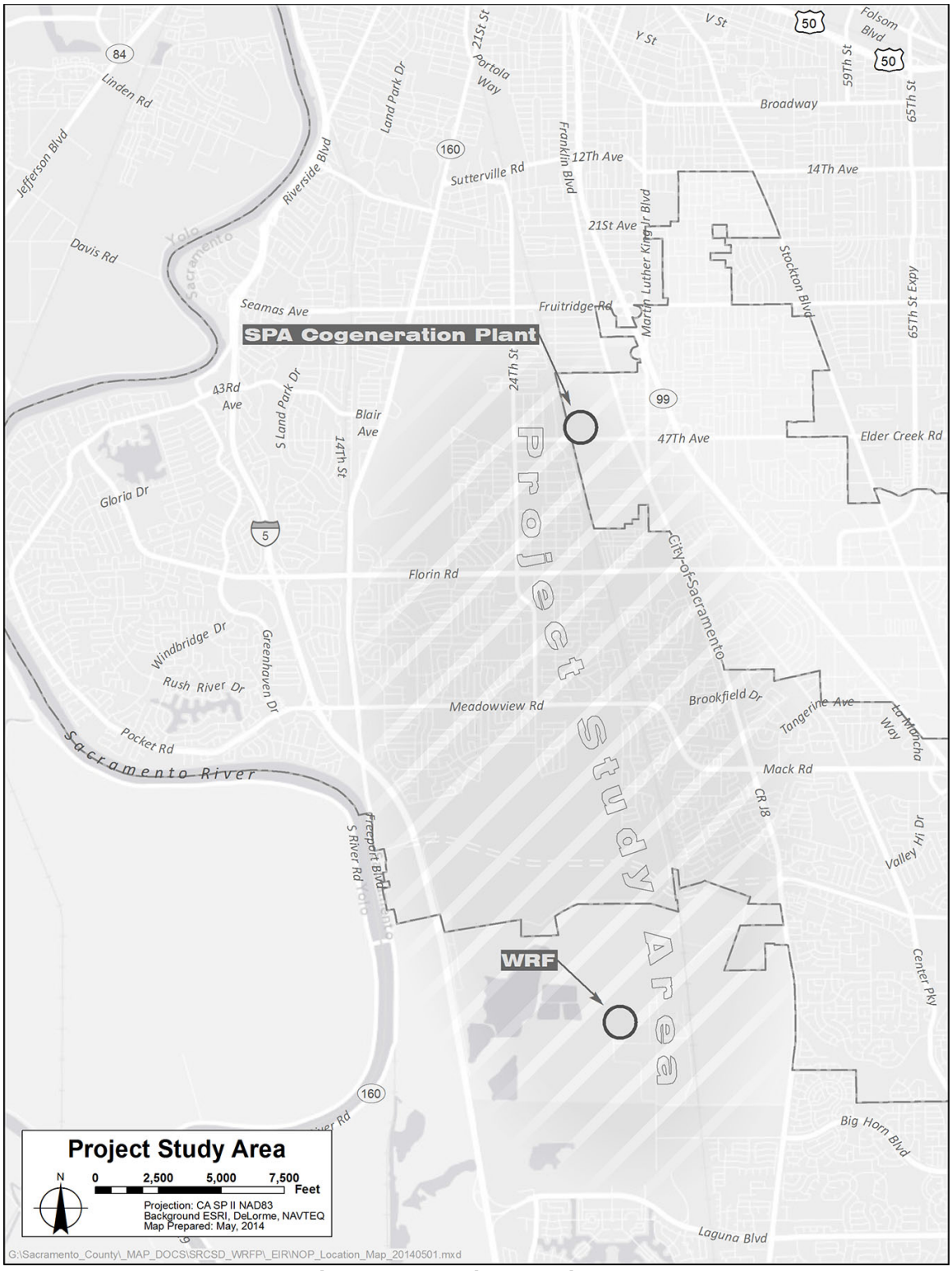


Figure 1-1. Project Study Area

1.3 CEQA Public Review Process

This section describes the notice of preparation (NOP), the Draft EIR Public Review and Final EIR processes.

1.3.1 Notice of Preparation

In accordance with PRC Section 21092 and CCR Section 15082, Regional San issued an NOP on December 19, 2013, to inform agencies and the general public that an EIR was being prepared and to invite comments on the scope and content of the document (Appendix A). The NOP was submitted to the State Clearinghouse, and posted on Regional San's website (http://regionalsan.com/index.php) and the Sacramento County Division of Planning and Environmental Review's website (http://www.per.saccounty.net/EnvironmentalDocuments/Pages/default.aspx). In addition, the NOP was distributed directly to public agencies (including potential responsible and trustee agencies, as listed in Section 1.4.2, "Responsible and Trustee Agencies"), interested parties, and organizations. The NOP was circulated for 30 days, through January 19, 2013.

In accordance with PRC Section 21083.9 and CCR Section 15082 (c), a noticed scoping meeting for the EIR occurred on January 8, 2014, from 5:00 p.m. to 7:00 p.m. at the Sacramento City Hall, Council Chambers, 915 I Street, 1st Floor, Sacramento, CA. Comments received during the scoping period are included in Appendix B.

1.3.2 Draft EIR Public Review

This Draft EIR is being circulated for public review and comment for a period of 45 days, from July 16, 2014, and ends August 27, 2014.

A public hearing will be held on the Draft EIR on July 29, 2014 from 5:00 p.m. to 7:00 p.m. at the Sacramento City Hall, Council Chambers, 915 I Street, 1st Floor, Sacramento, CA, to receive input from agencies and the public on the Draft EIR.

During the public comment period, the general public as well as organizations and agencies may submit written comments on the Draft EIR's accuracy and completeness to Regional San. Because of time limits mandated by State law, comments should be provided no later than 5:30 p.m. on August 27, 2014. Please send all comments to

José Ramirez, Project Manager
Regional San
10060 Goethe Road
Sacramento, CA 95827
(916) 876-6059
or via e-mail at: ramirezj@sacsewer.com

Agencies that will need to use the EIR when considering permits or other approvals for the proposed Project should provide the name of a contact person, phone number, and email address. Comments provided by email should include the name and physical address of the commenter.

The Draft EIR may be reviewed during normal business hours (generally 8 a.m. to 5 p.m. weekdays) at the following locations:

Sacramento County Central Library, 828 "I" Street, Sacramento, CA 95814

All documents referenced in the Draft PEIR are available at Regional San, 10060 Goethe Road Sacramento, CA. The Draft EIR is available on the following websites where it may be viewed or downloaded:

http://www.regionalsan.com/sacramento-power-authority-cogen-project
http://www.per.saccounty.net/EnvironmentalDocuments/Pages/default.aspx

1.3.3 Final EIR

Upon completion of the public review and comment period, a Final EIR will be prepared that will include both written and oral comments on the Draft EIR received during the public review period, responses to those comments, and any revisions to the Draft EIR. The Draft EIR and the Final EIR will comprise the EIR for the Project. Before considering approval of the Project, Regional San, as the lead agency, is required to certify that the EIR has been completed in compliance with CEQA; that the Board, as the decision-making body, reviewed and considered the information in the EIR; and that the EIR reflects the independent judgment of Regional San, as the lead agency.

1.4 Agency Roles and Responsibilities

This Draft EIR will be used by Regional San and CEQA responsible and trustee agencies to ensure that they have met their requirements under CEQA before deciding whether to approve or permit Project elements over which they have jurisdiction. It may also be used by other Federal, State, and local agencies, which may have an interest in resources that could be affected by the Project, or that have jurisdiction over portions of the Project.

1.4.1 Lead Agency

Regional San is the CEQA lead agency for preparation of this EIR for the Project. The Board has the principal responsibility for approving and carrying out the Project and for ensuring that the requirements of CEQA have been met. The Board is comprised of elected representatives from communities serviced by Regional San, including: Sacramento and Yolo counties, and the cities of Sacramento, Citrus Heights, Elk Grove, Folsom, Rancho Cordova, and West Sacramento. After the EIR public review process is complete, the Board is the party responsible for certifying that the EIR adequately evaluates the environmental impacts of the Project. The Board has the authority to approve, approve with modifications, or reject the Project.

1.4.2 Responsible and Trustee Agencies

Under CEQA, a responsible agency is a public agency, other than the lead agency, that has responsibility to carry out or approve a project (PRC Section 21069). A trustee agency is a State agency that has jurisdiction by law over natural resources that are held in trust for the people of the State of California (PRC Section 21070). Although Federal agencies are not "responsible" agencies under CEQA, they may use the environmental information in an EIR as the basis for their compliance with permitting requirements. The

Federal, State, regional, and local agencies that may have responsibility for, or jurisdiction over, implementation of elements of the Project are shown in Table 1-2. The list shown in Table 1-1 also identifies permit, funding, and other approval actions likely to be required before implementing individual elements of the Project.

Table 1-2. Potential Federal, State, Regional, and Local Agency Approval Actions

Agency	Approval Action
Federal	
U.S. Army Corps of Engineers	Compliance with Section 404 of the Clean Water Act if discharge of fill to waters of the United States would occur Compliance with Section 408 of the Clean Water Act if alteration of the levee system would occur
U.S. Fish and Wildlife Service	Compliance with Section 7 of the Federal Endangered Species Act
State	
California Department of Fish and Wildlife	Compliance with the California Endangered Species Act
	Streambed Alteration Agreement (California Fish and Wildlife Code Section 1602)
	Compliance with Section 2081 of the California ESA if take of listed species is likely to occur
Central Valley Flood Protection Board	Encroachment permit for work associated with levees
California State Office of Historic Preservation	Compliance with Section 106 of the National Historic Preservation Act (for issuance of a Section 404 permit)
Central Valley Water Board	Compliance with Section 401 of the Clean Water Act if discharge of a pollutant into waters of the United States would occur
State Water Board	Amendment to the Petition for Change (application WW-28) for treated wastewater (recycled water) to be used by the SPA Cogeneration Plant and other users within the Project area per California Water Code Section 1211 and 1210.
	NPDES construction stormwater permit (Notice of Intent to proceed under General Construction Permit) for disturbance of more than 1 acre
Regional and Local	
Sacramento County and City of Sacramento	Building structure permit for construction of new buildings
	Grading and drainage permit
	Paving permit
	Stormwater Pollution Prevention Plan approval
	Electrical and plumbing permits
	Traffic control plans approval
Sacramento Metropolitan Air Quality Management District	Authority to construct (for devices that emit air pollutants)
	Permit to operate

Key:
ESA = Endangered Species Act
NPDES = National Pollutant Discharge Elimination System
SPA = Sacramento Power Authority

1.5 Purpose and Intended Use of Draft EIR

According to CCR Section 15064[f][1]), preparation of an EIR is required whenever a project may result in a significant environmental impact. An EIR is an informational document used to inform public agency decision makers and the general public of the significant environmental effects of a project, identify possible ways to mitigate or avoid the significant effects, and describe a range of reasonable alternatives to the project that

could feasibly attain most of the basic objectives of the project while substantially lessening or avoiding any of the significant environmental impacts. Public agencies are required to consider the information presented in the EIR when determining whether to approve a project.

In accordance with CCR Section 15161, this document is a project EIR that examines the environmental impacts of a specific proposed project. This type of EIR focuses on the changes in the environment that would result from a specific project. In accordance with CCR Section 15161, a project EIR must examine the environmental effects of all phases of the project, including construction and operation.

CEQA requires that State and local government agencies consider the environmental effects of projects over which they have discretionary authority before taking action on those projects (PRC Section 21000 et seq.). CEQA also requires that each public agency avoid or mitigate to less-than-significant levels, wherever feasible, the significant environmental effects of projects it approves or implements. If a project would result in significant and unavoidable environmental impacts (i.e., significant effects that cannot be feasibly mitigated to less-than-significant levels), the project can still be approved, but the lead agency's decision-maker (the Board) must prepare findings and issue a "statement of overriding considerations," explaining in writing the specific economic, social, or other considerations that they believe, based on substantial evidence, make those significant effects acceptable (PRC Section 21002; CCR Section 15093).

In addition, the State Water Board will be able to rely on this EIR for approving an amendment to the Petition for Change (Application WW-28) for the place of use of treated wastewater (recycled water) pursuant to Sections 1210 and 1211 of the California Water Code.

1.6 Scope of Environmental Analysis

Pursuant to CEQA and the State CEQA Guidelines, a lead agency shall focus an EIR's discussion on significant environmental effects and may limit discussion on other effects to brief explanations about why they are not significant (PRC Section 21002.1, CCR Section 15143). A determination of which impacts would be potentially significant was made for this Project based on review of the information presented in the NOP prepared for the Project and comments received as part of the public review process (Appendices A and B), as well as additional research and analysis of relevant Project data during preparation of this Draft EIR.

Regional San has determined that the proposed Project has the potential to result in significant environmental impacts on the following resources, which are addressed in detail in this Draft EIR: Aesthetics, agriculture resources, air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, noise, recreation, and transportation and traffic.

1.6.1 Effects Found Not to be Significant

Pursuant to CEQA, the discussion of potential effects on the physical environment is focused on those impacts that may be significant or potentially significant. CEQA allows a lead agency to limit the detail of discussion of the environmental effects that are not considered potentially significant (PRC Section 21100, CCR Sections 15126.2[a] and 15128). CEQA requires that the discussion of any significant effect on the environment be limited to substantial, or potentially substantial, adverse changes in physical conditions that exist within the affected area, as defined in PRC Section 21060.5 (statutory definition of "environment").

Based on a review of the information presented in the NOP prepared for the Project and comments received as part of the public review process (Appendix A), as well as additional research and analysis of relevant Project data during preparation of this Draft EIR, several resources were identified that would not experience any potential environmental impacts from the proposed Project. Accordingly, these resources are not addressed further in this Draft EIR, but are identified below with a brief explanation as to why impacts to each resource are not anticipated, as required by CEQA.

Forestry Resources: The Project alignment is surrounded by the existing SRWTP (designated for Public/Utilities land uses in the Sacramento County General Plan) and existing or planned residential development, industrial development, and the Sacramento River. There are no lands along the proposed alignment that are zoned for forest land or timberlands, the alignment is not forested, and a portion of the alignment is surrounded by open space grassland habitat and agricultural land uses (the Bufferlands area of the Regional San property), Therefore, no impacts to forest lands would occur and this issue is not discussed further in this Draft EIR.

Land Use and Planning: The proposed installation and operation of a recycled water main and future lateral connections would not involve changes to existing land uses along the Project alignment and the Project would not conflict with Sacramento County General Plan or City of Sacramento General Plan policies. The proposed Project would support and be consistent with State and regional recycled water regulations and initiatives including the following, as described in Section 1.1, "Setting": California Senate Bill X7 and the resulting 20 by 2020 Plan; State Water Board's 2009 Recycled Water Policy; California Water Code, Chapter 7, Article 7 (encourages the increased use of recycled water); the Water Forum Agreement; and the 2013 Sacramento Integrated Regional Water Management Plan. Therefore, no significant land use or planning effects would occur and this issue is not discussed further in this EIR.

Mineral Resources: According to the Sacramento County General Plan Conservation Element, no significant mineral deposits have been identified along the Project alignment. Additionally, the project is not located within an Aggregate Resource Area as identified by the Sacramento County General Plan Land Use Diagram (Sacramento County 2011). Therefore, no impacts to mineral resources would occur and this issue is not discussed further in this Draft EIR.

Population, Employment, and Housing: In 2012, the estimated population in Sacramento County was 1,450,121 and the estimated population in the City of Sacramento was 475,516 (U.S. Census Bureau 2014a, b). There are no residences within the SRWTP property or SPA Cogeneration Plant site, within the recycled water main alignment or the future lateral alignments, or at Chorley Park (a potential location for a storage tank and pump station). All proposed recycled water pipelines and support facilities would be located within public rights-of-way (under roadways) or on public land. Lands immediately adjacent to the recycled water main alignment and future lateral alignments include existing residential subdivisions in the City of Sacramento, such as Meadowview and Golf Course Terrace, and the future Delta Shores residential development. Construction and operation of the recycled water main, laterals, or lateral structures would not require the removal of any existing homes or displace businesses or people, nor would the Project result in the construction of any housing.

The proposed Project would not require any additional permanent SRWTP or SPA employees to operate the recycled water pipelines. Approximately 30 construction workers would be temporarily employed during construction of the recycled water main from the SRWTP to the SPA Cogeneration Plant, which would take approximately 300 days, and during construction of future lateral connections and associated storage tank and pump station, which would take approximately 579 days. The employment duration of individual construction workers would vary according to construction phase and skill sets required for each Project component.

Unemployment in Sacramento County is approximately 9 percent of its 678,600-person workforce (as of August 2013), so an estimated 60,100 people remain unemployed (California Employment Development Department [EDD] 2013a). The construction workforce in the overall Metropolitan Statistical Area (Sacramento and surrounding counties) is substantial, totaling over 36,000 (also as of August 2013) (EDD 2013b). These data suggest that the region supports a robust construction workforce that also has the ability to grow in numbers while reducing local unemployment. As a result, it is not anticipated that substantial numbers of workers would relocate to the area, creating a demand for housing.

No direct or indirect impacts to population, employment, or housing would occur due to the proposed recycled water pipeline, and this issue will not be discussed further in the EIR.

Public Non-Emergency Services: The proposed Project would not involve construction of housing or any increase in permanent personnel at the SRWTP or SPA Cogeneration Plant. In addition, based on existing workforce and unemployment rates in the Sacramento region, it is assumed that the need for temporary construction workers would be served by existing local residents. Therefore, the Project would not generate any increase in demand for schools, parks, or other public services or facilities. Operation of the recycled water pipelines, which would be located beneath roadways or publicly owned land, would not result in a change to any land uses in the Project alignment and would not increase demand for public services. Regarding wildland fire hazards, the SRWTP, SPA Cogeneration Plant, main pipeline alignment, and future lateral

connections are not located in a designated wildland fire area or a high fire hazard severity zone, and as such, the Project would not expose people or structures to a significant risk involving wildland fires. Therefore, the Project would not result in adverse impacts on public non-emergency services and this issue is not discussed further in this EIR.

Potential impacts to emergency services are discussed in Section 3.16, "Transportation and Traffic."

Utilities and Energy Use: Installation and operation of the proposed recycled water pipelines would not involve development of new residential, commercial, or industrial areas that would result in a substantial increase in the demand for utility services or facilities. Construction and operation of the recycled water pipeline would not involve an increase in wastewater treatment capacity at the SRWTP, but would result in the conservation of potable water by replacing the use of potable water at the SPA Cogeneration Plant with recycled water. The Project would increase the availability of recycled water, and as a consequence, decrease demand for potable water for the SPA Cogeneration Plant and for landscape irrigation at parks and schools. The availability of additional potable water as a result of the Project and the potential for such water to serve growth in the region is discussed in Chapter 5.0 "Other CEQA Requirements.

Because the Project would not involve demolition that would result in substantial construction waste, nor result in development of land uses that would generate substantial amounts of municipal solid waste, it would not have an adverse effect on landfill capacity and would not conflict with Federal, State or local statutes and regulations related to solid waste. The Project would require installation of additional pumps that would consume electrical energy; however, usage would not be substantial, would be readily accommodated without the need for additional electrical generation or transmission facilities, and would offset energy used to secure potable water, which is currently used at the plant.

Installation of the proposed recycled water main and future lateral connections within existing roadways would involve implementation of standard coordination procedures with utility providers that have existing underground and overhead infrastructure (water, sewer, natural gas, and electrical). As such, Regional San would ensure that utility services are not disturbed by Project construction activities.

No additional demand for utilities and services would result from the Project and coordination with utility providers would occur to avoid disruption of services. Therefore, no impacts to utilities would occur and this issue will not be discussed further in this EIR.

1.7 Relationship to Other EIRs

This Draft EIR incorporates by reference the environmental analysis and other information contained in the Draft EIR for Regional San's EchoWater Project, March 2014, State Clearinghouse #2012052017 (Regional San 2014b). Regional San proposes to upgrade its existing facilities at the SRWTP to meet NPDES permit requirements

issued by the Central Valley Water Board as confirmed and modified by the State Water Board. The full text of the EchoWater Draft EIR is available online at http://www.regionalsan.com/post/echowater-environmental-impact-report, and in hard copy at the Regional San's Office at 10060 Goethe Road, Sacramento, CA 95827.

In addition, this Draft EIR incorporates by reference the Delta Shores Final EIR, December 2008, State Clearinghouse #2007042070 (City of Sacramento 2008). The Delta Shores project includes the development of a 782-acre master planned community in south Sacramento adjacent to the southern boundary of the City's limits. The project includes a mix of residential uses with two mixed-use commercial centers, schools, parks and limited office uses. The full text of the Delta Shores Final EIR is available online at http://portal.cityofsacramento.org/Community-Development/Planning/Environmental/Impact-Reports, and in hardcopy at the City of Sacramento Community Development Department at 300 Richards Boulevard, 3rd Floor, Sacramento, CA 95811.

1.8 Draft EIR Organization

This Draft EIR is organized into chapters as identified and briefly described below.

Chapter 1, Introduction: This chapter describes the Setting of the Project; State and regional recycled water regulations and initiatives; Title 22, Chapter 3 Regulations; the Project study area; CEQA public review process; agency roles and responsibilities; purpose and intended uses of the Draft EIR; the scope of the environmental analysis (including the effects found not to be significant); relationship to other EIRs; organization of the Draft EIR; and standard terminology.

Chapter 2, Project Description: This chapter describes the Project purpose and objectives; Regional San existing facilities and capacities, including EchoWater project upgrades; Project alignment; construction characteristics; and operations and maintenance (O&M).

Chapter 3, Environmental Setting, Environmental Impacts, and Mitigation Measures: The resource sections within this chapter evaluate the expected environmental impacts generated by the proposed Project at a project level. Within each subsection of Chapter 3, the regulatory setting, existing environmental setting, the significance criteria, and the analysis methodology and assumptions are described. The anticipated changes to the existing environmental conditions after development of the proposed Project are then evaluated for each resource. For any significant or potentially significant impact that would result from Project implementation, mitigation measures are presented along with the level of significance after mitigation. Environmental impacts are numbered sequentially throughout the sections of Chapter 3 (e.g., Impact 3.1-1, Impact 3.1-2, etc.). Any required mitigation measures are numbered to correspond to the impact numbering; therefore, the mitigation measure for Impact 3.1-1 would be Mitigation Measure 3.1-1.

Chapter 4, Alternatives: This chapter provides a discussion of alternatives to the proposed Project, including the No Project Alternative, alternatives considered but removed from further consideration, and the environmentally superior alternative.

Evaluation of alternatives is provided in sufficient detail to allow comparison with the proposed Project.

Chapter 5, Other CEQA Requirements: This chapter provides a discussion of potential direct and indirect growth inducing impacts, cumulative impacts, and significant and unavoidable impacts.

Chapter 6, Compliance with Federal Environmental Laws and Regulations: This chapter summarizes the Federal environmental laws and regulations that apply to the Project and describes the Project's compliance with those laws and regulations.

Chapter 7, List of Preparers: This chapter identifies the lead agency contacts as well as the preparers of this Draft EIR.

Chapter 8, References: This chapter identifies the organizations and documents consulted during preparation of this Draft EIR and the documents used as sources for the analysis.

1.9 Standard Terminology

This Draft EIR uses a variety of terms to describe the level of significance of adverse impacts identified during the course of the environmental analysis. These terms are defined below.

- A "less-than-significant impact" is an impact that is adverse but that does not exceed the defined standards of significance. Less-than-significant impacts do not require mitigation.

- A "significant impact" is an impact that exceeds the defined standards of significance and would or could cause a substantial adverse change in the environment. Feasible mitigation measures are recommended to eliminate the impact or reduce it to a less-than-significant level.

- A "potentially significant impact" is an impact for which information may not be definitive, but where it is likely or reasonably foreseeable that a significant impact may result. A potentially significant impact is treated as a significant impact and requires the identification of feasible mitigation measures or alternatives.

- A "significant and unavoidable impact" is an impact that exceeds the defined standards of significance and that cannot be eliminated or reduced to a less-than-significant level through the implementation of feasible mitigation measures.

2.0 Project Description

This chapter describes the Project purpose and objectives, Regional San's existing facilities and capacities, the proposed Project alignment and structures, construction methods, and Project O&M requirements.

2.1 Project Purpose and Objectives

The State of California has recognized that water recycling is an important component of regional water resources planning and management as a critical supply in meeting the long-term water needs of California. Specifically in Sacramento County, there is potential opportunity to further reuse recycled water for a variety of allowable uses offsetting the current and planned uses of potable water supplies, per State recycled water policy.

As discussed above in Section 1.1, "Background," Regional San is interested in maximizing the beneficial use of its treated wastewater. To that fact, Regional San has adopted a Water Asset Management Vision which states "SRCSD will manage its water assets to sustain regional water supplies, benefit current and future ratepayers of the region, and safeguard and enhance the environment." Consistent with this vision, Regional San has owned and operated a 5 mgd Title 22 water recycling facility since 2003 and has placed a portion of its total effluent to beneficial use as recycled water. The Project is an extension of the previously planned and permitted uses of Regional San's existing 10-mgd water recycling facility.

The Project would convey recycled water from Regional San's WRF and the future advanced wastewater treatment plant located at the SRWTP to SPA's Cogeneration Plant and other potential customers. The Project alignment contains recycled water main, laterals, lateral structures, and equipment lay-down areas. The Project's recycled water main would initially convey 1-mgd to serve the SPA Cogeneration Plant on a year-round basis but would be sized to convey a maximum of 4.2-mgd to serve additional future users with recycled water laterals and lateral structures within the study area.

The objectives of the Project are to:

- Maximize the beneficial uses of Regional San's recycled water supplies from its treatment facilities located at the SWRTP, while minimizing total construction costs;
- provide recycled water to customers for allowable uses to offset existing potable water usage; and
- reduce groundwater pumping of potential customers in the Project Area.

2.2 Regional San Existing Facilities and Capacities

The Water Recycling Program will rely on recycled water supplies produced at the WRF and from the future advanced tertiary wastewater treatment plant once construction is complete in 2023. The current capacities of the WRF and the SRWTP are described below. Both facilities are located at the SRWTP near the City of Elk Grove, south of Laguna and Morrison creeks, and east of the Sacramento River.

2.2.1 Sacramento Regional Wastewater Treatment Plant

The SRWTP is currently a secondary treatment plant that is permitted to discharge up to 181 mgd on an average dry weather flow. The SRWTP is being upgraded to comply with a new NPDES permit issued by the Regional Water Board in December of 2010. The advanced treatment plant is referred to as Regional San's EchoWater Project (formerly known as the Advanced Wastewater Treatment Plant Project), and by 2023, it will produce advanced tertiary, Title 22 tertiary recycled water or equivalent effluent.

Regional San is currently in litigation with the Central Valley Water Board and State Water Board over aspects of the NPDES permit that result in the need for tertiary filters, and components of the EchoWater project as may be modified, dependent on the outcome of ongoing litigation. The EchoWater Project includes upgrading the SRWTP to include a biological nutrient removal facility, a flow equalization system, a filtered effluent pump station, filters, a new disinfection facility, potentially provisions for a redundant outfall, and an area control center.

Construction and operation of the new facilities as part of the EchoWater Project would result in improved treated effluent water quality; however, the new facilities would not increase treatment or disposal capacity. Up to approximately 480 acres of the SRWTP, primarily within the 900-acre core facility area, would be disturbed. The EchoWater Project construction is proposed to begin in early 2015 and conclude in late 2023. Most construction activities are expected to be completed within the seven-year period of 2015 to 2022, with an additional year (2023) of contingency and commissioning.

2.2.2 Water Reclamation Facility

The current WRF consists of a tertiary treatment plant, pump station, and storage reservoir that are designed to produce 5 mgd of recycled water. Provisions were made at the time of the original design and construction to facilitate a future expansion of up to 10 mgd. The WRF has a 2.18 million-gallon (mg) storage tank that includes approximately 1.9 mg of working storage, 0.18 mg of Zone 2 fire protection, and 0.1 mg of dead storage.

The existing WRF booster pump station has a pumping capacity range from 120 to 9,000 gallons per minute (gpm) with six (two small and four large) constant-speed horizontal split-case pumps. The two small pumps are each sized for 1,200 gpm, 186 feet of total dynamic head (TDH), and 75 brake horsepower (Bhp). Each of the four large pumps has a capacity of 3,000 gpm, 250 feet of TDH, and 250 Bhp. The pump station has space reserved for two additional large pumps to be installed to meet future demand. The WRF currently has several distribution points from the pump station to serve SCWA and Regional San onsite non-potable and irrigation uses.

Generally, the WRF operates on a seasonal basis, from May through October, except for the low flow provided to SCWA customers and to use on site. During the off-season, the WRF process is shut down and cleaned. SCWA irrigation customers are served during this time with well water from the Regional San.

2.3 Project Alignment

The Project alignment consists of a pipeline (recycled water main) and necessary appurtenant facilities to convey recycled water from the SRWTP north to the SPA Cogeneration Plant. The recycled water main would initially convey 1 mgd to serve the SPA Cogeneration Plant on a year-round basis but would be sized to convey a maximum of 4.2 mgd to serve additional future users with recycled water needs within the Project study area. Examples of future recycled water uses include landscaped areas such as common areas, medians, golf courses, parks, and school fields.

2.3.1 Recycled Water Main Alignment

The recycled water main would start with an 18-inch diameter and gradually taper to a 10-inch diameter, and would be constructed from the onsite WRF, approximately one mile north-northwesterly through Regional San property to the intersection of the future 24th Street extension and Cosumnes River Boulevard. In the vicinity of the intersection of 24th Street and Cosumnes River Boulevard, the recycled water main would follow 24th Street north approximately 4 miles to its terminus at the SPA Cogeneration Plant. The recycled water would be used by SPA's Cogeneration Plant which has an expected annual water demand of 1,000 AFY, a maximum day demand of 0.89 mgd, and a peak hour demand of 620 gpm. See Figure 2-1 for an overview of the recycled water main, and Table 2-1 for the recycled water main alignment locations and pipeline lengths.

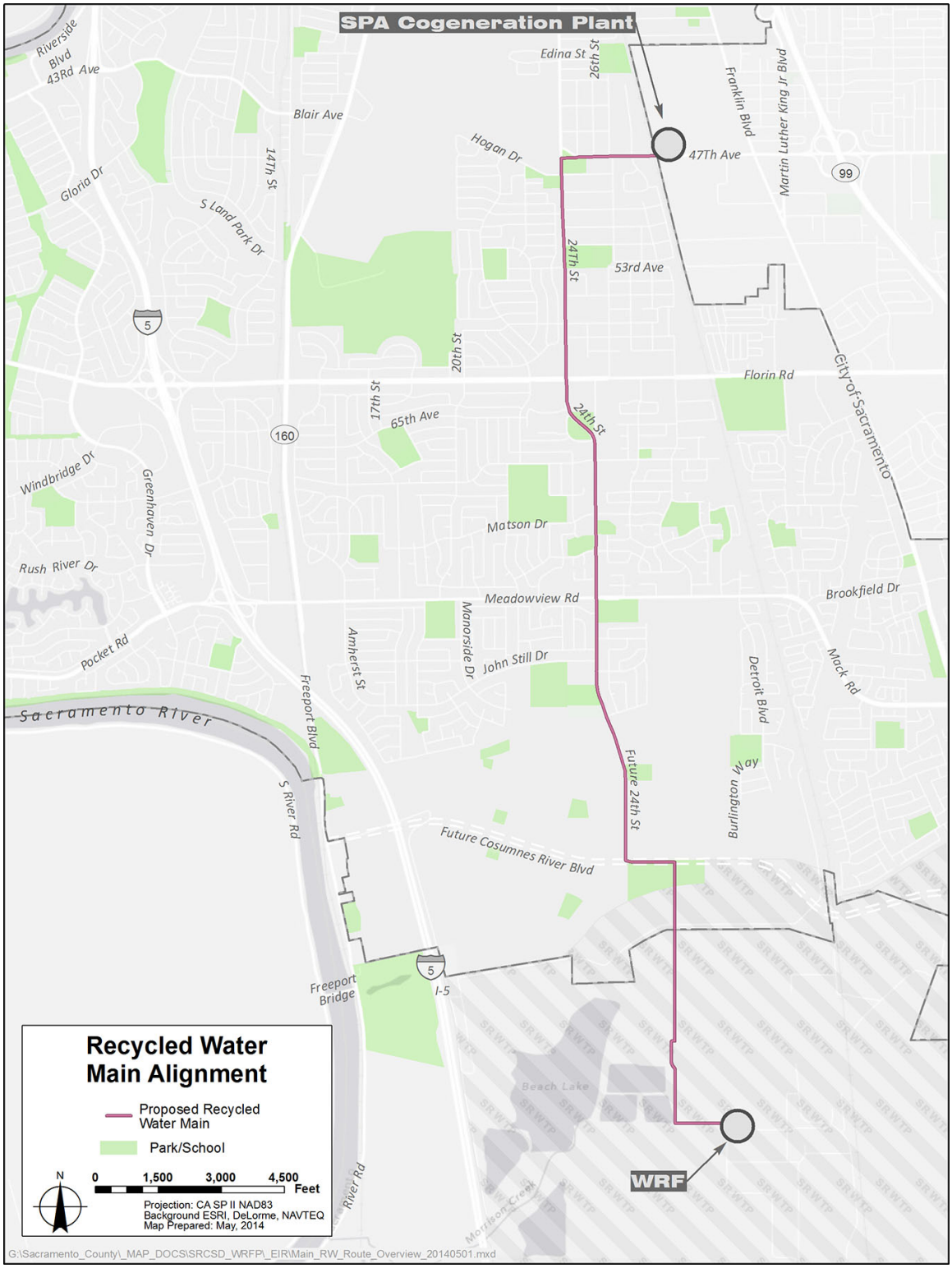


Figure 2-1. Recycled Water Main Alignment

Table 2-1. Recycled Water Main Alignment Locations and Pipeline Lengths

Street Name	Pipeline Diameter (inches)	Length (feet)	Length (miles)
Cosumnes River Blvd (Delta Shores)	18"	1168	0.22
N/A SRWTP Bufferlands	18"	1323	0.25
N/A Delta Shores	18"	1034	0.20
N/A SRWTP	18"	5412	1.03
24th Street	10"	2617	0.50
24th Street	12"	2644	0.50
24th Street	16"	8539	1.62
24th Street (Delta Shores)	16"	3292	0.62
47th Avenue	10"	2389	0.45

Key:
N/A = street not currently named
SRWTP = Sacramento Regional Wastewater Treatment Plant

2.3.2 Recycled Water Lateral Alignments

The proposed recycled water lateral alignments would start with a 10-inch diameter and gradually taper to a 4-inch diameter, and would be constructed to serve potential future recycled water uses along the route (see Figure 2-2 for the recycled water lateral alignments and associated lateral structures). Recycled water may potentially be used for urban irrigation, and identified potential users include cemeteries, commercial/business parks, golf courses, industries, parks and schools. The potential recycled water demand to City customers is estimated to be approximately 3,650 AFY at build-out. Table 2-2 lists the location and lengths for recycled water laterals and Table 2-3 lists potential recycled water lateral customers. One of the recycled water laterals, the Freeport Boulevard lateral, has two options for delivering water to Bartley Cavanaugh Golf Course (GC) and Bill Conlin Youth Sports Complex. Each of these options (options A and B) are described below.

Freeport Boulevard Lateral, Option A and B

Option A of the Freeport Boulevard Lateral stems from the recycled water main and travels west along future Cosumnes River Boulevard (Delta Shores), turns south, and then crosses underneath the North Beach levee into the SRWTP Bufferlands. The lateral would cross under another levee adjacent to Interstate 5 (I-5). The pipeline would use an existing conduit under I-5 to the Bartley Cavanaugh GC, then north along River Road to serve the Conlin Youth Sports Complex as well.

Option B of the Freeport Boulevard Lateral would serve the Bartley Cavanaugh GC and Conlin Youth Sports Complex from a force main and future small booster pump station connected to the Regional San outfall facility. Option B allows the Recycled Main to be downsized from 18-inches in diameter to 16-inches in diameter from the WRF to Cosumnes River Boulevard.

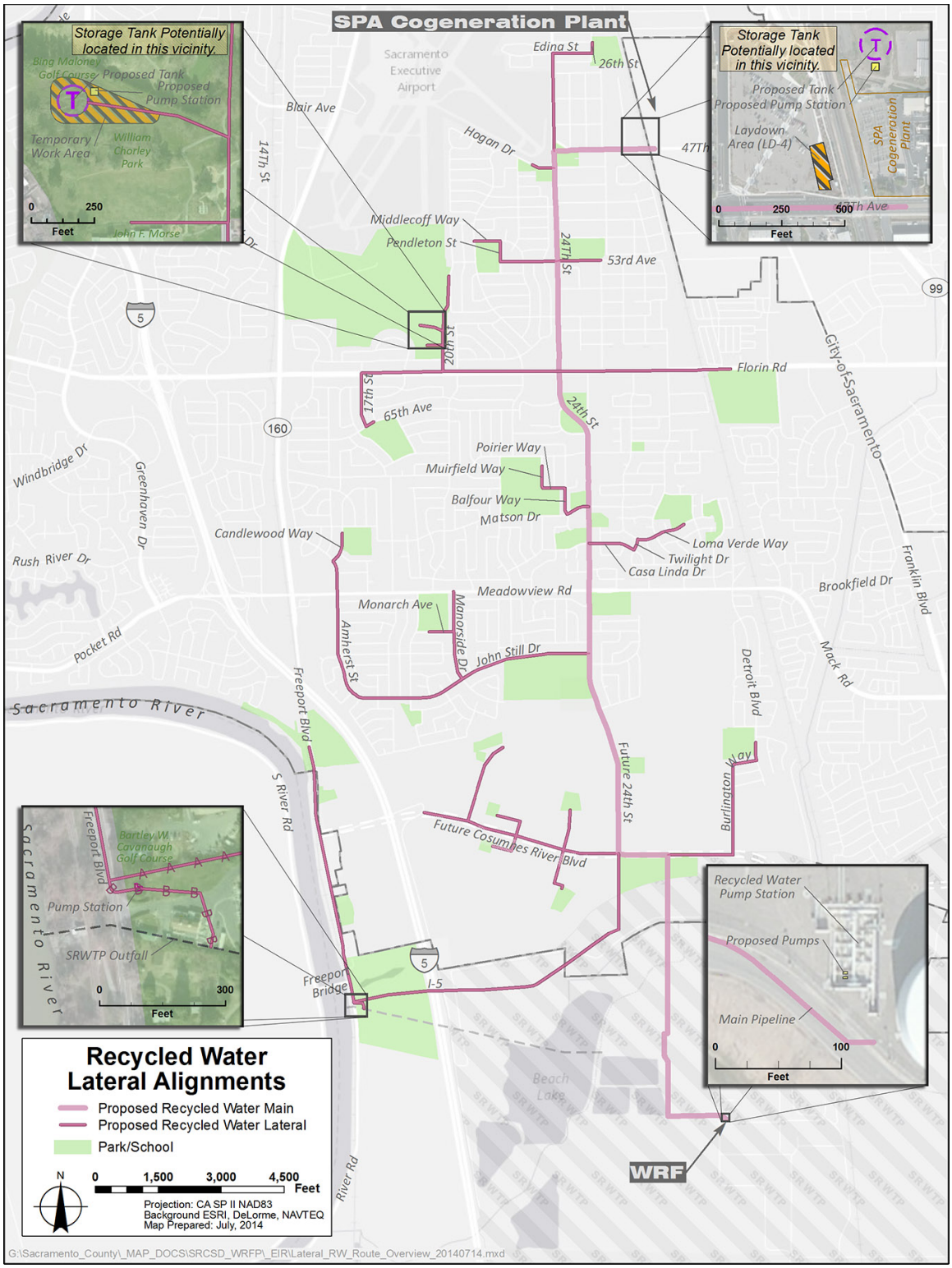


Figure 2-2. Recycled Water Lateral Alignment

Table 2-2. Recycled Water Laterals Alignment Location and Pipeline Lengths

Street Name	Pipeline Diameter (inches)	Length (feet)	Length (miles)
17th Street	6"	1293	0.24
20th Street	14"	635	0.12
24th Street	4"	2326	0.44
24th Street (Delta Shores)	12"	998	0.19
26th Street	4"	262	0.05
53rd Avenue	4"	1366	0.26
65th Avenue	6"	210	0.04
Amherst Street	4"	2243	0.42
Amherst Street	6"	2399	0.45
Balfour Way	8"	632	0.12
Burlington Way	6"	1247	0.24
Candlewood Way	4"	738	0.14
Casa Linda Drive	4"	1110	0.21
Cosumnes River Boulevard (Delta Shores)	10"	1318	0.25
Cosumnes River Boulevard (Delta Shores)	4"	1062	0.20
Cosumnes River Boulevard (Delta Shores)	6"	2771	0.52
Cosumnes River Boulevard (Delta Shores)	8"	1185	0.22
Detroit Boulevard	6"	427	0.08
Edina Street	4"	948	0.18
Florin Road	14"	2780	0.53
Florin Road	6"	1933	0.37
Florin Road	8"	4088	0.77
Freeport Boulevard	12"	892	0.17
Freeport Boulevard	8"	5284	1.00
Hogan Drive	6"	549	0.10
Interstate 5	12"	418	0.08
John Still Drive	6"	1356	0.26
John Still Drive	8"	3153	0.60
Loma Verde Way	4"	1180	0.22
Manorside Drive	4"	958	0.18
Manorside Drive	6"	1161	0.22
Matson Drive	8"	564	0.11
Middlecoff Way	4"	634	0.12
Monarch Avenue	4"	591	0.11
Muirfield Way	6"	530	0.10
N/A Bartley Cavanaugh Golf Course	12"	1907	0.36

Table 2-2. Recycled Water Laterals Alignment Location and Pipeline Lengths (contd.)

Street Name	Pipeline Diameter (inches)	Length (feet)	Length (miles)
N/A Bing Maloney Golf Course	14"	1337	0.25
N/A Chorley Park	14"	339	0.06
N/A Chorley Park	8"	579	0.11
N/A Delta Shores	4"	4887	0.93
N/A Delta Shores	6"	2419	0.46
N/A John F. Morse School	4"	385	0.07
N/A SRWTP	12"	5367	1.02
N/A Woodbine Park	4"	1024	0.19
Pendleton Street	4"	500	0.09
Poirier Way	6"	534	0.10
Twilight Drive	4"	279	0.05

Key:
N/A = street not currently named
SRWTP = Sacramento Regional Wastewater Treatment Plant

Table 2-3. Potential Recycled Water Lateral Customers

Potential Customers	Customer Type	Type of Use	Estimated Annual Recycled Water Demand (acre/ft/yr*)
Barley Cavanaugh Golf Course	GC	Irr.	301
SRWTP Outfall Property	I	Irr.	5
Data Center	C	Irr.	27
Bill Conlin Youth Sports Complex	P	Irr.	61
Delta Shores: Parks 1, 2	P	Irr.	25
Delta Shores: Parks 3-9	P	Irr.	194
Delta Shores: Other Areas	P, R, SC, ST	Irr.	24
Susan B Anthony	SC	Irr.	21
Anthony	P	Irr.	5
Meadowview Park	P	Irr.	24
Still School	SC	Irr.	46
Freeport Park	P	Irr.	12
Freeport School	SC	Irr.	18
Richfield	P	Irr.	8
Sloat School	SC	Irr.	22
Sammuel Pannel Community Center	C	Irr.	22
Steve Jones Park	P	Irr.	16
Kemble	P	Irr.	5

Table 2-3. Potential Recycled Water Lateral Customers (contd.)

Potential Customers	Customer Type	Type of Use	Estimated Annual Recycled Water Demand (acre/ft/yr*)
Cesar Chavez (Edward Kimble)	SC	Irr.	11
Silva	P	Irr.	6
Hopkins Park	P	Irr.	19
Hopkins School	SC	Irr.	43
Rosa Parks/Goether	SC	Irr.	18
24th Street Bypass Park	P	Irr.	11
Capital City (24th Street)	SC	Irr.	13
Luther Burbank	SC	Irr.	82
Morse School	SC	Irr.	8
Chorley	P	Irr.	12
Bing Maloney Golf Course	GC	Irr.	527
Bidwell School	SC	Irr.	18
Cabrillo	P	Irr.	17
H.W. Harkness	SC	Irr.	20
Woodbine Park	P	Irr.	19
Woodbine School	SC	Irr.	14
Airport Little League Park	P	Irr.	27
Huntington School	SC	Irr.	22

Key:
acre/ft/yr = acre feet per year
C = Commercial
CT = Cooling Tower
GC = Golf Course
I = Industrial
Irr. = Irrigation
P = Parks
R = Restoration
SC = Schools
SRWTP = Sacramento Regional Wastewater Treatment Plant
ST = Streetscapes

2.3.3 Lateral Structures

Additional structures associated with the Recycled Water Laterals include modifications to the WRF booster pump station (to include two new pumps) and a 1.9 mgd tank (see Figure 2-2).

WRF Booster Pump Station

Based on previous studies, the existing pump station at WRF has sufficient capacity to supply the SPA Cogeneration Plant. However, to handle the additional capacity needed for the recycled water laterals, the WRF booster pump station would be modified to include two new electrical pumps. The two small pumps would each be sized for 620 gpm, 168 feet of TDH, and contain 32 Bhp. The two new pumps would be operational 24 hours per day.

Storage Tank

A 120-foot diameter, 27-foot high, 1.9 mgd storage tank and electric booster pumps (estimated at 450 horsepower total) would be installed at either Chorley Park or at the SPA Cogeneration Plant as additional storage would be required serve additional future

users with recycled water needs within the study area. The volume of storage to provide for recycled water systems are dependent upon operational and reliability objectives. Operational objectives include peak shaving, fire flows, and shutdown duration. The storage tank would provide a secondary supply source during peak demand periods.

2.3.4 Construction Laydown Areas

Construction of the Project would involve establishing equipment laydown areas for both the recycled water main and laterals. Excavated material and debris, construction office, fences, sanitary facilities, and large stockpiles of construction material could be located within the laydown areas along the Project alignment. See Figure 2-3 for laydown areas for both the recycled water main and laterals. Also, see Table 2-4 for the type and acres of the laydown areas.

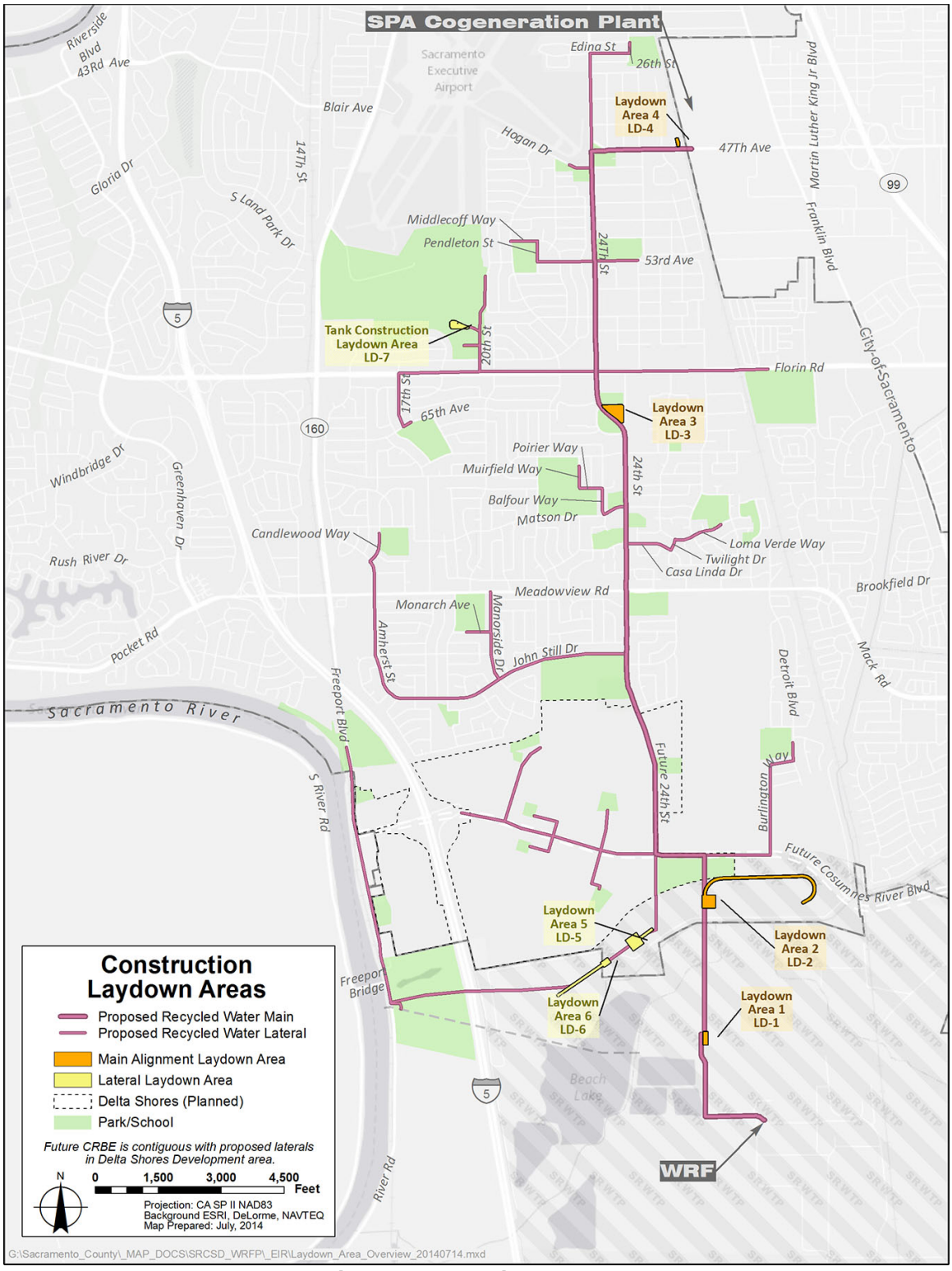


Figure 2-3. Laydown Areas

Table 2-4. Laydown Area Type and Acres

Name	Type	ID	Acres
Laydown Area 1	HDD Laydown Area	LD-1	0.7
Laydown Area 2	HDD Laydown Area	LD-2	6.2
Laydown Area 3	Open-Cut Laydown Area	LD-3	2.7
Laydown Area 4	Pipe Jack Laydown Area	LD-4	0.2
Laydown Area 5	HDD Laydown Area	LD-5	2.5
Laydown Area 6	HDD Laydown Area	LD-6	2.1
Laydown Area 7	Tank Construction Laydown Area	LD-7	1
Storage Tank	Tank	N/A	0.3

Key:
HDD = horizontal directional drilling
LD = laydown

2.4 Construction Characteristics

Construction of the Project would involve site preparation, installment of the pipeline, and testing/start-up. Construction of the pipeline would involve earthwork to remove pavement, place bedding, install the pipelines, backfill, re-grade land to present contour, and repave. Construction would occur within existing right-of-ways, when available. For construction on private parcels, temporary easements would be obtained before construction.

Recycled water main construction is estimated to begin early 2015, with duration of 13 months (approximately 300 working days). Pipeline installation is estimated to progress at a minimum rate of 120 feet per day for open-cut construction. Trenchless construction methods, when applied, are expected to progress at 40 feet per day.

Construction of potential future recycled water laterals has not been scheduled, but is estimated to have duration of 20 months (approximately 579 working days) in total. As with the recycled water main, pipeline installation is estimated to progress at a minimum rate of 120 feet per day. It is likely that lateral connections would be built incrementally as recycled water customers are able to make connections and as grant funding becomes available to offset the connection costs for Regional San and future customers.

For both the recycled water main and laterals, the construction trench would be approximately 5-feet in width and 10-feet in depth. The jacking and receiving shaft construction would be approximately 15-feet in width and 30-feet in depth. Jacking and receiving shafts are expected to be used at railroad crossings and adjacent to levees where horizontal directional drilling (HDD) is not feasible due to space constraints.

2.4.1 Type of Construction

Several types of construction methods would be used during the construction of the recycled water main. Methods include pipe jacking, HDD, and open-cut. The majority of the recycled water main and laterals would be completed via the open-cut method of

construction. HDD method of construction would be used across the wetlands north of the SWRTP and pipe jacking would be used for the Union Pacific Railroad crossing. Pipe jacking would be completed with a steel casing that is larger than the carrier pipe.

Construction of the laterals, when needed, would use similar techniques. The laterals would predominantly be installed via open-cut construction. However, the Freeport lateral connection (Option A) would likely use HDD for the north levee crossing and pipe jacking to cross under the levee adjacent to I-5. Similarly, the Florin East lateral would require a pipe jacking crossing of the Union Pacific Railroad (UPRR) and Metro light rail.

Pipe Jacking

Pipe jacking is a trenchless construction method of pipelines where shafts or pits are excavated on either side of an obstacle to open-cut construction. Typically, pipe jacking is employed to avoid an existing shallow buried utility, railroad, road, stream, or wetland that might otherwise be damaged by open-cut construction methods or cannot be taken out of service during construction. Pipe jacking is employed in soft ground soils where larger boulders are not anticipated (casing and auger systems can typically accommodate rocks ¼ the diameter of the casing pipeline). Pipe jacking is often used for short distances not requiring Bentonite slurry for drilling fluid or casing lubrication.

Once the shafts are excavated to the proper depths, the jacking frame and auger are lowered into the Jacking or Launching Pit. Most often a steel casing is used to house an auger that is driven by an electric motor. As the auger bores into the wall of the jacking pit towards the receiving pit, the pipe casing is pushed with hydraulic jacks through the auger bored hole. As the casing pipeline is jacked into place, additional casing pipeline pieces are welded behind in the jacking shaft and additional augers are attached to the auger string. Material excavated from the process is collected in the launching shaft and removed via a crane system for disposal. When the casing is fully installed from jacking shaft to receiving shaft, then the final carrier pipeline is constructed and placed inside the casing. Connections are made to the carrier pipeline at the jacking and receiving shafts and the shafts are backfilled and compacted.

Horizontal Directional Drilling

HDD is a trenchless pipeline installation method where a drilling head or “shoe” is inserted at a shallow angle into the ground and steered below obstacles to open-cut construction. As the drilling head is advanced by the drilling rig and operator, additional drill shaft sections are attached via threaded connections and pushed in behind the drilling head. A Bentonite slurry is pumped through the steel rods to the drilling head to condition the heading of drill and lower the resistance of the advance. Once the drilling head reaches the desired depth the drilling head is steered to the horizontal until the surface obstacle (stream, utility, road, etc.) is cleared. The drilling head is then steered back towards the surface and targeted to the exit point of the crossing. The drilling head then emerges at the ground surface and is replaced by a pull-back coupling. A reaming head is attached to the coupling and a welded string of pipe is pulled back through the hole created by the drilling head and expanded by the reamer. The final hole diameter is filled behind the reamer with the final flexible carrier pipeline. As the drill rig pulls back

on the pipe string with the hydraulic jacks, sections of the drilling shaft are removed and more of the pipe string is pulled back until the final pipeline is installed in a reverse arc from exit point to entry point. The directionally drilled pipeline is then connected to pipelines on either end installed via open-cut construction. The annular space between the reamer and the final pipe is typically grouted to prevent the preferential flow of water around the outside of the pipeline.

Open-Cut

Open-cut construction is the typical installation method of pipelines at shallow depth. A trench is dug with an excavator and shoring restraints are placed to hold the trench open and prevent caving. When the proper grade or slope of trench is established, then base material is placed in the bottom of the trench. Pipes are lowered into the trench and pipe joints are assembled. The pipeline is then backfilled with engineer-specified materials to protect the pipeline and the material is compacted in lifts to the surface of the trench. In open-country construction, native soils and or grasses are returned to the top 6 to 12 inches of backfill. In streets and roads, the road subgrade materials and asphalt is rebuilt. Open-cut construction is typically the fastest and least costly approach to pipe construction in the absence of critical surface feature conflicts.

2.4.2 Nighttime Construction

Due to traffic congestion during normal working hours at the intersection of Florin Road and 24th Street, and Meadowview and 24th avenues, it is assumed that possible nighttime construction could be required for up to four nights at both intersections. All other construction activity associated with the Project would be limited to the hours of 7:00 a.m. to 6:00 p.m. on Monday through Saturday, and the hours of 9:00 a.m. to 6:00 p.m. on Sunday.

2.4.3 Construction Equipment

Anticipated onsite construction equipment and vehicles are listed below. It is estimated that several segments of the main and/or lateral pipelines would be constructed at any one time, if possible. In addition, it is assumed that the construction equipment would move onto the site when needed and remain on site until work was completed. Workers would commute to the site daily; the closest freeway to the recycled water main and laterals is I 5. Below are construction equipment anticipated to be used for the Project.

<u>Pipe Jacking</u>

- Crane
- Excavator
- 10-wheel dump truck
- Flatbed semi for pipe
- Pick-up Truck

HDD

- Crane
- Front end loader
- Flatbed semi for pipe and drill segments
- Pick-up Truck
- Slurry tanks
- Slurry separation equipment
- Diesel generator
- Directional Drilling Rig
- Pipe welding apparatus

Open Cut

- Crane
- Excavator
- 10-wheel dump struck (2)
- Front end loader
- Pick-up Truck
- Flatbed semi for pipe

2.5 Operations and Maintenance

O&M would be needed for the recycled water main and laterals, storage tanks, multiple pump stations, control systems, electrical system, etc., and would include travel time to facilities for maintenance.

2.5.1 SPA Alignment and WRF Booster Pump Station

The WRF booster pump station is currently operated and maintained by Regional San. O&M activities at the WRF would change very little from how it is operated today. However, Regional San would monitor and maintain the SPA alignment and associated combination vacuum /air release valves, blowoffs, and exercise valves along the pipeline. It is anticipated that these maintenance activities will occur every 1 to 3 years. These activities have very little impact as combination valves are typically located adjacent to

roads in parkstrips. Valves access may require temporary traffic control while the valve boxes are accessed and exercised.

2.5.2 SPA Cogeneration Plant

SPA is responsible for future regulatory actions regarding SPA Cogeneration Plant, including origin and level of treatment for cooling tower water and any amendments to SPA's California Energy Commission (CEC) license, Title V air permit, and Sacramento Metropolitan Air Quality Management District (SMAQMD) issued local Permit to Operate. Regional San will coordinate with SPA, where appropriate, to support continued operations for both agencies/systems.

Providing recycled water to the SPA Cogeneration Plant is not assumed to artificially extend the life of the plant. While the planned design life of SPA Cogeneration Plant was for 30 years, it is assumed that there will be continued demand for power provided by the plant. Therefore, SPA may choose to conduct regular rehabilitation and reconstruction that could extend the SPA Cogeneration Plant design life.

3.0 Environmental Setting, Environmental Impacts and Mitigation Measures

This chapter describes the approach to Project environmental analysis and, for each environmental resource area, details the existing conditions in the study area, analyzes the environmental impacts of the Project, and presents mitigation measures for significant and potentially significant impacts.

3.1 Geographic Scope

The proposed Project involves multiple types of construction over a varying spatial extent within the Project study area. These areas include:

- Existing SRWTP facilities, including the WRF
- Bufferlands or Regional San property (outside the immediate SRWTP footprint)
- Recycled Water main and laterals alignment; where applicable the Freeport Lateral is discussed separately due to its more distant location
- Lateral structures; including WRF booster pump station and possible storage tank at Chorley Park or the SPA Cogeneration Plant
- Construction laydown areas, including pipe stringing areas

Where applicable, the environmental setting, regulatory setting, and environmental impacts and mitigation measures are evaluated and presented for the Project area as a whole; this applies to resource sections such as Air Quality and Climate Change. Other resource areas are discussed in more detail regarding the subsections listed above, as appropriate for the resource.

This page left blank intentionally.

3.2 Aesthetics

This section describes Federal, State and/or local polices relating to aesthetics and visual resources. This section also describes visual characteristics and conditions along the Project alignment and surrounding area, and provides an assessment of changes to those conditions that would result from Project implementation. The descriptions of visual resources in this section are accompanied by photographs of representative views, taken during site visits conducted on March 14, 2014. Figure 3.2-1 shows the location of photographs and viewpoints referenced in this analysis.

3.2.1 Regulatory Setting

Federal

Federal policies and regulations related to visual resources, primarily the Highway Beautification Act of 1965 (PL 89-285, Regulations 23 Code of Federal Regulations [CFR] 750, 23 CFR 751, 23 CFR 752), apply only to Federal-aid highways (National Highway System or National System of Interstate and Defense Highways). In Sacramento County, Interstate 5 (I-5) and Interstate 80 (I-80) are part of the National Highway System. I-5 is located 1.2 miles west of the Project alignment and I-80 is located approximately 11 miles north of the Project alignment. Therefore, further discussion of Federal regulations is not required.

State

California Scenic Highway Program California's Scenic Highway Program was created by the California Legislature in 1963 and is managed by the California Department of Transportation (Caltrans). The goal of this program is to preserve and protect scenic highway corridors from changes that would affect the aesthetic value of the land adjacent to highways. A highway may be designated "scenic" depending on how much of the natural landscape travelers can see, the scenic quality of the landscape, and the extent to which development intrudes on travelers' enjoyment of the view (Caltrans 2008).

The State Scenic Highway System includes highways that are eligible to become, or designated as, official scenic highways; and includes a process for the designation of official State or County Scenic Highways. State Route 160 (SR 160) is an Officially Designated State Scenic Highway (Caltrans 2012) that runs from the Contra Costa County line to the southern city limit of the City of Sacramento. In the Project vicinity, SR 160 runs parallel to the east side of the Sacramento River and is located 1.4 miles west of the SRWTP site. A proposed lateral pipeline would be placed within the SR 160 right-of-way.

Local

The proposed Project alignment is located both in unincorporated Sacramento County and the City of Sacramento; therefore, the County's and City's policies pertaining to aesthetic resources may be applicable to the Project.

Sacramento County General Plan The Land Use (LU) and Circulation elements of the Sacramento County General Plan (Sacramento County 2011) contain the following policies related to aesthetic resources that may be applicable to the Project:

Land Use

- **Policy LU 31**. Strive to achieve a natural nighttime environment and an uncompromised public view of the night sky by reducing light pollution.

Circulation

The Circulation Element designates all freeways within Sacramento County as scenic corridors. Scenic corridors extend 660 feet on each side of the right-of-way. These scenic corridors apply to I-5 in the vicinity of the Project alignment; however, the proposed pipeline alignment is located over one mile east of I-5. Additionally, the General Plan Circulation Element contains the objective to retain designation of River Road (SR 160) as an Official State and County Scenic Highway, and to preserve and enhance its scenic qualities.

Bufferlands Master Plan The Bufferlands Master Plan is an element of the approved 2020 SRWTP Master Plan. The plan establishes guidelines and management practices to establish a long-term, cost effective management direction for the Bufferlands that would maintain the existing buffer zone, provide for future expansion at the SRWTP, and protect and enhance the area's environmental resources. The Bufferlands Master Plan provides guidelines and policies for alternative land uses, visitor use and access, and vegetation and wildlife management.

The following aesthetic resource management policies address important, sensitive aesthetic areas and provide a framework for management of these key resources:

- maintain and protect the general open space character and visual qualities of the Bufferlands;

- encourage reuse of existing facilities to maintain the natural aesthetic character of the Bufferlands;

- require that any new facilities be sited to avoid or, if avoidance is infeasible, to minimize disturbance of large stands of mature, healthy trees and individual healthy trees of notable size and age;

- require the use of landscaping for onsite activities and encourage the use of landscaping for adjacent offsite development activities to protect and enhance the scenic quality of the Bufferlands and to screen undesirable views.

City of Sacramento 2030 General Plan The Land Use and Circulation Elements of the *Sacramento 2030 General Plan* (Sacramento 2009) contain the policies related to aesthetic resources that may be applicable to the Project, as described below.

South Area Community Plan The recycled water main and lateral pipelines pass through the four subareas of the South Area Community Plan: Delta Shores Subarea, Freeport Subarea, Meadowview Subarea, and Executive Airport Subarea.

The following South Area Community Plan policy addresses aesthetic resources in the vicinity of the Project alignment.

- **SA.ER 1.2 Laguna Creek Enhancement**. The City shall preserve open space, maintain recreational facilities, and enhance the natural features of Laguna Creek (e.g., riparian habitat).

2030 General Plan Environmental Resources Aesthetic resources are addressed in the Environmental Resources element of the general plan. The following goals and policies are applicable to the proposed Project.

Goal ER 7.1 Visual Resource Preservation. Maintain and protect significant visual resources and aesthetics that define Sacramento.

- **Policy ER 7.1.2 Visually Complimentary Development**. The City shall require new development be located and designed to visually complement the natural environment/setting when near the Sacramento and American rivers, and along streams. (RDR)

- **Policy ER 7.1.3 Minimize Removal of Existing Resources**. The City shall require new commercial, industrial, and residential development to minimize the removal of mature trees, and other significant visual resources present on the site. (RDR)

- **Policy ER 7.1.4 Standards for New Development**. The City shall seek to ensure that new development does not significantly impact Sacramento's natural and urban landscapes. (RDR)

- **Policy ER 7.1.5 Lighting**. The City shall minimize obtrusive light by limiting outdoor lighting that is misdirected, excessive, or unnecessary. (RDR)

- **Policy ER 7.1.6 Glare**. The City shall require that new development avoid the creation of incompatible glare through development design features. (RDR)

3.2.2 Environmental Setting

Viewer Exposure and Sensitivity

Viewer sensitivity is considered in assessing the impacts of visual change and is a function of several factors. The sensitivity of the viewer or viewer concern is based on the visibility of resources in the landscape, proximity of the viewers to the visual resource, elevation of the viewers relative to the visual resource, frequency and duration of views, numbers of viewers, and types and expectations of individuals and viewer groups.

The viewer's distance from landscape elements plays an important role in the determination of an area's visual quality. Landscape elements are considered higher or lower in visual importance based on their proximity to the viewer. Generally, the closer a resource is to the viewer, the more dominant, and thus the more visually important it is to the viewer. For purposes of analysis, landscapes are separated into foreground, middleground, and background views (U.S. Department of Agriculture, Forest Service 1995). In general, the foreground is characterized by clear details (within 0.25 or 0.5 mile of the viewer); the middleground is characterized by the loss of clear detail in a landscape, creating a uniform appearance (from the foreground to 3 to 5 miles in the distance); and the background extends from the middleground to the limit of human sight (Bacon 1979).

Visual sensitivity is also affected by viewer activity, awareness, and expectations in combination with the number of viewers and the duration of the view. Visual sensitivity is generally higher for views that are observed by people who are driving for pleasure, or engaging in recreational activities or by residents of an area. Sensitivity is lower for people engaged in work activities or commuting to work.

View Points

A field reconnaissance was conducted in March 14, 2014, to determine representative viewing points. Views of the SRWTP WRF site from the surrounding area are generally screened by other existing SRWTP structures or by vegetation.

Viewpoints for this assessment were selected based on public accessibility and visibility of the Project alignment. Eight representative viewpoints were selected for analysis, and photographs were taken of the WRF and the Project alignment from these viewpoints. These viewpoints provide views of the WRF and the Project alignment from public areas including roads, parks, and community facilities in close proximity to the Project alignment. Refer to Figure 3.2-1 for location and orientation of the photographs.

Viewpoint 1 (Figure 3.2-2a): This viewpoint shows the existing WRF as viewed from the residential area on Dwight Road, 1 mile to the southeast. This residential area is the closest location where the WRF is visible from outside of the Regional San property. In the photograph the WRF is in the center right, just to the left of a stand of trees.

Viewpoint 2 (Figure 3.2-2b): This viewpoint shows the Project alignment looking north on 24th Street at Meadowview Park. The photograph shows residential development that is typical of the area surrounding the recycled water main and lateral alignments.

Viewpoint 3 (Figure 3.2-3a): This viewpoint shows the view to the northwest of the Project alignment at the intersection of Meadowview Road and 24th Street. This photograph is taken from the Pannell/Meadowview Community Center.

Viewpoint 4 (Figure 3.2-3b): This viewpoint shows the view to the north of Pipeline alignment and Laydown Area 3 on 24th Street. The 24th Street Bypass Park is on the left and the laydown area is on the right.

Viewpoint 5 (Figure 3.2-4): This viewpoint shows the view from the southwest corner of the parking lot for the 47th Street Regional Transit Light Rail Station toward the station platform and the location of Laydown Area 4. The photograph shows the station platform on the left in the background, Laydown Area 4 in the right foreground, and the SPA Cogeneration Plant behind the station.

Viewpoint 6a (Figure 3.2-5a): This viewpoint shows the view to the northwest from the picnic area in Chorley Park, which is located on 20th Street off of the Florin West Branch. The photograph shows the view the alignment from the viewpoint of people using the picnic and play area looking toward the area of the proposed water storage tank location, which is obscured by trees growing along the north side of the soccer field.

Viewpoint 6b (Figure 3.2-5b): This viewpoint shows the view to the west from the pedestrian path in Chorley Park, located on 20th Street off of the Florin West Branch. The photograph shows the general area where the water storage tank would be placed.

Viewpoint 7 (Figure 3.2-6). This viewpoint shows the pipeline alignment for the Freeport lateral looking north along SR 160 at the Freeport Bridge. The entrance to the Bartley Cavanaugh GC is on the extreme right of the photograph.

Visual Character

The visual character and quality of views within the recycled water main and future lateral alignments and surrounding areas are described below, and illustrated with photographs of representative views of the Project alignment from adjacent areas. Refer to Figure 3.2-1 for location and orientation of the photographs.

Surrounding Area The topography in the area surrounding the Regional San property and the Project alignment is generally level, with the only topographic variation provided by levees and soil mounds from spoils. Elevations range from approximately 15 to 25 feet above mean sea level. Vegetation on the Regional San property in the vicinity of the Project alignment includes remnant riparian vegetation along Morrison Creek to the north of the treatment plant facilities, and ruderal grasslands north of Morrison Creek.

The Bufferlands form an open space buffer that is between 1,200 feet and 1 mile wide surrounding the existing SRWTP. The Bufferlands are characterized by grasslands interspersed with creeks, vernal pools, and seasonal wetlands. Morrison Creek flows through the Bufferlands along the north and west sides of the SRWTP and is vegetated with mixed riparian forest, including willow, cottonwood, and valley oak trees. Laguna Creek enters the Bufferlands from the east and flows southwesterly into Morrison Creek on the west side of the SRWTP. Fishhead Lake and Lost Lakes are to the south and north of Laguna Creek between Franklin Boulevard and the SRWTP. Some isolated structures associated with former agricultural uses remain standing within the southern portion of the Bufferlands. As part of Regional San's Trail of Trees Project, initiated in 1994, over 6,500 trees have been planted along the west side of Franklin Boulevard to screen views of the SRWTP from residential areas located on the east side of Franklin Boulevard.

This page left blank intentionally.

Figure 3.2-1. Photographic Location Points

This page left blank intentionally.

Note: The tank at the WRF is visible in the center to the left of the stand of trees.

Figure 3.2-2a. Viewpoint 1: View to the Northwest at Dwight Road, South of SRWTP

Figure 3.2-2b. Viewpoint 2: View of 24th Street to the North from Meadowview Park

Figure 3.2-3a. Viewpoint 3: View to the Northwest of the 24th Street and Meadowview Road Intersection from the Pannell/Meadowview Community Center

Figure 3.2-3b. Viewpoint 4: View of the 4th Street Bypass Park (on the left) and the site of Laydown Area 3 (on the right), Looking North

Figure 3.2-4. Viewpoint 5: View to the Northeast from the Southwest Corner of the 47th Street Light Rail Station

Figure 3.2-5a. Viewpoint 6a: View to Northwest from Picnic Area at Chorley Park

Figure 3.2-5b. Viewpoint 6b: View to the West from Pedestrian Path in Chorley Park

Figure 3.2-6. Viewpoint 7: View to the North Along SR 160 from a Point Near the Freeport Bridge and Across from the Bartley Cavanaugh GC

Suburban development in the vicinity of the Project alignment is characterized by single-family detached housing, low-rise retail and commercial development, parks, playing fields, and public buildings (community center, library). The area to the immediate north of the SWRTP (approximately 800 feet north of Morrison Creek) will be undergoing development as part of the Delta Shores project within the City of Sacramento.

Scenic resources in the area surrounding SRWTP, including the WRF, and the Project alignment include the Stone Lakes National Wildlife Refuge (NWR), the Bufferlands surrounding the SRWTP, the Sacramento River, and surrounding agricultural lands. The Stone Lakes NWR is an 18,212-acre refuge located generally between the Bartley Cavanaugh GC in the Town of Freeport on the north and Twin Cities Road (Lost Slough) on the south, and I-5 on the east and the former Southern Pacific Railroad line on the west. The refuge project boundary extends east from I-5 to Franklin Boulevard in some sections, including the north end of the refuge that includes a portion of the Bufferlands, which border the west, north, and east sides of Regional San's property (U.S. Fish and Wildlife Service 2007: 9-10). Public access to this portion of the NWR nearest the Project alignment is limited.

The Sacramento River is located approximately 1.5 miles west of the SRWTP, west of the Stone Lakes NWR and I-5. SR 160, an officially designated State Scenic Highway, runs along the top of the Sacramento River levee or parallel to the landside toe of the levee from Contra Costa County to the Sacramento city limits. Views of open space provided by agricultural lands, the river, and the rural landscape can be glimpsed along the tree-lined route.

SRWTP WRF and Project Alignment The proposed Project would include a new recycled water main extending from the existing SRWTP WRF north under Morrison Creek, through an area undergoing conversion from farmland to urban uses in the City of Sacramento (Delta Shores area), and then continuing north through the existing urbanized area of the City of Sacramento to the SPA Cogeneration Plant. The Project would also include two new above-ground pumps at the WRF, a new underground pump at the Regional San facilities east of SR 160, and a storage tank and underground pump at either the SPA Cogeneration Plant or Chorley Park. Future proposed lateral lines would also be located in the existing urbanized areas of Sacramento. The following descriptions address the visual character in each of these areas.

SRWTP WRF The topography within the SRWTP and surrounding Bufferlands is generally flat with the only topographic variation created by levees and dirt mounds in spoils areas.

The WRF is located within the south-central portion of the SRWTP core facility which is surrounded by the Bufferlands. The east side of the core facility area has the largest concentration of existing structures, with the less developed western half of the core facility area having scattered structures, roads, emergency storage basins, and solids storage basins. The WRF and nearby structures on the SRWTP site have an industrial appearance and consist of tanks of various sizes, concrete-construction and metal-construction buildings, and conveyance pipes, below-ground and above-ground tanks, pumps, and paved expanses. The western portion of the Project alignment is less intensely developed than the eastern portion, but has scattered facilities, buildings, emergency storage basins, solids storage basins, land disposal areas, and access roads. The existing WRF sits west of the core facility, on the southern edge of the developed area. The majority of the SRWTP core facility area, including the area surrounding the

WRF, is not landscaped and vegetation consists of annual grasses and ruderal vegetation. (See Figure 3.2-2, Viewpoint 1).

Recycled Water Main Alignment The recycled water main alignment starts at the existing WRF and crosses Laguna Creek and Morrison Creek north of the SRWTP core facility, across lands owned by Regional San and leased for agricultural production, then enters an undeveloped area that will be developed as part of the Delta Shores project area. This area is marked by level terrain, and low growing ruderal vegetation.

North of the Delta Shores development area, the alignment follows 24th Street north to 47th Avenue. 24th Street is two lanes with a center turn lane south of Meadowview Road. North of Meadowview Road, 24th Street has four lanes. 24th street has sidewalks on both sides and non-landscaped medians at major intersections. Some residences directly front the streets proposed for the pipeline alignment, while others back on to the streets and have solid fencing that blocks views of the streets. The visual character is typical of suburban areas; land uses are predominantly residential with single family residences, one and two-story apartment buildings, and low-rise commercial buildings, interspersed with schools, parks and community buildings, including the Pannell/Meadowview Community Center and Park, and Martin Luther King, Jr. Branch Library. Views of the streets are dominated by paved surfaces and structures. Visual resources in the residential areas consist of landscaping including turf, hedges, and shade trees. Parks located along the alignment provide open space and pleasing views in the neighborhoods. Parks are landscaped with turf and shade trees and include playground structures, playing fields for soccer and softball, shade structures, and picnic tables. (See Viewpoint 2 in Figure 3.2-2b, Viewpoint 3 in Figure 3.2-3a, and Viewpoint 4 in Figure 3.2-3b.)

The area surrounding the intersection of 24th Avenue and 47th Street is characterized by the open space of the Sacramento Executive Airport to the northwest, the Airport Little League Park playing fields to the south of the intersection, and vacant lots. Landscaping on the little league playing fields consists of turf. The airport is separated from the street by a high chain link fence and the open areas surrounding the runways are kept free of vegetation. A large, formally landscaped island, located at the intersection of 24th Street and 47th Avenue, provides a point of visual interest.

The Project alignment along 47th Street is characterized by residences and a number of churches that face the street. Landscaping consists of lawn and shade trees. The area surrounding the Regional Transit Light Rail Station has an industrial character; adjacent industrial buildings are of metal construction with minimal landscaping and extensive paved areas. The light rail station parking lot and platform area are landscaped and provide some visual relief from the surrounding area, which includes the SPA, located on the east side of the light rail tracks. The SPA dominates the area with overhead lines, pipes and various structures that are taller than the surrounding industrial buildings (Viewpoint 5 in Figure 3.2-4).

These pipeline alignments and surrounding areas generally do not contain any outstanding or unique visual resources.

Recycled Water Laterals and Lateral Structures The recycled water lateral alignments generally follow local residential streets where the visual character is dominated by urban development similar to that of the recycled water main alignment described above. However, the local streets are narrower than the arterial streets and there are few if any commercial buildings and parking lots on these streets. Woodbine Park is the site for one lateral which parallels the southern boundary of the park. Many of the lateral lines would serve neighborhood schools and parks, which provide areas of landscaped open space. Therefore, the dominance of paved surfaces and large structures is lessened and landscaping has more influence on the visual character in these neighborhoods. The recycled water lateral alignments and surrounding areas generally do not contain any outstanding or unique visual resources.

Two locations where the visual character of recycled water lateral alignments is influenced by elements of natural and rural scenic resources are the lateral extending off of the Florin West lateral at Chorley Community Park, and the Freeport lateral that runs along SR 160.

Chorley Park has an extensive area of natural landscape that provides park visitors and adjacent residents with a respite from the urban landscape. The park has a small developed area (11.84 acres) with barbecue and picnic tables, a play area, and a bantam soccer field. The remaining 20.7 acres of the park is a mix of oak woodland.

The Freeport lateral (option A) would cross a portion of the Bufferlands west of the SRWTP, then would cross under I-5 and intersect with the alignment of SR 160 at Regional San's Area 9 chemical storage facility east of SR 160 in the vicinity of the Bartley Cavanaugh GC. A new underground pump would be added within the Regional San outfall facility (to serve option B), and the Freeport lateral alignment (either option A or B) would run north and along SR 160 (an Officially Designated State Scenic Highway) ending at the Conlin Youth Regional Sports Complex. Visual resources along this alignment include open space areas of the Bufferlands, tree-lined roadway along SR 160, the GC, the small community of Freeport, and the open landscaped area of the sports complex.

Laydown Areas The site for Laydown Area 1 is within the core area of the SRWTP. The visual character of this area is described above under the description of the WRF. Laydown area 2 is located on lands owned by Regional San and leased for agricultural production. This area is described above under the description of the proposed Project alignment.

Laydown Area 3 is located on the east side of 24th Street, across from the 24th Street Bypass Park and the Martin Luther King, Jr. Library (Viewpoint 4 in Figure 3.2-3b). The laydown area is currently a vacant lot with ruderal vegetation. The visual character in the immediate area is defined by the street, adjacent low intensity industrial structures to the north and nearby vacant lots to the east. Landscaping at the park, the adjacent branch library, and apartment grounds on the west side of 24th Street, and at a church south of the laydown area, are the primary visual resources in the area (Viewpoint 4 in Figure 3.2-3b).

Laydown Area 4 is located at the 47th Street Light Rail Station. As described above, the area surrounding the Regional Transit Light Rail Station has an industrial character; adjacent industrial buildings are of metal construction with minimal landscaping and extensive paved areas. There is some landscaping adjacent to the light rail station platform and in the parking lot. The SPA, the tallest structure in the area, dominates views from the light rail station and surrounding area (Viewpoint 5 in Figure 3.2-4).

Quality of Views

The quality of views in the residential areas along the recycled water main alignment and laterals varies from low to moderate. Street paving, chain link fencing, overhead utility lines, and vehicles parked along streets interrupt views and detract from landscaping in yards, parks, and community centers. In some areas residents do not have direct views of the street where the residential lots back onto the street and the street frontage has solid fencing that blocks views. The highest quality views are those where residents have direct views of parks or school playgrounds, such as from those residences situated across from Meadowview Park on 24th Street or those on 20th Avenue near Chorley Park.

The quality of views in areas near industrial and commercial land uses is generally low. Industrial structures are generally single story, light in color and lack architectural interest with large expanses of paved surfaces and little or no landscaping. Parking areas associated with commercial development along the pipeline alignment detract from visual quality.

The Freeport lateral would follow SR 160, an Officially Designated State Scenic Highway. The quality of views along SR 160 within the vicinity of the Project are generally moderate to moderately high with views of uninterrupted open space associated with agricultural areas, the river and Freeport Bridge, tree-lined corridors, and areas with picturesque structures set within the small community of Freeport.

Light and Glare Conditions

The terms “glare” and “skyglow” are used in this analysis to describe the visual effects of lighting. For the purposes of this impact analysis, glare is considered to be direct exposure to bright lights and skyglow is a glow that extends beyond the light source and can dominate or partially dominate views above the horizon.

The Project alignment is located within an urban area that is a major source of existing light and nighttime glare in the general area. Street lights, commercial and business parking lot lighting, and lights from vehicles on roadways all contribute to nighttime glare and skyglow effects in the Sacramento metropolitan area. I-5 on the west side of the Regional San property is also a significant source of light and glare. Sources of daytime glare are primarily vehicle windshields and metallic surfaces that reflect sunlight.

The existing WRF is located within the core area of the SRWTP, which has lighting for security and work area safety. The surrounding Bufferlands is unlit. The lighting on the WRF is at a distance from residential areas and under existing conditions is visible from residential areas to the southeast of the plant, but is screened by landscaping along the roadways, and by vegetation growing in the Bufferlands, east of the SRWTP. The

railroad berm that runs along the east side of the SRWTP partially blocks views of some of the lighting from Dwight Road. While direct views of the SRWTP lights are blocked by fencing along the west side of storage basins on the west side of the SRWTP, minor skyglow effects from the SRWTP can be seen from I-5 to the west.

Land uses along the Project alignment contribute to light and glare and skyglow produced within the Sacramento metropolitan area. Major contributors are commercial parking lots, industrial areas (SPA and surrounding area), and major arterial roadways such as Meadowview Road, Florin Road, 24th Street and 47th Avenue.

3.2.3 Environmental Impacts and Recommended Mitigation Measures

Significance Criteria

Based on Appendix G of the California Environmental Quality Act Guidelines, the Project could have a significant adverse effect related to aesthetic resources if it would:

- conflict with an applicable plan, policy, or regulation for the protection or enhancement of aesthetic or visual resources;
- have a substantial adverse effect on a scenic vista;
- substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a State scenic highway or other designated scenic corridor;
- substantially degrade the existing visual character or quality of the site and its surroundings; or
- create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area.

Methods and Assumptions

The methodology used for this assessment is adapted from guidelines prepared by the Federal Highway Administration (FHWA) (FHWA 1988) for assessing visual impacts associated with transportation projects; these guidelines are easily transferred to other types of projects that could alter existing landscapes. The process of describing and evaluating visual resources near the project and the surrounding areas involves the following steps:

- identify the visual features or resources that compose and define the visual character of the viewsheds,
- assess the quality of the identified visual resources relative to overall regional visual character,
- identify major viewer groups and describe viewer exposure, and

- identify viewer sensitivity, or the relative importance of views to people who are members of the viewing public.

Buildings and other structures in adjacent developed areas, views across agricultural and open space land, and locations of residences and businesses in the Project vicinity were considered when evaluating the general visual quality and character of the Project alignment. As described above, the sensitivity of the viewer or viewer concern is a consideration in evaluating impacts of visual change.

Viewer Groups and Viewer Awareness and Sensitivity The nearest residential area to the WRF site is along Dwight Road 1 mile to the southeast of the SRWTP. The WRF is in the middleground of the view and is not dominant due to the distance and flat terrain (Viewpoint 1 in Figure 3.2-2a). Views of the WRF from Franklin Boulevard are largely blocked by vegetation (trees planted on the west side of the road) and the intervening structures of the SRWTP, which block views to the west. I-5 is located approximately 1.2 miles to the west of the WRF. Views of the Project alignment from I-5 are limited by distance, and blocked by vegetation and the fencing located along the west side of the SRWTP storage basins.

The majority of viewers of the Project alignment are residents living along the streets where the recycled water main and laterals would be installed, including but not limited to 24th Street, Florin Road, John Still Drive, 47th Avenue, and SR 160. Viewers would also include motorists on these streets; people recreating at parks, visiting the library, the community center or other gathering places adjacent to these streets; and people entering and exiting the 47th Street light rail station. Those residents with direct views onto the streets would have the highest levels of sensitivity to visual change.

Issues or Potential Impacts Not Discussed Further

Scenic Vistas: A scenic vista is generally considered a view of an area that has remarkable scenery or a natural feature or cultural resource that is indigenous to the area. The recycled water main and lateral alignments and surrounding areas do not contain any scenic vistas; therefore, the Project would not have a substantial adverse effect on a scenic vista, and this topic is not addressed further in this EIR.

Visual Resource Policies: The Project would be consistent with the policies and guidelines outlined in the Bufferlands Master Plan, including the aesthetic resource management policies. For example, proposed WRF modifications would be sited within the facility core, and no large areas of trees would need to be removed. No permanent above-ground structures would be placed within the Bufferlands. Therefore, the Project would not conflict with policies that would protect aesthetic and open space resources identified in the Bufferlands Master Plan. The Project would not conflict with plans, policies, or regulations that have been adopted for the protection or enhancement of aesthetic or visual resources by the City of Sacramento or County of Sacramento. Therefore, this topic is not addressed further in this EIR.

Operational (Long Term) Visual Impacts: The proposed recycled water main and laterals would be placed underground and therefore not visible after construction. The

new pumps at the existing Regional San facilities east of SR 160 (for the Freeport lateral) and at Chorely Park or the SPA Cogeneration Plant would be placed underground and would result in a visible manhole and control box, which would have limited visibility. Furthermore, the pipeline connections to the WRF and SPA Cogeneration Plant and additional pumps at the WRF would not change the visual character of these facilities. With the exception of a possible water storage tank at Chorley Park, there would be no impacts to visual resources associated with the operational phase of the Project. Therefore, impacts associated with operations and maintenance are only addressed with respect to changes to visual character and quality in Chorley Park and the Bing Maloney GC.

3.2.4 Impact Analysis and Mitigation Measures

Impact 3.2-1: Impacts to Scenic Corridors or Highways.

SR 160 is a designated State scenic highway. The Freeport lateral line (option A) would cross under I-5, and either option A or B would be placed in the SR 160 right-of-way. Construction activities required for installing the Freeport lateral would be visible for travelers on SR 160 and I-5. However, once completed, the facilities would be underground and would have no long-term effect on visual resources. Thus, the views of the Project alignment from designated State scenic highway or county-designated scenic corridor would not substantially change from existing conditions, and substantial adverse change to scenic views would not occur. This impact would be **less than significant**.

The Sacramento County General Plan designates all freeways within Sacramento County as Scenic Corridors, including I-5 in the vicinity of SRWTP and the Project alignment. Scenic corridors extend 660 feet on each side of the right-of-way. In addition, SR 160 in the vicinity of the Project is an Officially Designated State Scenic Highway. SR 160 runs parallel to the east side of the Sacramento River and is located approximately 1-1.5 miles west of the SRWTP.

SRWTP WRF, SPA Cogeneration Plant, Chorley Park New above-ground pumps at the SRWTP WRF, a new underground pump at the Regional San Area 9 facilities, and a new storage tank and underground pump either at Chorley Park or the SPA Cogeneration Plant would not be visible from I-5 or SR 160 because of being underground, distance, and existing development and vegetation blocking views between these roadways and the facilities. Therefore, the construction and operation of new pumps or storage tanks for the proposed Project would have no impact on a scenic corridor or scenic highway.

Recycled Water Main and Laterals Alignments Views from I-5 of the recycled water main alignment and most of the lateral alignments are blocked by vegetation, fencing, and urban development. However, the Freeport lateral line option A would cross under I-5, and both option A or B would involve a lateral line installed in the SR 160 right-of-way. The entry and exit areas for the pipe jacking under I-5 for the Freeport lateral option A would be temporarily visible from I-5. After completion of construction, the new lateral would not be visible to travelers on I-5 because the pipeline would be underground. In addition, the new pump to serve option B would be located underground with other existing Regional San facilities; therefore, the pump would not be visible after

construction and the manhole and control box would not change the character of the existing outfall facilities.

The open cut trench, construction equipment including excavators, and trucks would be visible to motorists on SR 160, residents of and visitors to the Freeport area, and visitors to the Bartley Cavanaugh GC. Construction activities would temporarily detract from the scenic aspects of the Project alignment. However, construction disturbance would be temporary. The trenching activities would proceed at an estimated pace of 120 feet per day and the trench would be covered as each section is completed. Once completed, the pipeline and pump would be underground and would have no effect on visual resources.

Therefore, the Project would not have a long-term adverse effect on a scenic corridor and would not conflict with local or State policies that protect visual resources in designated scenic corridors or along State-designated scenic highways. This impact is considered **less than significant.**

Mitigation Measures

No mitigation is required.

Impact 3.2-2: Impacts to Visual Character or Quality.

The quality of views of the Project alignment would be temporarily degraded by the presence of equipment, vehicles, pipes, and materials stored at laydown areas during construction. However placement of the pipe within roadways would not result in removal of large trees. For the most part, impacts to scenic resources would be minor and temporary; the open cut trench would be filled and pavement and park vegetation would be restored following construction. Long-term impacts to visual resources at Chorley Park are possible due to the installation of a water tank and access road in a naturalized area as well as the potential removal or damage to oak trees as a result of the extension of a lateral line to the Bing Maloney GC. This impact would be **potentially significant**.

The total pipe length would be 28,421 feet and trench widths would vary from 4.6 feet to 3.9 feet, according to the pipe diameter. A production rate of 120 feet per day is assumed for the open cut construction. HDD activities would be limited to areas on the Regional San property and the area immediately north of Morrison Creek (See Figure 3.2-9, Typical HDD Site). Pipe jacking would be required to cross under the light rail and UPRR tracks on 47th Avenue as well as under I-5 for Freeport lateral option A. Figure 3.2-10 shows a typical pipe jacking operation.

Equipment laydown areas would be located at four locations, as described above and shown in Figure 2-3 in the Project Description. These areas would provide temporary storage for pipe, construction vehicles and equipment, and soil stockpiles.

Figure 3.2-9. Typical HDD Construction Site

Figure 3.2-10. Typical Pipe Jacking Operation

Typical construction equipment required for open cut construction includes a crane, an excavator, dump trucks, a front-end loader, a pick-up truck, and a flatbed semi-truck for pipes. Typical construction equipment required for pipe jacking includes a crane, an excavator, a dump truck, a pick-up truck, and a flat-bed semi-truck for pipes. For HDD, typical construction equipment is anticipated to include a crane, a front-end loader, a pick-up truck, a flatbed semi-truck for pipe, slurry tanks, slurry separation equipment, a

diesel generator, a directional drilling rig, and pip welding apparatus. During construction residents of the area would have views of construction equipment, soil stockpiles, pipes, and dust. Normal views of the street would be altered temporarily.

SRWTP WRF Construction activities on Regional San property would not be visible from surrounding areas due to the distance from nearest off-site viewing areas (Dwight Road, 1 mile to the southeast).

Recycled Water Main and Laterals Alignments With the exception of SR 160, addressed in Impact 3.2-1, the quality of existing views along the portions of the pipeline alignment that are within existing roadways, including 24th Street, 47th Avenue, and Florin Road, are low to moderate.

Public views of the southern portion of the Project alignment are minimal because of distance from viewing areas (over one mile from Franklin Boulevard), the flat terrain and the intervening structures of the SRWTP block the view to the west. The nearest residential area to the Project alignment is along Dwight Road, one mile to the southeast of the WRF. The southern terminus of the Project alignment is located one mile away from this area and is not visible due to the distance and the flat terrain. The nearest viewing point to the west of the Project alignment is I-5, which is located approximately one mile away. Views of the Project alignment from I-5 are limited by distance, vegetation, and the fencing located along the west side of the storage basins. Therefore construction equipment and installation of additional pumps within Regional San property would not adversely affect existing scenic resources.

Under current conditions, views of the pipeline alignment on the Delta Shores property would be minimally visible from Franklin Boulevard, which would be over one mile from the pipeline alignment. However, construction may take place after the Delta Shores development has been completed. Therefore, trenching and the HDD equipment and operations may be visible to future residents and roadway users of Cosumnes River Boulevard (See Figure 3.2-9, View of Typical HDD Operation). Once completed all the facilities would be underground and therefore, would have no adverse long-term effect on visual resources.

As noted above, the majority of public viewers of the pipeline alignment would be residents living along the pipeline alignment (including streets where laterals would be located), people recreating at parks, library patrons, visitors to the community center adjacent to 24th Street, and people entering and exiting the 47th Street Light Rail Station. Construction activities associated with open cut construction are estimated to progress at a rate of 120 feet per day; therefore the trench work would be visible to these viewing groups for only a few days at any one location. As an example, construction of the pipeline on 24th Street between Laramore Way and Teckay Way, along the Meadowview Park frontage, would be completed in an estimated 10 days; construction of the 20th Street lateral to Chorley Park would be completed in an estimated 5 days. During construction, views of the streets would be degraded by the presence of equipment, vehicles, and pipe, but only on a short-term basis.

As described above, parks are important visual resources in many of the neighborhoods along the Project alignment, including the lateral alignments. For the most part the construction of the pipeline would not directly affect visual resources provided by the parks, but would have an effect on views from the parks for park users. One lateral however would be constructed on the southern edge of Woodbine Park. The area would be restored upon completion of construction and it is not anticipated that this construction would have any permanent effect on visual character or visual quality of views in the park.

Laydown Areas The laydown areas would be fenced and used to store pipes and equipment. Under existing conditions, laydown areas 1 and 2 are not visible to large numbers of viewers, as described above. Laydown areas 3 and 4 are visible to a large number of viewers since they are located adjacent to 24th Street and 47th Avenue, respectively.

Laydown Area 3, on 24th Street, is across from the 24th Street Bypass Park, MLK branch library, and near a church. The site is currently vacant and covered with ruderal vegetation (Viewpoint 4 in Figure 3.2-3a). Use of the site for a laydown area would degrade the appearance of the site; however, the site does not possess any outstanding visual resources and the existing visual quality of the site is low. Upon completion of construction, the fencing and equipment would be removed and the site would be returned to its existing condition. This would not result in a substantially adverse impact to visual quality or visual character of the area.

Laydown Area 4 is located on the 47th Street Light Rail Station parking lot. The visual quality of this site is low due to its proximity to industrial structures such as the SPA (see Viewpoint 5, Figure 3.2-4). This site could be viewed by light rail passengers entering and leaving the platform and the parking lot. Use of the site for a laydown area would degrade the appearance of the site; however, the site does not possess any outstanding visual resources and the existing visual quality of the site is low. Upon completion of construction, the fencing and equipment would be removed and the site would be returned to its existing use. This would not result in a substantially adverse impact to visual quality or visual character of the area.

HDD and Pipe Jack Sites The HDD site on the Regional San property south of Morrison Creek would not be visible to the public. The HDD site located on Regional San property north of Morrison Creek is not visible to the public at the present time, but as the Delta Shores development north of this area is expected to be developed in the near future, the HDD site may be visible to future residents and motorists using the extension of Cosumnes River Boulevard at the time of construction. The HDD operation would proceed at an estimated 40 feet per day. Therefore the HDD equipment would be in place for approximately 3 months. The pipe jack operation would be required on 47th Avenue near the light rail station and would be in place for an estimated 2 weeks. The equipment used in both of these operations would detract from the visual quality of their surroundings. Neither location possesses high quality visual resources. Additionally both sites would be restored following completion of construction. Therefore, impacts to

visual character and quality related to this aspect of construction are considered less-than-significant.

Storage Tank At Chorley Park, a storage tank, approximately 120 feet in diameter and 27 feet high, and an underground pump are proposed with a lateral alignment that would pass through the park and onto the Bing Maloney GC. The placement of the pump underground would limit the visual impact of that facility to a manhole cover and control box, which would have very limited visibility. An east-west lateral would come off of the GC line that would connect with the tank. The exact location of the tank and route for the access road has not been determined, but the tank would be approximately 400 feet to the west of the pedestrian path, north of the Bantam Soccer field, in the open area between the soccer field and the GC fence. Installation of the tank would require construction of an access and maintenance road through the park and possible installation of fencing around the tank. Construction activities within the park would have an adverse effect on the quality of views of this natural area. Extension of the recycled water lateral north to the GC would potentially damage or require removal of mature valley oak trees within the grove located at the northeast corner of the park. The oak grove is an important visual asset to the park and neighborhood, and removal of trees or damage to tree roots that would cause trees to die would be a substantial adverse effect on visual character and quality of views within the park.

While the storage tank in Chorley Park would be partially screened from views from the picnic area located at the east end of the soccer field (Viewpoint 6a in Figure 3.2-5a), the storage tank and access road would be visible from a paved path that connects the picnic/playground area to the oak grove at the northeast corner of the park (Viewpoint 6b in Figure 3.2-5b). The current view from this path is of a naturalized area vegetated with annual grasses and oak trees. The quality of the view is relatively high, partially because of the contrast it provides with surrounding urban development and viewer sensitivity. Construction of the storage tank, pump, access road, and possibly fencing, would result in a significant adverse impact on the visual resources in Chorley Park and the Bing Maloney GC.

An alternative site for the storage tank and pump has been proposed at the SPA Cogeneration Plant on 47th Avenue. The exact location of the tank has not been established, but could be located on the east side of near the entrance or on the western side of the plant. The plant and surrounding area are developed with industrial uses and the water tank and underground pump (resulting in a visible manhole cover and control box) would not be out of character with the existing visual environment. Views of the SPA Cogeneration Plant for motorists traveling on 47th Avenue are partially screened by trees growing in a landscaped buffer along the property frontage on the north side of 47th Avenue. The tank would be visible to passengers using the 47th Avenue Light Rail Station. However, the tank would not be out of character with the existing industrial structures in this view. Therefore, installation of a tank and underground pump at this location would be a less-than-significant impact to visual resources.

If the option to install recycled water laterals, a storage tank, and an underground pump at the Chorley Park and Bing Maloney GC location is chosen, Project implementation

would result in an adverse effect on scenic resources. This impact would be **potentially significant.**

Mitigation Measure 3.2-2a. Avoid damage or removal of oak trees in Chorley Park.

The alignment of the recycled water laterals through Chorley Park and onto Bing Maloney GC shall be determined with the input of a qualified arborist, and shall avoid the removal of mature oak trees (native *Quercus* species 36 inch circumference or greater) to the greatest extent possible. Any mature oak trees that must be removed for project construction shall be replaced in-kind on a one-to-one basis within Chorley Park or the Bing Maloney GC. New plantings shall be at least 15-gallon size planters; shall be placed to visually screen the new tank from developed recreation areas in Chorley Park; and shall be monitored for five years to ensure survival and growth of the tree. If there is mortality of new oak trees, they shall be replaced again and monitored for five years.

To avoid damage to existing mature oak trees adjacent to the alignment in the Chorley Park and Bing Maloney GC, the driplines of mature oak trees shall be identified by a qualified arborist and fenced with construction fencing prior to the start of construction. Grading, trenching, soil compaction, or storage of construction equipment shall not be allowed within the fenced dripline areas. Regional San shall have a qualified arborist monitor the mature oak trees that would be fenced for the lateral alignment in Chorley Park and Bing Maloney Golf Corse for five years to identify any tree mortality. If any of the mature oak trees die due to project-related construction disturbance, they shall be replaced in-kind on a one-to-one basis within Chorley Park or Bing Maloney GC. New plantings shall be at least 15-gallon size planters; shall be placed to screen the new tank and pump; and shall be monitored for five years to ensure survival and growth of the tree. If there is mortality of new oak trees, they shall be replaced again and monitored for five years.

Mitigation Measure 3.2-2b. Screen views of the water tank from developed recreation areas in Chorley Park.

The water tank, underground pump, and access road shall be sited to minimize visibility of the tank and road from park paths, picnic areas and playing fields. The access road shall be routed to minimize fragmentation of the park's open space areas.

The exterior of the storage tank shall be painted or treated such that the color minimizes visual intrusion and contrast by blending with the landscape. Non-glare paint or treatment shall be used.

Regional San shall prepare and implement a landscape plan for the storage tank at Chorley Park that is consistent with the Chorley Park Master Plan and that addresses, at a minimum:

- vegetative screening that provides substantial (over 50 percent) screening of the storage tank at five years
- a list of plants to be used and times to maturity

- plant materials that are compatible with the existing park setting
- plan review by the City of Sacramento Parks and Recreation Department
- monitoring and replacement of unsuccessful plantings for five years following installation

Significance After Mitigation With the implementation of Mitigation Measures 3.2-2a and 3.2-2b, the Project's impacts on visual resources would be mitigated through avoidance of removal and damage to mature oak trees, and through establishment of landscaping to screen views of the new facilities. Therefore, this impact would be reduced to **less than significant**.

Impact 3.2-3: Lighting impacts.

Neither construction nor operation of the Project would result in substantial changes to light and glare conditions; nighttime construction may take place at two intersections to avoid high volume traffic periods. Operational lighting at the WRF would remain similar to existing lighting. Lighting on the WRF may be visible from the residential area along Dwight Road, but due to distance (1 mile) lighting would be substantially diffused such that it would not be intrusive. Therefore, the Project's lighting impacts would be **less than significant**.

SRWTP WRF Operational lighting at the SRWTP WRF would remain similar to existing lighting. Operational lighting may be visible from the residential area along Dwight Road, but due to distance (1 mile) lighting would be substantially diffused such that it would not be intrusive. Because the Project would not alter existing conditions, there would be no impact related to light and glare.

Project Alignment Project construction or operations would not result in substantial changes to light and glare conditions; night construction may occur at the intersection of 24th Street and Florin Road and 24th Street and Meadowview Road, for a maximum of four nights. These intersections are not immediately adjacent to residences; at the Meadowview intersection, the nearest residence is 200 feet away from the intersection and at the Florin Road intersection, no residences are within 700 feet of the intersection. Therefore, the Project's lighting impacts would be less than significant.

SPA Cogeneration Plant Operational lighting at the SPA Cogeneration Plant would remain similar to existing lighting. Because the Project would not alter existing conditions and because the area is adjacent to other industrial facilities with lighting, there would be no impact related to light and glare.

The Project would result in minimal construction lighting impacts, and would not result in any adverse operational lighting impacts. This impact would be **less than significant**.

Mitigation Measures

No mitigation is required.

3.3 Agricultural Resources

This section describes the Federal, State, and local regulations related to agricultural resources; existing agricultural lands in the region and along the Project alignment; and potential impacts as a result of Project implementation.

3.3.1 Regulatory Setting

The following text summarizes Federal, State, and local laws and regulations pertinent to evaluation of the Project's impacts on agricultural resources.

Federal

Farmland Protection Policy Act The purpose of the Federal Farmland Protection Policy Act is to minimize Federal actions leading to the conversion of farmland to nonagricultural uses by ensuring that Federal programs are administered in a manner compatible with State government, local government, and private programs designed to protect farmland. No Federal actions would affect farmland along the Project alignment, so this policy is not addressed further.

State

California Important Farmland Inventory System and Farmland Mapping and Monitoring Program The California Department of Conservation, Office of Land Conservation, maintains a statewide inventory of farmlands. These lands are mapped by the Division of Land Resource Protection as part of the Farmland Mapping and Monitoring Program (FMMP). The maps are updated every two years with the use of aerial photographs, a computer mapping system, public review, and field reconnaissance. Farmlands are divided into the following five categories based on their suitability for agriculture:

- **Prime Farmland** – land that has the best combination of physical and chemical characteristics for crop production. It has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops when treated and managed.

- **Farmland of Statewide Importance** – land other than Prime Farmland that has a good combination of physical and chemical characteristics for crop production.

- **Unique Farmland** – land that does not meet the criteria for Prime Farmland or Farmland of Statewide Importance, but that has been used for the production of specific crops with high economic value.

- **Farmland of Local Importance** – land that is either currently producing crops or has the capability of production, but that does not meet the criteria of the categories above. This farmland category is determined by each county's board of supervisors and a local advisory committee.

- **Grazing Land** – land on which the vegetation is suited to the grazing of livestock.

The categories of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland, together, are defined as "agricultural land" or "farmland" by CEQA (PRC Section 21060.1 (a) and the CEQA Guidelines Appendix G, II [a]). Other categories used in the FMMP mapping system are "urban and built-up lands," "lands committed to nonagricultural use," and "other lands" (land that does not meet the criteria of any of the other categories). Although Farmland of Local Importance is not included in the CEQA definition of farmland, Sacramento County, as described further below, includes this category in its definition of farmland and has adopted policies to protect as well as mitigate for impacts to this land.

California Land Conservation Act of 1965 (Williamson Act) The California Land Conservation Act of 1965, commonly known as the Williamson Act (California Government Code Section 51200 et seq.), enables local governments to enter into contracts with private landowners for the purpose of promoting the continued use of the relevant land in agricultural or related open space use. In return, landowners receive property tax assessments that are based on farming and open space uses instead of full market value. Local governments receive an annual subvention (subsidy) of forgone property tax revenues from the State via the Open Space Subvention Act of 1971. Amendments to the California State Budget Act of 2009 greatly reduced the Williamson Act Subvention payments, but the Williamson Act Program remains in place and contracts remain in effect.

The Williamson Act empowers local governments to establish "agricultural preserves" consisting of lands devoted to agricultural uses and other compatible uses. Upon establishment of such preserves, the locality may offer to owners of included agricultural land the opportunity to enter into annually renewable contracts that restrict the land to agricultural use for at least 10 years (i.e., the contract continues to run for 10 years following the first date upon which the contract is not renewed). In return, the landowner is guaranteed a relatively stable tax rate, based on the value of the land for agricultural/open space use only and unaffected by its development potential.

The Project alignment does not contain any lands under a Williamson Act contract (California Department of Conservation 2009). The closest parcel under Williamson Act contract is located approximately 1.5 miles to the southwest of Regional San property, on the opposite side of the Sacramento River.

Local

The Project alignment lies within the jurisdictional boundaries of Sacramento County and the City of Sacramento; therefore, both the county and city general plans are applicable to the proposed Project.

Sacramento County General Plan The agricultural and conservation elements of the Sacramento County General Plan (Sacramento County 2011) contain the following policies related to agricultural resources that may be applicable to the project.

Agricultural Element

- Policy AG-5. Projects resulting in the conversion of more than 50 acres of farmland shall be mitigated within Sacramento County, except as specified in the paragraph below, based on a 1:1 ratio, for the loss of the following farmland categories through the specific planning process or individual project entitlement requests to provide in-kind or similar resource value protection (such as easements for agricultural purposes):

  – prime, statewide importance, unique, local importance, and grazing farmlands located outside the Urban Services Boundary (USB);

  – prime, statewide importance, unique, and local importance farmlands located inside the USB.

The Board of Supervisors retains the authority to override impacts to Unique, Local, and Grazing farmlands, but not with respect to Prime and Statewide farmlands. However, if that land is also required to provide mitigation pursuant to a Sacramento County endorsed or approved Habitat Conservation Plan (HCP), then the Board of Supervisors may consider the mitigation land provided in accordance with the HCP as meeting the requirements of this section including land outside of Sacramento County.

The County protects a broader category of farmland quality than the State in CEQA statute or the Guidelines, by also including farmland of local importance and grazing farmlands in its policy requiring mitigation for conversion. Sacramento County defines locally important farmlands as "lands which do not qualify as Prime, Statewide, or Unique designation but are currently irrigated crops or pasture or non-irrigated crops; lands that would be Prime or Statewide designation and have been improved for irrigation but are now idle; and lands which currently support confined livestock, poultry operations, and aquaculture" (Sacramento County 2011).

Conservation Element

- Policy CO-51: Direct development away from prime or statewide importance farmland or otherwise provide for mitigation as required by AG-5 slowing the loss of additional farmland conversion to other uses.

Bufferlands Master Plan The Bufferlands Master Plan is an element of the approved 2020 SRWTP Master Plan. The plan establishes guidelines and management practices to establish a long-term, cost effective management direction for the Bufferlands that would maintain the existing buffer zone, provide for future expansion at the SRWTP, and protect and enhance the area's environmental resources. The Bufferlands Master Plan provides guidelines and policies for alternative land uses, visitor use and access, and vegetation and wildlife management.

The leased areas within the Bufferlands are managed under mineral, facility, or residential leases. The following management policies provide a framework for review and modification of lease agreements and easements when these entitlements are to be renewed:

- Limit use of areas located within the SRWTP expansion zone (southern and southeastern portions of the Bufferlands) to short-term agricultural leases subject to cancellation at the option of Regional San.

- Ensure that, where feasible, lessees employ surface water supplies rather than groundwater.

- Discourage the conversion of agricultural lease areas for non-open space uses.

- Discourage the conversion of agricultural areas that provide nesting, roosting, or foraging habitat for special-status species.

- Encourage agricultural and grazing practices that benefit wildlife species.

City of Sacramento 2030 General Plan The agricultural and conservation elements of the City of Sacramento General Plan (City of Sacramento 2009) contain the following policies related to agricultural resources that may be applicable to the Project:

- Goal ER 4.2 – Growth and Agriculture. Support preservation and protection of agricultural lands and operations outside of the city for their value for open space, habitat, flood protection, aesthetics, and food security by working with surrounding jurisdictions.

3.3.2 Environmental Setting

City of Sacramento

Portions of the area immediately to the north of the SRWTP property are the site of the proposed Delta Shores project. The Delta Shores project will fully develop approximately 782 acres, and will include a mix of residential uses with two mixed-use commercial centers, schools, parks, and limited office uses. The City of Sacramento approved the Delta Shores Planned Unit Development in 1983 and a Draft EIR was prepared in 2008. If desired, 6 of the proposed laterals would have the ability to serve planned parks within the Delta Shores development.

Construction of Cosumnes River Boulevard and a light rail bridge that will service Delta Shores are scheduled to be completed by December 2015; however, the timeline for residential and commercial areas of the property are uncertain at this time. Proposed recycled water main and laterals would pass through several areas of the Delta Shores property that are currently designated as Prime Farmland, Farmland of Statewide Importance, and Farmland of Local Importance, as shown on Figure 3.3-1. It is anticipated that these lands would no longer be designated as Prime Farmland, Farmland of Statewide Importance, and Farmland of Local Importance after completion of the Delta Shores project.

The remainder of the Project alignment, located within City of Sacramento limits, would be in right-of-way road and utility easements, and/or in residential, industrial, or recreational areas that do not support agricultural uses.

Regional San Property

The SRWTP has been operating at its current site for approximately 30 years. The *Sacramento County General Plan* (Sacramento County 2011) designates the Regional San property for Public/Utilities land uses, indicating that the County has placed a priority on uses that support public needs, such as the SRWTP, over the long term.

Areas concurrent with the Project alignment along the northern edge of Regional San property are currently leased for agricultural activities and are currently under production; several parcels of land have been disced as of April 2014. For the past few years, this area has been planted with safflower, wheat, or barley. Historically, this area has also supported irrigated crops including tomatoes, sugar beets and alfalfa. As shown on Figure 3.3-1, proposed recycled water main and laterals would pass through several areas currently designated as Prime Farmland, Farmland of Statewide Importance and Farmland of Local Importance areas of Farmland on Regional San property.

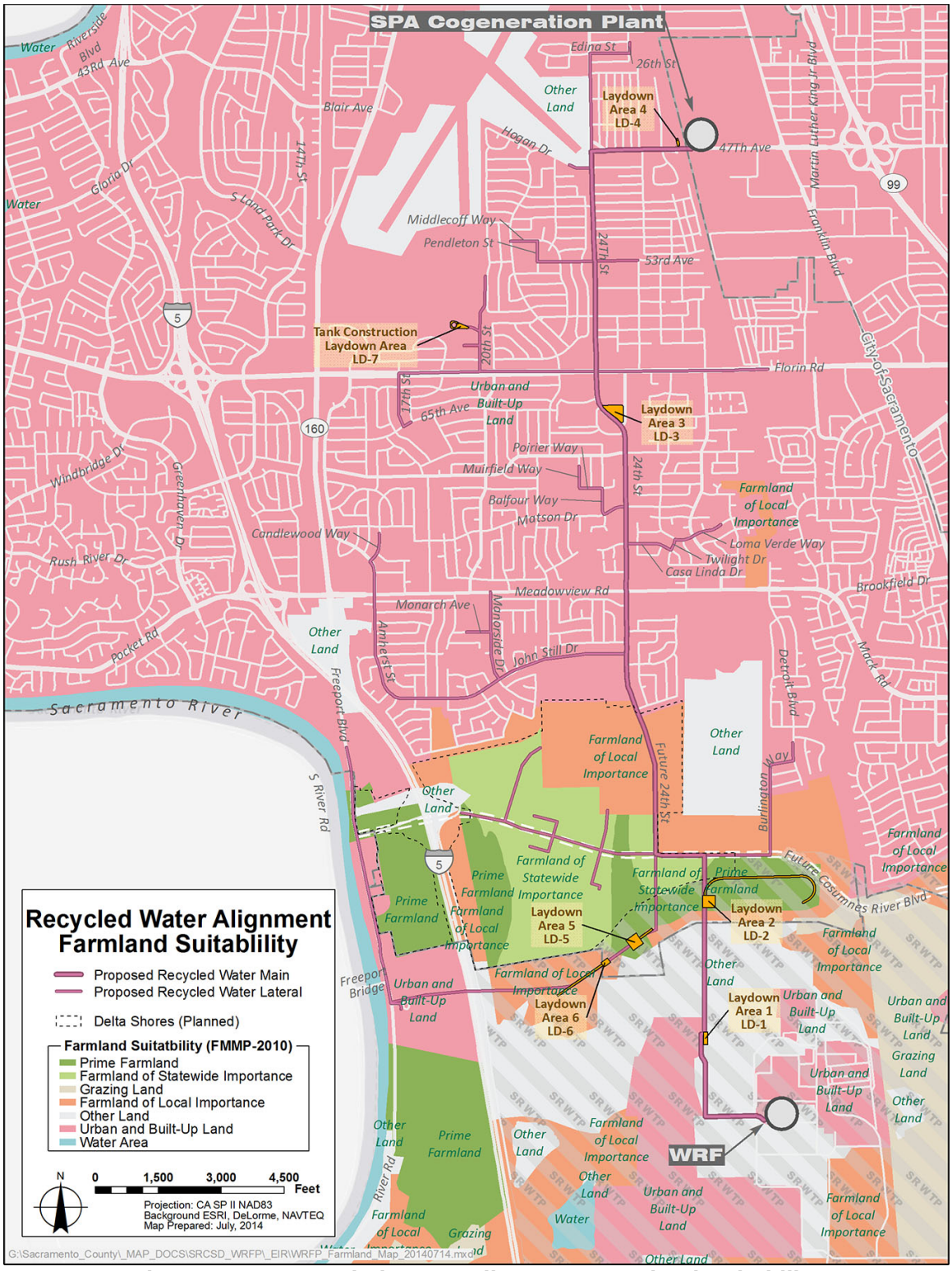


Figure 3.3-1. Recycled Water Alignment Farmland Suitability

3.3.3 Environmental Impacts and Recommended Mitigation Measures

Significance Criteria

Based on Appendix G of the State CEQA Guidelines, as supplemented by policies in the Sacramento County General Plan and City of Sacramento General Plan, the Project could have a significant adverse effect related to agricultural resources if it would:

- 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
- Conflict with existing zoning for agricultural use, or a Williamson Act contract
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use

Methods and Assumptions

Evaluation of the Project's potential impacts on agricultural resources was based on a review of the planning documents pertaining to the Project alignment, including goals from the Sacramento County General Plan (Sacramento County 2011). In addition, California Department of Conservation farmland maps (2009, 2010) and Williamson Act maps for Sacramento County were used to determine the agricultural significance of the lands on the Project alignment..

Maps of Prime Farmland, Unique Farmland, and Farmland of Statewide Importance prepared for FMMP were reviewed for the Project alignment. The presence of farmland on this map in relation to Project components was evaluated to determine potential impacts to agricultural resources.

Issues or Potential Impacts Not Discussed Further

The Project will not result in the permanent conversion of any Farmland to non-agricultural uses, because impacts associated with construction of the water recycled main and laterals will be temporary in nature. In addition, there are no Williamson Act contracts along the Project alignment, therefore the impact of the proposed Project on Williamson Act contracts will not be discussed further.

3.3.4 Impact Analysis and Mitigation Measures

Impact 3.3-1: Impacts to agricultural resources or operations.

All areas temporarily disturbed by construction would be restored upon completion of construction, and all pipelines would be underground. Operation of the proposed Project would have no effect on continued agricultural use of affected areas. Additionally, Regional San will coordinate with agricultural leaseholders and modify construction timing to ensure that the proposed alignment is constructed while fields are fallowed. Therefore, temporary impacts to the area would be **less than significant.**

Implementing the Project would result in temporary, construction-related impacts to approximately 3,000 square feet of Prime Farmland to the north of the SRWTP. This area is where the HDD would "daylight," and the area would also be temporarily affected by Laydown Area 2 and the associated pipe layout, welding, and pullback corridor (Figure 3.3-1) during construction of the recycled water main.

Other areas, including currently farmed portions of the planned Delta Shores development area and the proposed Freeport Lateral alignment on Regional San property, would be affected by temporary construction impacts during open-cut trenching activities for placement of the recycled water main and laterals.

To the extent feasible, agricultural leaseholders would be notified of the construction schedule in advance to minimize disruption of agricultural operations such as planting and harvesting. Notice should be given far enough in advance of Project construction to prevent owners from planting in areas where disturbance would take place. Therefore, this impact is **less than significant.**

Mitigation Measures

No mitigation is required.

3.4 Air Quality

3.4.1 Introduction

This section includes a discussion of existing air quality conditions, a summary of applicable regulations, and an analysis of potential short-term and long-term air quality impacts anticipated to result from the Project. Mitigation measures are recommended as necessary to reduce significant air quality impacts to the extent feasible.

3.4.2 Regulatory Setting

Air quality within the Project area is regulated through the efforts of various Federal, State, regional and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, planning, policy-making, education, and a variety of other programs. The agencies responsible for improving the air quality within the air basin are discussed below.

Federal

U.S. Environmental Protection Agency The EPA has been charged with implementing national air quality programs. The EPA's air quality mandates are drawn primarily from the CAA, which was enacted in 1970. The most recent major amendments made by Congress were in 1990.

Criteria Air Pollutants The CAA required the EPA to establish National Ambient Air Quality Standards (NAAQS). As shown in Table 3.4-1, the EPA has established primary and secondary NAAQS for the following criteria air pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable and fine particulate matter (PM_{10} and $PM_{2.5}$), and lead. The primary standards protect the public health and the secondary standards protect public welfare. The CAA also required each State to prepare an air quality control plan referred to as a State implementation plan (SIP). The Federal Clean Air Act Amendments of 1990 (CAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. The EPA is responsible for reviewing all SIPs to determine whether they conform to the mandates of the CAA and its amendments, and whether implementation will achieve air quality goals. If the EPA determines a SIP to be inadequate, a Federal implementation plan that imposes additional control measures may be prepared for the nonattainment area. If an approvable SIP is not submitted or implemented within the mandated time frame, sanctions may be applied to transportation funding and stationary air pollution sources in the air basin.

Toxic Air Contaminants/Hazardous Air Pollutants Air quality regulations also focus on toxic air contaminants (TAC), or in Federal parlance, hazardous air pollutants (HAP). In general, for those TACs that may cause cancer, there is no concentration that does not present some risk. In other words, there is no threshold level below which adverse health impacts may not be expected to occur. By contrast, for the criteria air pollutants, acceptable levels of exposure can be determined and the ambient standards have been

established (Table 3.4-1). Instead, the EPA and, in California the Air Resources Board (ARB), regulate HAPs and TACs, respectively, through statutes and regulations that generally require the use of the maximum available control technology or best available control technology for toxics to limit emissions. (See the discussion of TACs in the "State" section, below, for a description of ARB's efforts.) These, in conjunction with additional rules set forth by SMAQMD, the primary agency in charge of air quality in the Project area (described below under "Sacramento Metropolitan Air Quality Management District") establish the regulatory framework for TACs.

Table 3.4-1. Ambient Air Quality Standards and Designations

Pollutant	Averaging Time	California [a,b]	National [c]	
			Primary [b,d]	Secondary [b,e]
Ozone	1-hour	0.09 ppm (180 µg/m^3)	–[e]	Same as primary standard
	8-hour	0.070 ppm (137 µg/m^3)	0.075 ppm (147 µg/m^3)	
Carbon monoxide (CO)	1-hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	Same as primary standard
	8-hour	9 ppm[f] (10 mg/m^3)	9 ppm (10 mg/m^3)	
Nitrogen dioxide (NO_2) g	Annual arithmetic mean	0.030 ppm (57 µg/m^3)	53 ppb (100 µg/m^3)	Same as primary standard
	1-hour	0.18 ppm (339 µg/m^3)	100 ppb (188 µg/m^3)	–
Sulfur dioxide (SO_2)	24-hour	0.04 ppm (105 µg/m^3)	–	–
	3-hour	–	–	0.5 ppm (1300 µg/m^3)
	1-hour	0.25 ppm (655 µg/m^3)	75 ppb (196 µg/m^3)	–
Respirable particulate matter (PM_{10})	Annual arithmetic mean	20 µg/m^3	–	Same as primary standard
	24-hour	50 µg/m^3	150 µg/m^3	
Fine particulate matter ($PM_{2.5}$)	Annual arithmetic mean	12 µg/m^3	12.0 µg/m^3	15.0 µg/m^3
	24-hour	–	35 µg/m^3	Same as primary standard
Lead g	Calendar quarter	–	1.5 µg/m^3	Same as primary standard
	30-Day average	1.5 µg/m^3	–	–
	Rolling 3-Month Average	–	0.15 µg/m^3	Same as primary standard
Hydrogen sulfide	1-hour	0.03 ppm (42 µg/m^3)	No national standards	
Sulfates	24-hour	25 µg/m^3		
Vinyl chloride f	24-hour	0.01 ppm (26 µg/m^3)		

Table 3.4-1. Ambient Air Quality Standards and Designations (contd.)

Pollutant	Averaging Time	California [a,b]	National [c]	
			Primary [b,d]	Secondary [b,e]
Visibility-reducing particulate matter	8-hour	Extinction of 0.23 per km		

Source: California Air Resources Board 2013a

Notes:
[a] California standards for ozone, SO_2 (1- and 24-hour), NO_2, particulate matter, and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the CCR.
[b] Concentration expressed first in units in which it was issued. Equivalent units given in parentheses are based on a reference temperature of 25 degrees Celsius (°C) and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
[c] National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic means) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over three years, is equal to or less than the standard. The PM_{10} 24-hour standard is attained when 99 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. The $PM_{2.5}$ 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the EPA for further clarification and current Federal policies.
[d] National primary standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.
[e] National secondary standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
[f] The California Air Resources Board has identified lead and vinyl chloride as toxic air contaminants with no threshold of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Key:
$\mu g/m^3$ = micrograms per cubic meter
km = kilometers
ppb = parts per billion
ppm = parts per million.

The EPA has programs for identifying and regulating HAPs. Title III of the CAAA directed the EPA to promulgate national emissions standards for HAPs (NESHAP). The NESHAP for major sources may differ from that for area sources of HAPs. Major sources are defined as stationary sources with potential to emit more than 10 tons per year (TPY) of any HAP or more than 25 TPY of any combination of HAPs; all other sources are considered area sources. The emissions standards are to be promulgated in two phases. In the first phase (1992–2000), the EPA developed technology-based emission standards designed to produce the maximum emission reduction achievable. These standards are generally referred to as requiring maximum available control technology for toxics. For area sources, the standards may be different, based on generally available control technology. In the second phase (2001–2008), the EPA was required to promulgate health risk–based emissions standards when deemed necessary to address risks remaining after implementation of the technology-based NESHAP standards.

General Conformity Rule The General Conformity Rule was established under the CAA (Section 176 (c)(4)) in 1993 to help states and tribes improve air quality in those areas that do not meet the NAAQS. Under the General Conformity Rule, Federal agencies must work with State, tribal, 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 primary functions of the General Conformity Rule are to:

- Ensure that Federal activities do not cause or contribute to new violations of NAAQS,
- Ensure that actions do not cause additional or worsen existing violations of or contribute to new violations of the NAAQS, and
- Ensure that attainment of the NAAQS is not delayed.

The General Conformity regulation contains *de minimis* thresholds that, below which, a project would not be considered to substantially interfere with attainment of NAAQS associated with air quality planning efforts. If a project would exceed the de minimis thresholds, the project would be subject to a General Conformity Determination. As summarized in Table 3.4-2, the project area is designated nonattainment for Federal standards for ozone and $PM_{2.5}$; Table 3.4-2 also summarizes the Federal conformity thresholds.

Table 3.4-2. General Conformity De Minimis Thresholds

Pollutant	Attainment Designation	Conformity Threshold (tons/year)
Ozone (VOC and NO_X as precursors)	Nonattainment (Severe)	25
PM_{10}	Maintenance	100
$PM_{2.5}$	Nonattainment	100
CO	Maintenance	100
Sources: EPA 2012a, 2012b		

Key:
NO_X = oxides of nitrogen
$PM_{2.5}$ = fine particulate matter
PM_{10} = respirable particulate matter
VOC = volatile organic compounds

State

The ARB is the agency responsible for coordination and oversight of State and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA). The CCAA, which was adopted in 1988, required ARB to establish California Ambient Air Quality Standards (CAAQS) (Table 3.4-1).

Criteria Air Pollutants ARB has established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, visibility-reducing particulate matter, and the above-mentioned criteria air pollutants. In most cases, the CAAQS are more stringent than the NAAQS. Differences in the standards are generally explained by the health effects studies considered during the standard-setting process and the interpretation of the studies. In addition, the CAAQS incorporate a margin of safety to protect sensitive individuals.

The CCAA requires all local air districts in the State endeavor to achieve and maintain the CAAQS by the earliest date practical. The act specifies that local air districts should focus particular attention on reducing the emissions from transportation and areawide emission sources, and provides air districts with the authority to regulate indirect sources.

Toxic Air Contaminants TACs in California are regulated primarily through the Tanner Air Toxics Act (Assembly Bill [AB] 1807, Chapter 1047, Statutes of 1983) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588, Chapter 1252, Statutes of 1987). AB 1807 sets forth a formal procedure for ARB to designate substances as TACs. Research, public participation, and scientific peer review are required before ARB can designate a substance as a TAC. To date, ARB has identified more than 21 TACs and adopted the EPA's list of HAPs as TACs. Most recently, PM exhaust from diesel engines (diesel PM) was added to ARB's list of TACs.

Once a TAC is identified, ARB adopts an airborne toxics control measure for sources that emit that particular TAC. If a safe threshold exists for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If no safe threshold exists, the measure must incorporate best available control technology for toxics to minimize emissions.

The Hot Spots Act requires that existing facilities that emit toxic substances above a specified level prepare an inventory of toxic emissions, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures.

ARB has adopted diesel exhaust control measures and more stringent emissions standards for various transportation-related mobile sources of emissions, including transit buses, and off-road diesel equipment (e.g., tractors, generators). Over time, the replacement of older vehicles will result in a vehicle fleet that produces substantially lower levels of TACs than under current conditions. Mobile-source emissions of TACs (e.g., benzene, 1-3-butadiene, diesel PM) have been reduced significantly over the last decade and will be reduced further in California through a progression of regulatory measures (e.g., Low Emission Vehicle/Clean Fuels and Phase II reformulated gasoline regulations) and control technologies. With implementation of ARB's Risk Reduction Plan, it is expected that diesel PM concentrations will be 85 percent less in 2020 in comparison to year 2000. Adopted regulations are also expected to continue to reduce formaldehyde emissions from cars and light-duty trucks. As emissions are reduced, it is expected that risks associated with exposure to the emissions will also be reduced.

Local

The Project alignment lies within the jurisdictional boundaries of Sacramento County and the City of Sacramento; therefore, both jurisdictions' regulations are applicable to the proposed Project.

Sacramento Metropolitan Air Quality Management District

Criteria Air Pollutants SMAQMD is the primary agency responsible for planning to meet Federal and State ambient air quality standards in Sacramento County. SMAQMD

works with other local air districts in the Sacramento region to maintain the region's portion of the SIP for ozone. The SIP is a compilation of plans and regulations that govern how the region and State will comply with the Federal Clean Air Act requirements to attain and maintain the Federal ozone standard. Ozone plans in the Sacramento Metro region include the 1994 Sacramento Area Regional Ozone Attainment Plan and the 2009 8-Hour Ozone Attainment and Reasonable Further Progress Plan. These plans were produced to develop a strategy to attain the Federal one-hour and 8-hour ozone standards. The Sacramento Region has been designated as a "severe" 8-hour ozone nonattainment area with an extended attainment deadline of June 15, 2019.

SMAQMD also enforces air quality regulations, educates the public about air quality, and implements a number of programs to provide incentives for the replacement or retrofit of older diesel engines and to influence land use development in Sacramento County.

SMAQMD has developed a set of guidelines for use by lead agencies when preparing environmental documents. The guidelines contain thresholds of significance for criteria air pollutants, TACs, and odors, and also make recommendations for conducting air quality analyses. All projects are subject to adopted SMAQMD rules and regulations in effect at the time of construction. Specific rules applicable to the construction of the Project may include, but are not limited to, the following:

- **Rule 201**: General Permit Requirements. Any project that includes the use of equipment capable of releasing emissions to the atmosphere may be required to obtain permit(s) from SMAQMD before equipment operation. The applicant, developer, or operator of a project that includes an emergency generator, boiler, or heater should contact SMAQMD early to determine whether a permit is required, and to begin the permit application process. Portable construction equipment (e.g., generators, compressors, pile drivers, lighting equipment) with an internal combustion engine greater than 50 horsepower must have a SMAQMD permit or ARB portable equipment registration.

- **Rule 202**: New Source Review. The purpose of this rule is to provide for the issuance of authorities to construct and permits to operate at new and modified stationary air pollution sources and to provide mechanisms, including emission offsets, by which authorities to construct such sources may be granted without interfering with the attainment or maintenance of ambient air quality standards.

- **Rule 402**: Nuisance. A person shall not discharge from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number of persons or the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause or have natural tendency to cause injury or damage to business or property.

- **Rule 403**: Fugitive Dust. The developer or contractor is required to control dust emissions from earthmoving activities or any other construction activity to prevent airborne dust from leaving the project site.

- **Rule 442**: Architectural Coatings. The developer or contractor is required to use coatings that comply with the content limits for volatile organic compounds specified in the rule.

- **Rule 902**: Asbestos. The developer or contractor is required to notify SMAQMD of any regulated renovation or demolition activity. Rule 902 contains specific requirements for surveying, notification, removal, and disposal of material containing asbestos.

Toxic Air Contaminants At the local level, air pollution control or management districts may adopt and enforce ARB control measures. Under SMAQMD Rule 201 ("General Permit Requirements"), Rule 202 ("New Source Review"), and Rule 207 ("Federal Operating Permit"), all sources that possess the potential to emit TACs are required to obtain permits from SMAQMD. Permits may be granted to these operations if they are constructed and operated in accordance with applicable regulations, including new-source-review standards and air-toxics control measures. SMAQMD limits emissions and public exposure to TACs through a number of programs. SMAQMD prioritizes TAC-emitting stationary sources based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors. Sensitive receptors are people, or facilities that generally house people (e.g., schools, hospitals, residences), that may experience adverse effects from unhealthful concentrations of air pollutants.

Odors Although offensive odors rarely cause any physical harm, they can be very unpleasant, leading to considerable stress among the public and often generating citizen complaints to local governments and SMAQMD. SMAQMD's Rule 402 ("Nuisance") regulates odorous emissions.

Sacramento County General Plan

- **Policy AQ-3** Buffers and/or other appropriate mitigation shall be established on a project-by-project basis and incorporated during review to provide for protection of sensitive receptors from sources of air pollution or odor. The California Air Resources Board's "Air Quality and Land Use Handbook: A Community Health Perspective," and SMAQMD's approved Protocol (Protocol for Evaluating the Location of Sensitive Land uses Adjacent to Major Roadways) shall be utilized when establishing these buffers.

- **Policy AQ-12** Minimize air pollutant emissions from Sacramento County facilities and operations.

- **Policy AQ-13** Use California State Air Resources Board and SMAQMD guidelines for Sacramento County facilities and operations to comply with mandated measures to reduce emissions from fuel consumption, energy consumption, surface coating operations, and solvent usage.

- **Policy AQ-16** Prohibit the idling of on-and off-road engines when the vehicle is not moving or when the off-road equipment is not performing work for a period of time greater than five minutes in any one-hour period.

- **Policy AQ-19** Require all feasible reductions in emissions for the operation of construction vehicles and equipment on major land development and roadway construction projects.

City of Sacramento General Plan The Project alignment also lies within the City of Sacramento; therefore, the City's 2030 General Plan policies with respect to air quality apply to the Project, as described below.

Goal ER 6.1 Improved Air Quality. Improve the health and sustainability of the community through improved regional air quality and reduced greenhouse gas emissions that affect climate change.

- **Policy ER 6.1.1** Maintain Ambient Air Quality Standards. The City shall work with the ARB and SMAQMD to meet State and Federal ambient air quality standards.

- **Policy ER 6.1.2** New Development. The City shall review proposed development projects to ensure projects incorporate feasible measures that reduce construction and operational emissions for reactive organic gases, nitrogen oxides and particulate matter (PM_{10} and $PM_{2.5}$) through project design.

- **Policy ER 6.1.3** Emissions Reduction. The City shall require development projects that exceed SMAQMD reactive organic gases (ROG) and oxides of NO_X operational thresholds to incorporate design or operational features that reduce emissions equal to 15 percent from the level that would be produced by an unmitigated project.

- **Policy ER 6.1.11** Coordination with SMAQMD. The City shall coordinate with SMAQMD to ensure projects incorporate feasible mitigation measures if not already provided for through project.

3.4.3 Environmental Setting

The Project alignment is within the Sacramento Valley Air Basin (SVAB), which includes Sacramento County as well as all of Butte, Colusa, Glenn, Shasta, Sutter, Tehama, Yolo, and Yuba Counties; the western portion of Placer County; and the eastern portion of Solano County. The ambient concentrations of air pollutant emissions are determined by the volume of emissions released air pollutant sources and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and sunlight. Therefore, existing air quality conditions in the area are determined by such natural factors as topography, meteorology, and climate, in addition to the amount of emissions released by existing air pollutant sources, as discussed separately below.

Topography, Meteorology, and Climate

The SVAB is a relatively flat area bordered by the north Coast Range to the west and the northern Sierra Nevada to the east. Air flows into the SVAB through the Carquinez Strait,

the only breach in the western mountain barrier, and moves across the Sacramento River–San Joaquin River Delta (Delta) from the San Francisco Bay area.

The Mediterranean climate type of the SVAB is characterized by hot, dry summers and cool, rainy winters. Most precipitation in the area occurs during the winter months. The prevailing winds are moderate in speed and vary from moisture-laden breezes from the south to dry land flows from the north.

The mountains surrounding the SVAB create a barrier to airflow, which leads to the entrapment of air pollutants when meteorological conditions are unfavorable for transport and dilution. Temperature inversions hamper dispersion by creating a ceiling over the area and trap air pollutants near the ground.

May through October is ozone season in the SVAB. This period is characterized by poor air movement in the mornings with the arrival of the Delta sea breeze from the southwest in the afternoons. In addition, longer daylight hours provide a plentiful amount of sunlight to fuel photochemical reactions between ROG and NO_X, which result in ozone formation.

The local meteorology of the Project alignment and surrounding area is represented by measurements recorded at the Sacramento station. The normal annual precipitation is approximately 17 inches. January temperatures range from a normal minimum of 38°F to a normal maximum of 54°F. July temperatures range from a normal minimum of 59°F to a normal maximum of 93°F (Western Regional Climate Center [WRCC] 2012a). The predominant wind direction and speed is from the south at eight miles per hour (WRCC 2012a, 2012b).

Existing Air Quality

Criteria Air Pollutants Concentrations of emissions from criteria air pollutants are used to indicate the quality of the ambient air. A brief description of key criteria air pollutants in the SVAB is provided below. Emission source types, health effects are summarized in Table 3.4-3. Sacramento County's attainment status for the CAAQS and the NAAQS are shown in Table 3.4-4. Monitoring data applicable to the Project alignment is provided in Table 3.4-5.

1 **Table 3.4-3. Sources and Health Effects of Criteria Air Pollutants**

Pollutant	Sources	Acute1 Health Effects	Chronic[2] Health Effects
Ozone	Secondary pollutant resulting from reaction of ROG and NO_X in presence of sunlight. ROG emissions result from incomplete combustion and evaporation of chemical solvents and fuels; NO_X results from the combustion of fuels	increased respiration and pulmonary resistance; cough, pain, shortness of breath, lung inflammation	permeability of respiratory epithelia, possibility of permanent lung impairment
Carbon monoxide (CO)	Incomplete combustion of fuels; motor vehicle exhaust	headache, dizziness, fatigue, nausea, vomiting, death	permanent heart and brain damage
Nitrogen dioxide (NO_2)	combustion devices; e.g., boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines	coughing, difficulty breathing, vomiting, headache, eye irritation, chemical pneumonitis or pulmonary edema; breathing abnormalities, cough, cyanosis, chest pain, rapid heartbeat, death	chronic bronchitis, decreased lung function
Sulfur dioxide (SO_2)	coal and oil combustion, steel mills, refineries, and pulp and paper mills	Irritation of upper respiratory tract, increased asthma symptoms	Insufficient evidence linking SO_2 exposure to chronic health impacts
Respirable particulate matter (PM_{10}), Fine particulate matter ($PM_{2.5}$)	fugitive dust, soot, smoke, mobile and stationary sources, construction, fires and natural windblown dust, and formation in the atmosphere by condensation and/or transformation of SO_2 and ROG	breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular diseases, premature death	alterations to the immune system, carcinogenesis
Lead	metal processing	reproductive/ developmental effects (fetuses and children)	numerous effects including neurological, endocrine, and cardiovascular effects

Sources: THE EPA 2012

Notes:
[1] "Acute" refers to effects of short-term exposures to criteria air pollutants, usually at fairly high concentrations.
[2] "Chronic" refers to effects of long-term exposures to criteria air pollutants, usually at lower, ambient concentrations.

Key:
NO_X = oxides of nitrogen
ROG = reactive organic gases.

2

1 **Table 3.4-4. Attainment Status Designations for Sacramento County**

Pollutant	Federal Standard	State Standard
Ozone	Nonattainment (1-hour)[1] Classification= Severe	Nonattainment (1-hour) Classification-Serious[2]
	Nonattainment (8-hour)[3] Classification=Severe	Nonattainment (8-hour)
	Nonattainment (8-hour)[4] Classification=Severe	
Respirable particulate matter (PM_{10})	Attainment (24-hour)	Nonattainment (24-hour)
		Nonattainment (Annual)
Fine particulate matter ($PM_{2.5}$)	Nonattainment (24-hour)	(No State Standard for 24-Hour)
	Unclassified/Attainment (Annual)	Nonattainment (Annual)
Carbon monoxide (CO)	Attainment (1-hour)	Attainment (1-hour)
	Attainment (8-hour)	Attainment (8-hour)
Nitrogen dioxide (NO_2)	Unclassified/Attainment (1-hour)	Attainment (1-hour)
	Unclassified/Attainment (Annual)	Attainment (Annual)
Sulfur dioxide (SO_2)[5]	(Attainment Pending) (1-Hour)	Attainment (1-hour)
		Attainment (24-hour)
Lead (Particulate)	Unclassified/Attainment (3-month rolling avg)	Attainment (30 day average)
Hydrogen Sulfide	No Federal Standard	Unclassified (1-hour)
Sulfates		Attainment (24-hour)
Visibly Reducing Particles		Unclassified (8-hour)

Source: SMAQMD 2013a, ARB 2014a

Notes:
[1] Air Quality meets Federal 1-hour Ozone standard (77 FR 64036). THE EPA revoked this standard, but some associated requirements still apply. SMAQMD attained the standard in 2009. SMAQMD has requested EPA recognize attainment to fulfill the requirements.
[2] Per Health and Safety Code (HSC) § 40921.5(c), the classification is based on 1989 – 1991 data, and therefore does not change.
[3] 1997 Standard.
[4] 2008 Standard.
[5] Cannot be classified.

2

Table 3.4-5. Summary of Annual Data on Ambient Air Quality (2010-2012)[1]

	2010	2011	2012
Ozone			
Maximum concentration (1-hr/8-hr avg, ppm)	0.106/0.089	0.097/0.081	0.093/0.087
Number of days State standard exceeded (1-hr/8-hr)	1/6	1/6	0/11
Number of days national standard exceeded (8-hr)	0	0	0
Fine Particulate Matter ($PM_{2.5}$)			
Maximum concentration (24-hour µg/m^3)	43.0	45.6	37.2
Number of days national standard exceeded (24-hour measured[2])	*	*	*
Respirable Particulate Matter (PM_{10})			
Maximum concentration (µg/m^3)	63.0	73.0	60.0
Number of days State standard exceeded (measured/calculated[2])	2/12.2	2/12.2	3/17.8
Number of days national standard exceeded (measured/calculated[2])	0/0	0/0	0/0

Source: ARB 2014b

Notes:
[1] Measurements from the Elk Grove-Bruceville Road for Ozone and fine particulate matter ($PM_{2.5}$). Measurements of respirable particulate matter (PM_{10}) obtained from the Sacramento-Branch Center Road #2 air monitoring station.
[2] Measured days are those days that an actual measurement was greater than the level of the State daily standard or the national daily standard. Measurements are typically collected every six days. Calculated days are the estimated number of days that a measurement would have been greater than the level of the standard had measurements been collected every day. The number of days above the standard is not necessarily the number of violations of the standard for the year.
* There was insufficient data to determine the value.

Key
µg/m^3 = micrograms per cubic meter
ppm = parts per million

Ozone Ozone is a photochemical oxidant (a substance whose oxygen combines chemically with another substance in the presence of sunlight) and the primary component of smog. Ozone is not directly emitted into the air but is formed through complex chemical reactions between precursor emissions of ROG and NO_X in the presence of sunlight. ROG are volatile organic compounds that are photochemically reactive. ROG emissions result primarily from incomplete combustion and the evaporation of chemical solvents and fuels. NO_X are a group of gaseous compounds of nitrogen and oxygen that result from the combustion of fuels.

Emissions of the ozone precursors ROG and NO_X have decreased over the past several years because of more stringent motor vehicle standards and cleaner burning fuels. During the last 20 years the maximum amount of ROG and NO_X over an 8-hour period decreased by 17 percent. However, the ozone problem in the SVAB still ranks among the most severe in the State (ARB 2009).

Nitrogen Dioxide NO_2 is a brownish, highly reactive gas that is present in all urban environments. The major human-made sources of NO_2 are combustion devices, such as

boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. Combustion devices emit primarily nitric oxide (NO), which reacts through oxidation in the atmosphere to form NO_2. The combined emissions of NO and NO_2 are referred to as NO_X and are reported as equivalent NO_2. Because NO_2 is formed and depleted by reactions associated with photochemical smog (ozone), the NO_2 concentration in a particular geographical area may not be representative of the local sources of NO_X emissions (EPA 2012).

Particulate Matter Respirable particulate matter with an aerodynamic diameter of 10 micrometers or less is referred to as PM_{10}. PM_{10} consists of particulate matter emitted directly into the air, such as fugitive dust, soot, and smoke from mobile and stationary sources, construction operations, fires and natural windblown dust, and particulate matter formed in the atmosphere by reaction of gaseous precursors (ARB 2009). Fine particulate matter ($PM_{2.5}$) includes a subgroup of smaller particles that have an aerodynamic diameter of 2.5 micrometers or less. PM_{10} emissions in the SVAB are dominated by emissions from area sources, primarily fugitive dust from vehicle travel on unpaved and paved roads, farming operations, construction and demolition, and particles from residential fuel combustion. Direct emissions of PM_{10} have increased slightly over the last 20 years, and are projected to continue. $PM_{2.5}$ emissions have remained relatively steady over the last 20 years and are projected to increase slightly through 2020. Emissions of $PM_{2.5}$ in the SVAB are dominated by the same sources as emissions of PM_{10} (ARB 2009).

Monitoring Station Data and Attainment Area Designations Criteria air pollutant concentrations are measured at several monitoring stations in the SVAB. The Elk Grove-Bruceville Road station is the closest station to the Project alignment with recent data for ozone and $PM_{2.5}$. The closest station to the Project alignment with data for PM_{10} is the Sacramento-Branch Center Road #2 air monitoring station. In general, the ambient air quality measurements from these stations are representative of the air quality near the Project alignment. Table 3.4-5 summarizes the air quality data from the most recent available three years (2010—2012).

Both the ARB and the EPA use this type of monitoring data to designate areas according to their attainment status for criteria air pollutants (attainment designations are summarized above in Table 3.4-3).

Emissions Inventory Figure 3.4-1 summarizes emissions of criteria air pollutants within Sacramento County for various source categories. According to Sacramento County's emissions inventory, mobile sources are the largest contributor to the estimated annual average for air pollutant levels of ROG and NO_X accounting for approximately 58 percent and 91 percent, respectively, of the total emissions. Areawide sources account for approximately 89 percent and 73 percent of the County's PM_{10} and $PM_{2.5}$ emissions, respectively (ARB 2008).

Figure 3.4-1. Sacramento County Air Pollutant Summary

Toxic Air Contaminants Concentrations of TACs are also used to indicate the quality of ambient air. A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations.

According to the California Almanac of Emissions and Air Quality (ARB 2009), the majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being diesel PM. In addition to diesel PM, the TACs for which data are available that pose the greatest existing ambient risk in California are benzene, 1,3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene.

Diesel PM poses the greatest health risk among these 10 TACs mentioned. Based on receptor modeling techniques, ARB estimated its health risk to be 360 excess cancer cases per million people in the SVAB in the year 2000. Since 1990, the health risk associated with diesel PM has been reduced by 52 percent. Overall, levels of most TACs, except para-dichlorobenzene and formaldehyde, have decreased since 1990 (ARB 2009).

There are no major stationary sources of TACs in the vicinity of the Project alignment. Major highways and roadways are also considered sources of TAC emissions, associated with the presence of diesel PM emissions from vehicle exhaust. At their closest, I-5 is located approximately one mile west of main pipeline alignment and SR 99 is located approximately ¾ mile to the east.

Odors Odors are generally 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 very 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; an odor that is offensive to one person may be perfectly acceptable to another (e.g., fast food restaurant). It is important to also 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.

3.4.4 Environmental Impacts and Recommended Mitigation Measures

This section describes the Project's construction-related (short-term) and operation-related (long-term) effects on air quality. The discussion includes the criteria for determining the level of significance of the effects and a description of the methods and assumptions used to conduct the analysis.

Significance Criteria

In accordance with Appendix G of the CEQA Guidelines and SMAQMD recommendations, air quality impacts are considered significant if the Project would do any of the following:

- cause construction-generated criteria air pollutant or precursor emissions to exceed the SMAQMD-recommended threshold of 85 pounds per day (lb/day) for NO_X, or substantially contribute to emissions concentrations (e.g., PM_{10}) that exceed the NAAQS or CAAQS (i.e., result in an increase greater than five percent of the NAAQS or CAAQS). Because $PM_{2.5}$ is a subset of PM_{10}, SMAQMD assumes that construction projects that do not generate concentrations of PM_{10} that exceed the concentration-based threshold of significance will also be considered less than significant for $PM_{2.5}$ impacts;

- result in a net increase in long-term regional criteria air pollutant or precursor emissions that exceed the SMAQMD-recommended threshold of 65 lb/day for ROG and NO_X, or substantially contribute to emissions concentrations (e.g., PM_{10}) that exceed the NAAQS or CAAQS (i.e., result in an increase greater than five percent of the NAAQS or CAAQS);

- result in, or contribute substantially to, a violation of an ambient air quality standard;

- expose sensitive receptors to a substantial incremental increase in TAC emissions that exceed 10 in 1 million for carcinogenic risk (i.e., the risk of contracting cancer) and/or a noncarcinogenic hazard index of one or greater ; or

- create objectionable odors affecting a substantial number of people.

Methods and Assumptions

Short-term construction-related and long-term operation-related (regional and local) impacts, as well as impacts from TACs, CO concentrations, and odors, were assessed in accordance with SMAQMD-recommended methodologies.

Regional San's Project planning team provided Project-specific construction estimates, including open-cut trench dimensions, time period of construction, number of construction workers, number of truck trips, and heavy duty construction equipment. Quantification of air pollutant emissions were based on a combination of methods, including the use of emission factors from ARB contained in the California Emissions Estimator Model (CalEEMod). Project-generated emissions were modeled based on this information and information provided in the project description to estimate reasonable worst-case conditions. The modeling includes the assumption that emissions due to construction of the main pipeline between the SRWTP and the SPA Cogeneration Plant would occur over approximately 300 days (2015 to 2016). For construction of the future lateral lines, the modeling assumed that emissions would occur over approximately 600 days, although years for construction are yet to be determined. Main line and lateral pipeline construction would not occur concurrently.

According to SMAQMD, short-term ROG emissions generated by construction should be modeled; however, SMAQMD has not established a threshold to determine the significance of such emissions. Thus, in accordance with SMAQMD-recommended methodologies, short-term ROG emissions generated by construction are modeled and presented for informational purposes only. SMAQMD bases this approach on the fact that ROG emissions attributable to construction equipment exhaust are relatively low and ROG that off-gases from the application of architectural coatings are regulated by Rule 442 (SMAQMD 2013b). Also, NO_X emissions are the focus of SMAQMD's efforts to bring the SVAB in attainment of the CAAQS and NAAQS for ozone because, as a secondary pollutant, ozone in the SVAB is NO_X-limited. Emissions of NO_X and $PM_{2.5}$ were estimated based on the construction parameters explained above.

Project-generated TAC emissions and odors were also assessed in accordance with methodologies recommended by ARB and/or SMAQMD.

Certain land uses such as long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, playgrounds, child care centers, and athletic facilities are considered sensitive receptors for purposes of air pollution control and monitoring requirements. There are residences and parks located within 50 feet of the construction area along the pipeline alignment.

Issues or Potential Impacts Not Discussed Further

Carbon Monoxide Concentrations The Project area is in attainment for NAAQS and CAAQS for CO, and has not experienced a violation of CO standards for many years. Operation of the Project would not result in an increase in vehicle trips on the local roadway network, as maintenance would result in minimal (one or two) vehicle trips each year. During construction, workforce and truck trips could generate an estimated 124 trips during peak phases of Project construction. SMAQMD provides screening levels to

determine Project-level significance with regards to CO concentrations. Neither construction nor operation of the Project would contribute traffic congestion to an affected intersection that exceeds the recommended level of 31,600 vehicles per hour (SMAQMD 2013b). Therefore, Project-generated traffic would not result in a contribution to a violation of an air quality standard for CO or contribute to nonattainment conditions. This issue is not discussed further in this EIR.

3.4.5 Impact Analysis and Mitigation Measures

Impact 3.4-1: Short-term construction emissions of criteria air pollutants and precursors (NO_X, ROG, PM_{10}, and $PM_{2.5}$).

Construction-related activities would result in Project-generated emissions of ROG, NO_X, PM_{10} and $PM_{2.5}$ (a subset of PM_{10}) from site preparation (e.g., excavation, clearing), trenching, off-road equipment, material and equipment delivery trips, worker commute trips, and other miscellaneous activities. The maximum construction day for either the main pipeline or the future laterals would not exceed SMAQMD's NO_X threshold of 85 lb/day. However, fugitive dust related to construction activities could contribute to the existing nonattainment status of the SVAB with respect to PM_{10} and $PM_{2.5}$. This impact would be **potentially significant**.

Construction emissions are described as "short-term" or temporary in duration and may represent a significant impact on air quality, especially in the case of PM_{10}. Construction-related activities would result in Project-generated emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$ from site preparation (e.g., excavation, clearing), off-road equipment, trenching, materials delivery, and worker commute trips, and other miscellaneous activities. Fugitive dust (e.g., PM_{10} and $PM_{2.5}$) emissions are associated primarily with site preparation and vary as a function of soil silt content, soil moisture, wind speed, acreage of disturbance, and vehicle miles traveled on and off the site. Ozone precursor emissions of ROG and NO_X are associated primarily with construction equipment and on-road mobile exhaust. PM_{10} and $PM_{2.5}$ are also contained in vehicle exhaust.

Construction activities for the main pipeline between the SRWTP and the SPA Cogeneration Plant would begin in 2015 and be complete in 2016, with peak construction activities and associated emissions occurring in summer 2015. Construction of the lateral lines would occur over approximately 600 days, although a start date is not yet identified. Typical construction activities would include earthwork such as grading, excavation, trenching, backfilling, hauling, and compaction. Underground piping, conduits and tunnels would also be constructed. A storage tank, booster pump station, paving, lighting, and drainage facilities would be constructed. Truck deliveries of construction materials (e.g., pipes, concrete) to the alignment and off-hauling of demolished and excavated material would also be necessary.

Typical construction equipment required for open-cut construction includes a crane, an excavator, dump trucks, a front-end loader, a pick-up truck, and a flat-bed semi-truck for pipes. Typical construction equipment required for pipe jacking includes a crane, an excavator, dump trucks, a pick-up truck, and a flat-bed semi-truck for pipes. For HDD,

typical construction equipment is anticipated to include a crane, a front-end loader, a pick-up truck and a flatbed semi for pipe.

Construction of the main pipeline between the SRWTP and the SPA Cogeneration Plant and the future lateral lines would not occur at the same time. However, during either construction phase, open-cut construction and trenchless construction (HDD or pipe jacking) could overlap. As shown in Table 3.4-6, below, based on the modeling conducted, construction of the recycled water main between SRWTP and the SPA Cogeneration Plant would result in maximum unmitigated daily emissions of approximately 7 lb/day of ROG, 63 lb/day of NO_X, 22 lb/day of PM_{10} (exhaust plus dust), and 12 lb/day of $PM_{2.5}$ (exhaust plus dust). Also shown in Table 3.4-6, construction of the future laterals would result in similar unmitigated daily emissions. Neither construction of the main pipeline nor construction of the lateral pipelines would result in emissions of NO_X that exceed the SMAQMD-recommended threshold of 85 lb/day. Unmitigated concentrations of PM_{10} for all construction activities would not be expected to exceed the CAAQS of 50 µg/m^3 because of the limited area that would be disturbed on any given day; however, construction-related fugitive dust could nonetheless contribute to the existing nonattainment status of the SVAB for PM_{10} and $PM_{2.5}$. This impact is **potentially significant**.

Table 3.4-6. Summary of Modeled Short-term Construction-Generated Emissions Associated with Project Construction Activities (lb/day)

Phase	ROG	NO_X	PM_{10}	$PM_{2.5}$
Construction of Main from SRWTP to SPA Cogeneration Plant				
Open-cut Excavation	4	38	3	2
Trenchless (HDD) Construction & Pipe Jack	3	25	19	10
Maximum lb/day	7	63	22	12
Construction of Future Laterals and Storage Tank				
Open-cut Excavation	4	34	2	2
Pipe Jack	3	25	19	10
Maximum lb/day	7	59	21	12
Worst-Case Construction Day – Unmitigated	7	63	22	12
SMAQMD Thresholds of Significance	-	85	CAAQS[1]	
Worst-Case Construction Day – Mitigated	7	63	12	7
Source: Modeling Conducted by Ascent Environmental in 2014				

Notes:
[1] 50 µg/m^3 24-hour
See Appendix C for detail on CalEEMod model inputs, assumptions, and Project specific modeling parameters.

Key:
µg/m^3 = micrograms per cubic meter
CAAQS = California Ambient Air Quality Standards
lb/day = pounds per day
NA = not applicable
NO_X = oxides of nitrogen
PM_{10} = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less
$PM_{2.5}$ = respirable particulate matter with an aerodynamic diameter of 2.5 micrometers or less
ROG = reactive organic gases
SMAQMD = Sacramento Metropolitan Air Quality Management District

Comparison to Federal *de minimis* Thresholds

As required by 40 CFR 93 Subpart B, an applicability analysis was performed for the Project for all the affected nonattainment and maintenance areas in the Project vicinity. Emissions of criteria pollutants from construction in each Project-affected area were calculated and compared to the General Conformity *de minimis* thresholds to assess whether a general conformity determination (GCD) is required. As described in further detail under Impact 3.4-2, below, the Project would not result in substantial increases in operational criteria air pollutant emissions and therefore this applicability analysis only considers emissions associated with construction. Estimated emissions of criteria air pollutants for which the Project area is designated maintenance or nonattainment are shown and compared against the applicable de minimis threshold below in Table 3.4-7.

Table 3.4-7 Comparison to Federal *de minimis* Thresholds

Year	VOC	NO_X	CO	PM_{10}	$PM_{2.5}$
2015	0.4	4.2	2.8	0.2	0.2
2016	0.5	4.5	3.0	0.3	0.3
2017	0.5	4.0	2.8	0.3	0.2
2018	0.2	2.0	1.5	0.1	0.1
De minimis threshold (tons per year)	25	25	100	100	100
Source: Modeling Conducted by Ascent Environmental in 2014					

Notes:
[1] 50 µg/m^3 24-hour
See Appendix C for detail on CalEEMod model inputs, assumptions, and Project specific modeling parameters.

Key:
µg/m^3 = micrograms per cubic meter
CAAQS = California Ambient Air Quality Standards
lb/day = pounds per day
NA = not applicable
NO_X = oxides of nitrogen
PM_{10} = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less
$PM_{2.5}$ = respirable particulate matter with an aerodynamic diameter of 2.5 micrometers or less
ROG = reactive organic gases
SMAQMD = Sacramento Metropolitan Air Quality Management District

As shown above in Table 3.4-7 estimated emissions would not exceed any of the applicable de minimis thresholds and thus no further evaluation is required under the General Conformity Rule.

Mitigation Measure 3.4-1: Implement construction emission control practices.

Regional San shall implement the following fugitive dust control measures during Project construction, as required by SMAQMD's Rule 403:

- Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, lay down areas, and access roads.

- Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the construction site. Any haul trucks that would be traveling along freeways or major roadways would be covered.

- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.

- Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).

- All roadways, driveways, sidewalks, parking lots to be paved would be completed as soon as possible. In addition, building pads would be laid as soon as possible after grading unless seeding or soil binders are used.

In addition, California regulations limit idling from both on-road and off-road diesel powered equipment. In compliance with such regulations, Regional San shall implement the following additional measures to limit exhaust emissions during construction:

- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [required by CCR, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.

- Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determine to be running in proper condition before it is operated.

Significance After Mitigation Implementation of Mitigation Measure 3.4-1 would reduce fugitive dust and exhaust emissions associated with Project construction; thus, the Project would not result in a considerable contribution to the existing nonattainment status of the SVAB for PM_{10} and $PM_{2.5}$. This impact would be **less than significant**.

Impact 3.4-2: Long-term operational emissions of ROG, NO_X, PM_{10} and $PM_{2.5}$.

Implementation of the Project would not result in long-term operational emissions of ROG, NO_X, PM_{10}, or $PM_{2.5}$ that exceed SMAQMD's thresholds of significance (65 lb/day for ROG and 65 lb/day for NO_X) or substantially contribute to an exceedance of the NAAQS or CAAQS. This impact would be **less than significant.**

The Project would not result in any additional employees at either the SRWTP or the SPA Cogeneration Plant. Maintenance of the recycled water pipelines would result in minimal vehicle trips, estimated at once or twice a year. Therefore, a nominal increase in operational mobile-source emissions would occur with implementation of the proposed Project.

The Project would include up to four new pumps; two new pumps at the SRWTP WRF booster pump station, one new pump located at the Regional San outfall on the east side

of Freeport (Highway 160), and one new pump located next to the new storage tank, either at Chorley Park or the SPA Cogeneration Plant. The pumps would be electric, each sized for 620 gallons per minute, 168 feet of total dynamic head, and 32 horsepower. The pumps would generally be in operation 24-hours per day.

Because the pumps would be electric-powered, no stationary-source emissions would occur at the Project site. Criteria air pollutant emissions that would occur to power the pumps would occur elsewhere in the air basin at a power generation facility would be very minimal due to the low electrical demand to operate the pumps. Any electrical generation facilities with stationary-source emissions would be subject to air regulations, permitting requirements, and emissions controls.

Because the SMAQMD permitting process would not allow emissions beyond levels that would interfere with attainment of the CAAQS or NAAQS, the new pumps for the recycled water pipelines would not violate an air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. This impact is **less than significant.**

Mitigation Measures

No mitigation is required.

Impact 3.4-3: Exposure of sensitive receptors to TACs.

Short-term construction activities would result in emissions of diesel PM within 50 feet of sensitive receptors. However, construction activities would vary over the construction period, with peak emissions at any one location occurring for approximately 4 days. Operation of the Project would not result in any additional sources of TACs. Thus, levels of TACs from Project-related construction would not result in a substantial increase in health risk exposure at offsite sensitive receptors, increases in cancer risk that are greater than 10 in one million, or a hazard index greater than one. This impact would be **less than significant**.

Operation of the Project would not result in any additional sources of TACs. Further, the proposed Project would not result in the siting of sensitive receptors, so the focus of this discussion is on construction-generated TACs associated with the proposed Project.

However, construction-related activities would result in temporary, short-term Project-generated emissions of diesel PM from off-road, heavy-duty diesel equipment exhaust for site preparation, trenching, material hauling, and other miscellaneous activities.

Particulate exhaust emissions from diesel-fueled engines (i.e., diesel PM) was identified as a TAC by the ARB in 1998. The potential cancer risk from the inhalation of diesel PM, as discussed below, outweighs the potential for all other health impacts (ARB 2003), so diesel PM is the focus of this discussion. Based on the emission modeling conducted and presented in Table 3.4-6 above, maximum emissions of $PM_{2.5}$, considered a surrogate for diesel PM, would not exceed 12 lb/day based on worst-case construction assumptions.

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 Office of Environmental Health Hazard Assessment (OEHHA), Health Risk Assessments (HRA), which determine the exposure of sensitive receptors to TAC emissions, should be based on a 30-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the proposed Project (OEHHA 2001:11-3). Consequently, it is important to consider that the use of off-road heavy-duty diesel equipment would be limited to the construction period, with varying time periods of peak activity throughout the approximately three year construction schedule. Open-cut construction would proceed at approximately 120 feet per day, moving as pipeline is installed. The open-cut construction may overlap with trenchless HDD or pipe jack construction methods, resulting in the maximum emissions (which are substantially below SMAQMD's mass emission thresholds) for approximately four days at any given location on the alignment.). The nearest existing offsite sensitive receptors to the existing RWCF are single-family residences located approximately 50 feet from the pipeline alignment.

Considering the highly dispersive properties of diesel PM (Zhu and Hinds 2002) and the very limited exposure duration (e.g., approximately four days), it is not anticipated that construction-related TAC emissions would expose any sensitive receptors to an incremental increase in cancer risk that exceeds 10 in one million or a hazard index greater than one. Thus, Project-related construction activities would not expose nearby, offsite sensitive receptors to incremental increases in cancer, chronic, and acute risk that exceed applicable thresholds and this impact would be **less than significant.**

Mitigation Measures

No mitigation is required.

Impact 3.4-4: Exposure of sensitive receptors to offensive odors.

Construction of the proposed recycled water pipelines, storage tank, and pumps would involve the use of heavy equipment that would generate exhaust pollutants and may create short-term odors. However, any construction-related odors would be temporary and limited to the immediate vicinity of the equipment. The pumping and use of recycled water, treated to Title 22 tertiary recycled water or equivalent effluent standards (fully-oxidized water for reclamation purposes, so no odor-generating compounds remain the water), would not create objectionable odors affecting a substantial number of people. This impact would be **less than significant**.

The occurrence and severity of odor impacts depends on numerous factors, including: the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the receptors. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress among the public and often

generating citizen complaints to local governments and regulatory agencies. Projects with the potential to frequently expose a substantial number of members of the public to objectionable odors would be deemed to have a significant impact. The proposed Project would not result in the siting of sensitive receptors, so the focus of this discussion is on the odor-generating-potential of the proposed Project.

The proposed Project includes four new pumps, a storage tank, and underground pipelines to distribute recycled water from the SRWTP to the SPA Cogeneration Plant and public parks and landscaped areas in the south Sacramento area. SMAQMD considers wastewater treatment plants a common land use type that has high odor-generation potential (SMAQMD 2013b). Type of odor source, distance from the source to the nearest sensitive receptor, meteorology of the Project location, and odor complaint history in the Project vicinity are all parameters that affect the magnitude of an odor impact and thus, are considered in this analysis.

Odors at the existing SRWTP are caused by a variety of reduced compounds (such as hydrogen sulfide and mercaptans) that are emitted by both liquid and solids facilities (Abraham, pers. comm., 2014). Facilities that are a source of odorous emissions include preliminary treatment facilities (e.g., influent bar screens), the grit removal tanks, primary clarifiers, CO tanks, activated sludge facilities, and the solid storage basins. None of these SRWTP facilities would be affected by, changed, or involved in the proposed recycled water pipeline Project.

Construction of the proposed facilities would involve the use of heavy equipment that would generate exhaust pollutants and may create short-term odors. However, these construction-related odor impacts would be intermittent, temporary (i.e., approximately four days), and limited to the immediate vicinity of the equipment.

The proposed pumping and use of recycled water would not generate odors because the key source of odors from wastewater treatment (i.e., reduced compounds), are removed from the effluent through the treatment process. The intent of Title 22 of the California Code of Regulations is to create coagulated and fully-oxidized water for reclamation purposes, so no reduced compounds remain in the water. Therefore, the source of odors would be removed from the water. Pumping and use of Title 22 recycled water under this Project would be similar to pumping and use of potable water, with any potential lingering odor coming from residual chlorine (like a mild smell of bleach). Recycled water is currently used at the on-site Cogeneration Plant at the SRWTP with no reported odor problems (Abraham, pers. comm., 2014). Finally, the recycled water main pipeline and future laterals would be installed underground. Therefore, for the reasons discussed, the construction and operation of the proposed Project would not create objectionable odors affecting a substantial number of people and this impact is **less than significant.**

Mitigation Measures

No mitigation is required.

This page left blank intentionally.

3.5 Biological Resources

This section describes Federal, State, and/or local policies related to aquatic and terrestrial biological resources along the Project alignment. In addition, this section describes the aquatic and terrestrial resources that could be affected by implementation of the Project and potential impacts associated with Project construction and operation.

3.5.1 Regulatory Setting

Federal

Federal Endangered Species Act The ESA regulates threatened, endangered, and other special status species. The National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS) jointly implement the ESA. The USFWS regulates the taking of terrestrial and aquatic species, including birds, mammals, non-anadromous fish, amphibians and aquatic reptiles, and invertebrates listed as threatened or endangered under the ESA. NMFS regulates and protects marine and anadromous fish species listed as threatened or endangered under the ESA.

In general, persons subject to ESA (including private parties) are prohibited from "taking" endangered or threatened fish and wildlife species on private property, and from "taking" endangered or threatened plants in areas under Federal jurisdiction or in violation of State law. Under the ESA, the definition of "take" is to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Both USFWS and NMFS have also interpreted the definition of "harm" to include significant habitat modification that could result in take. If a project would result in take of a Federally-listed species, the project applicant must either acquire an incidental-take permit, under Section 10(a) of ESA, or if a Federal discretionary action is involved, the Federal agency must informally or formally consult with USFWS or NMFS under Section 7 of the ESA. Formal consultation with USFWS and/or NMFS requires a Biological Opinion with an Incidental Take Authorization.

"Take" of federally listed species is not anticipated under this project. Therefore, Federal permits would not be required.

Clean Water Act

Section 404 Section 404 of the Clean Water Act (CWA) requires project proponents to obtain a permit from the U.S. Army Corps of Engineers (USACE) before performing any activity that involves any discharge of dredged or fill material into Waters of the United States, including wetlands. Waters of the United States include navigable waters, interstate waters, tidally influenced waters, and all other waters where the use, degradation, or destruction of the waters could affect interstate or foreign commerce, tributaries to any of these waters, and wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries. Many surface waters and wetlands in California meet the criteria for Waters of the United States.

Section 401 Under CWA Section 401, applicants for a Federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the United States must obtain certification for the discharge. The certification must be obtained from the State in which the discharge would originate or, if appropriate, from the interstate water pollution control agency with jurisdiction over the affected waters at the point where the discharge would originate. Therefore, all projects that have a Federal component and may affect State water quality (including projects that require Federal agency approval, such as issuance of a Section 404 permit) must also comply with CWA Section 401. In California, the authority to grant water quality certification has been delegated to the State Water Board, and applications for water quality certification under CWA Section 401 are typically processed by the Regional Water Board with local jurisdiction — in this case, the Central Valley Regional Water Board. Water quality certification requires evaluation of potential impacts in light of water quality standards and CWA Section 404 criteria governing discharge of dredged and fill materials into waters of the United States.

Migratory Bird Treaty Act The Migratory Bird Treaty Act (MBTA), first enacted in 1918, provides for protection of international migratory birds and authorizes the Secretary of the Interior to regulate the taking of migratory birds. The MBTA provides that it shall be unlawful, except as permitted by regulations, to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird. Under the MBTA, "take" is defined as "to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or any attempt to carry out these activities." A take does not include habitat destruction or alteration, as long as there is not a direct taking of birds, nests, eggs, or parts thereof. The current list of species protected by the MBTA can be found in Title 50 of the CFR Section 10.13 (50 CFR 10.13). The list includes nearly all birds native to the United States.

State

California Endangered Species Act The California Department of Fish and Wildlife (CDFW) regulates the taking of threatened or endangered aquatic and terrestrial species under the California Endangered Species Act (CESA). CESA also regulates candidate species for listing. Project proponents may obtain a Section 2081 incidental take permit if the impacts of the take are minimized and fully mitigated, and the take would not jeopardize the continued existence of the species. A "take" of a species, under CESA, is defined as an activity that would directly or indirectly kill an individual of a species. The CESA definition of take does not include "harm" or "harass" as is included in the Federal act. As a result, the threshold for a take under CESA may be higher than under ESA.

Water Quality Control Plan for Control of Temperatures in Coastal and Interstate Waters and Enclosed Bays and Estuaries of California The State Water Board's Water Quality Control Plan for Control of Temperatures in Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan) contains temperature objectives applicable to discharges from municipal wastewater treatment plants into waters of the Delta. The Thermal Plan refers to such discharges as "elevated temperature waste" discharges. Several of the objectives contained in the Thermal Plan that are applicable to elevated temperature waste discharges, including the SRWTP discharge at Freeport.

As part of the NPDES permit renewal process for the SRWTP in 2000, the Central Valley Water Board adopted Resolution No. 5-00-192 granting exceptions to the Thermal Plan objectives 5A(1)a and 5A(1)b for the SRWTP discharge at Freeport. The current NPDES permit for the SRWTP, renewed in 2010, retained the Thermal Plan exceptions granted in Resolution No. 5-00-192. The exception to objective 5A(1)a allows the effluent temperature to be up to 25°F greater than the background river temperature from October 1 through April 30. The exception to objective 5A(1)b allows for no more than 2°F rise in river temperature for 25 percent of the river cross-section at the discharge location.

Water Quality Control Plan for the Sacramento/San Joaquin River Basins The Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (Basin Plan) (Central Valley Water Board 2011) provides water quality standards for waters of the Sacramento River and San Joaquin River Basins. (For additional information, see Section 3.10, "Hydrology and Water Quality.")

Beneficial uses identified within the Basin Plan that are directly associated with aquatic resources include:

- Warm Freshwater Habitat (WARM) - Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

- Cold Freshwater Habitat (COLD) - Uses of water that support cold water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

- Migration of Aquatic Organisms, Warm and Cold (MIGR) - Uses of water that support habitats necessary for migration, acclimatization between fresh water and salt water, and protection of aquatic organisms that are temporary inhabitants of waters within the region.

- Spawning, Reproduction, and/or Early Development, Warm (SPWN) - Uses of water that support high quality aquatic habitats suitable for reproduction and early development of fish.

Bay-Delta Water Quality Control Plan The Water Quality Control Plan for the San Francisco Bay/Sacramento–San Joaquin Delta Estuary (Bay- Delta WQCP) provides protections for the Delta in addition to Central Valley Water Board Basin Plan (State Water Resources Control Board 2006). The Bay-Delta WQCP is focused on the protection of beneficial uses of the Delta that require control of salinity (caused by saltwater intrusion, municipal discharges, and agricultural drainage) and water project operations (flows and diversions). Like the Basin Plan, the Bay-Delta WQCP identifies beneficial uses, water quality objectives, and an implementation program.

The designated beneficial uses of the Delta include all the same uses related to aquatic biological resources identified in the Basin Plan (i.e., warm and cold freshwater habitat, migration, and spawning) and two others as follows:

- **Estuarine Habitat (EST)** – Uses of water that support estuarine ecosystems including, but not limited to, preservation or enhancement of estuarine habitats, vegetation, fish, shellfish, or wildlife (e.g., estuarine mammals, waterfowl, shorebirds).

- **Rare, Threatened, or Endangered Species (RARE)** – Uses of water 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 being rare, threatened, or endangered.

NPDES Permit for the SRWTP The NPDES program is discussed in Section 3.10, "Hydrology and Water Quality." The SRWTP presently operates and discharges treated effluent to the Sacramento River under the requirements of an NPDES permit issued by the Central Valley Water Board in 2010 (Order No. R5-2010-0114, NPDES No. CA0077682) as modified in 2011, 2012, and 2013. The permit in effect is Order No. R5-2013- 0124, NPDES No. CA0077682 (issued October 4, 2013).

Porter-Cologne Water Quality Control Act Under the Porter-Cologne Act, waters of the State fall under the jurisdiction of the appropriate Water Board. The Water Board must prepare and periodically update water quality control plans (basin plans). Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control point and nonpoint sources of pollution to achieve and maintain these standards.

The Water Board's jurisdiction includes federally protected waters as well as areas that meet the definition of "waters of the State." Waters of the State is defined as any surface water or groundwater, including saline waters, within the boundaries of the State. The Water Board has the discretion to take jurisdiction over areas not federally protected under Section 401 provided they meet the definition of waters of the State. Actions that affect waters of the State, including wetlands, must meet the Water Board's waste discharge requirements.

California Fish and Game Code Section 1600 All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by CDFW under Section 1602 of the California Fish and Game Code. Under Section 1602, it is unlawful for any person, governmental agency, or public utility to do the following without first notifying CDFW:

- substantially divert or obstruct the natural flow of, or substantially change or use any material from, the bed, channel, or bank of any river, stream, or lake; or

- deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

The regulatory definition of a stream is a body of water that flows at least periodically or intermittently through a bed or channel that has banks and supports fish or other aquatic life. This definition includes watercourses with a surface or subsurface flow that supports

or has supported riparian vegetation. CDFW's jurisdiction within altered or artificial waterways is based on the value of those waterways to fish and wildlife. A CDFW streambed alteration agreement must be obtained for any action that would result in an impact on a river, stream, or lake.

California Fish and Game Code Sections 3503 and 3503.5 Section 3503 of the Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 of the California Fish and Game Code states that it is unlawful to take, possess, or destroy any raptors (i.e., species in the orders Falconiformes and Strigiformes), including their nests or eggs. Typical violations include destruction of active nests as a result of tree removal or disturbance caused by project construction or other activities that cause the adults to abandon the nest, resulting in loss of eggs and/or young.

Native Plant Protection Act of 1977 The Native Plant Protection Act of 1977 and implementing regulations in Section 1900 et seq. of the Fish and Game Code designates rare and endangered plants, and provides specific protection measures for identified populations. It is administered by CDFW.

Local

The project alignment is located in the City of Sacramento and unincorporated areas of Sacramento County; therefore, both policies govern Project construction.

Sacramento County General Plan The Sacramento County General Plan (Sacramento County 2011) contains the following goals and objectives related to biological resources that may be applicable to the project:

Goal: Preserve, protect, and manage the health and integrity of aquatic resources in Sacramento County.

Goal: Preserve, protect, and enhance natural open space functions of riparian, stream and river corridors.

- Objective: Manage riparian corridors to protect natural, recreational, economic, agricultural and cultural resources as well as water quality, supply and conveyance.

- Objective: Conserve and protect the Sacramento, Cosumnes, Mokelumne and American Rivers to preserve natural habitat and recreational opportunities.

- Objective: Protect and restore natural stream functions.

- Objective: Properly manage and fund the maintenance of rivers and streams to protect and enhance natural functions.

Goal: Preserve and protect fisheries in County waterways and water bodies.

- Objective: Provide and protect high quality in-stream habitat, water quality and water flows to support fisheries propagation, development, and migration.

The following goals and policies of the Conservation Element of the Sacramento County 2030 General Plan (Sacramento County 2011) are applicable to the terrestrial biological resources that may be affected by the project:

- Policy CO-58. Ensure no net loss of wetlands, riparian woodlands, and oak woodlands.

- Policy CO-59. Ensure mitigation occurs for any loss of or modification to the following types of acreage and habitat function: vernal pools, wetlands, riparian, native vegetative habitat, and special-status species habitat.

- Policy CO-60. Mitigation should be directed to lands identified on the Open Space Vision Diagram and associated component maps (please refer to the Open Space Element of the 2030 General Plan).

- Policy CO-62. Permanently protect land required as mitigation.

- Policy CO-66. Mitigation sites shall have a monitoring and management program, including an adaptive management component, and an established funding mechanism. The programs shall be consistent with Habitat Conservation Plans that have been adopted or are in draft format.

- Policy CO-70. Community Plans, Specific Plans, Master Plans, and development projects shall:

  – Include the location and extent, proximity, and diversity of existing natural resources and special-status species in order to determine potential impacts, necessary mitigation, and opportunities for preservation and restoration.

  – Be reviewed for the potential to identify nondevelopment areas and establish preserves, mitigation banks and restore natural habitats, including those for special status species.

- Policy CO-88. Where removal of riparian habitat is necessary for channel maintenance, it will be planned and mitigated so as to minimize unavoidable impacts upon biological resources.

- Policy CO-107. Maintain and protect natural function of channels in developed, newly developing, and rural areas.

- Policy CO-109. Channel modifications should not prevent minimum water flows necessary to protect and enhance fish habitats, native riparian vegetation, water quality, or ground water recharge.

- Policy CO-111. Channel modifications shall retain wetland and riparian vegetation whenever possible or otherwise recreate the natural channel consistent with the historical ecological integrity of the stream or river.

- Policy CO-112. Encourage revegetation of native plant species appropriate to natural substrate conditions and avoid the introduction of nonindigenous species.

- Policy CO-115. Provide setbacks along stream corridors and stream channels to protect riparian habitat functions.

  A functional buffer of at least 100 feet and measured from the outside edge of the stream bank should be maintained on each side of a stream corridor that prohibits development or agricultural activity. This buffer is necessary to protect riparian functions by allowing for the filtering of sediment, pesticides, phosphorus and nitrogen, organic matter, and other contaminants that are known to degrade water quality. This buffer also provides for the protection of vegetation along the stream bank, which provides stability, erosion control, and flood attenuation.

  A transitional setback of at least 50 feet in width beyond the functional buffer should be retained along all stream corridors. This buffer is necessary to protect hydrogeomorphic functions that regulate water temperature, regulate micro-climate, maintain channel complexity and retain hydrologic flow regimes. This buffer also provides corridors to facilitate the movement of wildlife.

- Policy CO-118. Development adjacent to waterways should protect the water conveyance of the system, while preserving and enhancing the riparian habitat and its function.

- Policy CO-138. Protect and preserve non-oak native trees along riparian areas if used by Swainson's hawk, as well as landmark and native oak trees measuring a minimum of 6 inches in diameter or 10 inches aggregate for multi-trunk trees at 4.5 feet above ground.

- Policy CO-139. Native trees other than oaks, which cannot be protected through development, shall be replaced with in-kind species in accordance with established tree planting specifications, the combined diameter of which shall equal the combined diameter of the trees removed.

- Policy CO-140. For projects involving native oak woodlands, oak savannah or mixed riparian areas, ensure mitigation through either of the following methods:

  – An adopted habitat conservation plan.

- Ensure no net loss of canopy area through a combination of the following: (1) preserving the main, central portions of consolidated and isolated groves constituting the existing canopy and (2) provide an area on-site to mitigate any canopy lost. Native oak mitigation area must be a contiguous area on-site which is equal to the size of canopy area lost and shall be adjacent to existing oak canopy to ensure opportunities for regeneration.

- Removal of native oaks shall be compensated with native oak species with a minimum of a one to one diameter at breast height (dbh) replacement.

- A provision for a comparable on-site area for the propagation of oak trees may substitute for replacement tree planting requirements at the discretion of the County Tree Coordinator when removal of a mature oak tree is necessary.

- If the project site is not capable of supporting all the required replacement trees, a sum equivalent to the replacement cost of the number of trees that cannot be accommodated may be paid to the County's Tree Preservation Fund or another appropriate tree preservation fund.

- If on-site mitigation is not possible given site limitation, off-site mitigation may be considered. Such a mitigation area must meet all of the following criteria to preserve, enhance, and maintain a natural woodland habitat in perpetuity, preferably by transfer of title to an appropriate public entity. Protected woodland habitat could be used as a suitable site for replacement tree plantings required by ordinances or other mitigations.

    - Equal or greater in area to the total area that is included within a radius of 30 feet of the dripline of all trees to be removed;

    - Adjacent to protected stream corridor or other preserved natural areas;

    - Supports a significant number of native broadleaf trees; and

    - Offers good potential for continued regeneration of an integrated woodland community.

- Policy CO-145. Removal of non-native tree canopy for development shall be mitigated by creation of new tree canopy equivalent to the acreage of non-native tree canopy removed. New tree canopy acreage shall be calculated using the 15-year shade cover values for tree species.

- Policy CO-146. If new tree canopy cannot be created onsite to mitigate for the non-native tree canopy removed for new development, project proponents (including public agencies) shall contribute to the Greenprint funding in an amount proportional to the tree canopy of the specific project.

Sacramento County Swainson's Hawk Ordinance Chapter 16.130 of Title 16 of the Sacramento County Code addresses the reduction in Swainson's hawk foraging habitat within unincorporated Sacramento County. Participating in the County's Swainson's Hawk Mitigation Program, which is voluntary, is one option for mitigating the loss of foraging habitat within unincorporated areas of the County. Under this program, mitigation for impacts less than 40 acres can be achieved by paying a mitigation fee or providing replacement habitat (title or easement to suitable Swainson's hawk mitigation lands on a per-acre basis); mitigation for impacts of 40 acres or greater can be achieved only by providing replacement habitat under this program. Other mitigation options usually involve working on an individual basis with CDFW (Sacramento County 2013). For example, participation in a CDFW-approved conservation bank with available credits for Swainson's hawk foraging habitat could meet mitigation requirements.

Bufferlands Master Plan The Bufferlands Master Plan (Regional San 2000) is an element of the approved 2020 SRWTP Master Plan. The Plan establishes guidelines and management practices to establish a long-term, cost effective management direction for the Bufferlands that would maintain the existing buffer zone, provide for future expansion at the SRWTP, and protect and enhance the area's environmental resources. The master plan also provides guidelines and policies for alternative land uses, for visitor use and access, and for vegetation and wildlife management. The master plan is also intended to provide a consistent management framework through the year 2020 that will remain applicable as land use in the surrounding SRWTP area continues to change, and as uses of the Bufferlands evolve over time. The master plan will be periodically reviewed to respond to necessary changes in Regional San and Sacramento County polices.

The Bufferlands Master Plan describes management objectives and policies adopted by the Regional San to govern land use on the Bufferlands. Guidance for managing the Bufferlands consists of four elements: principal management objectives, management policies, management alternatives, and management plan implementation. The principal management objectives provide overall direction and purpose of the Bufferlands and provide guidance to Regional San staff who would evaluate whether an existing or proposed land use is compatible with the overall management direction for the Bufferlands. The management polices present criteria for evaluating alternative land use allocations and for developing alternative management regimes for the Bufferlands. The management alternatives outline a range of possible management regimes for the Bufferlands, and the management plan implementation describes the steps necessary to implement recommended management regimes.

The Bufferlands Master Plan presents management polices to guide land use and management of the Bufferlands. These policies generally fall into two broad categories: general policies and land use-specific policies. In general, the overall purpose of policies recommended in the Bufferlands Master Plan is to protect, maintain, and enhance biological resources within the Bufferlands.

City of Sacramento 2030 General Plan

The City of Sacramento's Goals and Policies address a broad range of topics required by State law and those that address unique local concerns. Goals and policies related to biological resources are listed below.

Biological Resources

Goal ER 2.1 **Natural and Open Space Protection**. Protect and enhance open space, natural areas, and significant wildlife and vegetation in the city as integral parts of a sustainable environment within a larger regional ecosystem.

ER 2.1.1 **Resource Preservation**. The City shall encourage new development to preserve on-site natural elements that contribute to the community's native plant and wildlife species value and to its aesthetic character.

ER 2.1.3 **Natural Lands Management**. The City shall promote the preservation and restoration of contiguous areas of natural habitat throughout the city and support their integration with existing and future regional preserves.

ER 2.1.4 **Retain Habitat Areas**. The City shall retain plant and wildlife habitat areas where there are known sensitive resources (e.g., sensitive habitats, special-status, threatened, endangered, candidate species, and species of concern). Particular attention shall be focused on retaining habitat areas that are contiguous with other existing natural areas and/or wildlife movement corridors.

ER 2.1.5 **Riparian Habitat Integrity**. The City shall preserve the ecological integrity of habitat areas, creek corridors, canals, and drainage ditches that support riparian resources by preserving native plants and, to the extent feasible, removing invasive, non-native plants. If not feasible, the mitigation of all adverse impacts on riparian habitat shall comply with State and Federal regulations.

ER 2.1.6 **Wetland Protection**. The City shall preserve and protect wetland resources including creeks, rivers, ponds, marshes, vernal pools, and other seasonal wetlands, to the extent feasible. If not feasible, the mitigation of all adverse impacts on wetland resources shall be required in compliance with State and Federal regulations protecting wetland resources, and if applicable, threatened or endangered species.

ER 2.1.7 **Annual Grasslands**. The City shall preserve and protect grasslands and vernal pools that provide habitat for rare and endangered species to the extent feasible. If not feasible, the mitigation of all adverse impacts on annual grasslands shall comply with State and Federal regulations protecting foraging habitat for those species known to utilize this habitat.

ER 2.1.8 **Oak Woodlands**. The City shall preserve and protect oak woodlands, and/or significant stands of oak trees in the city that provide habitat for common native, and special-status wildlife species, to the extent feasible. If not feasible,

the mitigation of all adverse impacts on oak woodlands shall comply with the standards of the Oak Woodlands Conservation Act.

ER 2.1.9 **Wildlife Corridors**. The City shall preserve, protect, and avoid impacts to wildlife corridors. If corridors are adversely affected, damaged habitat shall be replaced with habitat of equivalent value.

ER 2.1.10 **Habitat Assessments**. The City shall require that pre-construction surveys and/or habitat assessments for sensitive plant and wildlife species for any project requiring discretionary approval.

ER 2.1.11 **Agency Coordination**. The City shall coordinate with State and Federal resource agencies (e.g., CDFW, USACE, USFWS) to protect areas containing rare or endangered species of plants and animals.

ER 2.1.13 **Support Habitat Conservation Plan Efforts**. The City shall encourage and support other regional habitat conservation plans such as the South Sacramento Habitat Conservation Plan to conserve and manage habitat for special-status species.

ER 2.1.14 **Public Education**. The City shall support educational programs for residents and visitors about the uniqueness and value of the natural resources, plants and wildlife in the region, and about how to manage development to preserve native wildlife populations.

ER 2.1.15 **Community Involvement**. The City shall encourage community volunteerism and stewardship to help protect and rehabilitate the area's natural resources.

City of Sacramento Tree Preservation Ordinance The City of Sacramento has adopted an ordinance to protect trees as a significant resource to the community. It is the City's policy to retain trees when possible regardless of their size. When circumstances will not allow for retention, permits are required to remove trees that are within City jurisdiction. Removal of, or construction around, trees that are protected by the tree ordinance are subject to permission and inspection by City arborists. The City of Sacramento Tree Service Division reviews project plans and works with City of Sacramento Public Works during the construction process to minimize impacts to street trees in the City. The Sacramento City Code includes the following provisions to protect City trees:

12.56.020 Definitions
"City street tree" means and includes any tree growing on a public street right-of-way. City street trees are maintained by the city.

"Director" means the director of the department of parks and recreation or the director's designated representative.

"Maintenance easement private street tree" means and includes any tree growing within a maintenance easement. No parcel contains more than one maintenance easement private street tree per forty (40) feet of street frontage. If there is more than one tree in the maintenance easement per forty (40) feet of street frontage, only the one closest to the street is a maintenance easement private street tree, and the other(s) are private trees.

"Street tree" means and includes both city street trees and maintenance easement private trees (Prior code §45.01.002).

12.56.060 Protection of Trees

a) No person shall remove, trim, prune, cut or otherwise perform maintenance on any city street tree without first obtaining a permit from the director pursuant to Chapter 12.56.070. (Prior Code Section 45.01.006).

b) No person shall injure or destroy any city street tree by any means, including but not limited to the following:

- Constructing a concrete, asphalt, brick or gravel sidewalk, or otherwise filling up the ground area around any tree so as to shut off air, light or water from its roots, unless ordered or authorized to do so by the city.

- Piling building material, equipment or other substance around any tree so as to injure the tree.

- Pouring any deleterious matter on or around any tree or on the surrounding ground, lawn or sidewalk.

- Posting any sign, poster, notice, or similar device on any tree, tree stake or guard, or by fastening any guy wire, cable, rope, nails, screws, or other device to any tree, tree stake or guard for any purpose other than supporting the tree.

- Causing any fire or burning near or around any tree.

- Cutting roots with a diameter of two inches or greater for sidewalk repair or any other purpose; provided, however, that roots with a diameter of two inches or greater may be cut if authorized in advance by the director.

12.56.090 Replacement Trees

Where the director has granted a permit to remove a city street tree, and conditioned said permit on the permittee replacing the tree, the permittee shall provide the replacement tree of a size and species determined by the director, and plant said tree in the location specified by the director. The minimum replacement tree size shall be as follows:

a) If the city street tree being removed is six inches or larger in diameter, measured four and one-half feet above ground, then the permittee shall cause to be replanted a tree of at least twenty-four (24) inch box size.

b) If the city street tree being removed is smaller than six inches diameter, measured four and one-half feet above ground, then the replacement tree shall be a minimum of fifteen (15) gallon can size. (Prior code § 45.01.009)

12.64.020 Definitions

"Heritage tree" means:

d) Any tree of any species with a trunk circumference of one hundred (100) inches or more, which is of good quality in terms of health, vigor of growth, and conformity to generally, accepted horticultural standards of shape for its species.

e) Any native species of oak (*Quercus* spp.), California buckeye (*Aesculus californica*), and sycamore (*Platanus racemosa*), having a circumference of 36 inches or greater when a single trunk or cumulative circumference of 36 inches or greater when a multi-trunk tree.

f) Any tree thirty (36) inches in circumference or greater in a riparian zone. The riparian zone is measured from the center line of the water course to thirty (30) feet beyond the high water line.

g) Any tree, grove of trees or woodland trees designated by resolution of the city council to be of historic or environmental value or of significant community benefit. (Prior code Section 45.04.211)

12.64.040 Protection of heritage trees during construction activity.

During construction activity on any property upon which is located a heritage tree, the following rules shall apply. Unless the express written permission of the director is first obtained, no person shall:

a) Change the amount of irrigation provided to any heritage tree from that which was provided prior to the commencement of construction activity;

b) Trench, grade or pave into the drip line area of a heritage tree;

c) Change, by more than two (2) feet, grade elevations within thirty (30) feet of the drip line area of a heritage tree;

d) Park or operate any motor vehicle within the drip line area of any heritage tree;

e) Place or store any equipment or construction materials within the drip line area of any heritage tree;

f) Attach any signs, ropes, cables or any other items to any heritage tree;

g) Cut or trim any branch of a heritage tree for temporary construction purposes; and

h) Place or allow to flow into or over the drip line area of any heritage tree any oil, fuel, concrete mix or other deleterious substance. Where written permission of the

director [City Neighborhood Services Director] is sought under this section, the director may grant such permission with such reasonable conditions as may be necessary to effectuate the intent and purpose of this chapter. (Prior code Section 45.04.216).

South Area Community Plan The City has adopted the South Area Community Plan as part of the 2030 General Plan. There are no policies in the South Area Community Plan that apply to biological resources.

3.5.2 Environmental Setting

The following background setting information focuses on the existing biological conditions along the Project alignment that are most relevant to the significance criteria and impact analysis for the Project.

Most of the Project alignment is located within developed or parkland areas of the City of Sacramento. Other areas along the alignment include the existing SRWTP and northern Bufferlands areas; active and fallow agricultural areas to the north of the SRWTP and Laguna and Morrison creek; the area of the Delta Shores development; and lateral alignments which follow Freeport Boulevard along the Sacramento River.

These areas historically supported extensive mixed riparian forest, freshwater marsh, and northern hardpan vernal pool grassland habitats; however, lands along the alignment have been extensively leveled for agricultural use or urban development. The topography within the Project study area is mostly flat with the only slopes being those created by levees and dirt mounds from Cosumnes River Boulevard and light rail construction.

Vegetation along the Project alignment is characterized by grassland (near the Freeport Lateral Option A area) and ruderal vegetation in agricultural fields north of the SRWTP, unlined emergency storage basins, vacant lots, and developed urban landscaping. The majority of open space along the alignment is north of the SRWTP and Laguna and Morrison creeks and is used for agricultural production (wheat, alfalfa, oats).

Aquatic Environment

Sacramento River and Delta Fisheries The Delta and San Francisco Bay comprise the largest estuary on the west coast. More than 200 species of marine and freshwater fish rely on its unique habitat characteristics for one or more of their life stages (CALFED 2000).

The lower Sacramento River from Freeport downstream to the Delta provides aquatic habitat for at least 38 species and runs of fish. The fish assemblage is composed of an ecologically diverse array of native and introduced fish species that may occur year-round in the lower Sacramento River and Delta, or seasonally during their migrations to and from spawning areas in the Sacramento River watershed upstream of the project site. Native fish species (count=20) comprise 53 percent of the fish species assemblage, while introduced (i.e., non-native) species (count=18) comprise 47 percent. Special status species occurring within the Project study area are included in (Table 3.5-1).

Bufferlands The Bufferlands are located within the Beach/Stone Lakes basin, a system of streams, lakes, and floodplains that drains the Laguna, Elk Grove and Morrison creek watersheds. The Beach/Stone Lakes basin receives runoff from approximately 49 square miles of local urban and rural tributary areas and ultimately discharges into two downstream waterbodies: (1) Snodgrass Slough, a tributary of the Sacramento-San Joaquin Delta, which is hydraulically connected to the Mokelumne River through a culvert under Lambert Road that is controlled by a slide gate; and (2) Sacramento River via a pump station (i.e., no direct connection). The Lambert Road slide gate is open during the irrigation season to allow water to pass from Snodgrass Slough into the Beach/Stone Lakes basin.

Under typical flow conditions, flows in Morrison Creek and Laguna Creek are pumped into the Sacramento River resulting in no direct hydrologic connection between the Bufferlands and Snodgrass Slough and Mokelumne River. However, winter high-flow events may create sufficient water elevations (3.5 feet above mean sea level) such that flows spill over the Beach Lake dike resulting in a connection to Snodgrass Slough, thereby creating a direct hydrologic connection between Upper Beach Lake and the Mokelumne River. The dike retains water for eventual pumping into the Sacramento River, but, more importantly, it also prevents tidally influenced water from the Stone Lake basin from moving upstream to enter and flood Upper Beach Lake during all conditions except high storm event flows, thus normally preventing fishes, including anadromous salmonids, from entering into the area of the proposed pipeline crossing from downstream water bodies during the construction season.

The Bufferlands Master Plan (Regional San 2000), citing surveys conducted between 1992 and 1994, indicates that more than 20 fish species occur in the Bufferlands. Of these, five are native, with the majority of the species found during the surveys consisting of warm-water fishes, including carp (*Cyprinus carpio*), catfish (*Amereius* spp. and *Ictalurus* spp.), and centrarchids (i.e., sunfishes and bass, including bluegill [*Lepomis marcrochirus],* warmouth [*Lepomis gulosus*], largemouth bass [*Micropterus salmoides*] and crappie [*Poxomis* spp.]). The five native fish are Chinook salmon (*Oncorhynchus tshawytscha*), hardhead (*Mylopharodon conocephalus*), sculpin (*Cottus* spp.), California roach (*Hesperoleucus symmetricus*), and Sacramento blackfish (*Orthodon microlepidotus*), two of which, Chinook salmon (presumably fall-run) and hardhead are designated as California species of special concern. In addition to the fish observed during surveys, Bufferlands water bodies also likely support green sunfish (*Lepomis cyanellus*) and redear sunfish (*Lepomis microlophus*) (Ascent Environmental 2014).

None of the resident fishes likely occurring in Laguna Creek and Morrison Creek in the area of the SRWTP site has a special-status designation under the ESA. There is the possibility that hardhead, a State species of special concern, may be present in Morrison Creek. No obligate coldwater species (e.g., salmonids) are expected to occur there during the construction season due to presence of Beach Lake dike, which prevents downstream fishes from entering into the area of the optional effluent conduit and the naturally warm thermal regime and unsuitable habitat condition of the tributary creeks (Regional San 2000). There are no documented observations of anadromous salmonids in Upper Beach Lake, Morrison Creek, Laguna Creek or any other upstream tributaries of the

Bufferlands. Neither Upper Beach Lake, Morrison Creek, nor Laguna Creek is designated critical habitat for any fish species or Essential Fish Habitat for any Pacific salmonids.

Terrestrial Environment

Terrestrial biological resources and habitats that occur along the Project alignment are discussed below and are shown in Figure 3.5-1.

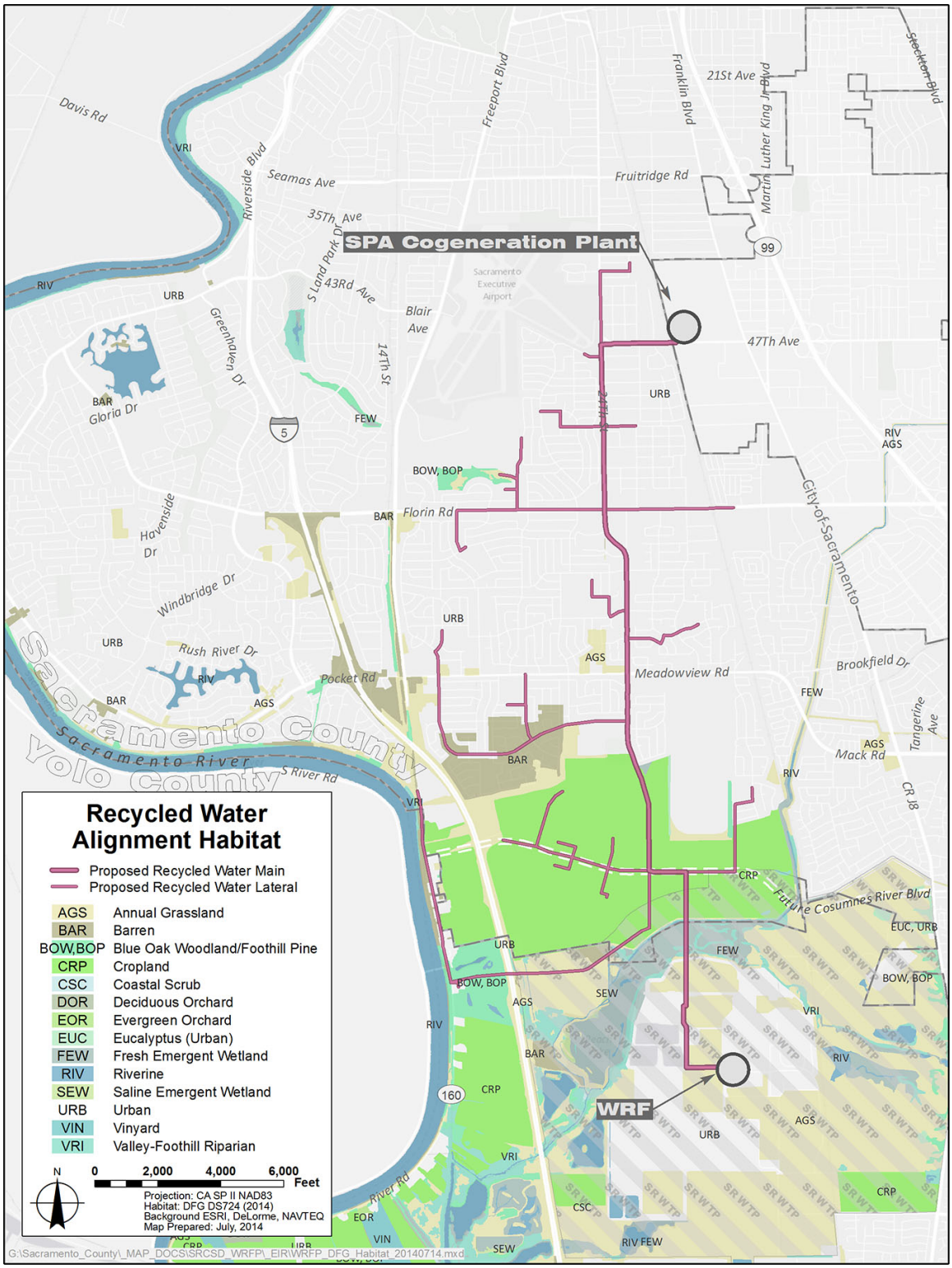


Figure 3.5-1. Habitat Map

Urban/Developed Urban/developed land cover consists of those areas where the native vegetation has been cleared for residential, commercial, industrial, transportation, or recreational structures. This type of land cover is found along a majority of the Project alignment. Wildlife usually encountered in this type of land cover include European starling (*Sternus vulgaris*), mourning dove (*Zenaida macroura*), northern flicker (*Colaptes auratus*), western scrub jay (*Aphelocoma californica*), American crow (*Corvus brachyrhynchos*), northern mocking bird (*Mimus polyglottos*), Brewer's blackbird (*Euphagus cyanocephalus*), yellow-billed magpie (*Pica nuttalli*), house finch (*Carpodacus mexicanus*), house sparrow (*Passer domesticus*) house mouse (*Mus musculus*) house cats (*Felis domesticus*), western gray squirrel (*Sciurus griseus*) and raccoon (*Procyon lotor*). Native and ornamental trees are abundant adjacent to the private residences, and park and GCs along the alignment.

Ruderal Ruderal habitat characterizes the Project alignment on the SRWTP, near the WRF and Laydown Area 1. These areas have been subjected to high levels of disturbance (e.g., earth moving) and are surrounded by existing facilities. Ruderal vegetation is strongly dominated by invasive plant species including yellow star thistle (*Centaurea solstitialis*), stinkwort (*Dittrichia graveolens*), black mustard (*Brassica nigra*), tumbleweed (*Salsola tragus*), and blessed milk thistle (*Silybum marianum*). In many cases, these invasive species form near monocultures excluding nearly all other plant species. Ruderal vegetation also occurs in areas disturbed by human activities such as along roadways, in former settling ponds, and areas frequently cleared of vegetation.

Agricultural Agricultural areas in the Bufferlands are typically tilled and cultivated for agricultural crops such as safflower, wheat, alfalfa, and oats. In the past, this area was irrigated with water from Morrison Creek, and following that with well water. The well lines were decommissioned in conjunction with the Delta Shores project, and the site is currently used for non-irrigated crops, with crop selection depended on weather conditions. Because of the dry conditions, no crops were planted in 2013. Instead, the area was cut for hay in spring 2014. The agriculture fields were recently tilled and will be planted with safflower or winter wheat next year if precipitation levels allow. In the past, when irrigation was available, sugar beets, corn, and safflower were farmed in this area. Tomatoes were planted further in the past (30 year or more) (pers. comm. with Joe Borges, farmer, May 20, 2014).

The margins of the agricultural fields support ruderal vegetation, primarily a tall, dense monoculture of black mustard. Other nonnative weedy vegetation, such as thistles and a variety of other forbs are also common. Agricultural land supports a variety of wildlife, particularly ground-nesting birds such as western meadowlarks (*Sturnella neglecta*). Irrigated agricultural land, particularly alfalfa, can provide a variety of wildlife benefits due to its relatively high production of small rodents. Several birds that forage in open grasslands, such as white-tailed kite (*Elanus leucurus*), Swainson's hawk (*Buteo swainsoni*) and great blue herons (*Ardea herodias*), may also use this land cover type for foraging. Cropland has a higher value for terrestrial mammals (e.g., black-tailed jackrabbit [*Lepus californicus*]) and herbivorous birds (e.g., red-winged blackbird [*Agelaius phoeniceus*]) near harvest time when the standing crop is mature and produces

a quantity of food (e.g., fruit, seeds), than it does after the harvest when the cropland is fallow.

Non-native grasses and forbs have been observed along the perimeter of agricultural fields along the Project alignment. Plant species found in this area include wild oats (*Avena fatua*), ripgut brome (*Bromus diandrus*), soft brome (*Bromus hordeaceus*), wild rye (*Lolium multiflorum*), filaree (*Erodium botrys*), wild mustard (*Brassica* sp.) and curly dock (*Rumex crispus*). Abandoned drainage ditches have also been observed in the vicinity of the Project alignment, within these agricultural areas. A wetland determination conducted in this area in May 2014 (MWH 2014) concluded that these ditches do not meet wetland criteria and do not have hydrologic connection to Waters of the United States.

Riparian Woodland Riparian woodland occurs along Morrison Creek and Laguna Creek. The riparian woodlands associated with Morrison and Laguna creeks is generally composed of a tree and shrub-dominated overstory with shrub understory. Herbaceous species are sporadic within the understory. Characteristic tree species observed in this habitat within the Project study area include valley oak, Goodding's black willow (*Salix gooddingii*), and Fremont cottonwood.

Native Perennial Grassland A portion of the SRWTP Bufferlands, located west of Morrison Creek and east of the North Beach Lake Levee was restored to perennial native grassland as part of a restoration project in 2004. This project was completed under a cost-share agreement with USACE as part of the South Sacramento County Streams Project. This area may be disturbed by open-cut construction and Laydown Area 6 if the Freeport Lateral Option A is constructed.

The areas of this site that are above five feet elevation above mean sea level were seeded with a mix consisting of blue wildrye (*Elymus glaucus*), slender wheatgrass (*Elymus trachycaulus*), meadow barley (*Hordeum brachyantherum*), creeping wildrye (*Leymus triticoides*), purple needlegrass (*Stipa pulchra*), slender hairgrass (*Deschampsia elongata*), and bentgrass (*Agrostis exarata*). The areas below five feet elevation above mean sea level were seeded with slender hairgrass, meadow barley, and creeping wildrye. Additionally, the lower areas were planted with propagules of creeping wildrye, Santa Barbara sedge (*Carex barbarae*), field sedge (*Carex praegracilis*), Baltic rush (*Juncus balticus*), and swordleaf rush (*Juncus xiphioides*).

The portion of the optional effluent conduit area west of the Beach Lake Levee and east of I-5 were also restored to native perennial grassland in 1994. This section is currently dominated by purple needlegrass. Blue wildrye and meadow barley are also present in small amounts.

Seasonal Wetlands Seasonal wetlands are typically found in topographic depressions and generally exhibit prolonged periods of inundation or saturation during the rainy season and are dry by summer. They contain facultative or greater graminoid species (grasses and grass-like species), such as rushes (*Juncus* spp.), tall nutsedge (*Cyperus eragrostis*), perennial ryegrass (*Festuca perrenis*), along with broad- leaved herbaceous

plants such as pennyroyal (*Mentha pulegium*) and hyssop loosestrife (*Lythrum hyssopifolium*).

Seasonal wetlands have not been mapped along the Project alignment but have been mapped along the southeast portion of the planned Delta Shores development property. All wetlands in the Delta Shores area have been previously permitted, filled, and a combination of on-site and off-site mitigation is being implemented (USACE 2010).

Seasonal Swales Seasonal swales are typically narrow, linear seasonal wetlands found in low-lying areas, often at the base of hills where surface water collects. Swales typically lack a well-defined channel and are sparsely vegetated or are vegetated with species similar to those found in seasonal wetlands. In most instances, swales do not pond water (and are therefore not suitable habitat for vernal pool branchiopods), but the underlying soil may remain saturated for extended periods during the rainy season. Plant species observed within the seasonal wetland swale include wheat (*Triticum aestivum*), curly dock, annual hairgrass (*Deschampsia danthonioides*), alkali-mallow (*Malvella leprosa*), morning glory (*Convulvulus arvensis*), hayfield tarweed (*Hemizonia congesta*), broad-leaf pepper grass (*Lepidium latifolium*), purslane speedwell (*Veronica peregrina*), hyssop loosestrife (*Lythrum hyssopifolium*), mouse-ear chickweed (*Cerastium glomeratum*), toad rush (*Juncus bufonius*), little quaking grass (*Briza minor*), wild oat, Harding grass (*Phalaris aquatica*), slender popcorn flower (*Plagiobothrys stipitatus*), mayweed (*Anthemis cotula*), paradox canarygrass (*Phalaris paradoxa*), panicled willow-herb (*Epilobium brachycarpum*), annual rabbit-foot grass (*Polypogon monspeliensis*), bristly ox-tongue (*Picris echioides*), prickly lettuce (*Lactuca serriola*), wild rye, and soft brome.

A seasonal swale previously existed on the north side of the planned Delta Shores property, along what will become the extension of 24th Street right of way and the recycled water main alignment. This wetland was delineated as part of the Delta Shores planning and permitting process. The wetland has been filled and mitigated for by the purchase of offsite mitigation, and the establishment of a 20-acre seasonal wetland preserve on the Delta Shores property in satisfaction of the permit requirements (USACE 2010). No other seasonal swales were identified in the Project area.

Drainage Ditch Ditches are recent or historic linear features clearly anthropogenic (human-caused), usually in association with agricultural practices to convey water. Ditches can also be found along roads. Ditches have a defined bed and bank and limited vegetation, since they are typically scoured by the action of moving water or the vegetation is removed by the landowner during maintenance. Irrigation ditches contiguous and within the vicinity of the Project alignment in the Delta Shores area were found to be without evidence of prolonged periods of inundation or habitat value (PBS&J 2008). Remnant canals are located in agricultural areas in the Bufferlands east of the recycled water main, and would be crossed by pipe laydown and staging areas. These areas carried water when the site was irrigated in the past but are not currently used and do not show evidence of recent inundation. These remnant features are dominated by ruderal, upland plant species, including black mustard, prickly lettuce, and blessed milk thistle (MWH 2014) (see also discussion above under **Agricultural**).

Perennial Channel Perennial channels have flowing water throughout the year. Perennial stream beds are generally located below the water table year-round, and groundwater is a source of water for the channel. The perennial channels Morrison Creek and Laguna Creek occur along the Project alignment, in the Bufferlands area north of the SRWTP and south of the active agricultural and proposed Delta Shores development area. Morrison Creek has flowing water throughout the year and the channel is approximately 40 feet wide, but this is likely the result of urban runoff and other water inputs. Morrison Creek would likely be an intermittent stream under natural conditions, as it is not fed by snow melt. The gradient is low and water velocity is generally slow. The substrate consists mainly of sand, silt, and organic matter. Laguna Creek, located just north of the SRWTP boundary, is a 25-mile long waterway that originates in eastern Sacramento County. The channel previously flowed through the SRWTP area, but it was relocated to the north in conjunction with plant expansion in the 1970s. As with Morrison Creek, winter storms and summer irrigation are the primary components of streamflow. Morrison and Laguna creeks support seasonal wetland and riparian woodland along their banks (see descriptions above) (Regional San 2000).

Wildlife Resources The proposed Project alignment is predominately agricultural and urbanized areas that primarily support common birds and mammals. Wildlife species that were observed or expected to occur in the Project alignment are western scrub jay, American crow, northern mockingbird, Brewer's blackbird, white-tailed kite, red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), Swainson's hawk, barn owl (*Tyto alba*), northern harrier (*Circus cyaneus*), yellow-billed magpie, house finch, house sparrow, house mouse, black rat (*Rattus rattus*), deer mice (*Peromyscus maniculatus*), California vole (*Microtus californicus*), house cat, raccoon, coyote (*Canis latrans*) and skunk (*Mephitis mephitis*).

Other habitat types that support a greater diversity of species occur in the Bufferlands, including seasonal wetland, perennial grasslands, and mixed riparian areas. Vegetation structure, water availability, and fertile soils in mixed riparian forests result in this habitat supporting the densest and most diverse wildlife communities in the Sacramento Valley (Regional San 2000). The Bufferlands supports more than 200 species of birds, 20 species of native mammals and several native fish, amphibians and reptiles (Regional San 2014).

Special Status Species

Special-status species are defined as species that are legally protected or that are otherwise considered sensitive by Federal, State, or local resource agencies. Special-status species are species, subspecies, or varieties that fall into one or more of the following categories, regardless of their legal or protection status:

- officially listed by California or the Federal government as endangered, threatened, or rare;
- a candidate for State or Federal listing as endangered, threatened, or rare;

- taxa (i.e., taxonomic category or group) that meet the criteria for listing, even if not currently included on any list, as described in California Code of Regulations (CCR) Section 15380 of the State CEQA Guidelines;
- species identified by CDFW as Species of Special Concern;
- species listed as Fully Protected under the California Fish and Game Code;
- other species identified on the CDFW list of Special Animals (CDFG 2011);
- species afforded protection under local planning documents; and
- taxa considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered in California" and assigned a California Rare Plant Rank (CRPR).The CNPS system includes five rarity and endangerment ranks for categorizing plant species of concern, which are summarized as follows:
- CRPR 1A – Plants presumed to be extinct in California;
- CRPR 1B – Plants that are rare, threatened, or endangered in California and elsewhere;
- CRPR 2 – Plants that are rare, threatened, or endangered in California but more common elsewhere;
- CRPR 3 – Plants about which more information is needed (a review list); and
- CRPR 4 – Plants of limited distribution (a watch list).

Of the 38 fish species and runs potentially occurring in the lower Sacramento River and Delta, near the project site, twelve species/runs have been identified as special-status species, specifically, green sturgeon (*Acipenser medirostris*), delta smelt (*Hypomesus transpacificus*), longfin smelt (*Spirinchus thaleichthys*), Sacramento splittail (*Pogonichthys macrolepidotus*), hardhead, Pacific lamprey (*Entosphenus tridentatus*), river lamprey (*Lampetra ayresii)*, steelhead (*Oncorhynchus mykiss*), and all four runs of Chinook salmon occurring in the Central Valley. These Chinook salmon runs include spring-run, fall-run, late fall-run, and winter-run. See Table 3.5-1 for more information on these species/runs.

All plants with a CRPR are considered "special plants" by CDFW. The term "special plants" is a broad term used by CDFW to refer to all of the plant taxa inventoried in CDFW's CNDDB, regardless of their legal or protection status. Plants ranked as CRPR 1A, 1B, and 2 may qualify as endangered, rare, or threatened species within the definition of State CEQA Guidelines CCR Section 15380. CDFW recommends, and local governments may require, that CRPR 1A, 1B, and 2 species be addressed in CEQA projects. In general, CRPR 3 and 4 species do not meet the definition of endangered, rare, or threatened pursuant to CEQA Section 15380; however, these species may be evaluated

by the lead agency on a case by case basis to determine significance criteria under CEQA.

The term "California Species of Special Concern" is applied by CDFW to animals not listed under the Federal ESA or CESA, but that are considered to be declining at a rate that could result in listing, or historically occurred in low numbers and known threats to their persistence currently exist. CDFW's Fully Protected status was California's first attempt to identify and protect animals that were rare or facing extinction. Most species listed as fully protected were eventually listed as threatened or endangered under CESA; however, some species remain listed as fully protected but do not have simultaneous listing under CESA. Fully protected species may not be taken or possessed at any time and no take permits can be issued for these species except for scientific research purposes or for relocation to protect livestock.

A list of special-status species that are known or could potentially occur in the Project study area or immediate vicinity are detailed in Tables 3.5-1 and 3.5-2. This list was developed through a review of various sources, including previously prepared environmental documents and project-specific species queries, (CNDDB (2014); CNPS Inventory (CNPS 2014); pers. comm. with Bryan Young, Regional San, 2014; Regional San (2000); USFWS (2014). Species names follow nomenclature used in CDFG (2011).

Table 3.5-1. Special Status Animal Species Potentially Occurring Along the Project Alignment

Species Common Name	Scientific Name	Status Fed ESA/CA ESA/other[1]	Habitat	Potential For Occurrence in Project Area
Fish				
*Green sturgeon	*Acipenser medirostros*	FT/--/CSC	Lower Sacramento River and Delta	Low. Occurs downstream of the Project study area. Water bodies that may support this species would not be affected by project-related construction activities.
Pacific lamprey	*Entosphenus tridentata*	--/--/--	Lower Sacramento River and Delta	Low. Occurs downstream of the Project study area. Water bodies that may support this species would not be affected by project-related construction activities.
*Delta smelt	*Hypomesus transpacificus*	FT/CE/--	Lower Sacramento River and Delta. Delta smelt Critical Habitat overlaps the eastern half of the Project area.	Low. Occurs downstream of the Project study area. Water bodies that may support this species would not be affected by project-related construction activities.

Table 3.5-1. Special Status Animal Species Potentially Occurring Along the Project Alignment (contd.)

Species Common Name	Scientific Name	Status Fed ESA/CA ESA/other[1]	Habitat	Potential For Occurrence in Project Area
River lamprey	*Lampetra. ayresii*	--/--/CSC	Lower Sacramento River and Delta	Low. Occurs downstream of the Project study area. Water bodies that may support this species would not be affected by project-related construction activities.
Hardhead minnow	*Mylopharodon conocephalus*	--/--/CSC	Lower Sacramento River and Delta, Bufferlands streams	Low. Occurs downstream of the Project study area. Water bodies that may support this species would not be affected by project-related construction activities.
*Chinook salmon, Sacramento River winter-run	*Oncorhynchus tshawytscha*	FE/CE/--	Lower Sacramento River and Delta	Low. Occurs downstream of the Project study area. Water bodies that may support this species would not be affected by project-related construction activities.
*Chinook salmon Central Valley spring-run		FT/CT/--	Lower Sacramento River and Delta	Low. Occurs downstream of the Project study area. Water bodies that may support this species would not be affected by project-related construction activities.
Chinook salmon Central Valley fall / late-fall run		--/--/CSC, FSC	Lower Sacramento River and Delta	Low. Occurs downstream of the Project study area. Water bodies that may support this species would not be affected by project-related construction activities.
*Central Valley Steelhead	*O. mykiss*	FT/--/--	Lower Sacramento River and Delta	Low. Occurs downstream of the Project study area. Water bodies that may support this species would not be affected by project-related construction activities.

Table 3.5-1. Special Status Animal Species Potentially Occurring Along the Project Alignment (contd.)

Species Common Name	Scientific Name	Status Fed ESA/CA ESA/other[1]	Habitat	Potential For Occurrence in Project Area
Sacramento splittail	*Pogonichthys macrolepidotus*	--/--/CSC	Lower Sacramento River and Delta	Low. Occurs downstream of the Project study area. Water bodies that may support this species would not be affected by project-related construction activities.
Longfin smelt	*Spirinchus thaleichthys*	--/CT/CSC	Lower Sacramento River and Delta	Low. Occurs downstream of the Project study area. Water bodies that may support this species would not be affected by project-related construction activities.
Amphibians				
*California tiger salamander, central population	*Ambystoma californiense*	FT/CT/CSC	Vernal pools and seasonal wetlands with a minimum 10-week inundation period for reproduction. Also require surrounding uplands, primarily grasslands, with burrows or other belowground refugia.	Low. Not expected to occur. No suitable habitat occurs and the species has not been documented in the Bufferlands.
*California red-legged frog	*Rana draytonii*	FT/--/CSC	Slow-moving or standing deep ponds, pools and streams with tall vegetation for refugia.	Low. Not known to occur in the area (no nearby CNDDB occurrences) and not previously documented in the Bufferlands.
Reptiles				
Western pond turtle	*Emys marmorata*	--/--/CSC	Forage in ponds, marshes, slow-moving streams, sloughs, and irrigation/drainage ditches; nest in nearby uplands with low, sparse vegetation.	Moderate. Pond turtles occur on the Bufferlands in areas that will not be affected by ground-disturbing activities. Morrison and Laguna creeks provide suitable habitat, but tunneling will avoid any impacts in these areas

Table 3.5-1. Special Status Animal Species Potentially Occurring Along the Project Alignment (contd.)

Species Common Name	Scientific Name	Status Fed ESA/CA ESA/other[1]	Habitat	Potential For Occurrence in Project Area
*Giant garter snake	*Thamnophis gigas*	FT/CT/--	Historically occurred in tule and cattail marshes on the Valley floor and Sacramento-San Joaquin Delta. Now uses well vegetated marshes, streams and agricultural ditches in low elevation areas.	Moderate. Although suitable habitat exists along adjacent Morrison and Laguna creeks and Bufferlands area; no effects to these areas will occur due to HDD drilling buffers. Laydown Area 6 occurs near, but <200' from a wetland area (Morrison Creek) that may provide suitable habitat.
Birds				
Cooper's hawk	*Accipiter cooperii*	--/--/WLBCC	(Nesting) woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	Moderate. Project alignment provides suitable foraging habitat. Observed in 2007.
Tricolored blackbird	*Agelaius tricolor*	--/--/CSC	Forages in agricultural lands and grasslands; nests in marshes, riparian scrub, and other areas that support cattails or dense thickets of shrubs or herbs. Requires open water and protected nesting substrate, such as flooded, spiny, or thorny vegetation.	Moderate. Species is regularly detected in the Bufferlands in spring and summer, but no nesting behavior has been observed because habitat is lacking suitable structure. Breeds in eastern Sacramento County and possibly the Delta.
Golden eagle	*Aquila chrysaetos*	--/--/FP, WL, BCC	Forages in a variety of open habitats. Nests in tall trees, cliffs, and escarpments.	Moderate. Documented in Bufferlands by Regional San staff. Rare in fall, winter, early spring (pers. comm. with Bryan Young, Regional San, 2014).

Table 3.5-1. Special Status Animal Species Potentially Occurring Along the Project Alignment (contd.)

Species Common Name	Scientific Name	Status Fed ESA/CA ESA/other[1]	Habitat	Potential For Occurrence in Project Area
Great egret	*Ardea alba*	--/--/--	A colonial nester in tall trees, cliffsides, and sequestered spots on marshes. Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, and wet meadows.	High. Project alignment provides potentially suitable foraging habitat; There are known rookeries in the Bufferlands that are monitored annually. 51 great egrets were documented in 2014 (pers. comm. with Bryan Young, Regional San, 2014).
Great blue heron	*Ardea herodias*	--/--/--	A colonial nester in tall trees, cliffsides, and sequestered spots on marshes. Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, and wet meadows.	High. Project alignment provides potentially suitable foraging habitat. There are known rookeries in the Bufferlands that are monitored annually. 15 great blue herons were documented in 2014 (pers. comm. with Bryan Young, Regional San, 2014).
Burrowing owl	*Athene cunicularia*	--/--/CSC, BCC	Grasslands, open areas near human habitation; nests in old burrows of ground squirrels or other small mammals.	High. Fallow fields along the alignment provide potential foraging habitat for this species, and ground squirrel burrows along the levee may provide suitable nesting habitat. Burrowing owls have recently been observed near the Project alignment, including 2013 sightings during the Delta Shores construction season, and multiple sightings from 2004-2013 on the north side of the SRWTP (eBird 2014).
American bittern	*Botaurus lentiginosus*	--/--/--	Freshwater and brackish marshes with tall, dense vegetation.	High. Nesting, year-round resident (pers. comm. with Bryan Young, Regional San, 2014).

Table 3.5-1. Special Status Animal Species Potentially Occurring Along the Project Alignment (contd.)

Species Common Name	Scientific Name	Status Fed ESA/CA ESA/other[1]	Habitat	Potential For Occurrence in Project Area
Ferruginous hawk	*Buteo regalis*	--/--/WL, BCC	Forages in open grasslands. Roosts in lone trees or utility poles in open areas.	Medium. Documented in Bufferlands by Regional San staff. Rare in fall, winter, early spring (pers. comm. with Bryan Young, Regional San, 2014).
Swainson's hawk	*Buteo swainsoni*	--/CT/BCC	Forages in grasslands and agricultural lands; nests in riparian and isolated trees.	High. Five to six active nests are typically present each year on the Bufferlands and in the SRWTP facilities area. Swainson's hawk nested at the SRWTP during the 2013 breeding season. Extensive areas of moderate- to high-quality foraging habitat for Swainson's hawk occur in and adjacent to the Bufferlands and on the SRWTP property (see **Figure 3.5-1**).
Northern harrier	*Circus cyaneus*	--/--/CSC	Flat or hummocky, open areas with tall, dense grasses, shrubs, and edges for nesting, cover, and feeding.	High. Documented in Bufferlands by Regional San staff. Nesting; year-round resident (pers. comm. with Bryan Young, Regional San, 2014).
White-tailed kite	*Elanus leucurus*	--/--/FP	Forages in grasslands and agricultural fields; nests in riparian zones, oak woodlands, and isolated trees.	High. Year-round resident and nests on the Bufferlands (one or two nests each year) nesting has also been documented in the Delta Shores area.
Bald eagle	*Haliaeetus leucocephalus*	--/CE/FP, BCC	Forages over large bodies of water, or free flowing rivers with abundant fish, and adjacent snags or other perches	Medium. Documented in Bufferlands by Regional San staff. Rare in fall, winter, early spring; one June record (pers. comm. with Bryan Young, Regional San, 2014).

Table 3.5-1. Special Status Animal Species Potentially Occurring Along the Project Alignment (contd.)

Species Common Name	Scientific Name	Status Fed ESA/CA ESA/other[1]	Habitat	Potential For Occurrence in Project Area
Least bittern	*Ixobrychus exilis*	--/--/CSC, BCC	Preys on small fishes, aquatic and terrestrial insects, and crayfish in shallow water; hunts in small openings in dense, emergent vegetation	Medium. Documented in Bufferlands by Regional San staff. Likely (occasional) nesting; occasionally detected, but status of this cryptic species is unclear, especially since the detection areas (constructed wetlands) have not been intensively surveyed in recent years (pers. comm. with Bryan Young, Regional San, 2014).
Loggerhead shrike	*Lanius ludovicianus*	--/--/CSC, BCC	Typically found in open areas with sparse shrubs and trees for perching. Forages over bare ground and low or sparse herbaceous cover.	High. Nesting; year-round resident (declining) (pers. comm. with Bryan Young, Regional San, 2014).
Song sparrow (Modesto population)	*Melospiza melodia*	--/--/CSC	Emergent freshwater marsh dominated by tules, and cattails; willow riparian scrub; valley oak riparian woodland with dense understory; and along vegetated irrigation canals and levees.	High. Song sparrow is a regular breeder/resident in the Bufferlands riparian and seasonal wetland habitats. (pers. comm. with Bryan Young, Regional San, 2014).
Black-crowned night heron	*Nycticorax nycticorax*	--/--/--	Freshwater and salt marshes, pond edges and along slow moving streams. Colonial nester in dense stands of trees and brush, often in seclusion, but sometimes near human activity.	High. Bufferlands area, including seasonal wetlands adjacent to Morrison and Laguna creeks, provides habitat for this species.
Double-crested cormorant	*Phalacrocorax auritus*	--/--/WL	Found in interior wetlands, lakes, rivers and reservoirs; offshore islands and various coastal habitats. A colonial nester, may nest on extensive marsh or high in a tree.	High. Bufferlands area provides habitat for this species. There are known rookeries in the Bufferlands that are monitored annually. 50 double-crested cormorants were documented in 2014 (pers. comm. with Bryan Young, Regional San, 2014).

Table 3.5-1. Special Status Animal Species Potentially Occurring Along the Project Alignment (contd.)

Species Common Name	Scientific Name	Status Fed ESA/CA ESA/other[1]	Habitat	Potential For Occurrence in Project Area
Oregon vesper sparrow	*Pooecetes gramineus affinis*	--/--/CSC, BCC	Typically occurs in open grasslands, including stubble fields, road edges, and meadows.	High. Documented in Bufferlands by Regional San staff (pers. comm. with Bryan Young, Regional San, 2014).
California least tern	*Sternula antillarum browni*	FE/CE/FP	Typically found along seacoasts, beaches, bays, estuaries, lagoons, lakes and rivers, breeding on sandy or gravelly beaches and backs of rivers or lakes, rarely on flat rooftops of building.	Medium. Documented in Bufferlands by Regional San staff. One pair nesting each year since 2008 (May through August) (pers. comm. with Bryan Young, Regional San, 2014).
*Least Bell's vireo	*Vireo bellii pusillus*	FE/CE/--	Low, dense areas of riparian vegetation along waterways, or along dry parts of intermittent streams.	Medium. Documented in Bufferlands by Regional San staff. One record (April 29-30 2013) in Laguna Creek riparian area near main line HDD route.
Invertebrates				
*Vernal pool fairy shrimp	*Branchinecta lynchi*	FT/--/--	Vernal pools and other seasonal wetlands in valley and foothill grasslands. Tends to occur in smaller wetland features (less than 0.05 acre in size).	Low. Previously identified low-quality seasonal wetland habitat in the Project study area (Delta Shores area) has been filled, permitted, and mitigated.
*Conservancy fairy shrimp	*Branchinecta conservatio*	FT/--/--	Documented in vernal pools on several different landforms, geologic formations and soil types. Typically found in pools that are relatively large, and turbid (USFWS 2006a).	Low. Previously identified low-quality seasonal wetland habitat in the Project study area (Delta Shores area) has been filled, permitted, and mitigated.

Table 3.5-1. Special Status Animal Species Potentially Occurring Along the Project Alignment (contd.)

Species Common Name	Scientific Name	Status Fed ESA/CA ESA/other[1]	Habitat	Potential For Occurrence in Project Area
*Valley elderberry longhorn beetle (VELB)	*Desmocerus californicus dimorphus*	FT/--/--	Elderberry shrubs below 3,000 feet in elevation, typically in riparian habitats. Found in stems measuring 1 inch or greater at ground level.	Medium. Presence is assumed based on evidence of holes on elderberry shrubs that are consistent with characteristics of VELB larval exit holes. One shrub occurs along the Project alignment, near Laydown Area 1. The shrub is infected with a pathogen and is dying, does not provide suitable habitat for the beetle and is slated for removal by the EchoWater project (Ascent Environmental 2014). Another small elderberry shrub is located along the route of the Freeport Lateral Option A. No exit holes were observed in the 2 stems >1" in diameter during a field survey in June 2014.
*Vernal pool tadpole shrimp	*Lepidurus packardi*	FE/--/--	Vernal pools and other seasonal wetlands in valley and foothill grasslands that pond for sufficient duration to allow the species to complete its life cycle. Typically found in ponds ranging from 0.1 to 80 acres in size (USFWS 1996)	Low. Previously identified low-quality seasonal wetland habitat in the Project study area (Delta Shores area) has been filled, permitted, and mitigated.
California linderiella	*Linderiella occidentalis*	--/--/--	Documented on most landforms, geologic formations, and soil types supporting vernal pools. Occurs in vernal pools with a range of water temperatures and of various sizes, but typically found in deeper pools at elevation 30 to 3,800 feet above sea level	Low. Previously identified low-quality seasonal wetland habitat in the Project study area (Delta Shores area) has been filled, permitted, and mitigated.

Table 3.5-1. Special Status Animal Species Potentially Occurring Along the Project Alignment (contd.)

Source: CDFG 2011; CNDDB 2014; pers. comm. with Bryan Young Regional San, 2014; Regional San 2000; USFWS 2014

Notes:

[*]These species were identified in the USFWS query (USFWS 2014) of Federal and Endangered species that may occur in the project U.S. Geological Survey quads (i.e., Florin, Clarksburg, Sacramento East, Sacramento West)

[1]" Other" includes some non-ESA special designations identified in CDFG (2011). All animals in the table are identified as "Special Animals" in CDFG (2011), even though they may have no status designation in the table (i.e., "--/--/--"). Other special status designations or regulatory protection (not specified in table) also may apply to species listed here, including coverage under the Migratory Bird Treaty Act.

Acronyms:

CNDDB = California Natural Diversity Database
ESA = Endangered Species Act
HDD = Horizontal directional drilling
USFWS = U.S. Fish and Wildlife Service

Federal Status:

FE = Federally listed as endangered
FT = Federally listed as threatened

State Status:

CE = Listed as endangered by the State of California
CT = Listed as threatened by the State of California

Other Status:

BCC = USFWS Bird of Conservation Concern (as identified in USFWS 2008)
CR = California Rare Species
CSC = California Species of Special Concern
FP = CDFW Fully Protected Animal
FSC = Federal Species of Concern
WL = CDFW Watch List

Table 3.5-2. Special Status Species Plants Potentially Occurring Along the Project Alignment

Species Common Name	Scientific Name	Status Fed ESA/CA ESA/CNPS Rank	Habitat	Blooming Period	Elevation Range (feet above mean sea level)	Habitat Occurrence and Potential for Impact in the Project Area
Plants						
Ferris' milk-vetch	*Astragalus tener* var. *ferrisiae*	--/--/ 1B.1	• Meadows and seeps (vernally mesic) • Valley and foothill grassland (subalkaline)	April - May	7 to 246	Low. No occurrences near project area. Suitable habitat will not be disturbed by project activities. No reported occurrences near Project area.
Watershield	*Brasenia schreberi*	--/--/2B.3	• Marshes and swamps /freshwater	June - September	98 to 7218	Low. Suitable habitat will not be disturbed by project activities; Project area is below species elevation range.
Bristly sedge	*Carex comosa*	--/--/2B.1	• Coastal prairie • Marshes and swamps (lake margins) • Valley and foothill grassland	May - September	0 to 2051	Low. Suitable lake margin marsh habitat is not present in the Project area.
Parry's rough tarplant	*Centromadia parryi* spp. *rudis*	--/--/4.2	• Alkaline, vernally mesic, seeps, sometimes roadsides. • Valley and foothill grassland • Vernal pools	May - October	0 to 328	Low. Suitable habitat will not be disturbed by project activities.
Bolander's water-hemlock	*Cicuta maculata* var. *bolanderi*	--/--/2B.1	• Marshes and swamps Coastal, fresh or brackish water	July - September	0 to 656	Low. Suitable habitat will not be disturbed by project activities.
Peruvian dodder	*Cuscuta obtusiflora* var. *glandulosa*	--/--/2B.2	• Marshes and swamps (freshwater) (Parasite on herbaceous plants of freshwater marshes and swamps)	July - October	49 to 919	Low. Suitable habitat will not be disturbed by project activities; Project area is below species elevation range.

Species Common Name	Scientific Name	Status Fed ESA/CA ESA/CNPS Rank	Habitat	Blooming Period	Elevation Range (feet above mean sea level)	Habitat Occurrence and Potential for Impact in the Project Area
Dwarf downingia	*Downingia pusilla*	--/--/2B.2	• Seasonal wetlands in valley and foothill grassland (mesic) • Vernal pools	March - May	3 to 1460	Low. Suitable habitat will not be disturbed by project activities.
Boggs Lake hedge-hyssop	*Gratiola heterosepala*	--/CE/1B.2	• Clay • Marshes and swamps (lake margins) • Vernal pools	April - August	33 to 7792	Low. Suitable habitat will not be disturbed by project activities; Project area is below species elevation range.
Hogwallow starfish	*Hesperevax caulescens*	--/--/4.2	• Valley and foothill grassland (mesic, clay) • Vernal pools (shallow)	March - June	0 to 1657	Low. Suitable habitat will not be disturbed by project activities.
Woolly rose-mallow	*Hibiscus lasiocarpus* var. *occidentalis*	--/--/1B.2	• Often in riprap on sides of levees • Marshes and swamps (freshwater)	June - September	0 to 394	Low. Suitable habitat will not be disturbed by project activities.
northern California black walnut	*Juglans hindsii*	--/--/1B.1	• Riparian woodland and forest	April - May	0 to 1444	Low. This species is widely naturalized in riparian areas, including riparian areas adjacent to Laguna and Morrison creeks. However, the species status designation only refers to native, historical stands, which are not known to occur in the Bufferlands (CNDDB 2014, CNPS 2014)
Ahart's dwarf rush	*Juncus leiospermus var. ahartii*	--/--/1B.2	• Valley and foothill grassland (mesic)	March - May	98 to 751	Low. Project area is below species elevation range.
Ferris' goldfields	*Lasthenia ferrisiae*	--/--/4.2	• Vernal pools (alkaline, clay)	February - May	66 to 2297	Low. Suitable habitat will not be disturbed by project activities; Project area is below species

Species Common Name	Scientific Name	Status Fed ESA/CA ESA/CNPS Rank	Habitat	Blooming Period	Elevation Range (feet above mean sea level)	Habitat Occurrence and Potential for Impact in the Project Area
						elevation range.
Delta tule pea	*Lathyrus jepsonii var. jepsonii*	--/--/1B.2	• Marshes and swamps (freshwater and brackish)	May - September	0 to 16	Low. Suitable habitat will not be disturbed by project activities.
Greene's legenere	*Legenere limosa*	--/--/1B.1	• Relatively deep and wet vernal pools	April - June	3 to 2887	Low. Suitable habitat will not be disturbed by project activities.
Heckard's pepper-grass	*Lepidium latipes* var. *heckardii.*	*--/--/1B.2*	• Alkaline soils of vernal pool margins, alkaline flats	March - May	7 to 656	Low. Suitable habitat will not be disturbed by project activities.
Mason's lilaeopsis	*Lilaeopsis masonii*	--/--/1B.1, CR	• Marshes and swamps (brackish or freshwater)	April - November	0 to 33	Low. Suitable habitat will not be disturbed by project activities.
Delta mudwort	*Limosella australis*	--/--/2B.1	• Usually mud banks. • Marshes and swamps (freshwater or brackish) • Riparian scrub	May - August	0 to 10	Low. Suitable habitat will not be disturbed by project activities. No reported occurrences near Project area.
Hoary navarretia	*Navarretia eriocephala*	--/--/ 4.3	• Vernally mesic • Cismontane woodland • Valley and foothill grassland	May - June	344 to 1312	Low. Suitable habitat will not be disturbed by project activities; Project area is below species elevation range.
Slender Orcutt grass	*Orcuttia tenuis*	FT/CE/1B.1	• Often gravelly • Vernal pools	May - October	115 to 5774	Low. Suitable habitat will not be disturbed by project activities.
Sacramento Orcutt grass	*Orcuttia viscida*	FE/CE/1B.1	• Vernal pools	April - September	98 to 328	Low. Suitable habitat will not be disturbed by project activities.
Sanford's arrowhead	*Sagittaria sanfordii*	--/--/1B.2	• Shallow freshwater marshes and swamps	May - October	0 to 2133	Low. Suitable habitat will not be disturbed by project activities.
Marsh skullcap	*Scutellaria galericulata*	--/--/2B.2	• Lower montane coniferous forest • Meadows and seeps (mesic) • Marshes and swamps	June - September	0 to 6890	Low. Suitable habitat will not be disturbed by project activities.
Side-flowering	*Scutellaria lateriflora*	--/--/2B.2	• Meadows and seeps	July -	0 to 1640	Low. Suitable habitat will not be

Species Common Name	Scientific Name	Status Fed ESA/CA ESA/CNPS Rank	Habitat	Blooming Period	Elevation Range (feet above mean sea level)	Habitat Occurrence and Potential for Impact in the Project Area
skullcamp			(mesic) • Marshes and swamps	September		disturbed by project activities.
Suisun Marsh aster	*Symphyotrichum lentum*	--/--/1B.2	• Marshes and swamps (brackish and freshwater)	May - November	0 to 10	Low. Suitable habitat will not be disturbed by project activities.
Saline clover	*Trifolium hydrophilum*	--/--/1B.2	• Marshes and swamps • Valley and foothill grassland (mesic, alkaline) • Vernal pools	April - June	0 to 984	Low. Suitable habitat will not be disturbed by project activities.

Source: CDFG 2011; CNDDB 2014; CNPS 2014; pers. comm. with Bryan Young Regional San, 2014; Regional San 2000

Acronyms:
CNPS = California Native Plant Society
ESA = Endangered Species Act

Federal Status:
FE = Federally listed as endangered
FT = Federally listed as threatened

State Status:
CE = Listed as endangered by the State of California
CT = Listed as threatened by the State of California

Other Status:
CR = California Rare Species

CNPS Rank:
1A: Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
1B: Plants Rare, Threatened, or Endangered in California and Elsewhere
2A: Plants Presumed Extirpated in California, But More Common Elsewhere
2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
3: Plants About Which More Information is Needed – A Review List
4: Plants of Limited Distribution - A Watch List

Threat Ranks
• 0.1-Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
•0.2-Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
•0.3-Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Special Status species with the medium or high likelihood of occurrence along the Project alignment are discussed below.

Western Pond Turtle Western pond turtle (*Emys marmorata*) is a State Species of Special Concern and occur in ponds and slow streams throughout California, and requires a reliable source of water. This species also requires upland areas adjacent to their aquatic habitat for nesting and aestivation. This species is regularly observed in Morrison Creek, Laguna Creek and Upper Beach Lake (pers. comm. with Bryan Young, Regional San, 2014).

Giant Garter Snake The giant garter snake (GGS) (*Thamnophis gigas*) is listed as Threatened under both State and Federal endangered species acts. GGS is a highly aquatic species that historically ranged from Butte County, south through the Central Valley to Buena Vista and Tulare Lake in Tulare and Kern counties. Having disappeared from much of its former range due to habitat loss (particularly in the southern part of its range), the current stronghold for this species is in the American River Basin of Sacramento and Sutter counties, which provide some of the most important remaining habitat for the GGS. Historically, GGS occurred in cattail and tule marshes, and open riparian woodlands on the valley floor. Although much of their historic habitat has been lost due to a variety of causes ranging from channelization of waterways, flood control projects, and the conversion of marshlands to agriculture, this species has adapted to occupy certain man-made waterways associated with rice farming in Sacramento, Yolo, Sutter, and Colusa counties.

Potential habitat for giant garter snakes typically include all or at least most of the following features: relatively deep, perennial water (or at least adequate water during the snake's active season [early-spring through mid-fall]); presence of abundant emergent vegetation such as cattails and bulrushes for escape cover and foraging habitat during the active season; grassy banks and openings in waterside vegetation for basking; and higher elevation uplands adjacent to their aquatic habitat for cover and refuge from flood waters during the snake's dormant season in the winter. Aquatic habitat must also support prey species such as fish and amphibians.

The closest CNDDB occurrence of GGS is approximately one mile south of the waste reclamation facility within Stone Lake and neighboring marsh habitat. There are no aquatic features present in areas that would be disturbed by the Project alignment that would provide suitable aquatic habitat for GGS. Morrison Creek, Laguna Creek, and other aquatic features within the Bufferlands are considered suitable habitat for GGS. These areas would be avoided by tunneling, and no work associated with main line construction would occur with 200 feet of GGS habitat. Laydown Area 6, associated with construction of the Freeport Lateral Option A, occurs near, but greater than 200 feet from, a wetland that is connected to Morrison Creek. All habitats within 200 feet of suitable GGS aquatic habitat are considered either aquatic or upland habitat for the snake, except for upland areas that are unvegetated, heavily disturbed (such as road, and non-rice cultivated fields), or covered by a walled structure such as a building. Although it is not anticipated that any work would occur in GGS habitat, mitigation measures would be implemented for any work in GGS habitat, as described in **Mitigation Measure 3.5-5**.

Cooper's Hawk The Cooper's Hawk (*Accipiter cooperii*) is listed on the CDFW Watch List and is a USFWS Bird of Conservation Concern. Cooper's hawk forages for small mammals, amphibians, and reptiles in patchy woodlands and forest edges. It typically nests in deciduous trees in crotches 20 to 50 feet above the ground. Nesting occurs March through August, with peak activity occurring in May through July (CDFW 2014).

Suitable Cooper's hawk foraging habitat occurs along the Project alignment, and it was documented in the Delta Shores area in 2007 (PBS&J 2008).

Tricolored Blackbird Tricolored blackbird (*Agelaius tricolor*) is a California Species of Special Concern. The species forages for insects and spiders, seeds, and grains in croplands, grassy fields, flooded land, and along edges of ponds. The tricolored blackbird breeds near fresh water, primarily in emergent wetland with tall, dense cattails or tules, but also in shrubby areas of willow, blackberry, wild rose, tall herbs. The typical breeding season is mid-April through late July (CDFW 2014).

Tricolored blackbird is regularly observed in the Bufferlands in spring and summer. The species does not nest in the area, however, because the habitat is lacking suitable structure.

Golden Eagle The golden eagle (*Aquila chrysaetos*) is a CDFW Fully Protected species, and is on the Watch List. It is also considered a bird of conservation concern by USFWS. It is also protected under the Federal Bald and Golden Eagle Protection Act. The golden eagle forages in open areas where it hunts rabbits, rodents and other small mammals, and also birds, reptiles, and carrion. It nests on cliffs and in large trees in open areas. Breeding occurs from late January through August, peaking in March through July (CDFW 2014).

Golden eagles have been observed to be rare visitors to the Bufferlands in fall, winter, and early spring (pers. comm. with Bryan Young, Regional San, 2014).

Great Egret The great egret (*Ardea alba*) is not listed under the State or Federal ESAs, but it is listed on the CDFW Special Animals List (CDFG 2011). The great egret is a common yearlong resident throughout California, occurring primarily in emergent wetlands, along the margins of estuaries, lakes, and slow-moving streams, on mudflats and salt ponds, and in irrigated croplands and pastures. The great egret diet consists primarily of fish, amphibians, snakes, snails, crustaceans, insects, and small mammals. It roosts and nests in colonies in trees. Nesting typically occurs from March to July (CDFW 2014).

The Project alignment provides potentially suitable foraging habitat for great egrets. There are known rookeries in the Bufferlands that are monitored annually. Fifty-one great egrets were documented in 2014 (pers. comm. with Bryan Young, Regional San, 2014).

Great Blue Heron The great blue heron is not listed under the State or Federal ESAs, but it is listed on the CDFW Special Animals List (CDFG 2011). The species is fairly common all year throughout most of California, occurring in shallow estuaries and emergent wetlands. It occurs less commonly along riverine and rocky marine shores, in

croplands, pastures, and in mountains above foothills. Great blue herons feed primarily on fish, but also eat small rodents, amphibians, snakes, lizards, insects, crustaceans, and occasionally small birds. Nesting occurs in February or March, with chicks typically leaving the nest in June or July. Great blue herons nest in colonies in the tops of snags or live trees (CDFW 2014).

The Project alignment provides potentially suitable foraging habitat. There are known rookeries in the Bufferlands that are monitored annually. Fifteen great blue herons were documented in 2014 (pers. comm. with Bryan Young, Regional San, 2014).

Burrowing Owl Burrowing owls (*Athene cunicularia*) are CDFW species of special concern, Federal species of concern and USFWS bird of conservation concern. Burrowing owls may be year-long residents in generally flat, open dry grasslands, pastures, deserts, and shrub lands. Some individuals within the population are highly migratory. Monitoring by Regional San staff has shown there is a small breeding population and an influx of wintering birds in the Bufferlands (pers. comm., Bryan Young, Regional San, 2014). They use communal ground squirrel and other small mammal burrow colonies for nesting and cover, as well as artificial structures, such as dry culverts in roadside embankments, levees, and berms. They prefer open, dry, nearly level grassland or prairie habitat and can exhibit high site fidelity, often reusing burrows year after year. Several ground squirrel holes, which may be utilized by burrowing owls, have been observed within the drainage ditches associated with agricultural fields along the Project alignment.

American Bittern The American bittern (*Botaurus lentiginosus*) is not listed under the State or Federal ESAs, but it is listed on the CDFW Special Animals List (CDFG 2011). This species occurs in fresh emergent wetlands where if feed primarily on insects, amphibians, fish, crayfish, and small mammals, and also snakes, miscellaneous invertebrates, and birds. It also occurs in shallow water of lakes, backwaters of rivers, and estuaries (CDFW 2014).

This species is fairly common in the Central Valley from October to April, but is uncommon to rare the rest of year. It is documented as a nesting, year-round resident in the Bufferlands (pers. comm. with Bryan Young, Regional San, 2014).

Ferruginous Hawk The ferruginous hawk (*Buteo regalis*) is on the CDFW Watch List and is a USFWS Bird of Conservation Concern. The ferruginous hawk forages over open areas for prey, including rabbits, ground squirrels, mice, and occasionally birds, reptiles, and amphibians. It roosts in open areas, usually in a solitary tree or utility pole. There are no ferruginous hawk breeding records in California (CDFW 2014).

Ferruginous hawks are uncommon winter residents and migrants at lower elevations and open grasslands in the Central Valley. They have been documented as rare visitors to the Bufferlands in fall, winter, early spring (pers. comm. with Bryan Young, Regional San, 2014).

Swainson's Hawk The Swainson's hawk is listed as a threatened species under the CESA. This raptor is found primarily in open country, foraging in grasslands and agricultural fields, especially after disking or harvest. They use tall riparian trees (typically oaks or cottonwoods) for nesting, but will occasionally nest in large eucalyptus or other large ornamental trees if there is suitable foraging habitat nearby. Nesting occurs late March to late August, with peak activity late May through July (CDFW 2014). The species has lost much of its former nesting habitat as a result of the significant reduction in riparian woodland and forest habitat throughout the State over the last 100 years, and is increasingly losing foraging habitat to urban development. Swainson's hawks can forage as far as 10 miles from the nest, but nests are generally more successful if suitable foraging habitat is present within an approximate 5-mile radius.

Suitable foraging habitat is defined as annual grasslands, fallow fields, dry and irrigated pasture, and a variety of croplands including alfalfa, beet, tomato and other low growing row or field crops, rice (when not flooded), and cereal grain crops (including corn after harvest). The greatest concentration of nesting records for Swainson's hawks within the region occurs along the Sacramento River. According to CNDDB, four Swainson's hawk nests are located along the Sacramento River near the Freeport Lateral Option B alignment; three of them appear to be along the western bank of the river, and only one along the eastern bank. Swainson's hawks regularly nest in the Bufferlands (pers. comm., Bryan Young, Regional San, 2014).

Northern Harrier The northern harrier is a California Species of Special Concern. It forages in a variety of habitats, including open grassland, wetland, and agricultural areas, where it feeds on voles and other small mammals, birds, frogs, small reptiles, crustaceans, insects, and, rarely on fish. The northern harrier is a ground-nester in shrubby vegetation, usually at marsh edge. Nesting occurs from April to September, with peak activity June through July (CDFW 2014).

The northern harrier is a year-round resident in the Project area, and is known to nest in the Bufferlands (pers. comm. with Bryan Young, Regional San, 2014).

White-Tailed Kite The white-tailed kite is listed as a "fully protected" raptor under Section 3511 of the California Fish and Game Code. White-tailed kites feed on rodents, small reptiles, and large insects in fresh emergent wetlands, annual grasslands, pastures, and ruderal vegetation. They breed between February and October. Kites often roost, and occasionally nest communally, especially during the non-breeding season. Therefore, disturbance of a relatively small roost or nesting area could affect a large number of birds. The white-tailed kite can commonly be observed foraging in open grasslands throughout the region, but breeding sites are primarily located near riparian corridors along the Sacramento and American Rivers. Suitable nesting habitat occurs along the Sacramento River. The white-tailed kite is also a year-round resident in the Project area and nests on the Bufferlands (one or two nests each year). Nesting has also been documented in the Delta Shores area (Ascent Environmental 2014. pers. comm. with Bryan Young, Regional San, 2014).

Bald Eagle The bald eagle (*Haliaeetus leucocephalus*) is listed as endangered under the California ESA and as a California Fully Protected Species. It is considered a Bird of Conservation Concern by the USFWS, and is also protected under the Federal Bald and Golden Eagle Protection Act. The bald eagle forages over large bodies of water, or free flowing rivers with abundant fish, and adjacent snags or other perches. Bald eagles nest in large trees, typically adjacent to permanent bodies of water (CDFW 2014).

It is documented as a rare fall, winter, and early spring visitor by Bufferlands staff. One June observation has also been reported in the Bufferlands (pers. comm. with Bryan Young, Regional San, 2014).

Least Bittern The least bittern (*Ixobrychus exilis*) is a California Species of Special Concern and a USFWS Bird of Conservation Concern. The least bittern is a rare to uncommon visitor from April to September in large, fresh emergent wetlands in the Sacramento Valley (CDFW 2014), Its diet consist primarily of small fish, aquatic and terrestrial insects, and crayfish. It also eats amphibians, small mammals, and miscellaneous invertebrates. Breeding occurs low in tules or cattails, usually above water level, beginning in late March to May, with eggs being laid between mid-April to early July.

The least bittern has been occasionally documented in the Bufferlands, including nesting observations (pers. comm. with Bryan Young, Regional San, 2014).

Loggerhead Shrike The loggerhead shrike (*Lanius ludovicianus*) is listed as a California Species of Special Concern and a USFWS Bird of Conservation Concern. The species is a common resident and winter visitor in lowlands and foothills throughout the State. Habitat primarily includes open areas with scattered shrubs, trees, posts, fences, utility lines, or other perches where it can search for prey (large insects, small birds, mammals, amphibians, reptiles, fish, carrion, and various other invertebrates). Loggerhead shrikes begin nesting in trees or shrubs from March into May, with chicks fledging in July or August.

Loggerhead shrike is known to nest year round in the Bufferlands, though numbers are declining (pers. comm. with Bryan Young, Regional San, 2014).

Song Sparrow (Modesto Population) The song sparrow (*Melospiza melodia*) is a California Species of Special Concern that is found in emergent freshwater marsh dominated by tules, and cattails; willow riparian scrub; valley oak riparian woodland with dense understory; and along vegetated irrigation canals and levees. Song sparrows build ground-nests beginning in April (CDFW 2014).

The song sparrow is a resident and regular breeder in the Bufferlands riparian and seasonal wetland habitats (pers. comm. with Bryan Young, Regional San, 2014).

Black-crowned Night Heron The black-crowned night heron (*Nycticorax nycticorax*) is not listed under the State or Federal ESAs, but it is listed on the CDFW Special Animals List (CDFG 2011). Habitat for the species includes freshwater and salt marshes, pond edges and along slow moving streams. It roosts and nests in large colonies in dense-

foliaged trees and dense emergent wetlands. Breeding typically occurs from February to July (CDFW 2014).

Bufferlands area, including seasonal wetlands adjacent to Morrison and Laguna creeks, provides habitat for this species.

Double-Crested Cormorant The double-crested cormorant (*Phalacrocoraz auritus*) is a Watch List species. Its habitat includes interior wetlands, lakes, rivers and reservoirs; offshore islands and various coastal habitats where if feeds primarily on fish, but also on crustaceans and amphibians. The double-crested cormorant nests in trees in colonies, typically from April to July or August (CDFW 2014).

There are known rookeries in the Bufferlands that are monitored annually. Fifty double-crested cormorants were documented in 2014 (pers. comm. with Bryan Young, Regional San, 2014).

Oregon Vesper Sparrow The Oregon vesper sparrow (*Pooecetes gramineus affinus*) is a California Species of Special Concern and a USFWS Bird of Conservation Concern. It typically occurs in open grasslands, including stubble fields, road edges, and meadows where it eats insects, spiders, and grass and forb seeds. Breeding occurs from late April into mid-August.

Oregon vesper sparrow is uncommon the Central Valley but has been documented in the Bufferlands in winter by Regional San staff (pers. comm. with Bryan Young, Regional San, 2014).

California Least Tern The California least tern (*Stemula antillarum*) is a federally- and State-listed endangered species. It is also on the list of California Fully Protected species. The California least tern is typically found along seacoasts, beaches, bays, estuaries, lagoons, lakes and rivers. It breeds on sandy or gravelly beaches and backs of rivers or lakes, rarely on flat rooftops of building. It typically breeds in loose colonies and will abandon nests if disturbed. Nesting typically occurs from mid-May to mid-June (CDFW 2014).

The California least tern has been documented by Bufferlands staff and CDFW as nesting in a solid storage basin (SSB) at the SRWTP (south of the project area) every year for the past eight years. Least terns have been documented in this area from May through early August (pers. comm., Bryan Young, Regional San, 2014; CDFW 2012).

Least Bell's Vireo Least Bell's vireo (*Vireo bellii pusilus*) is a federally- and State-listed endangered species that forages and nests in low, dense areas of riparian vegetation along waterways, or along dry parts of intermittent streams. The species' diet consists of insects and some fruit. Breeding season peaks from May to early June.

The historical range of Bell's vireo has decreased significantly, presumably due to cowbird parasitism and habitat destruction and degradation (CDFW 2014). Least Bell's vireo was documented in the Bufferlands by Regional San staff (one record) in April 2013 in riparian habitat adjacent to Laguna Creek. This is near the main line route, but

would be avoided by tunneling (pers. comm., Bryan Young, Regional San, 2014; CDFW 2012).

Valley Elderberry Longhorn Beetle The valley elderberry longhorn beetle (VELB) (*Desmocerus californicus dimorphus*) is listed as a threatened species under the Federal ESA. In September 2006, the USFWS recommended to de-list the VELB based on the findings from the VELB 5-Year Review: Summary and Evaluation, prepared by the Sacramento Fish and Wildlife Office (USFWS 2006b). Until such time the delisting becomes final, the VELB is still considered threatened and protected by the ESA and Regional San would be required to comply with any requirements in accordance with the most current USFWS mitigation guidelines.

The VELB occurs throughout the year in riparian woodlands and other Central Valley habitats containing elderberry shrubs (*Sambucus* spp.), upon which the VELB are completely dependent for all stages of their life cycle. The females lay their eggs in crevices in the bark. After hatching, the larvae burrow into the stems of the shrub where they feed on the interior wood for the next one to two years until they form pupae, from which the adults emerge. The adults bore their way out of the stems, leaving a distinctive oval-shaped hole. As the larvae and adults are rarely seen, these borer holes are often the only evidence of this species' presence. After emergence from the stems, the adults remain in association with the elderberries, where they will feed on the elderberry foliage and eventually reproduce. All elderberry shrubs within the known range of the VELB that have one or more stems with diameters of one inch or greater at ground level, are considered potential habitat for this species. One elderberry shrub occurs along the Project alignment, approximately 50 feet from Laydown Area 1; however, this shrub is diseased, does not support VELB, does not provide suitable habitat for VELB, and is slated for removal by the EchoWater project (Ascent Environmental 2014). An additional elderberry is located near the Freeport Lateral Option A. This shrub is a small, multi-stem bush that appeared to be stressed. Only two of the stems were greater than 1 inch in diameter. A minimum buffer of 20 feet would occur between this shrub and any ground-disturbing work.

3.5.3 Effects Determination for Federally listed Species from Construction of the Recycled Water Main, Laterals and Associated Equipment Laydown Areas

A list of federally listed (Endangered and Threatened) species that may occur in the Project USGS quads (Florin, Clarksburg, Sacramento East, Sacramento West) was generated from the USFWS Sacramento Fish and Wildlife Office website on June 5, 2014 (USFWS 2014). The species listed in this query are included in Table 3.5-1 and identified with an asterisk. No federally listed plants were identified in the query. This section only discusses potential effects from construction of the recycled water main line and associated equipment laydown areas.

Recycled Water Main

Because construction of the recycled water main line affects only ruderal, agricultural, and developed areas, effects to federally listed species are not expected. Potential habitat for federally listed species exists in Laguna Creek, Morrison Creek, and adjacent

wetlands and riparian areas, but direct impacts to these areas from construction of the recycled water main line will be completely avoided by tunneling. All construction areas will be more than 250 feet from these habitats.

No effect is expected on the following species, because they do not utilize habitat in or near areas that would be disturbed by main line construction:

- Conservancy fairy shrimp
- vernal pool fairy shrimp
- VELB
- vernal pool tadpole shrimp
- green sturgeon
- delta smelt
- Central Valley steelhead
- Central Valley spring-run chinook salmon
- winter-run chinook salmon, Sacramento River
- California tiger salamander, central population
- California red-legged frog
- GGS

Least Bell's vireo, also identified on the USFWS Project quad query (USFWS 2014), was documented in the Bufferlands by Regional San staff (one record) in April 2013 in riparian habitat adjacent to Laguna Creek. This is near the main line route, but would be avoided by tunneling (pers. comm., Bryan Young, Regional San, 2014; CDFW 2012). The proposed locations of ground-disturbing activities associated with the recycled water main line are separated from this habitat by the levee. Therefore, there would be **no effect** on least Bell’s vireo from the Project.

In addition to the species listed in the USFWS Project quad query (USFWS 2014), the federally listed California least tern has been documented by Bufferlands staff and CDFW as nesting in a SSB at the SRWTP every year for the past eight years (pers. comm., Bryan Young, Regional San, 2014; CDFW 2012). Birds have been observed in this area from May through early August. The nesting site is located south of the Project area and would not be disturbed by project construction. Therefore, the Project would have **no effect** on California least tern.

Recycled Water Laterals

As with the construction of the recycled water main line, ground-disturbance would affect primarily ruderal, agricultural, and developed areas. Therefore, effects to federally-listed species are not expected. Construction of the Freeport Lateral Option A occurs outside of, but in the vicinity of, wetlands and riparian areas adjacent to Laguna Creek and Morrison Creek. As described above, VELB, GGS, and least Bell's vireo are known to occur in the Bufferlands and/or have potential habitat near the Freeport Lateral Option A. Mitigation measures, as described in the following sections, are expected to minimize or eliminate any potential effects to these federally-listed species. However, because construction activities may occur closer to these species or their potential habitat, it is concluded that construction of the laterals **may affect** these species. Construction of the laterals is expected to have **no effect** on all other federally-listed species identified above.

See FEIR Pg. 3-2

3.5.4 Environmental Impacts and Recommended Mitigation Measures

Significance Criteria

Based on Appendix G of the State CEQA Guidelines, the Project could have a significant adverse effect related to biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or the USFWS

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFW or the USFSW

- 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

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

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

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan

Methods and Assumptions

Analysis of potential Project impacts on biological resources is based on data collected during reconnaissance-level site visits in April and June 2014, a wetland delineation performed for the main line footprint in May 2014, personal communication with Bryan

Young of Regional San between April and June 2014, and review of existing documentation and spatial data, including CDFW's CNDDB (CNDDB 2014), CNPS's Inventory of Rare and Endangered Plants (CNPS 2014), Delta Shores Draft EIR (PBS&J 2008) and EchoWater EIR (Ascent Environmental 2014). Data sources provided information on the potential for special-status plant or wildlife species to occur in the vicinity of the Project alignment.

Issues or Impacts Not Discussed Further The proposed Project does not involve direct impacts to Morrison Creek, Laguna Creek, or other riparian or wetland areas, therefore no wetland permitting would be required. This issue is not discussed further in this Draft EIR.

See FEIR Pg. 3-2

As detailed in **Section 3.10, Hydrology and Water Quality**, all impacts to Morrison Creek and Laguna Creek would be avoided by using the HDD method for tunneling approximately 30 feet underneath the creek channel and staging equipment and laydown areas at least 300 feet from the toe of the levee that encloses Morrison Creek. These measures avoid impacts to aquatic habitat during Project construction and operation. This issue is not discussed further in this Draft EIR.

Also, as detailed in **Section 3.10, Hydrology and Water Quality**, effects of the proposed Project operation on background Sacramento River flows are negligible. The 0.1-0.2 percent change in flows would have a minimal effect to no effect on aquatic species near the Freeport outfall of the SRWTP. This issue is not discussed further in this Draft EIR.

Construction and operation of the proposed Project would not occur in habitats supporting special status plants. All construction would occur in along currently developed roads ROW and within ruderal or other disturbed habitat, including active agricultural production areas, GCs and parks. This issue is not discussed further in this Draft EIR.

The Project would comply with the County's Swainson's Hawk Ordinance as discussed in Impact 3.5-2, including mitigating for loss of Swainson's hawk foraging habitat through either participation in the County's Swainson's Hawk Mitigation Program or other means in consultation with CDFW. Therefore, the Project would not conflict with any local policies or ordinances protecting biological resources and this issue is not discussed further in this EIR.

The Project alignment is located within the Pacific flyway, which is a major north-south route for migratory birds along western North America. Large numbers of waterfowl, shorebirds, and cranes may move through the area seasonally and may congregate in wetlands, grasslands, and agricultural fields for winter or use them as resting grounds during longer migrations from the Arctic to Central or South America. However, the Project would not create a barrier to movement of migratory species or alter the character of existing habitat available to migrating birds. Nearly all of the proposed alignment would be built within the existing disturbed SRWTP, on active agriculture lands, or within developed urban areas. Because suitable foraging habitat would be available

nearby on the Bufferlands and surrounding areas, the relatively small amount of temporary disturbance associated with the Project alignment would not result in substantial effects on wildlife movement patterns. Additionally, areas that would be affected by construction of the Project are not known to contain native wildlife nursery sites, such as colonial bird rookeries or bat roosts. Therefore, this issue is not discussed further in this EIR.

The study area is within the proposed South Sacramento County Habitat Conservation Plan (SSCHCP) area and Regional San is participating in the development of the SSCHCP. The SSCHCP is currently being drafted by Sacramento County and is in the initial stages of environmental review; however, the plan has not been adopted. Since the SSCHCP is still being drafted, it would be premature to attempt to analyze the Project's consistency with the SSCHCP. Also, because it is not an adopted plan, the Project's consistency is not required to be analyzed under CEQA. Therefore, an analysis of the Project's consistency with the SSCHCP is not included in this EIR.

Implementation of the Project could adversely affect common migratory birds through disturbance during the breeding season and removal of active nests. Loss of active nests of common species would be inconsistent with the MBTA. However, the list of migratory birds includes many common species not otherwise protected under Federal, State, or local laws. Loss of active nests of common species during Project construction would not substantially reduce the abundance of any species, nor cause any species to drop below self-sustaining levels. As such, potential adverse effects on common migratory birds would not alone constitute a significant impact as defined by the significance criteria established for this EIR. Therefore, while Regional San intends to address MBTA concerns through preconstruction surveys, environmental awareness training, and appropriate avoidance measures, impacts to common migratory birds are not further addressed as a CEQA issue in this EIR.

3.5.5 Impact Analysis and Mitigation Measures

Impact 3.5-1: Construction of the Project could result in temporary disturbance of nesting habitat for special-status birds, including those protected under the MBTA.

Trees and grasslands along and near the proposed Project alignment could provide nesting habitat for a number of special-status avian species known to nest in the area, including great egret, great blue heron, American bittern, northern harrier, white-tailed kite, least bittern, loggerhead shrike, song sparrow, double-crested cormorant and other bird species, including those protected by the MBTA. These impacts are **potentially significant**.

Potential nesting trees are found along the proposed alignment at the SRWTP and in the northeast portion of the Bufferlands and Delta Shores area north of the SRWTP. Construction activities associated with the proposed Project could disturb nesting birds possibly resulting in nest abandonment, forced fledging and/or mortality. Some examples of project related activities that could cause nest abandonment or forced fledging are: demolition, large mobile construction equipment such as large bulldozers, and earth

movers working directly under the nest trees for a significant amount of time and people trying to climb the nest tree.

Nesting raptors and migratory nesting birds are protected under the MBTA and/or Fish and Game Code 3503, 3503.5, 3511 and 3513. Implementation of the proposed Project could result in the disturbance to protected nesting avian species potentially leading to nest abandonment and mortality.

Mitigation Measure 3.5-1: Special-status birds, including those protected under the MBTA

Implementation of Mitigation Measure 3.5-1(a) would require surveys for protected bird species to confirm the presence of active nests during the appropriate nesting season. If construction activities cannot be avoided during the nesting season, then implementation of Mitigation Measure 3.5-1(b) through (d) ensures that active nests are protected by instituting appropriate buffer zones and avoiding or minimizing loss or take of this species. Implementation of Mitigation Measures 3.5-1(a) through (d) would reduce the potential disturbance of nesting avian species to **less than significant**.

a. The project applicant or developer(s) shall have a qualified biologist conduct nest surveys within 30 days prior to any demolition/construction or ground disturbing activities that are within 500 feet of potential nest trees. A pre-construction survey shall be submitted to CDFW that includes, at a minimum: (1) a description of the methodology including dates of field visits, the names of survey personnel with resumes, and a list of references cited and persons contacted; and (2) a map showing the location(s) of raptor and migratory bird nests observed on the Project alignment. If no active nests of MBTA, CDFW or USFWS covered species are identified then no further mitigation is required.

b. Should active nests of protected bird species be identified in the survey conducted in accordance with Mitigation Measure 3.5-2(a), the applicant, or developer(s), in consultation with the CDFW, shall delay construction in the vicinity of active nest sites during the breeding season (March 1 through August 1) while the nest is occupied with adults and/or young. A qualified biologist shall monitor any occupied nest to determine when the nest is no longer used. If the construction cannot be delayed, avoidance shall include the establishment of a non-disturbance buffer zone around the nest site. The size of the buffer zone shall be determined in consultation with the CDFW, but will be a minimum of 100 feet. The buffer zone shall be delineated with highly visible temporary construction fencing.

c. No intensive disturbance (e.g., heavy equipment operation associated with construction, use of cranes or draglines, new rock crushing activities) or other Project-related activities that could cause nest abandonment or forced fledging, shall be initiated within the established buffer zone of an active nest between March 1 and August 1.

d. If demolition/construction activities are unavoidable within the buffer zone, the project applicant shall retain a qualified biologist to monitor the nest site to determine if construction activities are disturbing the adult or young birds. The monitor shall have the authority to halt construction activities that are causing agitation to the birds that could result in take. If abandonment occurs, the biologist shall consult with CDFW or USFWS for the appropriate salvage measures. This could include taking any nestlings to a local wildlife rehabilitation center.

Impact 3.5-2: Construction of the proposed Project could result in the disturbance of nesting habitat for Swainson's hawks.

Potential nesting trees are found along the proposed alignment at the SRWTP and in the northeast portion of the Bufferlands and Delta Shores area north of the SRWTP. Construction activities associated with the proposed Project could disturb nesting birds possibly resulting in nest abandonment, forced fledging and/or mortality. Some examples of Project related activities that could cause nest abandonment or forced fledging are: demolition, large mobile construction equipment such as large bulldozers, and earth movers working directly under the nest trees for a significant amount of time and people trying to climb the nest tree. This impact would be considered **potentially significant**.

Trees existing in the riparian area of the Sacramento River, where recycled water laterals may be constructed along Highway 160, on the existing SRWTP site, in the riparian areas of Laguna and Morrison creeks, and in Chorley Park could support nesting habitat for Swainson's hawks. While nesting activity surveys have not been conducted for these areas in relation to the proposed Project, trees in these areas could support nesting Swainson's hawks.

The nesting season for Swainson's hawk begins in March and runs through September. Nesting Swainson's hawks are protected under the CESA, MBTA, Fish and Game Code 3503.5. The CNDDB contains 34 recorded nests within five miles of the Project alignment. The closest CNDDB recorded occurrence of a Swainson's hawk nest is located approximately 1/4 mile (1,320 feet) from the Project alignment along the Sacramento River, the SRWTP, and in Chorley Park. Five to six active nests are typically present each year on the Bufferlands and in the SRWTP facilities area. Swainson's hawk nested at the SRWTP during the 2013 breeding season (pers. comm. with Bryan Young, Regional San, 2014).

Numerous studies have sought to measure the sensitivity of raptors (birds of prey) to a variety of human activities and have shown that raptor pairs may react to human activities very differently. Some pairs nest successfully just dozens of yards from human activity, while others abandon nest sites in response to activities much farther away. This variability may be related to a number of factors, including visibility, duration, noise levels, extent of the area affected by the activity, prior experiences with humans, and tolerance of the individual nesting pair. Human activities that cause prolonged absences of breeding adults from their nests can jeopardize eggs or young. Depending on weather conditions, eggs may overheat or cool too much and fail to hatch. Unattended eggs and

nestlings are subject to predation. Irregular feeding due to human disruption can harm young. Adults startled while incubating or brooding young may damage eggs or injure their young as they abruptly leave the nest. Older nestlings may be startled by loud or intrusive human activities and prematurely jump from the nest before they are able to fly. Some examples of project related activities that may cause nest abandonment or forced fledging are: large mobile construction equipment (i.e., bulldozers, earth movers, etc.) working directly under the nest for long periods of time, any equipment elevated to the level of the nest or higher, or a person attempting to climb the nest tree.

Construction activities (tree removal or pruning, demolition and/or grading activities, use of heavy machinery) in close proximity (within the ¼ mile buffer) to nesting Swainson's hawk nest could result in the abandonment of active nests or the loss of active (occupied) nests.

Mitigation Measure 3.5-2: Swainson's hawk (nesting)

Implementation of Mitigation Measure 3.5-2(a) would require surveys for nesting Swainson's hawks to confirm the presence of active nests during the appropriate nesting season. If construction activities cannot be avoided during the nesting season, then implementation of Mitigation Measure 3.5-2(b) ensures that active nests are protected and the potential for nest abandonment is minimized by instituting appropriate buffer zones and avoiding or minimizing disturbance to any nesting birds reducing the impact to **less than significant.**

a. Before any demolition/construction activities that occur between March 1 and September 15 the applicant or developer(s) shall have a qualified biologist conduct surveys for nesting migratory birds on the Project alignment and within a quarter mile of demolition/construction activities. Surveys shall be conducted no more than 30 days prior to the start of any demolition or construction activities. If no active nests are identified on or within a quarter mile of construction activities, a letter report summarizing the survey results shall be sent to the City of Sacramento and CDFW and no further mitigation is required.

b. If active nests are found, measures that will avoid impacts to nesting migratory birds, including measures consistent with the CDFW Staff Report Regarding Mitigation for Impacts to Swainson's Hawks in the Central Valley of California shall be implemented as follows:

   – Nest trees shall not be removed unless there is no feasible way of avoiding their removal.

   – If there is no feasible alternative to removing a nest tree, a Management Authorization (including conditions to offset the loss of the nest tree) shall be obtained from CDFW with the tree removal period (generally between October 1 and February 1) to be specified in the Management Authorization.

   – No intensive disturbances (e.g., heavy equipment operation associated with construction, use of cranes or draglines, new rock crushing activities) or other

project-related activities that could cause nest abandonment or forced fledging, shall be initiated within 1,320 feet (¼ mile) or less, as determined by CDFW, (buffer zone as defined in the CDFW Staff Report) of an active Swainson's hawk nest or 500 feet for other nesting migratory birds, between March 1 and September 15 or until August 15 if a Management Authorization or Biological Opinion is obtained from CDFW for the project. The buffer zone may be reduced in consultation with CDFW.

– If demolition/construction activities are unavoidable and are allowed by CDFW within the buffer zone, the project applicant or developer(s) shall retain a qualified biologist to monitor the nest to determine if abandonment occurs. If the nest is abandoned and the nestlings are still alive, the project proponent shall retain the services of a qualified biologist to reintroduce the nestling(s) (recovery and hacking). Prior to implementing, any hacking plan shall be reviewed and approved by the Environmental Services Division and Wildlife Management Division of the CDFW. The CDFW may allow reduction of the recommended buffers, if a qualified biologist is retained for on-site nest observations.

Impact 3.5-3: Construction of the proposed Project could result in the loss of active burrowing owl nest burrows.

The CNDDB shows four recorded occurrences of burrowing owls along the Project alignment. Burrowing owls are a State and Federal species of concern and; therefore, protected under Section 3503 of the CDFW Code and the MBTA. Ground squirrel burrows present in the irrigation ditches along the proposed alignment in agricultural areas north of the SRWTP are considered potential nesting habitat for burrowing owls. The loss of occupied ("[a] site should be assumed occupied if at least one burrowing owl has been observed occupying a burrow there within the last three years") burrowing owl nest or its occupants would be considered **potentially significant**.

Mitigation Measure 3.5-3: burrowing owl (nesting)

Once implemented, Mitigation Measure 3.5-3(a) through (c) below would reduce the above impact to **less than significant** through the avoidance of any active burrowing owl nests, the safe exclusion of burrowing owls from any burrows to be destroyed prior to construction of the proposed Project, and the purchase of additional burrowing habitat, if necessary.

a. Prior to the issuance of grading permits, the project applicant shall retain a qualified biologist to conduct a pre-construction burrowing owl survey. *If no suitable burrows are found, no further mitigation is required*. If suitable burrows are found, but no owls are found, all burrows shall be hand-excavated and collapsed prior to project construction. If nesting owls are found, no disturbance shall be allowed within 160-feet of the active nest burrow between February 1 and August 31. Outside the nesting season, and/or upon confirmation by the qualified biologist, and in consultation with CDFW, that all young have fledged and left an active nest, burrowing owls present in the burrow shall be excluded from the

burrow(s) by a qualified biologist through a passive relocation as outlined in the California Burrowing Owl Consortium's April 1993 Burrowing Owl Survey Protocol and Mitigation Guidelines (California Burrowing Owl Consortium 1993) and 2012 Staff Report on Burrowing Owl Mitigation (CDFG 2012). Once the burrows have been cleared, they must be hand-excavated and collapsed prior to project construction.

b. To offset the loss of foraging and burrow habitat along the Project alignment, mitigation will be implemented as directed in CDFG (2012), which states that, "permanent habitat loss necessitates replacement with an equivalent or greater habitat area for breeding, foraging, wintering, dispersal, presence of burrows, burrow surrogates, presence of fossorial mammal dens, well drained soils, and abundant and available prey within close proximity to the burrow." The project proponent shall provide funding for long-term management and monitoring of the protected lands. The monitoring plan shall include success criteria, remedial measures, and an annual report to the Department. This mitigation could overlap with mitigation requirements for Swainson's hawk foraging habitat as deemed appropriate by CDFW.

c. If destruction of occupied burrows is unavoidable, the project applicant shall coordinate with CDFW to identify existing suitable burrows located on the protected lands site to be enhanced (enlarged or cleared of debris) or new burrows created (by installing artificial burrows) at a ratio of 2:1.

Impact 3.5-4: Construction impacts to Giant Garter Snake upland habitat from Freeport Lateral Option A.

Morrison Creek, Laguna Creek, and other aquatic features within the Bufferlands are considered suitable habitat for GGS. Construction of the main line will include tunneling under these areas, and no above-ground work will occur within 200 feet of suitable habitat. Laydown Area 6, associated with construction of the Freeport Lateral Option A, occurs near, but greater than 200 feet from, a wetland that is connected to Morrison Creek. Because of the proximity to GGS upland habitat, this is a **potentially significant impact**.

Mitigation Measure 3.5-4: Giant Garter Snake upland habitat

If impacts within 200 feet of GGS aquatic habitat are not expected; however, if any work were to occur in this area, consultation with USFWS will be carried out to determine if any take will occur. The following mitigation measures would be implemented, which would reduce impacts to GGS to **less than significant**.

a. Pre-construction Surveys. At most 24-hours prior to the commencement of construction activities, the environmentally sensitive area, i.e. areas within 200 feet of aquatic GGS habitat, shall be surveyed for GGS by a USFWS-approved biologist. The biologist will provide the USFWS with a written report that adequately documents the monitoring efforts within 24-hours of commencement of construction activities. The project area shall be re-inspected by the

monitoring biologist whenever a lapse in construction activity of two weeks or greater has occurred.

b. Timing of Construction. Construction activity in GGS upland habitat will occur during the snake's active period between May 1 and October 1. During the active period direct mortality is lessened, because snakes are expected to actively move and avoid danger. If it appears that construction activity may go beyond October 1, the project proponents shall contact the USFWS as soon as possible, but not later than September 15 of the year in question, to determine if additional measures are necessary to minimize take. Construction activities within 200 feet from the banks of snake aquatic habitat will be avoided during the snake's inactive season. If this is not feasible, the Project Proponent must consult with USFWS to determine measures to avoid impacts to giant garter snake.

c. Monitoring During Construction. A USFWS-approved biologist shall inspect construction-related activities at the ESA to ensure that no unauthorized take of federally listed species or destruction of their habitat occurs. The biologist shall be available for monitoring throughout all phases of construction that may result in adverse effects to the giant garter snake. This includes installation of exclusion fence in GGS upland habitat. Furthermore, the biologist shall have the authority through communication with the resident engineer to stop construction activities in the immediate area if a GGS is encountered during construction until appropriate corrective measures have been completed or until the snake is determined to be unharmed. Snakes encountered during construction activities shall be allowed to move away from the area on their own volition. The biologist shall notify the USFWS immediately if any listed species are found on-site, and will submit a report, including date(s), location(s), habitat description, and any corrective measures taken to protect the species found. The biologist shall be required to report any take of listed species to the USFWS immediately by telephone at 916/ 414-6600 and by electronic mail or written letter addressed to the Chief, Endangered Species Division, within three (3) working days of the incident. The Service does not authorize any handling or moving of a giant garter snake by other than a USFWS-approved biologist.

d. Worker Awareness Training. A Worker Environmental Awareness Training Program for construction personnel shall be conducted by the USFWS-approved biologist for all construction workers, including contractors, prior to the commencement of construction activities. The program shall provide workers with information on their responsibilities with regard to the snake, an overview of the life-history of this species, information on take prohibitions, protections afforded this animal under the Act, and an explanation of the relevant terms and conditions of this biological opinion. Written documentation of the training must be submitted to the Sacramento Fish and Wildlife Office within 30 days of the completion of training. As needed, training shall be conducted in Spanish for Spanish language speakers.

e. Install Snake Exclusion Fencing. Prior to the commencement of construction activities, high visibility fencing will be erected around the habitats of federally listed species to identify and protect these designated ESAs from encroachment of personnel and equipment. These areas will be avoided by all construction personnel. The fencing shall be inspected by the Contractor before the start of each work day and maintained by the Contractor until completion of the project. The fencing may be removed only when the construction of the project is completed. Fencing will be established in upland immediately adjacent to aquatic snake habitat and extending up to 200 feet from construction activities. Silt fencing, if properly installed, may serve as suitable snake exclusion fencing.

f. Provide Adequate Signage. Signs will be posted by the Contractor every 50 feet along the edge of the ESAs, with the following information: "This area is habitat of federally-threatened and/or endangered species, and must not be disturbed. These species are protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment." The signs should be clearly readable from a distance of 20 feet, and must be maintained by the Contractor for the duration of construction.

g. Properly Dispose of Garbage. To eliminate an attraction to predators of the snake, all food-related trash items, such as wrappers, cans, bottles, and food scraps, must be disposed of in closed containers and removed at the end of each workday from the entire project site.

h. Minimize Impacts. The Contractor shall minimize the potential for harm, harassment, and direct mortality of the snake resulting from project-related activities by implementation of the project. The Contractor shall ensure that the temporary loss of giant garter snake habitat is confined to the proposed project site.

Impact 3.5-5: Impacts to elderberry shrub from construction of Freeport Lateral Option A.

No elderberry shrubs would be affected by construction of the main line. Construction of the Freeport Lateral Option A occurs near, but greater than 20 feet from, one small, multi-stemmed shrub, as described in **Section 3.5.2**. This shrub has two stems over 1 inch in diameter, with no evidence of exit holes. However, it has potential to support VELB. Removal, damage, or construction activities less than 20 feet from elderberry shrubs would result in **potentially significant impacts**.

Mitigation Measure 3.5-5: Elderberry shrub impacts

If impacts to this shrub cannot be avoided by at least 20 feet, consultation with USFWS will be carried out to determine if any take will occur. The shrub will not be removed or transplanted until authorized by USFWS. If USFWS determines that mitigation is required, compensation will be implemented as outlined in the Conservation Guidelines for Valley Elderberry Longhorn Beetle (USFWS 1999). Implementation of this mitigation measure would reduce impacts to less than significant.

Impact 3.5-6: Construction of the proposed Project could result in the disturbance of native perennial grassland.

A portion of the SRWTP, located west of Morrison Creek and east of the North Beach Lake Levee was restored to perennial native grassland as part of a restoration project in 2004 (see description of perennial native grassland under Terrestrial Environment in **Section 3.5.2** above) . This project was completed under a cost-share agreement with USACE as part of the South Sacramento County Streams Project. This area may be disturbed by open-cut construction and Laydown Area 6 if the Freeport Lateral Option A is constructed. This impact would be **potentially significant**.

Mitigation Measure 3.5-6: Perennial grassland

Although non-native weed species have encroached on this area, many stands of the restored native vegetation remain. Therefore, any ground disturbed in this area would be required to be restored to original grade and revegetated per the original specifications of the restoration project(s). This would reduce impact to native perennial grassland to **less than significant**.

Impact 3.5-7: Construction of the proposed Project could result in the loss of native oak, heritage oak, or street/public trees.

Trees protected by the County and City General Plans may be removed or damaged during construction of the proposed Project. This impact would be **potentially significant**.

The majority of Project construction will be via open-cut method along existing roads rights-of-way which will aid in the avoidance of tree damage and removal. HDD activities would be used in riparian areas where the highest potential for tree damage occurs. As discussed in **Section 3.2, Aesthetics**, a qualified arborist will advise regarding Project alignment, where feasible through parks and recreational areas. Native oaks were planted as mitigation in the area planned to be used for the Freeport Lateral Laydown Area. Approximately 25 to 35 6-year old oak trees occur in this area, with average diameter at breast height about 6 inches. It is expected that trees in this area would be avoided, but some incidental damage or removal may occur.

Mitigation Measure 3.5-7: Tree removal

Where damage and removal of trees subject to County and City regulations cannot be avoided, mitigation measures will be implemented in accordance with the Sacramento County 2030 General Plan and the City of Sacramento Tree Preservation Ordinance. For projects in the unincorporated County, native tree impacts would be mitigated as outlined in General Plan policies CO-138, CO-139, and CO-140. Impacts to woodland habitat, such as a riparian or native oak, are mitigated on an acreage basis, as described in CO-140. Individual native tree impacts outside of the habitat areas are mitigated based on the tree's dbh per CO-139. Non-native tree impacts are mitigated using a canopy measurement based on 15-year shade cover values (CO-145), or, if onsite mitigation is not possible, by contributing to the Greenprint fund (CO-146).

Trees removed within the City of Sacramento would be mitigated according to the City of Sacramento Tree Preservation Ordinance, which specifies replacement planting of trees of at least 24 inch box size for impacts to trees greater than six inches in diameter, or replacement trees of a minimum of 15 gallon can size for impacts to trees less than six inches in diameter.

Implementation of these mitigation measures would reduce impacts resulting from tree removal to **less than significant.**

See FEIR Pg. 3-2

3.6 Cultural Resources

3.6.1 Introduction

This section summarizes the *Cultural Resources Inventory for the Sacramento Regional County Sanitation District/ Sacramento Power Authority /City of Sacramento Water Recycling Pipeline Project* dated June 18, 2014, prepared by Natural Investigations Company. This section is informed by the provisions and requirements of Federal, State, and local laws and regulations that apply to cultural resources, including paleontological resources. This section addresses the potential impacts on cultural/historical and paleontological resources that could result from development of the project. Cultural resources include archaeological sites, districts, buildings, structures, and objects generally older than 50 years and considered to be important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. Historical resources are generally defined as properties that are listed or have been determined eligible for listing in the National Register of Historic Places (NRHP) ("historic properties"), the California Register of Historical Resources (CRHR) ("historical resources"), or a local register or inventory of resources. The Paleontological Resources Preservation Act defines the term paleontological resource as "any fossilized remains, traces, or imprints of organisms, preserved in or on the earth's crust, that are of paleontological interest and that provide information about the history of life on earth."

3.6.2 Regulatory Setting

The following text summarizes Federal, State, and regional and/or local laws and regulations pertinent to evaluation of the Project's impacts on cultural resources.

Federal

National Historic Preservation Act The NHPA of 1966 is the primary Federal legislation that outlines the Federal government's responsibility with regard to cultural resources. More specifically, Section 106 of NHPA (implementing regulations 36 CFR Part 800) outlines the Federal government's responsibility in identifying and evaluating cultural resources for the NRHP. Other applicable Federal cultural resources laws and regulations that could apply include, but are not limited to, the Native American Graves Protection and Repatriation Act of 1990, and the Archaeological Resources Protection Act of 1979.

Section 106 of the NHPA requires the Federal government to take into account in its actions the effects of an undertaking on cultural resources listed in or eligible for listing in the NRHP and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment. The NHPA is relevant to the Project because certain Federal permits (e.g., Clean Water Act section 404) may be required for the Project. Those resources that are listed in or eligible for inclusion in the NRHP are referred to as "historic properties." The 36 CFR Part 800 regulations describe the Section 106 process, outlining the steps a Federal agency takes to identify cultural resources and the level of effect that the proposed undertaking will have on historic properties.

As defined in 36 CFR Section 800.16(y), a Federal undertaking means a "Project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; and those requiring a Federal permit, license or approval."

Section 106 of the NHPA does not apply to paleontological resources unless they are found in a culturally related context. In addition to the Antiquities Act (16 United States Code [USC] §§ 431–433) of 1906, the preservation and salvage of fossils and other paleontological resources can be protected under the National Registry of Natural Landmarks (16 USC § 461–467) and National Environmental Policy Act (NEPA), which directs Federal agencies to "preserve important historic, cultural, and natural aspects of our national heritage."

National Register of Historic Places To be eligible for inclusion in the NRHP, a cultural resource must possess integrity and meet at least one of the following four criteria delineated at 36 CFR Part 60.4. The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that:

A. are associated with events that have made a significant contribution to the broad patterns of our history; or

B. are associated with the lives of persons significant in our past; or

C. embody the distinctive characteristics of a type, period or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. have yielded or may be likely to yield, information important in prehistory or history.

To retain historic integrity a property will always possess several and usually most aspects that demonstrate integrity and generally would retain most aspects of that integrity. The retention of specific aspects of integrity is paramount for a property to convey its significance. Determining which of these aspects are most important to a particular property requires knowing why, where, and when the property is significant (National Park Service 1997).

Ordinarily, buildings and structures less than 50 years old are not considered eligible for listing in the NRHP. Under Criterion G, however, a property achieving significance within the past 50 years is eligible for NRHP inclusion if it is of "exceptional" importance (36 CFR Part 60.4).

State

California Environmental Quality Act CEQA of 1972 (PRC §21000, *et seq*.; CEQA Guidelines, CCR, §15000, *et seq*.) is the principal regulatory control addressing impacts on historical resources, unique archaeological resources, and paleontological resources in California. Projects with the potential to adversely affect significant cultural resources must be reviewed through the CEQA process. As the designated CEQA lead agency for approval of the Project, Regional San is responsible for complying with CEQA's requirements regarding the identification of feasible measures to mitigate significant adverse changes to historical resources, unique archaeological resources, and paleontological resources and ensuring that the measures are enforceable through permit conditions, agreements, or other measures.

State CEQA Guidelines (14 CCR § 15064.5), "Determining the Significance of Impacts to Archaeological and Historical Resources," provide further direction regarding cultural resources. Subsection (a) defines the term "historical resources." Subsection (b) explains when a Project may be deemed to have a significant effect on historical resources and defines terms used in describing those situations. Subsection (c) describes CEQA's applicability to archaeological sites and provides a bridge between the application of the terms "historical resource" and a "unique" archaeological resource.

The term "historical resource" is similar to but more inclusive than the NRHP significance criteria. Under CEQA, a historical resource includes, but is not limited to:

- A resource listed in, or determined to be eligible by the State Historical Resources Commission for listing in the CRHR (PRC § 5024.1; 14 CCR § 4852).

- A resource included in a local register of historical resources (as defined by PRC § 5020.1[k]), or identified in a historical resource survey meeting the requirements of PRC § 5024.1(g) (presumption of historical significance.

- A resource that meets at least one of the following criteria for CRHR listing (provided below).

- A resource that the lead agency otherwise determines is a historical resource as defined by PRC Sections 5020(j) or 5024.1.

State CEQA Guidelines (14 CCR Section 15126.4), "Consideration and Discussion of Mitigation Measures Proposed to Minimize Significant Effects," subsection (b) discusses impacts of maintenance, repair, stabilization, restoration, conservation, or reconstruction of a historical resource. Subsection (b) also discusses mitigation through avoidance of damaging effects on any historical resource of an archaeological nature, preferably by preservation in place, or by data recovery through excavation if avoidance or preservation is not feasible. Data recovery must be conducted in accordance with an adopted data recovery plan.

As noted above, CEQA also requires lead agencies to consider whether Projects will affect "unique archaeological resources." PRC Section 21083.2(g) states that "unique

archaeological resource" means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following three criteria:

1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.

2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.

3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

The State CEQA Guidelines note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the Project on those resources shall not be considered a significant effect on the environment (CCR Section 15064.5(c)(4)).

California Register of Historical Resources PRC, Section 5024.1 establishes the CRHR; sets forth the criteria to determine significance (detailed below); defines eligible properties; and lists nomination procedures. The California Register is "an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1[a]). The criteria for eligibility for the CRHR are based upon NRHP criteria (PRC Section 5024.1[b]). To be eligible for CRHR inclusion, a resource must retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance, and must meet at least one of the following criteria:

1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

2) Is associated with the lives of persons important in our past;

3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

4) Has yielded, or may be likely to yield, information important in prehistory or history.

As described in PRC Section 5024.1[d]), resources that are automatically listed in the CRHR include those listed in or formally determined eligible for listing in the NRHP ("historic properties") and California Historical Landmarks from No. 770 onward. As defined in PRC Sections 5097.9 and 5097.993, Native American historic, cultural, or sacred sites could be listed or eligible for listing in the CRHR pursuant to PRC Section 5024.1.

California Health and Safety Code California Health and Safety Code Section 7050.5 requires that if human remains are discovered during construction outside of a dedicated cemetery, the Project owner is required to contact the county coroner and further excavation or disturbance of land cease until the coroner has made a determination. If the coroner determines the remains are Native American, the coroner must contact the Native American Heritage Commission (NAHC) within 24 hours and the procedures outlined in PRC Section 5097.98 must be followed.

Paleontological Resources: California Public Resources Code The PRC protects paleontological resources through Section 5097.5 which prohibits "knowing and willful" excavation, removal, destruction, injury, and defacement of any paleontological feature on public lands (lands under State, county, city, district, or public authority jurisdiction, or the jurisdiction of a public corporation), except where the agency with jurisdiction has granted permission.

Local

Sacramento County General Plan The Conservation Element of the *Sacramento County General Plan of 2005-2030* includes the following policies related to archaeological and paleoresource site protection during development; historic structures preservation; destruction of cultural resources; cultural resource surveys, artifact study and storage; and public awareness of cultural resources that may be applicable to the Project:

Archeological Site Protection During Development

- **Policy 154**. Protection of significant prehistoric, ethnohistoric and historic sites within open space easements to ensure that these resources are preserved in situ for perpetuity.

- **Policy CO-155**. Native American burial sites encountered during preapproved survey or during construction shall, whenever possible, remain in situ. Excavation and reburial shall occur when in situ preservation is not possible or when the archeological significance of the site merits excavation and recording procedure. Onsite reinterment shall have priority. The Project developer shall provide the burden of proof that offsite reinterment is the only feasible alternative. Reinterment shall be the responsibility of local tribal representatives.

- **Policy CO-156**. The cost of all excavation conducted prior to completion of the Project shall be the responsibility of the Project developer.

- **Policy CO-157**. Monitor Projects during construction to ensure crews follow proper reporting, safeguards, and procedures.

- **Policy CO-158**. As a condition of approval of discretionary permits, a procedure shall be included to cover the potential discovery of archaeological resources during development or construction.

- **Policy CO-159**. Request a Native American Statement as part of the environmental review process on development Projects with identified cultural resources.

- **Policy CO-161**. As a condition of approval for discretionary Projects, require appropriate mitigation to reduce potential impacts where development could adversely affect paleontological resources.

- **Policy CO-162**. Projects located within areas known to be sensitive for paleontological resources, should be monitored to ensure proper treatment of resources and to ensure crews follow proper reporting, safeguards and procedures.

- **Policy CO-163**. Require that a certified geologist or paleoresources consultant determine appropriate protection measures when resources are discovered during the course of development and land altering activities.

Historic Structure Preservation

- **Policy CO-164**. Structures having historical and architectural importance shall be preserved and protected.

- **Policy CO-165**. Refer Projects involving structures or within districts having historical or architectural importance to the Cultural Resources Committee to recommend appropriate means of protection and mitigation.

- **Policy CO-166**. Development surrounding areas of historic significance shall have compatible design in order to protect and enhance the historic quality of the areas.

Destruction of Cultural Resource Sites

- **Policy CO-169**. Restrict the circulation of cultural resource location information to prevent potential site vandalism. This information is exempt from the "Freedom of Information Act."

- **Policy CO-170**. Cooperate with other agencies to enforce laws and aggressively prosecute illegal collection of artifacts.

- **Policy CO-171**. Design and implement interpretive programs about known archeological or historical sites on public lands or in public facilities. Interpretation near or upon known sites should be undertaken only when adequate security is available to protect the site and its resources.

Public Awareness of Cultural Resources

- **Policy CO-172**. Provide historic and cultural interpretive displays, trails, programs, living history presentations, and public access to the preserved artifacts recovered from excavations.

- **Policy CO-173**. Interpretive elements involving Native American cultural resources shall be located at village sites (provided any unexcavated resources are properly protected) representative of different physical environments found in the County.

- **Policy CO-174**. Promote and support the California Indian Heritage Center.

- **Policy CO-175**. The County shall support efforts to develop Cultural Resources Tourism program within the County as a tool to preserve important cultural resources and in order to encourage economic development of resources within the County.

City of Sacramento General Plan The Historic and Cultural Resources Element of the City of Sacramento 2030 General Plan includes the following policies related to identifying and protecting archaeological, historic, and cultural resources, or mitigating impacts to archaeological, historic, and cultural resources that may be applicable to the Project:

Identification and Preservation of Historic and Cultural Resources

- **Policy HCR 2.1.1 Identification**. The City shall identify historic and cultural resources including individual properties, districts, and sites (e.g., archaeological sites) to provide adequate protection of these resources.

- **Policy HCR 2.1.2 Applicable Laws and Regulations**. The City shall ensure that City, State and Federal historic preservation laws, regulations, and codes are implemented, including the California Historical Building Code and State laws related to archaeological resources, to ensure the adequate protection of these resources.

- **Policy HCR 2.1.10 Early Consultation**. The City shall minimize potential impacts to historic and cultural resources by consulting with property owners, land developers, and the building industry early in the development review process.

- **Policy HCR 2.1.15 Archaeological Resources**. The City shall develop or ensure compliance with protocols that protect or mitigate impacts to archaeological, historic, and cultural resources including prehistoric resources.

The Historic and Cultural Resources Element of the South Area Community Plan, which is part of the *City of Sacramento 2030 General Plan*, includes the following policies related to identifying and protecting historic and cultural resources that may be applicable to the Project:

Historic and Cultural Resources

- Policy SA.HCR 1.1 Town of Freeport Historic Preservation. The City shall preserve and protect the “delta river town” identity and unique historical

characteristics of the town of Freeport to minimize adverse impacts of adjacent development on the Town.

- Policy SA.HCR 1.2 Victory Trees Preservation. The City shall preserve and protect the historically significant Victory trees on Freeport Boulevard.

Sacramento City Code Sacramento City Code Title 15.124 is the Historic Preservation Chapter of the City Code. The Historic Preservation Program was established to identify, protect, and encourage the preservation, use or adaptive re-use of the City's rich and diverse historic and cultural resources; to safeguard these resources as valuable assets to the City; provide consistency with State and Federal regulations; and ensure that new development neither compromises the resource's eligibility, nor has a significant negative impact on the resource, and to ensure that the proposed Project is compatible with the historic resource. The chapter also establishes a Preservation Board, criteria for listing properties in the Sacramento Register, and development Project review standards, along with preservation incentive programs.

City of Sacramento Register of Historic and Cultural Resources The City of Sacramento established the Sacramento Register of Historic and Cultural Resources or the Sacramento Register to recognize structures, preservation areas, or properties of local, State, or national historical or architectural significance. The Sacramento Register includes all designated historic resources adopted by ordinance by the Sacramento City Council, including individually-designated City Landmarks and all designated City Historic Districts and Contributing Resources within Historic Districts, and resources within the City that are on the California Register or National Register.

The following are the criteria for listing on the Sacramento Register (City Code 17.134.170(A)(1)):

i. It is associated with events that have made a significant contribution to the broad patterns of the history of the city, region, State, or nation;

ii. It is associated with the lives of persons significant in the city's past;

iii. It embodies the distinctive characteristics of a type, period or method of construction;

iv. It represents the work of an important creative individual or master;

v. It possess high artistic values; or

vi. It has yielded, or may be likely to yield, information important in the prehistory or history of the city, the region, the State, or the nation.

To be listed on the Sacramento Register, a resource must meet at least one of the six significance criteria, and possess the quality of integrity (location, design, setting, materials, workmanship, and association). Historical resources must retain enough of their historic character or architectural worth to be recognizable as historical resources

and to convey the reasons for their significance. The City Code also outlines specific factors to consider in determining whether to list a resource on the Sacramento Register as a landmark, as a historic district, and as a contributing resource.

Other

The Impact Mitigation Guidelines published by the Society of Vertebrate Paleontology (SVP) provide a set of standard procedures intended to be applicable to both private and public lands under the jurisdiction of local, city, county, regional, State, and Federal agencies (SVP 2010). Protection of paleontological resources includes: (a) assessment of the potential for land to contain significant paleontological resources which could be directly or indirectly impacted, damaged, or destroyed by proposed development and (b) formulation and implementation of measures to mitigate these adverse impacts, including permanent preservation of the site and/or permanent preservation of salvaged fossils along with all contextual data in established institutions.

The SVP Guidelines define the paleontological potential of rock units as high, undetermined, low, or no potential. Sedimentary rock units with a high potential for containing significant nonrenewable paleontological resources are those within which vertebrate or significant invertebrate, plant, or trace fossils have been determined by previous studies to be present or likely to be present. Significant paleontological resources are fossils or assemblages of fossils, which are unique, unusual, rare, uncommon, diagnostically or stratigraphically important, and those which add to the existing body of knowledge in specific areas, stratigraphically, taxonomically, or regionally. Rock units with undetermined potential have little information available concerning their paleontological content, geologic age, and depositional environment. Further study is needed to determine if these rock units have high or low potential to contain significant paleontological resources.

Rock units with low potential are poorly represented by fossil specimens in institutional collections, or preserve fossils in rare circumstances (e.g., basalt flows or recent colluvium). Metamorphic rocks (such as gneisses and schists) and plutonic igneous rocks (such as granites and diorites) generally have no potential to contain significant paleontological resources. Rock units with low or no potential will not typically require impact mitigation measures to protect fossils.

3.6.3 Environmental Setting

Prehistoric, Ethnohistoric, and Historic Setting

Prehistoric Context The Project alignment is situated within the southern Sacramento Valley, north and east of the Sacramento–San Joaquin Delta. This Central Valley region was occupied by different prehistoric cultures dating to at least 10,000 years ago (Rosenthal et al. 2007). Little evidence exists, however, prior to the Middle Archaic Period due mainly to burial by alluvial fan and floodplain deposits of Paleo-Indian and Lower Archaic period archaeological sites. During the Middle Archaic between 7,500 and 2,700 years ago, archaeological sites on the valley floor are more common after 4,500 years ago. The sites indicate populations had an established trade network and followed a seasonal foraging strategy, consuming a variety of animals, plants, and fish.

After 2,700 years ago during the Upper Archaic, more specialized technology resulted in innovations with new types of shell beads, bone tools, ceremonial blades, and charmstones. In the lower Sacramento Valley/Delta region, large mounded villages developed that included accumulations of habitation debris and features, such as hearths, rock-lined ovens, house floors, and burials.

The diversity and number of artifacts and the number of archaeological sites increased in this region after 1,000 years ago during the Emergent Period. An increase in sedentism and population led to the development of social stratification, with an elaborate ceremonial and social organization. The Emergent Period was also shaped by a number of cultural innovations, such as the bow and arrow, bone fish hooks, and harpoons. The development of extensive exchange networks during this period was accompanied by the use of clamshell disk beads as a form of currency. The cultural patterns typical of the Emergent Period also begin to reflect the cultural traditions known from historic period Native American groups.

Ethnographic Context The Project is located at the interface of lands historically occupied by the Nisenan and Plains Miwok (also Mi-wuk) (Kroeber 1925; Levy 1978; Wilson and Towne 1978). Prior to Euro-American contact, Plains Miwok territory included the lower Mokelumne River, Cosumnes River, and the Sacramento River from Rio Vista to Freeport. Nisenan (also known as the southern Maidu) lands included the southern extent of the Sacramento Valley, east of the Sacramento River between the North Fork Yuba River and Cosumnes Rivers on the north and south, respectively, and extended east into the foothills of the Sierra Nevada Range. The language families of both groups, Maiduan and the Miwokan branch of Utian, are regarded as subgroups of Penutian stock.

Like the majority of Native Californians, the Nisenan and Plains Miwok relied on acorns as a staple food, which were collected in the fall and then stored before processing with bedrock or portable mortars and pestles. In terms of seasonal resources, the drainage systems in the Project region would have been very productive environments during prehistoric and ethnohistoric times. Ethnographic Nisenan and Plains Miwok established central villages and smaller satellite villages along the main watercourses in their territories. Several large villages located on the east bank of Sacramento River in the Project vicinity included the Plains Miwok village of *Hulpumne* near Freeport and the Nisenan villages of *Sama* and *Momol* near the city of Sacramento. A number of archaeological sites and prehistoric burials have been identified within their territories in the lower Sacramento Valley/Delta region.

The traditional cultural and lifeways of the Nisenan and Plains Miwok who inhabited the fertile plains between Sacramento and the Sierra foothills, and between Sacramento and Stockton, respectively, were disrupted beginning in the early 1800s. As part of Spanish settlement and missionization, Plains Miwok were transported to Mission San José. During the Mexican period, native peoples were affected by land grant settlements and decimated by foreign disease epidemics that swept through the densely populated Central Valley. By 1850, with their lands, resources and way of life being overrun by the steady influx of non-native people during the Gold Rush, surviving Nisenan or Plains Miwok

retreated to the foothills and mountains or labored for the growing ranching, farming, and mining industries. Many Miwok now live on the Wilton, Shingle Springs, Jackson, Buena Vista, Sheep Ranch, Tuolumne, and Chicken Ranch rancherias. Nisenan descendants reside on the Auburn, Berry Creek, Chico, Enterprise, Greenville, Mooretown, Shingle Springs, and Susanville rancherias, as well as on the Round Valley Reservation.

Historic Context While Spanish colonization of California began in earnest with establishment of a settlement in San Diego in 1769, the first Spanish expeditions into the Central Valley did not occur until 1808. Lieutenant Gabriel Moraga explored along the main rivers and is said to have named the valley region "Sacramento" ("the Holy Sacrament"). By the late 1820s during the Mexican Period, English, American, and French fur trappers, attracted by the Central Valley's abundance of animal life, had established operations throughout the region. The Mexican Period is also marked by an extensive era of land grants, most of which were in the interior of the State. The largest land grants in the Sacramento Valley were awarded to John Sutter. In 1839, he founded a trading and agricultural empire called New Helvetia that was headquartered at Sutter's Fort near the divergence of the Sacramento and American rivers in today's city of Sacramento (Hoover et al. 2002).

In 1849, one year after the discovery of gold, nearly 90,000 people had journeyed to the gold fields of California, and a portion of Sutter's Mexican land grant became the bustling Gold Rush boomtown of Sacramento. Sacramento quickly became a trading and economic center, a river transportation hub, the westernmost point of the Pony Express (1860–1861), and a critical junction for two (Western Pacific and Central Pacific) of the three railroads that forged the first transcontinental railroad. With completion of the transcontinental railroad in 1869, thousands of new settlers and immigrants poured into the State during the second half of the nineteenth century. In the Project region, ranchers and farmers settled on the fertile soils near the Sacramento River and provided beef cattle, hogs, and dairy products to the burgeoning population in Sacramento and the foothills mines. The "Road to Sacramento" is shown on early historic maps (1859 Government Land Office plat for Township 7 North, Range 4 East) following today's Freeport Boulevard corridor along the east side of the Sacramento River from south of the Freeport bend north to the City of Sacramento.

The pattern of early historic land use continued to focus on farming and ranching within the Project alignment south of Meadowview Road until mid-2013 with the start of ground-disturbing activities associated with construction of the Cosumnes River Boulevard Extension and I-5 Interchange Project. The Project alignment north of Meadowview Road was urbanized in the 1950s and 1960s (City of Sacramento 2009:3-SA-1–3-SA-8). The planned new development, Delta Shores, which is located south of Meadowview Road, was annexed by the City in 1960. Development of Delta Shores will be facilitated by completion of the 3.5-mile Cosumnes Boulevard gap between Franklin Boulevard and I-5. The southern boundary of the planned Delta Shores development lies approximately 800 feet north of a recently improved levee on the north side of Morrison Creek.

The town of Freeport retains a rural Delta town atmosphere. Located on the bend in the Sacramento River initially known as the Russian Embarcadero, the town was founded in 1862 as a potential rival railroad hub to Sacramento. In the mid-1920s, Freeport Boulevard was designated a part of the nation's Victory Highway, a cross-country combination of new and existing roads that served as both war memorial and public improvement Project (City of Sacramento 2013). Since 2001, the City of Sacramento has been responsible for maintaining the portion of Freeport Boulevard within its boundaries. Freeport Boulevard turns into SR 160 south from the intersection with Meadowview Road. The Freeport Bridge, which was built in 1929 and has been determined eligible for listing in the NRHP, provides local access to the west side of the Sacramento River.

In 1973, the County and City of Sacramento joined forces with the City of Folsom to form Regional San, which assumed responsibility for regional wastewater treatment. Taking nearly 10 years to finish, the SRWTP began providing service in 1982. The SRWTP was built by Regional San along with the regional interceptor pipeline system that links each of the area's local sewer collection systems.

Known Cultural Resources Within Project Alignment

See FEIR Pg. 3-3

Records Search Efforts to identify cultural resources within the Project alignment consisted of a record search by the North Central Information Center (NCIC) at California State University, Sacramento. The records search revealed 46 cultural resources investigations have been completed in, adjacent to, or within 0.25 mile of the Project alignment (Table 3.6-1). All or portions of 20 of these previous studies fall within the current Project alignment. An additional seven studies were previously conducted adjacent to the Project alignment.

Table 3.6-1. Previous Cultural Resources Inventories Within 0.25 Mile of Project Alignment

NCIC Report No.	Year of Study	Type of Study	Project	Report Authored By	Within Project Alignment
86	1978	Survey and Evaluation	Freeport Shores, Delta Shores	Russo, Marianne	Yes
86	1982	Survey	Delta Shores	Chavez, David	Yes
88	1974	Survey	Morrison Stream Basin	Johnson, Jerald J.	Yes
184	1978	Survey	SSMP EIR	Russo, Marianne	Yes
421	1979	Survey	Klotz Property	Peak & Associates	Yes
514	1980	Survey	SMUD Rancho Seco Transmission Line	Peak & Associates	No
1087	1998	Survey	SRWTP Dewatering Facility	Norton, W.L.	No

See FEIR Pg. 3-3

Table 3.6-1. Previous Cultural Resources Inventories Within 0.25 Mile of Project Alignment (contd.)

NCIC Report No.	Year of Study	Type of Study	Project	Report Authored By	Within Project Alignment
1904	1993	Survey	SMUD Gas Pipeline	Woodward-Clyde Consultants	Yes
1912	1998	Survey	Pacific Bell Site	Derr, Eleanor	Adjacent
3346	2000	Survey	SPA Cogeneration Pipeline	Hatoff, Brian	No
3368	1995	Monitoring	SPA Cogeneration Pipeline	Melton, Laura	No
3489	1993	Survey	SMUD Gas Pipeline	Waechter, Sharon	Yes
3531	1994	Survey	SRWTP Master Plan	Maniery et al.	Yes
3571	1992	Survey	Upper Beach Lake Restoration	Warner, Laurie	Yes
3787	1996	Survey	South Sacramento Corridor	Brown, Jody	Adjacent
3809	1995	Survey	SRWTP Levee Improvement	Maniery and Baker	Yes
3847	1990	Survey	I-5/Laguna Blvd Interchange	Chavez, David	Yes
3849	1987	Evaluation	Riverbend/I-5 Interchange	Chavez, David	Yes
3850	1982	Survey	SRWTP Buffer Zone	Decater, Ernest	Yes
3854	1989	Survey	Sacramento River Flood Control	Weaver, Richard	No
3861	1992	Survey	Freeport Transit Center	McGowan, Dana	No
3862	1996	Survey	Sump 28 Sedimentation Basin	Shapiro, William	No
4206	1990	Survey and Evaluation	Sacramento Urban Area Flood Control	Bouey, Paul	Yes
n/a	2002	Survey and Evaluation	I-5/Cosumnes River Boulevard Interchange	Jones & Stokes	Yes
5813	2004	Survey	Meadowview Station	Coleman, Jason	Yes
6112	2003	Evaluation	South Sacramento Corridor	JRP Historical Consulting	Yes
6122	2004	SHPO Review	Tetra Tech Wireless	Billat, Scott	No
6675	2004	Evaluation	Caltrans Bridge Inventory Update	JRP Historical Consulting	Adjacent
7018	2005	Determination of Effects	Freeport Bridge Project	Roland, Carol	Adjacent
7833	2006	Survey	Sacramento Southern Freeport Railroad	HRA	No
7963	2004	Survey and Evaluation	Freeport Shores Trail	Hilton, Steven	Adjacent
8565	2007	Survey and Evaluation	Fruitridge Vista Water System	Peak, Melinda	No
8661	2006	Survey	Sacramento River Bank	Bell, Daniel	No
8734	2007	Survey	SMUD Gas Pipeline	Sikes, Nancy	Adjacent

See FEIR Pg. 3-3

Table 3.6-1. Previous Cultural Resources Inventories Within 0.25 Mile of Project Alignment (contd.)

NCIC Report No.	Year of Study	Type of Study	Project	Report Authored By	Within Project Alignment
8768	2007	Survey and Evaluation	Delta Shores	Guerrero, Marcos	Yes
9135	2007	Survey	SMUD Freeport Water 69kV Line	Shapiro, William	No
9326	2008	Inventory	Caltrans D3 Rural Highways	Leach-Palm, Laura	Yes
9423	2008	Literature Review	Urban Levee	Grant, Joanne	No
9989	2006 & 2008	Survey and Evaluation	Freeport Regional Water	Roark, Gabriel	Yes
10443	2010	Survey	Clearwire Mobile Site	Losee, Carolyn	No
10450	2010	Survey	Levee Erosion Sites	Guerrero, Marcos	No
10608	2010	Survey	Cabrillo Park Wireless	Billat, Lorna	No
10676	2010	Survey and Testing	Chorley Park Redevelopment	Dice, Michael	Adjacent
10826	2011	Survey	Levee Erosion Repair	Guerrero et al.	No
10832	2011	Survey	T-Mobile West Cabrillo Park	Cohen, David	No
10874	2010	Survey	Urban Levee	URS Corporation	No

See FEIR Pg. 3-6

The records search by the NCIC indicates a total of 24 cultural resources have been previously recorded within the Project alignment or within a ¼ mile (Table 3.6-2). Seventeen are historic-era resources and seven are prehistoric resources. Nine of the historic-era resources are linear built resources (railroads, levees, canal, bridge, water conveyance systems), three are associated with farms or ranches, two are rows of Victory trees, one is a government building complex, one is a park, and one is debris scatter. The prehistoric resources include three habitation sites, one scatter, and three isolated occurrences.

Table 3.6-2. Cultural Resources Previously Recorded in or Within ¼ Mile of the Project Alignment

Primary #	Trinomial	Period	Year Recorded	Description	Within Project Alignment
P-34-0011	n/a	Prehistoric	1978	Projectile point fragment	No
P-34-0071	CA-SAC-44	Prehistoric	1934, multiple, 1990	Habitation site, burials; no longer exists	No
P-34-0073	CA-SAC-46	Prehistoric	1934, multiple, 1990	Habitation site; no longer exists	No
P-34-0110	CA-SAC-83	Prehistoric	1934, multiple, 1994	Habitation site, human remains	No
P-34-0229	CA-SAC-202	Prehistoric	1955, 1974, 1978	Scatter of baked clay objects and clamshell beads; no longer exists	No

See FEIR Pg. 3-6

Table 3.6-2. Cultural Resources Previously Recorded in or Within ¼ Mile of the Project Alignment (contd.)

Primary #	Trinomial	Period	Year Recorded	Description	Within Project Alignment
P-34-0491	CA-SAC-464H	Historic	1993, multiple, 2007	Western Pacific Railroad	Yes
P-34-0639	n/a	Historic	2001	Victory trees lining Freeport Blvd., planted ca. 1926, recorded between Meadowview Rd. and Stonecrest Ave.	Adjacent
P-34-0832	CA-SAC-641H	Historic	1982	Residence, farm/ranch outbuildings	No
P-34-0833	CA-SAC-642H	Historic	1982	Victorian residence, ca. 1906, farm/ranch outbuildings	Adjacent
P-34-1363	n/a	Historic	2002, 2005	Morrison Creek Levee, ca. 1961	Yes
P-34-1394	CA-SAC-846H	Historic	2005	Water conveyance system	No
P-34-1497	CA-SAC-1092H	Historic	2006, 2007, 2008	Southern Pacific Railroad, branch line	No
P-34-1580	CA-SAC-954H	Historic	2006	Sacramento Southern Freeport Railroad	No
P-34-1607	n/a	Prehistoric	2002	Isolated scatter of three basalt flakes	No
P-34-1706	CA-SAC-1012H	Historic	2006, 2007	Dairy complex, ca. 1910	Adjacent
P-34-1707	n/a	Prehistoric	2006	Isolated lithic flake	No
P-34-1708	n/a	Historic	2007	Debris scatter	No
P-34-2104	n/a	Historic	2007	Row of trees (oaks, pecans, unidentified) lining Freeport Blvd. (south of Freeport Bridge)	Adjacent
P-34-2143	n/a	Historic	2008	Sacramento River levees	No
P-34-2469	n/a	Historic	1984, 2003, 2004	Freeport Bridge (24C0001) built in 1929	No
P-34-3867	n/a	Historic	2001	Water conveyance system	Yes
P-34-3871	n/a	Historic	2005	Sacramento Drainage Canal, 1861-1915	No
P-34-4265	n/a	Historic	2010	Chorley Park, 1960-1973	Adjacent
P-34-4475	n/a	Historic	2011	City of Sacramento Corporation Yard buildings, structures	No

Native American Sacred Lands Search Natural Investigations staff contacted the NAHC on March 20, 2014 to request a database search for sacred lands or other cultural properties of significance within or adjacent to the Project alignment. The response from the NAHC dated March 20, 2014, states the sacred lands file search did not identify the presence of cultural resources in the Project alignment. The NAHC provided a list of Native American contacts that might have further knowledge of the Project alignment with respect to cultural resources. Each person or organization identified by the NAHC was contacted by letter and subsequent phone calls. Natural Investigations received six responses, and several messages have been left on voice mail or with secretaries.

A response from the Shingle Springs Band of Miwok Indians on May 19, 2014, states the tribe is unaware of cultural resources within the Project alignment, and requests to be contacted immediately should new resources or human remains be identified. A response from the Colfax Todds Valley Consolidated Tribe on May 28, 2014, indicates a tribe closer to the Project alignment would be better suited to oversee the Project, but to call them should subsurface deposits be discovered and no other tribe is available to monitor. On May 28, 2014, Rose Enos expressed no concerns about the Project but requested notification of any burial discovery. On May 28, 2014, April Wallace Moore expressed no concerns about the Project. A response from the Ione Band of Miwok Indians on May 29, 2014, inquired about the results of survey, funding nexus for the Project, and depth of trenches. A response from United Auburn Indian Community of the Auburn Rancheria on June 22, 2014, states the Tribe has a number of resource concerns along the Project alignments and would like to consult on any potential impacts to resources, the type of permitting that is being required, and what resources have been identified.

Field Methods Natural Investigations archaeological staff conducted a windshield and pedestrian survey of the Project alignment in June 2014. Windshield survey was conducted in the majority of the Project alignment along urban streets and across vacant land being actively graded for Delta Shores and the Cosumnes River Boulevard extension. In the area being actively graded, the archaeologists periodically exited their vehicle to inspect the ground surface, as permitted by safety concerns. Cursory survey was conducted at the landscaped Bartley Cavanaugh GC. Intensive-level pedestrian survey, using transect intervals no greater than 15-meters, was conducted on Regional San property, including the SRWTP Bufferlands, at the southern end of the Project. Ground visibility outside the built areas varied from poor to excellent depending on density of vegetation coverage. Ground visibility within the hardscaped and landscaped areas was negligible. Site locations were recorded with a GPS, and photographs taken with a digital camera. Sites were documented on DPR 523 forms.

Results Segments of three previously recorded cultural resources (P-34-0491, P-34-1363, and P-34-3871) have been mapped within the Project alignment (Table 3.6-3), as follows. Two of the resources (P-34-0491 and P-34-1363) were relocated during the pedestrian survey. The third previously recorded resource (P-34-3867) was not found at its mapped location; the segment of this resource in the project area east of I-5 has been destroyed by the ongoing Delta Shores and Cosumnes River Boulevard construction.

- P-34-0491: Segments of the Western Pacific Railroad (WPRR) were initially recorded in 1993. The resource record has been updated multiple times through 2007, including an update in 2001 for the I-5/Cosumnes River Boulevard Extension Project. Organized in 1903, the line was completed in 1909. The WPRR ran on 930 miles of track from Oakland to Stockton and Sacramento and on through Reno to Salt Lake City. As the third transcontinental line, it was important in bringing rail transportation to Sacramento and competing with the Santa Fe Railroad and Southern Pacific Railroad lines. The UPRR purchased the WPRR in 1980, after which time the railroad's rails and associated hardware were changed to support heavier trains. A 500-foot linear segment was recorded during survey for this project, centered at the lateral alignment crossing on Florin Road.

While the resource appears eligible for listing in the NRHP and CRHR under Criterion A/1 for its important contribution to California's transportation history, recorded segments of the railroad lack the integrity necessary to convey its historical significance and have been determined not eligible for listing in the NRHP. Records indicate segments of the WPRR near Sacramento have also been determined ineligible for listing in the CRHR or local registers under Criterion 1 due to the loss of integrity. The railroad is not significant under other NRHP or CRHR criteria. Analogous to other recorded segments, the WPRR segment within the Project alignment appears ineligible for listing in the NRHP or CRHR, or for local designation, and thus would not qualify as a historic property or historical resource.

- P-34-1363: Segments of the Morrison Creek Levee were recorded in 2002 and 2005. Union House Creek is a tributary of Morrison Creek, and joins Morrison Creek northeast of Regional San's property. The Morrison Creek Levee separates Delta Shores from Regional San property. The two creeks were channelized between 1937 and 1953, although the levees were not constructed until circa 1961. The approximately 5.5-mile long Morrison Creek Levee is regularly maintained by the City of Sacramento. A 0.45-mile linear segment of the Morrison Creek Levee was recorded during survey for this Project, and includes crossings for the Project by the main and lateral alignments. The two levees lack integrity, are not significant under any NRHP or CRHR criteria, and were previously found not eligible for listing in the NRHP or CRHR. The segments of the Morrison Creek Levees crossed by the Project are thus ineligible for listing in the NRHP or CRHR, or for local designation, and do not qualify as a historic property or historical resource.

- P-34-3867: This historic-era water conveyance system was likely built in the 1920s to irrigate the agricultural fields then owned by the Hunt family. The unnamed, earthen ditch was in poor condition in 2001 when it was recorded during survey for the I-5/ Cosumnes River Boulevard Extension and I-5 Interchange Project (Jones & Stokes 2002). Review of aerial imagery dated August 13, 2013, indicates the ditch has been destroyed by ground-disturbing activities associated with construction of that Project. This resource has been found not eligible for listing in the NRHP, and thus does not qualify as a historic property. The ditch was not previously evaluated for listing in the CRHR. Considering it has been destroyed, the former ditch segment within the Project alignment is ineligible for NRHP or CRHR or local listing, and thus does not qualify as a historic property or historical resource.

Five cultural resources (P-34-0639, P-34-0833, P-34-1706, P-34-2104, and P-34-4265) are located immediately adjacent to but outside the Project alignment (Table 3.6-3), as follows:

- P-34-0639: Recorded in 2001, this resource comprises the remnants of the historic Victory trees that once formed a tunnel of elm trees lining both sides of Freeport Boulevard from Meadowview Road southward beyond Stonecrest Avenue.

Victory trees were planted throughout Sacramento to honor those who fought in World War I. The seeds were sent from France in 1925 and planted circa 1926. Many of the trees have been removed due to Dutch elm disease since 2001. The resource has not been evaluated for listing in the NRHP or CRHR, and is not listed in the Sacramento Register, but is considered historically significant by the City of Sacramento. Funds have been allocated by the Sacramento City Council to replace the historic elm trees between Meadowview Road and the south city limits (City of Sacramento 2013). Planting of the new hybrid type of elm tree is anticipated to occur in 2014.

- P-34-0833: This Victorian residence and eight associated farm outbuildings were recorded in 1982. Built circa 1906, the historic name for the property and associated fields is Hack's Farm or the Sweeney Place. The property, which is located at 8325 Freeport Boulevard, is currently owned by Regional San. Remaining features include the residence and some of the historic landscaping. Alongside and to the rear of the residence are paved parking areas and a maintenance facility. The agricultural fields are now part of the Bartley Cavanaugh GC, which borders the property on the north and east. The adjacent parcel on the south contains Regional San's Dechlorination Building. While the resource appears related to early settlement on the Freeport riverfront and the development of agriculture in the greater Sacramento region in the late 1800s–early 1900s, the resource lacks the integrity to convey its period of significance. The farm outbuildings associated with the residence are no longer standing and the sense of time and place has been diminished by modern development. Based on these considerations, this resource is found not eligible for listing in the NRHP or CRHR, or for local listing, and thus does not qualify as a historic property or historical resource.

- P-34-1706: This resource is a complex of dairy buildings constructed circa 1910. The buildings were first recorded in 2006 and updated in 2007 after completion of subsurface testing around a house foundation. Standing buildings in 2007 included a dairy barn, creamery, barn, and water tank building. The dairy was most likely associated with Mark Hunt who was later president of the Northern California Milk Producers' Association. The dairy complex has been previously found not eligible for listing in the NRHP or CRHR, and thus does not qualify as a historic property or historical resource. The resource also appears ineligible for local listing.

- P-34-2104: This resource consists of a row of trees (valley oaks, pecans, and unidentified species) that lined both sides of Freeport Boulevard (SR 160). As recorded in 2007, the row of trees began just north of the Freeport Bridge and continued southward for 1 mile. Where SR 160 bends west and ascends the Sacramento River levee, the tree row continues straight south away from SR 160. On the west and east sides of the roadway are a railroad grade and the Bartley Cavanaugh GC north of scattered residences and agricultural fields, respectively. The approximate northern 0.3 mile of the resource is within the City of Sacramento's Sphere of Influence (SOI) and South Area Community Plan Area.

Future investigation may determine if any part of this resource is a remnant of the historic Victory trees recorded separately as P-34-0639. While this resource is not currently listed or nominated for listing on any historical register, as part of the South Area Community Plan Area, this resource is considered historically significant for purposes of CEQA.

- P-34-4265: Chorley Park was acquired by the City of Sacramento in 1960. The park was built to serve flood control needs and provide open space. The public park was dedicated in 1973 to William Chorley, who retired from Sacramento Parks after 36 years of service. Recorded in 2010, the historic elements are restricted to the treed landscape in the northeast corner and the general shape of the 32-acre property. The park has been previously found not eligible for listing in the NRHP, and thus does not qualify as a historic property. The park was not previously evaluated for listing in the CRHR or for local listing. Considering the park lacks sufficient significance within its historic context and does not retain historic integrity, this resource does not meet the criteria for listing in the CRHR or Sacramento Register and is not considered a historical resource.

Table 3.6-3. Summary of Cultural Resources in or Immediately Adjacent to Project Alignment

Primary No. (Trinomial)	Description	Within Project Alignment	Eligibility Status	Project Impact	Mitigation
P-34-0491 (CA-SAC-464H)	Western Pacific Railroad	Yes	Not eligible for National, California, or Sacramento Registers	Project will avoid	Not required
P-34-0639	Victory trees lining Freeport Blvd., planted ca. 1926, recorded between Meadowview Rd. and Stonecrest Ave.	Adjacent	Locally significant *	Project will avoid	Not required
P-34-0833 (CA-SAC-642H)	Victorian residence, ca. 1906, farm/ranch outbuildings	Adjacent	Not eligible for National, California, or Sacramento Registers	Project will avoid	Not required
P-34-1363	Morrison Creek Levee, ca. 1961	Yes	Not eligible for National, California, or Sacramento Registers	Project will avoid	Not required
P-34-1706 (CA-SAC-1012H)	Dairy complex, ca. 1910	Adjacent	Not eligible for National, California, or Sacramento Registers	Project will avoid	Not required

Table 3.6-3. Summary of Cultural Resources in or Immediately Adjacent to Project Alignment (contd.)

Primary No. (Trinomial)	Description	Within Project Alignment	Eligibility Status	Project Impact	Mitigation
P-34-2104	Row of trees (oaks, pecans, unidentified) lining Freeport Blvd. (south of Freeport Bridge)	Adjacent	Locally significant *	Project will avoid	Not required
P-34-3867	Water conveyance system	Yes	Not eligible for National, California, or Sacramento Registers	Resource has been destroyed	Not required
P-34-4265	Chorley Park, 1960-1973	Adjacent	Not eligible for National, California, or Sacramento Registers	Project will avoid	Not required

Notes:
* The Victory trees are considered historically significant by the City of Sacramento (City of Sacramento 2030 General Plan: Historic and Cultural Resources Element of the South Area Community Plan), but are not listed in the NRHP, CRHR, or Sacramento Register.
** P-34-2104 is considered locally significant for purposes of CEQA since future investigations may determine if any part of this resource is a remnant of the historic Victory trees recorded separately as P-34-0639.

No prehistoric archaeological sites or sites of traditional Native American religious or cultural significance, including sacred sites or contemporary use areas, have been identified in or immediately adjacent to the Project alignment. No historically significant buildings or linear historic-era resources are located in or immediately adjacent to the Project alignment. The buildings and treatment structures within the SRWTP and SPA Cogeneration Plant are modern. Based on these findings, no significant cultural resources found eligible for listing in the CRHR, NRHP, or Sacramento Register are known to occur within the Project alignment. Two locally significant landscape resources (P-34-0639 and P-34-2104) located immediately adjacent to but outside the Project alignment along Freeport Boulevard (SR 160) will each be avoided.

Archaeological Sensitivity Review of prior studies, site records, historic maps, survey results, and disturbance history indicates the Project alignment has a low potential for the discovery of subsurface archaeological material, features, or deposits during Project implementation. Alluvial fan and floodplain deposits buried many prehistoric sites, if present, in this area, particularly those older than 3,000 years (Meyer and Rosenthal 2008; Rosenthal et al. 2007). Additionally, the environment in the Project vicinity has been greatly altered over the past 150 years. The southern Sacramento Valley and Delta region has a 150-year history of disturbance by agricultural activities. Agricultural practices typically re-contour the land and then mix at least the upper 2 feet of soil, typically obscuring any surface evidence of archaeological material. Since the mid-to-late 1800s and early 1900s, the Project vicinity has also been substantially modified by construction of roadways, railroad grades, and levees. The creeks near the SRWTP were initially channelized at least 60 years ago, and the area north of the planned Delta Shores community has been altered by more than 50 years of residential and commercial development.

As one outcome of the natural deposition processes and human alteration of the landscape, no prehistoric or historic archaeological sites and only one historic-era ditch

(P-34-3867) were found in the Project alignment by recent studies that included the planned 800-acre Delta Shores development (Guerrero 2007) and the Cosumnes River Boulevard Extension and I-5 Interchange Project (Chavez 1987; Jones & Stokes 2002). Only four cultural resources were recorded within a 0.25 mile radius but outside the current Project alignment by these surveys: a dairy building complex (P-34-1706), two isolated flaked stone (P-34-1607 and P-34-1707), and a historic-era debris scatter (P-34-1708). The dairy complex fronting Freeport Boulevard (SR 160) is adjacent to but outside the current Project. In addition, no archaeological sites were identified in the current Project alignment during survey of the Morrison-Laguna-Unionhouse Creek drainage system (Johnson 1974). That drainage system converges near the SRWTP and empties into the Sacramento River.

See FEIR Pg. 3-7

Paleontological Setting

The Project alignment is located in the Sacramento Valley. The depositional history of the Sacramento Valley during the late Quaternary period (1.6 million years ago to the present) included several cycles related to fluctuations in regional and global climate that caused alternating periods of deposition followed by periods of subsidence and erosion. Review of the geologic map prepared by Wagner et al. (1981) indicates surface geology paralleling the Sacramento River is dominated by late Quaternary (less than 100,000 years old) stream levee and channel deposits. In the low-lying the Beach Lake and lower Morrison Creek area, late Quaternary fine textured, flood basin deposits crop out between the Sacramento River alluvial deposits and the WPRR/UPRR tracks in a roughly triangular area extending northward from the SRWTP for about one mile. The majority of the Project area is underlain by the Pleistocene-age Riverbank Formation. Riverbank Formation sediments consist of weathered reddish gravel, sand, and silt that form alluvial terraces and fans. Estimates place the age of the formation between 130,000 and 450,000 years before present (Helley and Harwood 1985).

Review of Geologic Maps and Fossil Records Geologic maps and fossil records covering the geology of the Project region were reviewed to determine the exposed or underlying rock units, to delineate their respective distributions in the Project area, and to assess their paleoresource potential. Pleistocene or older (older than 11,000 years) continental sedimentary deposits are considered as having a high paleontological potential. Throughout California, such sedimentary formations have a history of yielding numerous vertebrate fossils of extinct mammals or other fauna. The Pleistocene Riverbank Formation has a high paleontological potential. Vertebrate fossils known to occur in this formation include mammoth, mastodon, ground sloth, bison, coyote, dire wolf, horse, camel, antelope, deer, and squirrel, among others (UCMP 2014). Fossils have mainly been recovered from fine-grained deposits, typically at a depth of 12 feet or more below the surface. Vertebrate fossils have been identified at locations in Sacramento County and other Central Valley counties, including Madera, Merced, San Joaquin, Stanislaus, Sutter, and Yolo.

A search of the University of California Museum of Paleontology (UCMP) database indicates 13 fossil localities have been recorded within Sacramento County (UCMP 2014). Half the localities contain Pleistocene vertebrate fossils, including horses, camels, mammoths, sloths, coyotes, wolves, and bison. No localities or fossils are known to

directly underlie the Project, but the remains of an Ice Age mammoth were recovered five miles southeast of the SRWTP at four feet below the surface in the Riverbank Formation.

3.6.4 Environmental Impacts and Recommended Mitigation Measures

Significance Criteria

The proposed Project would cause a significant impact on cultural resources if the Project would:

- cause a substantial adverse change in the significance of a historical or archaeological resource or a unique archeological resource as defined in Section 15064.5 of the State CEQA Guidelines and Section 21083.2 of CEQA, respectively; or

- disturb any human remains, including those interred outside of formal cemeteries; or

- directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Section 15064.5 of the State CEQA Guidelines defines "substantial adverse change" as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the resource would be materially impaired. Material impairment includes changes to the physical characteristics that make a historical resource eligible for listing in the CRHR such that the resource would no longer be eligible for the NRHP, CRHR, or local historical registers (CEQA Guidelines, 14 CCR Section 15064.5 [b][2]).

Section 21083.2 of CEQA defines "unique archaeological resource" as an archeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets one or more of the following criteria: (1) that it contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information; (2) that it as a special and particular quality, such as being the oldest of its type or the best available example of its type; or (3) that it is directly associated with a scientifically recognized important prehistoric or historic event or person.

Methods and Assumptions

Methodology to identify cultural resources in the Project alignment included a cultural resources record search, archival research, and review of historic maps and previous environmental documents in 2014; Sacred Lands file search by the NAHC and related communication with local Native American groups and individuals undertaken in 2014; pedestrian and windshield survey by cultural resources specialists conducted in June 2014 and related updating of cultural resources records within the Project alignment; and a search of the University of California Museum of Paleontology database in 2014. This impact analysis is based on the results of the methods used to identify cultural resources in the Project alignment and relevant regulations. The Project was analyzed in terms of its

potential to impact known cultural resources within (P-34-0491, P-34-1363, and P-34-3871) and immediately adjacent to (P-34-0639, P-34-0833, P-34-1706, P-34-2104, and P-34-4265) the Project alignment; undocumented and potentially significant cultural resources, including buried human remains, within the Project alignment; and undocumented paleontological resources within the Project alignment.

Issues or Potential Impacts Not Discussed Further

All potential topics of relevance to cultural resource regulations are assessed in the following impact discussions.

3.6.5 Impact Analysis and Mitigation Measures

Impact 3.6-1: Damage to or destruction of documented significant cultural resources.

No evaluated or documented significant cultural resources have been identified within the Project alignment. Two locally significant cultural resources have been identified immediately adjacent to the Project alignment, and will be avoided during Project-related ground disturbance, maintenance, and operations. Therefore, the impact of the proposed Project to NRHP- or CRHR-, or Sacramento Register-listed or eligible resources or unique archaeological sites would be **less than significant**.

The segments of three cultural resources identified within the Project alignment—the WPRR (P-34-0491), Morrison Creek Levee (P-34-1363), and unnamed, earthen ditch (P-34-3867)—are not eligible for listing in the NRHP and CRHR, or for local listing, and thus do not qualify as historic properties or historical resources. Additionally, the earthen ditch (P-34-3867) has been destroyed since it was recorded in 2001. Three of five additional cultural resources identified immediately adjacent to the Project alignment (P-34-0833, P-34-1706, and P-34-4265) have also been found not eligible for listing in the NRHP, CRHR or local register, and thus does not qualify as historic properties or historical resources. The remaining two cultural resources identified immediately adjacent to the Project alignment (P-34-0639 and P-34-2104) have been found to be locally significant features of the South Area Community Plan Area of the City of Sacramento. The proposed Project would avoid each of these resources (Table 3.6-3) and have no direct or indirect impact on the material integrity of the segments of the two extant resources within the Project alignment or the five resources immediately adjacent to the Project alignment.

During Project construction outside existing roadways or the planned extension of 24th Street, Regional San will use standard cautionary measures to avoid inadvertent damage to the segments of the WPRR (P-34-0491) and Morrison Creek Levee (P-34-1363) in the Project alignment. Trenchless crossings are planned at the railroad crossings (pipe jacking) and via HDD 30 feet below the Morrison/Laguna Creek levees. These measures would ensure preservation of the integrity of the railroad and levee systems consistent with the continuing maintenance and upgrades that currently occur. The proposed Project would have no direct or indirect impact on the integrity of, or the NRHP or CRHR eligibility status of, these two resources that extend for miles outside the Project

alignment. Any effect of the Project to these resources would therefore be **less than significant.**

Mitigation Measures

No mitigation is required.

Impact 3.6-2: Damage to or destruction of previously undiscovered cultural resources.

Subsurface disturbances could potentially destroy or damage as-yet undiscovered prehistoric or historic cultural resources. Newly discovered cultural resources could be eligible for listing in the NRHP, CRHR, or Sacramento Register or be unique archaeological resources and could be adversely affected during Project construction. This impact would be **potentially significant**.

Based on the 100- to 150-year history of disturbance within the Project alignment—including agriculture, residential and commercial development, construction of roadways, the railroad grade, levees, and the existing SRWTP and SPA Cogeneration facilities—the Project alignment has a low potential for the discovery of prehistoric, ethnohistoric, or historic-era cultural material or subsurface deposits. Although no NRHP-, CRHR- or Sacramento Register-listed or eligible resources (historic properties or historical resources), or unique archaeological resources have been documented in the Project alignment, the Project is located in a region where significant prehistoric and historic-era cultural resources have been recorded and there remains a potential that undocumented cultural resources could be unearthed or otherwise discovered during ground-disturbing and construction activities. Prehistoric or ethnohistoric materials might include flaked stone tools, tool-making debris, stone milling tools, shell or bone items, and fire-affected rock or soil darkened by cultural activities (midden); examples of significant discoveries would include villages and cemeteries. Historic materials might include metal, glass, or ceramic artifacts; examples of significant discoveries might include former privies or refuse pits. Due to the possible presence of undocumented cultural resources within the Project alignment, construction-related impacts on cultural resources would be **potentially significant.**

Mitigation Measure 3.6-2: Implement inadvertent discovery measures for the protection of cultural resources.

If cultural resources are discovered during Project-related construction activities, all ground disturbance within a minimum of 50 feet of the find shall be halted until a qualified professional archaeologist can evaluate the discovery. The archaeologist shall examine the resources, assess their significance, and recommend appropriate procedures to either further investigate or mitigate adverse impacts (e.g., adverse effect on a significant historical resource). If the find is determined to be a significant historical resource and the archaeological resource cannot be avoided, then applicable mitigation measures for significant resources shall be completed (e.g., preservation in place, data recovery program pursuant to PRC §21083.2[i]). During evaluation or mitigative treatment, ground disturbance and construction work could continue on other parts of the Project alignment.

Significance After Mitigation Implementation of Mitigation Measure 3.6-2 would ensure that any undocumented cultural resources or inadvertent discoveries of cultural resources during construction or ground-disturbing activities would be properly recorded and the historical significance of the resources documented. Therefore, potentially significant impacts resulting from inadvertent damage or destruction of unknown cultural resources during construction would be reduced to **less than significant**.

Impact 3.6-3: Ground disturbance could affect undocumented human remains.

Although there is a low potential for human remains to be discovered during ground disturbance for the Project, construction activities could potentially uncover or disturb unanticipated discoveries of human remains, including those interred outside of formal cemeteries. This impact would be a **potentially significant**.

Although no human remains have been identified within the Project alignment and the potential for the presence of undocumented human remains is generally considered low due to the relative rarity of undocumented interments as well as the 150-year history of prior disturbance by agricultural activities and more than 50 years of urban development in portions of the Project alignment, it is possible that undocumented human remains could be discovered during ground-disturbing activities. If any human remains were unearthed during Project construction, the impact would be **potentially significant.**

Mitigation Measure 3.6-3: Implement inadvertent discovery measures for the protection of human remains.

If human remains are discovered during Project ground-disturbing activities, all work within a minimum of 50 feet of the discovery site shall halt immediately. Regional San shall notify the County Coroner, as stipulated in Section 7050.5 of the California Health and Safety Code. The Coroner shall determine whether the remains are Native American and, if so, shall contact the Native American Heritage Commission by telephone within 24 hours. The Commission shall follow the stipulations in Section 5097.98 of the California Public Resources Code, including determination of a most likely descendent. If the Commission is unable to identify a descendant, the descendant is unable to make a recommendation, or the landowner rejects the recommendation, the Commission shall mediate any dispute between the parties. Where such mediation fails to provide measures acceptable to the landowner, the landowner shall reinter the human remains and associated funerary items with appropriate dignity on the property, in a location not subject to further subsurface disturbance.

Significance After Mitigation Implementation of Mitigation Measure 3.6-3 would ensure that any undocumented or inadvertent discoveries of human remains during construction or ground-disturbing activities would be properly mitigated in accordance with the laws of the State of California. Therefore, potentially significant impacts resulting from inadvertent disturbance of undocumented human remains during construction would be reduced to **less than significant**.

Impact 3.6-4: Ground disturbance could affect undocumented paleontological resources.

Due to the known presence of paleontological resources in the region, construction activities in the Riverbank Formation geologic unit have the potential to disturb or destroy newly discovered paleontological resources. This impact would be **potentially significant**.

No documented paleontological resources have been identified within the Project alignment. However, paleontological resources are known in the Project vicinity, and the Riverbank Formation, which underlies the majority of the Project alignment, is considered to have a high sensitivity for the discovery of Pleistocene-age vertebrate fossils. Project-related construction activities are not likely to produce significant vertebrate fossil remains due to prior disturbance by roadways and agricultural activities and to the relatively shallow depth of the majority of planned ground-disturbing activities (open cut construction in roadways). Although deep HDD is planned to cross 30 feet below the Morrison/Laguna Creek levees and may impact fossiliferous sediments, mitigation for trenchless drilling using HDD or pipe jacking methods is infeasible. HDD simultaneously drills and exudes destroyed sediments at the entry and exit locations. With pipe jacking (also known as pipe ramming), various methods (e.g., water jetting, compressed air) are used to remove the spoils after the pipe is in place on shorter installations such as planned for this Project at the railroad crossings. Due to the known presence of paleontological resources in the region, there is a potential that Project construction activities could expose and/or impact previously undocumented important paleontological resources. This impact is **potentially significant**.

See FEIR Pg. 3-8

Mitigation Measure 3.6-4: Implement inadvertent discovery measures for the protection of paleontological resources.

If fossils or other paleontological resources are encountered during construction, all work shall be halted within a 50-foot radius of the find and a qualified paleontologist shall be contacted to examine the find and evaluate its significance. If the find is deemed to have significant scientific value, the paleontologist and Regional San shall formulate a plan to either avoid impacts or to continue construction without disturbing the integrity of the find (e.g., by carefully excavating the material containing the resources under the direction of the paleontologist followed by routine conservation, laboratory preparation, and curation). Recommendations determined by Regional San to be necessary and feasible shall be implemented before construction activities can resume at the site where the paleontological resources were discovered.

See FEIR Pg. 3-8

Significance After Mitigation Implementation of Mitigation Measures 3.6-4 would ensure that any inadvertent discoveries of paleontological resources during construction or ground-disturbing activities are properly documented and salvaged. Therefore, potentially significant impacts resulting from inadvertent damage or destruction of unknown paleontological resources would be reduced to **less than significant**.

3.7 Geology and Soils

3.7.1 Introduction

This section describes Federal, State, and/or local policies related to geologic hazards, seismic conditions; and soil conditions along the Project alignment; and potential geologic hazards and soils impacts associated with Project construction and implementation. Paleontological resources as they relate to geological features are addressed in Section 3.6, "Cultural Resources."

3.7.2 Regulatory Setting

Federal

Earthquake Hazards Reduction Act In October 1977, the U.S. Congress passed the Earthquake Hazards Reduction Act to "reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards and reduction program." To accomplish this, the act established the National Earthquake Hazards Reduction Program (NEHRP). NEHRP's mission includes improved understanding, characterization, and prediction of hazards and vulnerabilities; improvement of building codes and land use practices; risk reduction through post-earthquake investigations and education; development and improvement of design and construction techniques; improvement of mitigation capacity; and accelerated application of research results. The National Earthquake Hazards Reduction Program Act designates the Federal Emergency Management Agency as the lead agency of the program and assigns it several planning, coordinating, and reporting responsibilities.

State

California Building Standards Code The State of California provides minimum standard for building design through the California Building Standards Code (CBC) (CCR, Title 24). Where no other building codes apply, Chapter 29 of the CBC regulates excavation, foundations, and retaining walls. The CBC also applies to building design and construction in the State and is based on the Federal Uniform Building Code (UBC) used widely throughout the country (generally adopted on a State-by-State or district-by-district basis). The CBC has been modified for California conditions with numerous, more detailed and/or more stringent regulations.

The State earthquake protection law (California Health and Safety Code Section 19100 et seq.) requires that structures be designed to resist stresses produced by lateral forces caused by wind and earthquakes. Specific minimum seismic safety and structural design requirements are set forth in Chapter 16 of the CBC. The CBC identifies seismic factors that must be considered in structural design.

Chapter 18 of the CBC regulates the excavation of foundations and retaining walls, and Appendix Chapter A33 regulates grading activities, including drainage and erosion control, and construction on expansive soils. Construction activities are subject to occupational safety standards for excavation, shoring, and trenching as specified in

California Occupational Safety and Health Administration regulations (Title 8 of the CCR and in A33 of the CBC).

The proposed Project would require drainage and erosion control, which must conform to the CBC, during construction or excavation activities associated with the Project alignment.

California Seismic Hazards Mapping Act The California Seismic Hazards Mapping Act of 1990 (California PRC Sections 2690–2699.6) was developed to protect the public from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and from other hazards caused by earthquakes. The act requires the State Geologist to delineate various seismic hazard zones and requires cities, counties, and other local permitting agencies to regulate certain development projects within these zones. Before a development permit is granted for a site within a seismic hazard zone, a geotechnical investigation of the site has to be conducted and appropriate mitigation measures incorporated into the design of the project to reduce hazards associated with seismicity and unstable soils. The closest active fault to the Project alignment is located approximately 25 miles to the southwest, as shown in Figure 3.7-1.

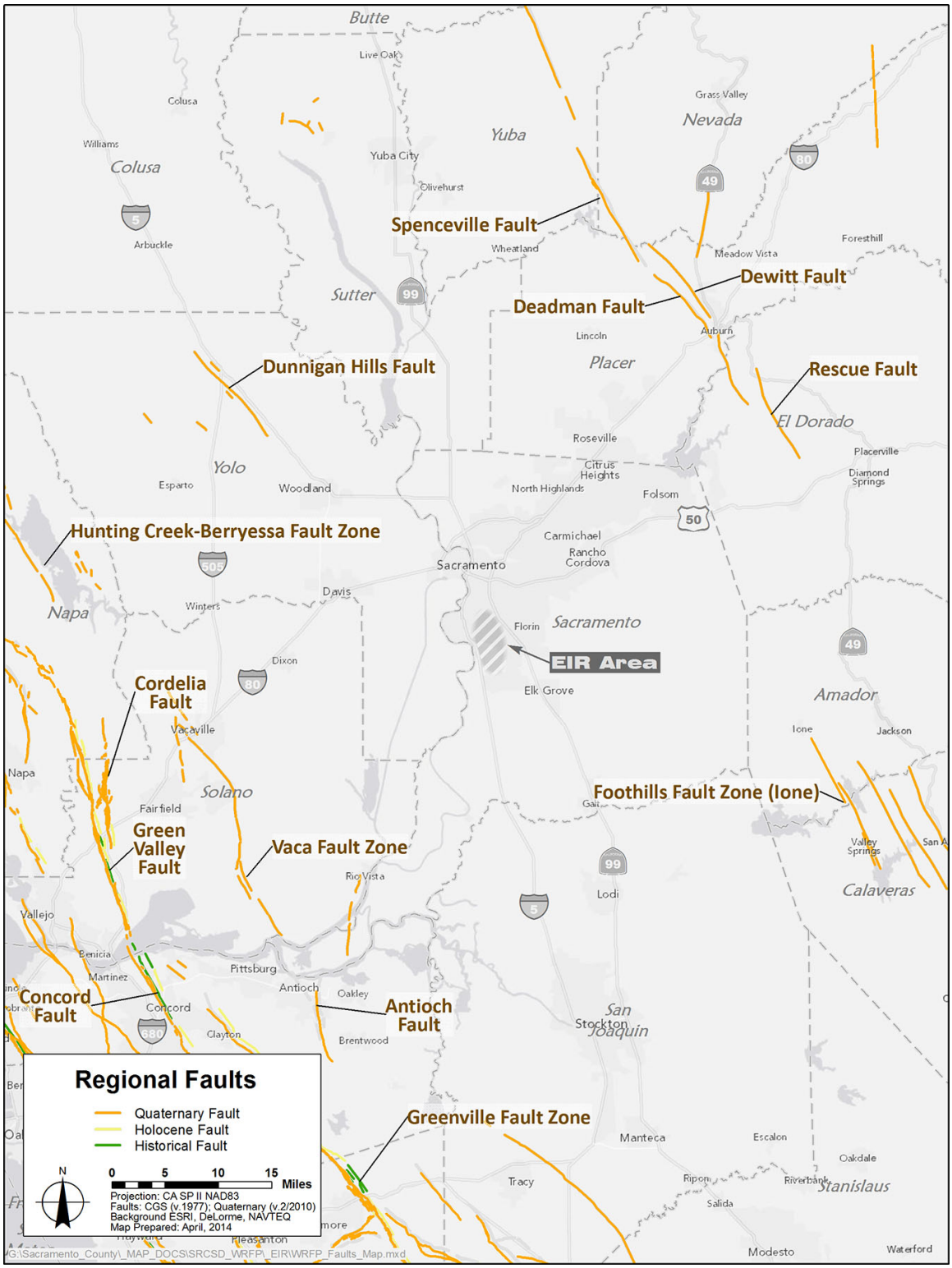


Figure 3.7-1. Regional Faults

Local

The Project alignment is located in the City of Sacramento and unincorporated areas of Sacramento County; therefore, both City and County policies could apply to the proposed Project.

Sacramento County General Plan The Safety Element of the *Sacramento County General Plan* (Sacramento County 2011) contains the following policies related to seismic and geologic hazards that may be applicable to the proposed Project:

- **Policy SA-1**. The County shall require geotechnical reports and impose the appropriate mitigation measures for new development located in seismic and geologically sensitive areas.

- **Policy SA-3**. The County shall support efforts by Federal, State, and other local jurisdictions to investigate local seismic and geological hazards and support those programs that effectively mitigate these hazards.

Sacramento County Code, Title 16, Chapter 16.44 Sacramento County enacted the Land Grading and Erosion Control Ordinance for the expressed purpose of minimizing damage to surrounding properties and public rights-of-way; limiting degradation of the water quality of water courses; and curbing the disruption of drainage system flow caused by the activities of clearing, grubbing, grading, filling, and excavating land. The ordinance establishes administrative procedures, minimum standards of review, and implementation and enforcement procedures for the control or erosion and sedimentation that are directly related to land grading activities.

The standards of the ordinance include the appropriate design and placement of erosion and sediment control best management practices (BMPs), as specified in the Sacramento County Guidance Manual for Development of Erosion and Sediment Control Plans. Erosion-control BMPs include seeding, mulching, vegetative buffer strips, sod, plastic covering, burlap covering, water and other measures that control the movement of the ground surface or soil. Sediment control measures include dikes, sediment detention traps, sediment detention basins, filters, fences, barriers, swales, berms, drains, check dams, and other measures that control the deposit of soil or earth material. Project compliance with these regulations, as administered by the County Public Works Agency, will ensure that project-related erosion and siltation impacts are less than significant.

The County does not issue itself permits in accordance with the provisions of the County Land Grading and Erosion Control Ordinance, but the County must comply with the ordinance. If the project size is one acre or more, a State permit may be required. In this case a notice of intent must be filed to obtain coverage under the SWRCB General Construction Stormwater Permit. This must be done prior to starting construction. As a condition of the General Permit, a Stormwater Pollution Prevention Plan (SWPPP) must also be developed for the project. This program is administered by the State Water Board. The need for a State Water Board General Construction Stormwater Permit and SWPPP is discussed further in Section 3.10 “Hydrology and Water Quality.”

City of Sacramento 2030 General Plan The following City of Sacramento 2030 General Plan (City of Sacramento 2009) goals and policies are applicable to geology and soils:

- *Section EC – Seismic and Geologic Hazards*: Goal EC 1.1 Protect lives and property from seismic and geologic hazards and adverse soil conditions

- Policy EC 1.1.1 The City shall regularly review and enforce all seismic and geologic safety standards and require the use of BMPs in site design and building construction methods. (RDR)

- Policy EC 1.1.2 The City shall require geotechnical investigations to determine the potential for ground rupture, groundshaking, and liquefaction due to seismic events, as well as expansive soils and subsidence problems on sites where these hazards are potentially present.

City of Sacramento Grading, Erosion, and Sediment Control Ordinance The City Grading, Erosion, and Sediment Control Ordinance (Title 15, Chapter 15.88 of the City Code) sets forth rules and regulations to control land disturbances, landfill, soil storage, pollution, and erosion and sedimentation resulting from construction activities. With limited exceptions, grading approval must be received from the City Department of Utilities before construction. All project applicants, regardless of project location, are required to prepare and submit separate erosion and sediment control plans applicable to the construction and post-construction periods. The ordinance also specifies other requirements, such as written approval from the City for grading work within the right-of-way of a public road or street, or within a public easement.

3.7.3 Environmental Setting

The following background setting information focuses on the existing topography of the project alignment, the underlying bedrock, and regional seismicity, as well as the general conditions and expansiveness of soils along the Project alignment.

Regional Geology and Topography

The City of Sacramento is located in the Great Valley geomorphic province of California. The geologic parent material within the region was primarily formed from erosion of Sierra Nevada range to the east and, to a lesser extent, the Coastal Ranges to the west and geologic uplift along the western margin of the North American continent. About 245 million years ago, the Great Valley province began forming with crustal warping and deposition of marine sediments until approximately 30 million years ago.

These sediment deposits, known as the Great Valley sequence, accumulated to a depth of almost 6 miles. About 30 million years ago, Great Valley deposition became dominated by fresh water runoff from the growing Sierra Nevada and Coast Ranges mountains. This runoff created large alluvial fan complexes and vast lakes that filled the valley with thick accumulations of river and lacustrine sediments.

The Great Valley Province is bounded to the west by the pre-Tertiary and Tertiary semiconsolidated to consolidated marine sedimentary rocks of the Coast Ranges. The faulted and folded sediments of the Coast Ranges extend eastward beneath most of the Central Valley. The east side of the Central Valley is underlain by pre-Tertiary igneous and metamorphic rocks of the Sierra Nevada. The north end is underlain by Tertiary volcanic rocks of the Coast Ranges, and bounded by the pre-Tertiary metavolcanics and granitic and metamorphic rocks, and by the Cenozoic volcanic rocks of the Cascade Range.

Regional Seismicity

The Great Valley is generally considered less seismically active than other areas of California. The majority of significant, historic faulting (and groundshaking) in the vicinity of Sacramento has been generated along distant faults (see Figure 3.7-1). Major faults that primarily control the seismicity of the region include the San Andreas and other Bay Area faults located approximately 55 to 90 miles to the west, the Coast Range-Central Valley geomorphic block boundary about 40 miles west, and the Sierra Nevada frontal fault system greater than 70 miles east. Although its potential as a source of historic earthquake activity remains controversial, the Foothills Faults System is located at least 20 miles east of the alignments.

The Alquist-Priolo Special Studies Zone Act of December 1972 (AP Zone Act) regulates development near active faults so as to mitigate the hazard of surface fault rupture. The AP Zone Act requires that the State Geologist (Chief of the California Department of Mines and Geology [CDMG]) delineates “special study zones” along known active faults in California. Cities and counties affected by these zones must regulate certain development projects with these zones.

The AP Zone Act prohibits the development of structures for human occupancy across the traces of active faults. According to the AP Zone Act, “active faults” have experienced surface displacement during the last 11,000 years (Holocene Epoch). “Potentially” active faults are those that show evidence of surface displacement during the last 1.6 million years (Quaternary period). A fault may be presumed to be inactive based on satisfactory geologic evidence; however, the evidence necessary to prove inactivity sometimes is difficult to obtain and locally may not exist.

The proposed Project does not include any facilities that will be occupied by humans.

Known faults do not exist within the greater Sacramento region and Planning Area identified in the Sacramento 2030 General Plan Master Draft EIR. The current EIR (page 6.5-2) indicates that ground shaking has and will occur periodically in Sacramento as a result of distant earthquakes (CGS 2008). Sacramento is in an area of relatively low severity and the maximum earthquake intensity expected between VII and VIII on the Modified Mercalli Intensity Scale. Buildings in the City are at varying degrees of risk for damage during such earthquakes. The 2030 General Plan further states that the earthquake resistance of any building is dependent upon an interaction of seismic frequency, intensity and duration with the structure’s height, condition, and construction materials.

Soil Conditions

Soils underlying the Project alignment are shown in Figure 3.7-2, and their associated characteristics are summarized in Table 3.7-1 (Natural Resources Conservation Service [NRCS] 1993, NRCS Data Gateway 2008). In general, these soils are characterized by moderately deep, moderately well-drained, fine-grained materials that may contain a high percentage of organic materials, and have a high shrink-swell potential. Generally, Project alignment soils are classified as hydric soils, which formed under prolonged saturation and chemically reducing (i.e., anaerobic [free of oxygen]) conditions).

Soils can characteristics that can limit to their suitability to support different uses. These limitations include shrink-swell potential, erosion potential, corrosion potential, and subsidence. Each of these constraints is described below.

Shrink-Swell Potential Expansion and contraction of expansive (i.e., reactive) soils in response to change in moisture content can cause differential and cyclical movements that can cause damage and/or distress to shallowly founded structures and equipment. Issues with expansive soils typically occur near the ground surface where changes in moisture content typically occur and overburden pressures are the least. Oftentimes, grading, site preparations, and backfill operations can eliminate the potential for expansion. Soils along the Project alignment are characterized as having a high shrink-swell potential (NRCS 1993).

Erosion Erosion is the wearing-away of soil and rock by processes such as mechanical or chemical weathering, mass wasting, and the action of waves, wind and groundwater. Excessive soil erosion can eventually lead to damage of building foundations and roadways. Typically, soil erosion potential is reduced once the soil is graded and covered with concrete, structures, asphalt, or slope protection. Erosion potential along the Project alignment is minimal due to flat topography and established groundcover.

Corrosion Corrosion potential refers to soil-induced electrochemical or chemical actions that could corrode or deteriorate concrete, reinforcing steel in concrete structures, and bare-metal structures exposed to these soils. The potential corrosion rate for concrete is based mainly on sulfate and sodium contents, texture, moisture content, and soil acidity, while the corrosion rate for uncoated steel is related to soil moisture, particle-size distribution, acidity, and the electrical conductivity of the soil. Concrete or steel that intersects soil boundaries or layers is more susceptible to corrosion than the same components that are entirely within one kind of soil or soil layer (NRCS 1993). Soils along the project alignment are not characterized as having corrosion potential (Shannon & Wilson, Inc. 2012).

Subsidence Subsidence is the gradual settling or sinking of the earth's surface with little or no horizontal motion, due to compaction of underlying materials. Sacramento County is affected by five types of subsidence: compaction of unconsolidated soils by earthquake shaking, compaction of unconsolidated soils by heavy structures, erosion of peat soils, peat oxidation, and fluid withdrawal. Fluid withdrawal, through groundwater pumping for residential, commercial and agricultural uses, causes the greatest amount of subsidence in Sacramento County. The Project alignment is not located in an area of

known subsidence. Soils on the Project alignment are not characterized as having risks associated with subsidence (Shannon & Wilson, Inc. 2012).

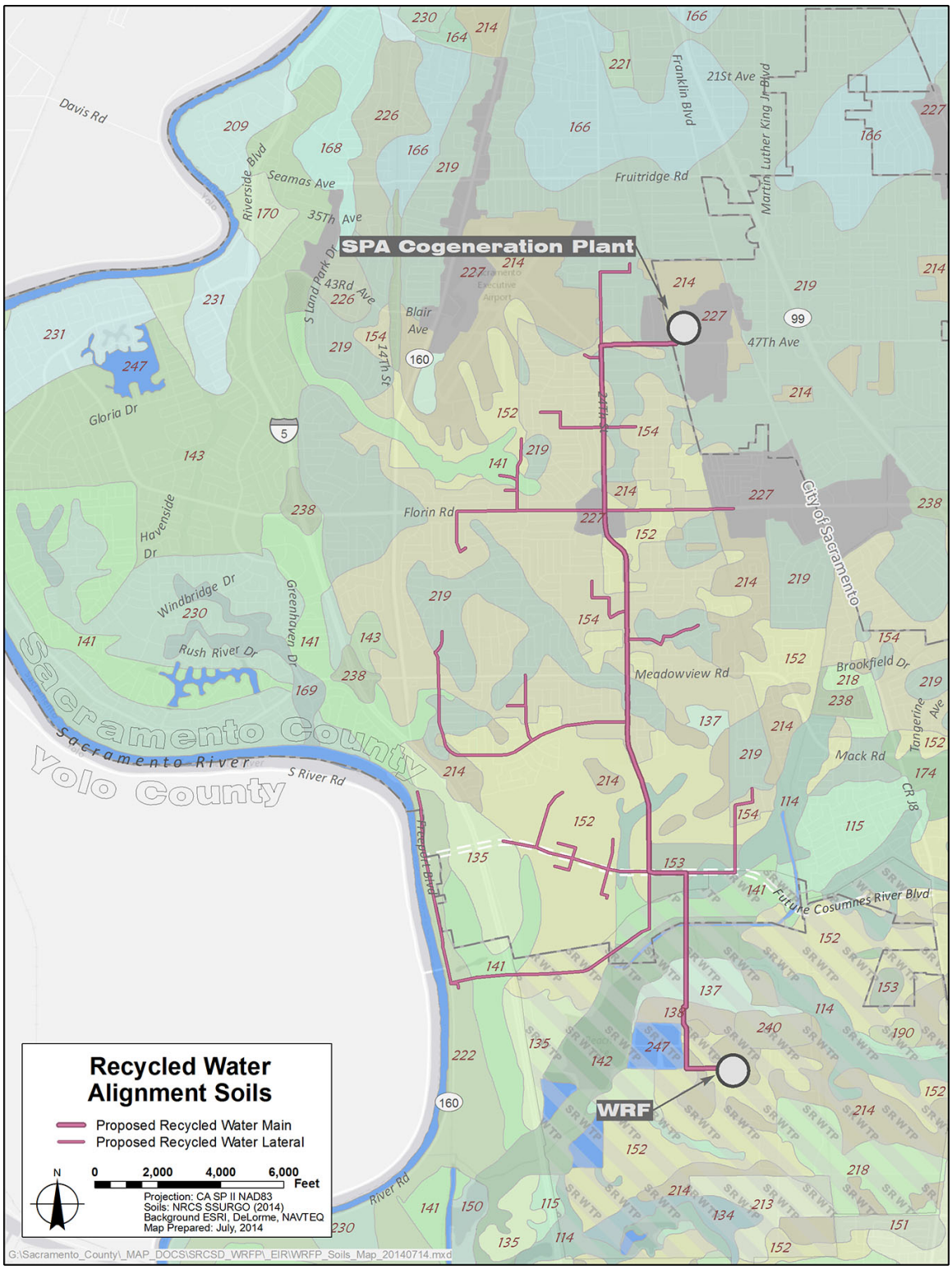


Figure 3.7-2. Soils Occurring Along Project Alignment

Table 3.7-1. Project Alignment Soils

Map ID	Soil Association	Description
114	Clear Lake Clay	Very deep, artificially drained soil. The soil formed in poorly drained, fine textured alluvium derived from mixed rock sources. Permeability and runoff are slow and available water capacity is high. High shrink-swell potential.
135	Dierssen Clay Loam	Poorly drained soils that are moderately deep over a duripan. They formed in alluvium derived from mixed rock sources, dominated with granite. Drainage is somewhat poor, with very slow runoff and slow permeability. The hazard of flooding is rare if protected by levees; periods of flooding are brief to long and occur in the months of December through April.
137, 138	Durixeralfs	Shallow or moderately deep, well drained, altered soils are low on terraces. Permeability is slow or very slow in the Durixeralfs. Available water capacity is very low or low. Runoff is very slow. Water erosion is a slight hazard or is not a hazard at all. High shrink-swell potential.
141	Egbert Clay	Very deep, artificially drained soil. Permeability is slow. Available water capacity is high. Shrink-swell potential is high. Runoff is very slow. Water erosion is a slight hazard.
152, 153	Galt Clay	Moderately deep, moderately well drained soil. Permeability is low. Shrink-swell potential is high. Runoff is very slow. Slight hazard of water erosion. High shrink-swell potential.
154	Galt-Urban Land complex	50% Galt Clay, 35% Urban Land. Solid material underlying impervious urban surfaces is similar to Galt Clay.
214	San Joaquin Silt Loam	Moderately deep, moderately well drained soil. Permeability is very slow. Available water capacity is low. Runoff is slow, and the hazard of water erosion is slight. High shrink-swell potential.
219	San Joaquin-Urban Land complex	50% San Joaquin Loam, 50% Urban Land. Solid material underlying impervious urban surfaces is similar to San Joaquin Loam; moderately deep to a hardpan, moderately well drained soil. Permeability is very slow. Available water capacity is low. Runoff is slow, and the hazard of water erosion is slight. High shrink-swell potential.
222	Scribner Clay Loam	The Scribner series consists of very deep, poorly drained soils that formed in mixed alluvium. These soils are on edges of backswamps and have slopes of 0 to 2 percent. Permeability is slow and runoff is negligible to low.

3.7.4 Environmental Impacts and Recommended Mitigation Measures

Significance Criteria

Based on Appendix G of the State CEQA Guidelines, the Project could have a significant adverse effect related to geology and soils if it would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault as described in California Geological Survey Special Publication 42,

  - strong seismic ground shaking,
  - seismic-related ground failure, including liquefaction, or
  - landslides;

- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction or collapse;
- Be located on expansive soil, as defined by the UBC, creating substantial risks to life or property; or
- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems (where sewers are not available for the disposal of waste water).

Methods and Assumptions

Information describing geologic and soil conditions were reviewed, and the potential impacts associated with development of proposed Project facilities were qualitatively assessed. This analysis relies on review of the geology and soils information prepared for the proposed EchoWater project (Regional San 2014), Sacramento County 2030 General Plan (Sacramento County 2011) the Sacramento 2030 General Plan Master EIR (City of Sacramento 2009) and the Soil Survey of Sacramento County (NRCS 1993), as well as published geologic maps and literature.

It is assumed that structural design of potential recycled water storage tanks and proposed recycled water main and lateral construction techniques would comply with applicable CBC requirements and standard engineering practices.

Issues or Impacts Not Discussed Further

The proposed Project does not involve the construction or use of septic tanks or other alternative waste disposal systems, therefore there are no risks associated with the Project regarding construction in soils that cannot support use of these facilities and no impact would occur. This issue is not discussed further in this Draft EIR.

3.7.5 Impacts Analysis and Mitigation Measures

Impact 3.7-1: Expose people or structures to seismic hazards.

The Project would be constructed in an area that may be subject to strong seismic ground shaking from active earthquake faults. Seismic ground shaking could cause structural failure of the proposed recycled water main, laterals, and storage tanks. This impact is **potentially significant.**

See FEIR Pg. 3-9

The Project alignment is not located within an Alquist-Priolo Earthquake Fault Zone and is not underlain by known active faults (Jennings and Bryant 2010). As shown in Figure 3.7-1, the Project alignment is located relatively distant from any major fault system of California. The alignment is located between 37 and 59 miles from the active Concord, Green Valley, Greenville, Hayward, and Cordelia faults (see Figure 3.7-1). Risks associated with surface rupture along the project alignment are, therefore, very low.

While the Project alignment is in a seismically active region, the CGS has classified the region as being distant from known, active faults, and would therefore experience low levels of shaking infrequently. Nonetheless, because of the potential for earthquake activity in the region, ground shaking is a potential hazard along the Project alignment. Ground shaking intensity would depend on the magnitude of the earthquake, the distance from the epicenter, and the duration of shaking. The damage sustained at any given location would depend on the earthquake intensity, soil type, type of structure and its building materials, and construction quality.

The recycled water main and laterals and associated facilities would be constructed in compliance with accepted engineering practices and CBC requirements to resist the anticipated potential ground shaking hazard. With adherence to these standards, the Project would not expose people or structures to greater risk of adverse effects associated with ground shaking. Therefore, seismic hazards would be minimized to acceptable levels.

The Project would be designed, engineered, and constructed in conformance with standard engineering practices and CBC requirements. Therefore, potential structural damage and associated hazards to people during a seismic event would be minimized, and this impact would be **less than significant.**

Mitigation Measures

No mitigation is proposed.

Impact 3.7-2: Expose people or structures to risks associated with expansive soils

As shown in Figure 3.7-2 and Table 3.7-1, the Project alignment is underlain by multiple soil types with high shrink-swell potential (NRCS 1993). The shrinking and swelling of expansive soils as a result of moisture changes can damage building foundations, underground utilities, and other subsurface facilities if these facilities are not designed and constructed to resist the changing soil conditions. All recycled water main and laterals, and lateral structures (storage tank and booster pump stations), would be designed, engineered, and constructed in conformance with standard engineering practices and CBC requirements to minimize potential damage from expansive soils to the Project alignment and facilities. This impact would be **less than significant.**

Mitigation Measures

No mitigation is proposed.

Impact 3.7-3: Soil Erosion

Soils along the Project alignment have a low erosion potential (erodibility) and, therefore, would not likely be subject to substantial increases in wind and/or water erosion. However, standard construction practices, such as compliance with BMPs included within a SWPPP (as described in Section 3.10, "Hydrology and Water Quality"), would minimize wind and/or water erosion. Therefore, this impact would be **less than significant.**

Off-Haul and Stockpiling

Tunneling methods are being proposed for portions of the alignment to avoid impacts to existing SRWTP facilities, utilities, railroad rights-of-way, and to avoid sensitive biological resource and agricultural resource areas along the proposed Project alignment. The majority of the recycled water main and laterals will be completed via the open-cut method of construction. HDD will be used across the wetlands north of the SWRTP. Pipe jacking will occur where the interceptor will cross under the Union Pacific Railroad and Sacramento Light Rail tracks near the termination of the recycled water main at the SPA Cogeneration Plant, and also where the proposed Freeport Lateral Option A crosses under I-5. In areas of pipe jacking, a steel casing at least 12-inches larger than the carrier pipe will be put in place.

Project construction would result in excess soil material, which would either be (1) hauled offsite or (2) stored in onsite stockpiles for use as backfill (Table 3.7-2).

Table 3.7-2. Excavation Volumes

Construction Method	Volume (yd^3)
Open-Cut	40,941
HDD	352
Pipe jacking	3,299

Key:
HDD = horizontal directional drilling
yd^3 = cubic yards

If Regional San decides to stockpile excess soil material, they would be required to implement standard BMPs, to be included within a SWPPP (as described in Section 3.10, "Hydrology and Water Quality"), throughout the duration of stockpiling to reduce erosion hazards onsite. The SWPPP must identify potential sources of erosion or sedimentation that may be reasonably expected to affect the quality of stormwater discharges as well as identify and implement BMPs that ensure the reduction of these pollutants during stormwater discharges. Typical BMPs intended to control erosion include sand bags, detention basins, silt fencing, storm drain inlet protection, street sweeping, and monitoring of water bodies. Standard BMPs and erosion control would be necessary if construction extends beyond October 1. The contractor will identify an appropriate offsite disposal site for excavated material. Offsite hauling would have no effect related to soil erosion. Therefore, this impact would be **less than significant.**

Mitigation Measures

No mitigation is proposed.

Impact 3.7-4: Expose people or structures to risks associated with unstable soils.

Deep trench backfills (i.e. deeper than about 10 feet) may undergo some settlement following construction even with proper construction techniques. This condition is especially prevalent when newly place backfill materials become saturated. However, the proposed Project would backfill only trenches 8 feet or less in depth. These backfilled trenches would have minimal potential for post-construction settling. Construction of portions of the proposed Project that occur at greater depths will be with trenchless methods, HDD, or pipe jacking, which would occur at depth of approximately 30-40 feet. Subsidence is not expected to affect construction activities at this depth. The topography and soils along the Project alignment are not prone to on- or offsite landslides, lateral spreading, liquefaction, or collapse, and the Project would not change this condition. This impact would be **less than significant.**

Mitigation Measures

No mitigation is proposed.

This page left blank intentionally.

3.8 Climate Change

3.8.1 Introduction

Emissions of greenhouse gases (GHG) adversely affect the environment because such emissions contribute, on a cumulative basis, to global climate change. The proper context for addressing this issue in an EIR is as a discussion of cumulative impacts, because although the emissions of one single project will not cause global climate change, GHG emissions from multiple projects throughout the world have a cumulative impact with respect to global climate change. In turn, there is scientific consensus that global climate change will result in rising sea levels, which can inundate low-lying areas; affect rainfall and snowfall, leading to changes in water supply; affect habitat, leading to adverse effects on biological resources; and result in other adverse environmental and economic effects.

Therefore, the global climate change analysis presented in this section of the EIR estimates and analyzes the GHG emissions associated with construction and operation of the Project. The potential effects of global climate change on the Project are also identified based on available scientific data. Because the analysis focuses on the Project's contribution of GHG, it is addressed in this section of the EIR rather than in Chapter 5, Section 5.3 "Cumulative Impacts."

3.8.2 Regulatory Setting

Supreme Court Ruling

The EPA is the Federal agency responsible for implementing the Federal CCA. The Supreme Court of the United States ruled on April 2, 2007, that carbon dioxide (CO_2) is an air pollutant as defined under the CAA, and that the EPA has the authority to regulate emissions of GHGs. The ruling in that case resulted in the EPA taking steps to regulate GHG emissions and lent support for State and local agencies' efforts to reduce GHG emissions.

U.S. EPA Actions

In response to the mounting issue of climate change, the EPA has taken actions to regulate, monitor, and potentially reduce GHG emissions.

Greenhouse Gas Permitting Requirements New major stationary emissions sources and major modifications at existing stationary sources are required by the CAA to obtain an air pollution permit before commencing construction. On May 13, 2010, the EPA issued the Prevention of Significant Deterioration and Title V Greenhouse Gas Tailor Rule (EPA 2011). This final rule sets thresholds for GHG emissions that define when permits under the New Source Review Prevention of Significant Deterioration (PSD) and Title V Operating Permit programs are required for new and existing industrial facilities.

PSD permitting requirements now cover new construction projects that emit GHG emissions of at least 100,000 tons carbon dioxide equivalent (CO_2e) (90,718 metric tons [MT]) per year even if they do not exceed the permitting thresholds for any other pollutant. Modifications at existing facilities that increase GHG emissions by at least

75,000 tons (68,039 MT) per year will be subject to permitting requirements, even if they do not significantly increase emissions of any other pollutant. Title V Operating Permit requirements apply to sources based on their GHG emissions even if they would not apply based on emissions of any other pollutant. Facilities that emit at least 100,000 tons (90,718 MT) per year of CO_2e will be subject to Title V permitting requirements.

The EPA issued a final rule on June 29, 2012 that continues to focus permitting on the largest emitters. The EPA did not revise the GHG permitting thresholds that were established by the GHG Tailoring Rule. Therefore, at this time, PSD and Title V permitting requirements are not applicable to additional, smaller sources of GHG emissions (EPA 2012).

Mandatory Greenhouse Gas Reporting Rule On September 22, 2009, the EPA issued a final rule for mandatory reporting of GHGs from large GHG emissions sources in the United States. In general, this national reporting requirement will provide the EPA with accurate and timely GHG emissions data from facilities that emit 25,000 MT or more of CO_2 per year. This publicly available data will allow the reporters to track their own emissions, compare them to similar facilities, and aid in identifying cost-effective opportunities to reduce emissions in the future. Reporting is at the facility level, except that certain suppliers of fossil fuels and industrial GHGs along with vehicle and engine manufacturers will report at the corporate level. An estimated 85 percent of the total U.S. GHG emissions, from approximately 10,000 facilities, are covered by this final rule.

State

Executive Order S-3-05 Executive Order S-3-05, which was signed by Governor 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 level. To combat those concerns, the Executive Order established total GHG emission targets. 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.

Assembly Bill 32, the California Global Warming Solutions Act of 2006 In September 2006, Governor Arnold Schwarzenegger signed AB 32, the California Global Warming Solutions Act of 2006. AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction will be accomplished through an enforceable statewide cap on GHG emissions that is being phased in (starting in 2012). To effectively implement the cap, AB 32 directs the ARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources.

Assembly Bill 32 Climate Change Scoping Plan In December 2008, ARB adopted its Climate Change Scoping Plan, which contains the main strategies California will implement to achieve reduction of approximately 118 million metric tons (MMT) CO_2e, or approximately 22 percent from the State's projected 2020 emission level of 545 MMT of CO_2e under a business-as-usual scenario (this is a reduction of 47 MMT CO_2e, or

almost 10 percent, from 2008 emissions). ARB's original 2020 projection was 596 MMT CO_2e, but this revised 2020 projection takes into account the economic downturn that occurred in 2008 (ARB 2011). The Scoping Plan, reapproved by ARB in August 2011, includes the Final Supplement to the Scoping Plan Functional Equivalent Document, which further examined various alternatives to Scoping Plan measures. The Scoping Plan also includes ARB-recommended GHG reductions for each emissions sector of the State's GHG inventory. ARB estimates the largest reductions in GHG emissions to be achieved by implementing the following measures (ARB 2011):

- improved emissions standards for light-duty vehicles (26.1 MMT CO_2e),
- the Low-Carbon Fuel Standard (15.0 MMT CO_2e),
- energy efficiency measures in buildings and appliances (11.9 MMT CO_2e),
- a renewable portfolio and electricity standards for electricity production (23.4 MMT CO_2e), and
- land use changes as a result of implementation of SB 375 (3.0 MMT CO_2e) (bill intended to encourage infill and more transit-efficient development).

Senate Bill x7-7 Global average temperature is expected to result in a decreased volume of precipitation falling as snow in California and an overall reduction in snowpack in the Sierra Nevada (Intergovernmental Panel on Climate Change [IPCC] 2007). These conditions can have major implications on the agriculture industry in California. SB x7-7, enacted in November 2009, requires all water suppliers in California to increase water use efficiency. Specifically, the legislation sets an overall goal for the State of California to reduce per capita urban water use by 20 percent by December 31, 2020. An interim goal of a 10 percent per capita reduction was set for December 31, 2015.

Local

The Project alignment is located in unincorporated Sacramento County and the City of Sacramento; therefore, the county's and city's policies pertaining to climate change are discussed below.

Sacramento County General Plan The Sacramento County General Plan includes the following policy related to reducing GHG emissions in Sacramento County (Sacramento County 2009):

- **Policy LU-115**. It is the goal of the County to reduce greenhouse gas emissions to 1990 levels by the year 2020. This shall be achieved through a mix of State and local action.

Sacramento County Climate Action Plan The Sacramento County Climate Action Plan was adopted on November 9, 2011 by the Sacramento County Board of Supervisors. The plan includes a GHG inventory for the unincorporated county of Sacramento (as well as for the City of Sacramento), GHG emissions target, and goals and implementation

measures developed to help the county and associated cities reach these targets. The plan includes goals for reducing GHG emissions associated with wastewater treatment. These goals State that Sacramento County should:

- Comply with State requirements as well as commitments in the Water Forum Agreement (a group of agencies, people, and governments in Sacramento that have joined sharing similar goals with regards to water supply and conservation) for water conservation and reduction in potable water demand. Achieve 20 percent reduction in statewide average per capita water use by 2020, in compliance with the State's water conservation requirements (SBx7-7). Balance this with the Water Forum Agreement, which requires over 25 percent reduction in water demands from 1990 levels by 2030. Emphasize water use efficiency as a way to reduce energy consumption;

- Increase energy efficiency related to water system management; and

- Strive to reduce uncertainties in water reliability and quality by increasing the flexibility of the water allocation and distribution system to respond to drought conditions and encouraging redundancy in water storage, supply, and treatment systems (consistent with the Water Forum Agreement).

City of Sacramento 2030 General Plan

- **ER 6.1.7 Greenhouse Gas Reduction Goal**. The City shall work with the California Air Resources Board to comply with statewide greenhouse gas reduction goals as established in the Global Warming Solutions Act of 2006 for 2020 and any subsequent targets.

- **ER 6.1.8 Citywide Greenhouse Gas Assessment**. The City shall comply with pertinent State regulations to assess citywide greenhouse gas emissions for existing land uses and the adopted General Plan buildout.

- **ER 6.1.9 Greenhouse Gas Reduction in New Development**. The City shall reduce greenhouse gas emissions from new development by discouraging auto-dependent sprawl and dependence on the private automobile; promoting water conservation and recycling; promoting development that is compact, mixed use, pedestrian friendly, and transit oriented; promoting energy-efficient building design and site planning; improving the jobs/housing ratio in each community; and other methods of reducing emissions.

- **ER 6.1.10 Climate Change Assessment and Monitoring**. The City shall continue to assess and monitor the effects of climate change.

3.8.3 Environmental Setting

Attributing Climate Change – The Physical Scientific Basis

Certain gases in the earth's atmosphere, classified as 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. The earth has a much lower temperature than the sun; therefore, the earth 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, earth would not be able to support life as we know it.

Prominent GHGs contributing to the greenhouse effect are CO_2, methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (SF_6). Human-caused emissions of these GHGs in excess of natural ambient concentrations are responsible for intensifying the greenhouse effect and have led to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. It is extremely unlikely that global climate change of the past 50 years can be explained without the contribution from human activities (IPCC 2007).

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, 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 year 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 determined with any accuracy, it is understood that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, and other forms of sequestration. Of the total annual human-caused CO_2 emissions, approximately 54 percent is sequestered through ocean uptake, uptake by northern hemisphere forest regrowth, and other terrestrial sinks within a year, whereas the remaining 46 percent of human-caused CO_2 emissions remains stored in the atmosphere (Seinfeld and Pandis 1998).

Similarly, impacts of GHGs are realized globally, as opposed to localized air quality effects of criteria air pollutants and toxic air contaminants. The quantity of GHGs that would ultimately result in climate change is not precisely known; suffice it 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 micro-climates. From the standpoint of CEQA, GHG impacts to global climate change are inherently cumulative.

Attributing Climate Change – Greenhouse Gas Emission Sources

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the transportation, industrial/manufacturing, utility, residential, commercial and agricultural emissions sectors (ARB 2010a). In California, the transportation sector is the largest emitter of GHGs, followed by electricity generation (ARB 2010b). Emissions of CO_2 are byproducts of fossil fuel combustion. CH_4, a highly

potent GHG, results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is largely associated with agricultural practices, landfills, and wastewater treatment plants. N_2O, an even more potent GHG, is also largely attributable to agricultural practices and soil management. Carbon sinks, or reservoirs, include vegetation and the ocean, which absorb CO_2 through sequestration and dissolution, respectively, two of the most common processes of CO_2 sequestration.

Adaptation to Climate Change

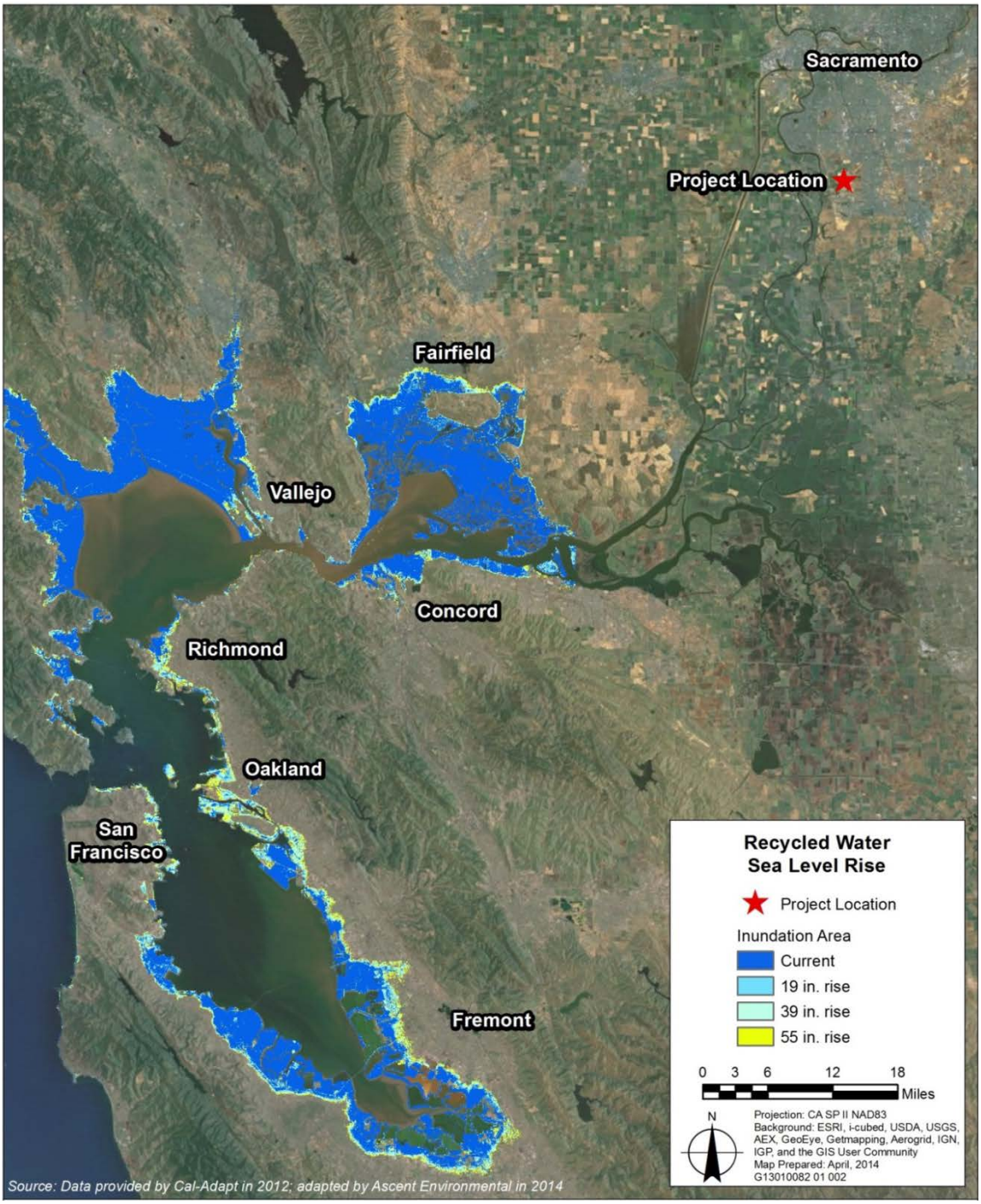
According to the IPCC, which was established in 1988 by the World Meteorological Organization and the United Nations Environment Programme, global average temperature is expected to increase by three to seven degrees Fahrenheit by the end of the century, depending on future GHG emission scenarios (IPCC 2007). According to the CNRA temperatures in California are projected to increase two to five degrees Fahrenheit by 2050 and by four to nine degrees Fahrenheit by 2100 (California Natural Resources Agency [CNRA] 2009).

Other environmental resources could be indirectly affected by the accumulation of GHG emissions and resulting rise in global average temperature. For example, an increase in the global average temperature is expected to result in a decreased volume of precipitation falling as snow in California and an overall reduction in snowpack in the Sierra Nevada. According to the CEC (2012), the snowpack portion of the State's water supply could potentially decline 30 to 90 percent by the end of the 21st century. An increase in precipitation falling as rain rather than snow also could lead to increased potential for floods because water that would normally be held in the snowpack of the Sierra Nevada until spring would flow into the Central Valley concurrently with winter storm events. This scenario would place more pressure on California's levee/flood control system.

As the existing climate throughout California changes over time, the ranges of various plant and wildlife species could shift or be reduced, depending on the favored temperature and moisture regimes of each species. In the worst cases, some species would become extinct or be extirpated from the State if suitable conditions are no longer available (CNRA 2009).

Changes in precipitation patterns and increased temperatures are expected to alter the distribution and character of natural vegetation and associated moisture content of plants and soils. An increase in frequency of extreme heat events and drought are also expected. These changes are expected to lead to increased frequency and intensity of wildfires (CNRA 2009).

Another outcome of global climate change is sea level rise. Sea level rose approximately seven inches during the last century and it is predicted to rise an additional seven to 22 inches by 2100, depending on the future levels of GHG emissions (IPCC 2007). CNRA projects that sea levels along California will rise 12 to 18 inches by 2050 and 21 to 55 inches by 2100 (CNRA 2009). Predicted sea level rise in the California Bay Area is shown below in Figure 3.8-1.



Source: Data provided by Cal-Adapt in 2012; adapted by Ascent Environmental in 2013

Figure 3.8-1. Sea Level Rise

3.8.4 Environmental Impacts and Recommended Mitigation Measures

This section describes the Project's construction-related (short-term) and operation-related (long-term) effects on GHG emissions and climate change. The discussion includes the criteria for determining the level of significance of the effects and a description of the methods and assumptions used to conduct the analysis.

Significance Criteria

Based on Appendix G of the State CEQA Guidelines, the Project could have a significant adverse effect related to climate change if it would:

- generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or

- conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

SMAQMD has not formally adopted thresholds for evaluating GHG emissions. SMAQMD staff is proposing a CEQA significance threshold of 10,000 direct MT CO_2e/year for stationary source-type projects and plans to seek approval from SMAQMD's Board of Directors in early 2014 (Berry, pers. comm. 2012).

The incremental increase in GHG emissions associated with the Project, both direct and indirect, is evaluated using the 10,000 MT CO_2e/year level proposed by SMAQMD staff. This level is notable for additional reasons as well. Unlike some environmental resources that are more aptly considered in the context of local or regional conditions, GHG emissions contribute to a global problem regardless of where they are emitted, and control policies have been developed on a State-wide basis. Thus, it is informative, absent a locally-adopted threshold, to review thresholds adopted by other agencies expert on the subject. This threshold level has been formally adopted by the Bay Area Air Quality Management District and the South Coast Air Quality Management District as the CEQA significance threshold for industrial projects where the air district is the lead agency. These are the two largest (in terms of population served) air districts in California. The level of 10,000 MT CO_2e/year is also notable because it's the level at which most stationary sources are required to inventory and report their emissions to ARB's cap-and-trade program.

Methods and Assumptions

CCR Section 15064.4 and other guidance by the Governor's Office of Planning and Research (2008) recommends that lead agencies under CEQA make a good-faith effort, based on available information, to estimate the quantity of GHG emissions that would be generated by a project, including the emissions associated with construction activities, stationary sources, vehicular traffic, and energy consumption, and to determine whether the impacts have the potential to result in a project or cumulative impact and to mitigate the impacts where feasible mitigation is available. CCR 15064.4 also allows for a qualitative analysis.

GHG emission levels associated with the Project would be generated by short-term construction activities, vehicle trips associated with plan operations sources, direct emissions from wastewater treatment processes, and indirect emissions from electricity consumption.

Project-specific data, including detailed construction information (equipment use, truck trips, workforce trips, etc.), was used in the analysis. GHG emissions were estimated

using CalEEMod version 2013.2.2. Reasonable worst-case Project-generated emissions were estimated based on information provided in the Project description. In order to normalize the construction phase (as GHGs are typically considered on an annualized basis) construction-related GHG emissions were amortized over the anticipated construction period for buildout of the Project (i.e., 3 years) and combined with operational emission levels. This is a common approach used in CEQA analysis of GHG, particularly in cases in which the air district does not have a recommended threshold for construction-generated GHG emissions.

Direct emissions from the operation of additional pumps for the proposed recycled water alignment were quantified using utility specific emission factors for the Sacramento Municipal Utility District obtained from CalEEMod. See Appendix C for detailed calculations.

The combined incremental increase in GHG emissions was compared to a threshold of 10,000 MT CO_2e/year to determine significance.

Issues or Potential Impacts Not Discussed Further

All significance criteria described above are address in the impact analysis below.

3.8.5 Impact Analysis and Mitigation Measures

Impact 3.8-1: Generation of greenhouse gas emissions.

The Project would result in GHG emissions from construction activities including exhaust from worker commute trips, materials delivery, and the use of heavy-duty construction equipment. In addition, new pumps and increased usage of pumps for the recycled water alignment would result in operational emissions of GHGs associated with electricity consumption. Construction-generated GHG emissions would result in a temporary increase of 1,638 MT CO_2e and operation of the pumps for the new recycled water alignment would result in a long-term increase of approximately 118 MT CO2e/year. Because the combined construction- and operation-related Project increase in GHG emissions would not exceed 10,000 MT CO_2e/year, the impact would be **less than significant**.

Project-related construction activities would result in increased generation of GHG emissions. Heavy-duty off-road equipment, vendor truck trips, and worker commutes during construction of the Project would result in exhaust emissions of GHGs.

GHG emissions associated with operation of the Project would consist of GHG emissions from electricity consumption to run four additional electric pumps for recycled water. Operation and maintenance of the new alignment would not require any new employees and minimal vehicle trips (e.g., less than two per year) to monitor the alignment. Therefore, Project operation would generate a negligible increase in mobile-source emissions of GHGs.

The total net increase in operational GHG emissions was estimated using the methods described above. The net increase in Project-related operational emissions is presented in Table 3.8-1. See Appendix C for all inputs and calculations.

Table 3.8-1. Summary of Net Increase in GHG Emissions Associated with the Proposed Project[1]

Construction Emissions	CO_2e (MT)
Open-Cut Excavation	570
HDD and Pipe Jack	16
Lateral Construction	1,052
Total Construction GHG Emissions[2]	**1,638**
Operational Emissions	CO_2e (MT/year)
Total Operational-Related GHG Emissions from increased pumping	**118**

Source: Modeled by Ascent Environmental in 2014

Notes: CO_2e = carbon dioxide equivalent; GHG = greenhouse gas; HDD = horizontal directional drilling; MT = metric tons
[1] Detailed assumptions and modeling output files are included in Appendix C.
[2] Construction emissions represent the worst-case annual GHG emissions that would occur during all construction activity. In order to normalize the construction phase (as GHG's are typically considered on an annualized basis) construction-related GHG emissions were amortized over the anticipated construction period for buildout of the Project (i.e., 3 years). This is a common approach used in CEQA analysis of GHG, particularly in cases in which the air district does not have a recommended threshold for construction-generated GHG emissions.

As shown in Table 3.8-1, construction activities for the proposed alignment and associated facilities would result in a temporary increase of 1,638 MT CO_2e. Over the estimated three year construction schedule, the amortized construction emissions would result in a net temporary increase of 546 MT CO_2e/year. Operation of the pumps for the new recycled water alignment would result in an increase of approximately 118 MT CO_2e/year. Even in a worst-case scenario of overlapping construction and operational emissions occurring in a single year, which would result in an increase of 664 MT CO_2e/year, the incremental increase in GHG emissions associated with the proposed Project would not exceed the 10,000 MT CO_2e/year threshold. Therefore, the generation of GHGs due to the Project would be **less than significant.**

Mitigation Measures

No mitigation is required.

Impact 3.8-2: Impacts of climate change on the Project.

Climate change is expected to result in a variety of effects in the Project area including changes to timing and intensity of precipitation events resulting in increased flood risk and impacts associated with increased storm water runoff. Climate change could also result in increased temperatures, leading to increased wildland fire and elevated sea levels. However, the Project is not located in an area prone to wildland fire and is located far enough away from the California coast and San Francisco Bay and at a high enough elevation above sea level such that projected sea level rise would not affect the Project location. Therefore, this impact would be **less than significant**.

As discussed above, human-induced increases in GHG concentrations in the atmosphere have led to increased global average temperatures (climate change) through the intensification of the greenhouse effect, and associated changes in local, regional, and global climatic conditions.

Although there is a strong scientific consensus that global climate change is occurring and is influenced by human activity, there is less certainty as to the timing, severity, and potential consequences to climate phenomena. Scientists have identified several ways in which global climate change could alter the physical environment in California (CNRA 2009, CEC 2012, California Department of Water Resources [DWR] 2006, IPCC 2007). These include:

- increased average temperatures;
- modifications to the timing, amount, and form (rain vs. snow) of precipitation;
- changes in the timing and amount of runoff;
- reduced water supply;
- deterioration of water quality; and
- elevated sea level.

These changes may translate into a variety of issues and concerns that may affect the Project area, including but not limited to:

- increased frequency and intensity of wildfire as a result of changing precipitation patterns and temperatures,
- increased stormwater runoff associated with changes to precipitation patterns, and
- increased risk of flooding and landslide associated with changes to precipitation patterns.

Although uncertainty exists as to the precise levels of these impacts, there is consensus regarding the range, frequency, and intensity of expected impacts. Because the Project alignment is located in a developed area and far from any forested or wildlands, it would not be affected by increased frequency or intensity of wildfire. In addition, although sea level is expected to rise, the Project is not located in close proximity to future projected inundation areas associated with sea level rise, as determined by CNRA (2009) and shown in Exhibit 3.8-1. Therefore, it is unlikely that the Project would be affected by projected increases in sea level.

The effects of climate change on watershed hydrologic conditions in the future is an emerging issue of concern, and there is considerable uncertainty regarding any potential vulnerabilities of existing drainage and flood management facilities, operations, and planned activities to potential future adverse hydrologic effects. U.S. EPA and DWR

prepared an assessment of the current State of climate change science and guidance for considering the effects of climate change in planning regional water resources management actions (U.S. EPA and DWR 2011). U.S. EPA and DWR review indicates that there is general agreement in the predictions of available climate models that average temperatures in California will increase in the range of 5 to 10°F by the end of the 21st century. Consequently, winter-time precipitation in the Sierra Nevada is anticipated to fall more as rain rather than snow, and there will be a reduction in the annual average snowpack of 20 to 40 percent by the year 2050. Also, conditions that drive extreme precipitation events will become more common in the future, increasing the likelihood of extreme precipitation events. With projected increased winter-time temperatures, less snowpack area and corresponding greater land area subject to immediate runoff, and potential for more extreme rainfall events, the risks of increased peak rates of runoff and flooding also are anticipated to increase. Sea level rise will also resulting in corresponding higher flood surface water elevations in the Delta and subsequent backwater conditions in the Sacramento River and Delta tributaries near the Project alignment.

Future cumulative changes in urban runoff may be attenuated partially by new municipal stormwater regulations that seek to limit the magnitude of hydromodification that occurs with urban development. The City of Sacramento, Sacramento County, and local surrounding cities are jointly regulated under a NPDES municipal stormwater permit (Order No.R5-2002-0206/NPDES No. CAS082597, *Waste Discharge Requirements for County of Sacramento and Cities of Citrus Heights, Elk Grove, Folsom, Galt and Sacramento Storm Water Discharges from Municipal Separate Storm Sewer Systems Sacramento County*). The co-permittees, collectively known as the Sacramento Stormwater Quality Partnership, have prepared the Stormwater Quality Improvement Plan (SQIP) which contains each agency's program of best management practice implementation, public education, illicit discharge detection and elimination, construction site runoff controls, and post-construction runoff controls. A major new element of the SQIP is the Hydromodification Management Plan (HMP) prepared in July 2011 (Sacramento Stormwater Quality Partnership 2011). The HMP has yet to be approved by the Central Valley Regional Water Quality Control Board, but will become effective 12 months after its approval. The HMP describes the goals, objectives, and procedures for implementation of stormwater design standards to manage runoff from new development to maintain (or reproduce) the pre-development hydrology. Consequently, HMP actions will help to minimize or avoid changes to the peak rates and volume of stormwater runoff with development, and related contribution to downstream receiving water streamflow rates.

In addition, the Folsom Dam Safety and Flood Damage Reduction Project currently under construction through about 2017 will improve the level of flood protection for the region, and the Sacramento metropolitan area in particular. That project includes the construction of a new auxiliary spillway, additional grout placement for Folsom Dam and reinforcement of several dikes to improve seismic safety of these structures, and revised reservoir release operations that will allow more rapid release of water in advance of large storm events. Finally, the USACE has been implementing the Sacramento River Bank Protection Project since the flood of 1997 which involves locating and repairing

critical erosion sites for the Sacramento River levee system (USACE 2013). Through the annual erosion surveys and repair efforts to date, it is known that Sacramento River Bank Protection Project will be a long-term program because the number of existing erosion problems is large, and the rate of new or expanding erosion problem area identification has outpaced the funding and opportunities to implement the needed maintenance and repair work. In light of the future cumulative development in the region and the counteracting effects of potential greater peak streamflow and flooding events (due to additional urban stormwater drainage and climate change) and ongoing/planned flood risk reduction improvements, it is uncertain whether future cumulative hydrologic conditions in the Project area would improve, be more adverse, or remain similar to existing conditions. Because the future flood risks due to climate change are uncertain, the question is whether the recycled water pipeline would be disrupted or damaged by future flooding. This risk is considered low because it would be an underground pipeline that does not connect to surface waters (such as the Sacramento River), and the pipes would operate by pumps, not gravitational flow. Further, the system could be shut down and closed off in the event that a flood caused back-ups at the Sacramento Regional Water Treatment Plant. Therefore, the proposed alignment is unlikely to be adversely affected by increased flooding risks.

The proposed Project, which would expand use of recycled water, supports water conservation efforts and improved water supply reliability, which would support the Sacramento Region's ability to adapt to reduced water supplies due to climate change. The Project aligns with the following State and regional regulations and initiatives related to water conservation efforts:

- California SB x7-7 and the resulting 20 by 2020 Plan dictate that per capita urban water use must be reduced by 20 percent by year 2020. Recycled water does not count towards this water use. The proposed Project would assist regional water users to conserve and offset current water use to reach this 20 by 2020 goal.

- The State Water Resources Control Board's 2009 Recycled Water Policy states, as one of its goals, to increase "the use of recycled water over 2002 levels by at least 1 million AFY by 2020 and by at least 2 million AFY by 2030." Reuse of Regional San's effluent could be a part of this broader statewide effort.

- The Water Forum Agreement, signed by 40 agencies and organizations throughout the greater Sacramento area, includes two coequal objectives of water supply reliability and environmental protection of the lower American River. This recycled water Project would support the first goal of water supply reliability of the region. Recycled water is considered highly reliable, since it hydrology-independent.

- The 2013 Integrated Regional Water Management Plan includes the Sacramento region's region-wide water vision, goals, objectives, and strategies. Increasing use of recycled water is stated as one of the region's 17 objectives. A supporting strategy targets increasing recycled water use by 55 AFY by 2030.

Because the Project is unlikely to be adversely affected by increased frequency or intensity of wildfire, projected increases in sea level, or increased flooding risks, and because the Project would assist the Sacramento Region in adapting to reduced water supplies, this impact would be **less than significant.**

Mitigation Measures

No mitigation is required.

3.9 Hazards and Hazardous Materials

3.9.1 Introduction

This section describes Federal, State and/or local polices relating to pertinent to hazards and hazardous materials. In addition, this section describes the existing conditions along the Project alignment, the potential of encountering hazards and hazardous materials during construction of the Project, and the potential hazards, hazardous materials, and public health issues related to Project construction and operation. For impacts on water quality as a result of Project construction and operation see Section 3.10 "Hydrology and Water Quality."

3.9.2 Regulatory Setting

Federal

Resource Conservation and Recovery Act The primary Federal agency regulating the generation, transport, and disposal of hazardous substances is EPA, under the authority of the Resource Conservation and Recovery Act (RCRA). RCRA established an all-encompassing Federal regulatory program for hazardous waste that is administered in California by the California Department of Toxic Substances Control (DTSC). Under RCRA, DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Amendments of 1984, which specifically prohibits the use of certain techniques for the disposal of various hazardous waste. The Federal Emergency Planning and Community Right-to- Know Act of 1986 imposes planning requirements to help protect local communities in the event of accidental release of an extremely hazardous substance.

Clean Air Act Regulations under the CCA (42 USC 7401 et seq. as amended) are designed to prevent accidental releases of hazardous materials. The regulations require facilities that store a threshold quantity or greater of listed regulated substances to develop a risk management plan, including hazard assessments and response programs to prevent accidental releases of listed chemicals.

Toxic Substances Control Act/Resource Conservation and Recovery Act/Hazardous and Solid Waste Act The Federal Toxic Substances Control Act of 1976 (15 USC 2605) and the Resource Conservation and Recovery Act of 1976 (42 USC 6901 et seq.) established a program administered by the EPA for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. The Resource Conservation and Recovery Act was amended in 1984 by the Hazardous and Solid Waste Act, which affirmed and extended the "cradle to grave" system of regulating hazardous wastes.

U.S. Department of Transportation Hazardous Materials Transport Act The U.S. Department of Transportation, in conjunction with the EPA, is responsible for enforcement and implementation of Federal laws and regulations pertaining to transportation of hazardous materials. The Hazardous Materials Transportation Act of 1974 (49 USC 5101) directs the U.S. Department of Transportation to establish criteria

and regulations regarding the safe storage and transportation of hazardous materials. CFR 49, 171–180, regulates the transportation of hazardous materials, types of material defined as hazardous, and the marking of vehicles transporting hazardous materials.

Occupational Safety and Health Administration The Occupational Safety and Health Administration's (OSHA's) (Title 29 CFR 1910) mission is to ensure the safety and health of America's workers by setting and enforcing standards; providing training, outreach, and education; establishing partnerships; and encouraging continual improvement in workplace safety and health. OSHA staff establishes and enforces protective standards and reaches out to employers and employees through technical assistance and consultation programs.

State

Safe Drinking Water and Toxics Enforcement Act The Safe Drinking Water and Toxics Enforcement Act of 1986 (Proposition 65) identifies chemicals that cause cancer and reproductive toxicity, provides information for the public, and prevents discharge of the chemicals into sources of drinking water. Lists of the chemicals of concern are published and updated periodically. Businesses are required to notify Californians about the chemicals in products they purchase, in the workplace, or that are released to the environment. By providing this information, individuals are able to make informed decisions about protecting themselves from exposure to these chemicals.

Hazardous Waste Control Act The Hazardous Waste Control Act created the State hazardous waste management program. It is similar to, but more stringent than, the Federal RCRA program. The act is implemented by regulations contained in Title 26 of the CCR, which describes the following required aspects for the proper management of hazardous waste: identification and classification; generation and transportation; design and permitting of recycling treatment, storage and disposal facilities; operation of facilities and staff training; and closure of facilities and liability requirements.

These regulations list more than 800 materials that may be hazardous and establish criteria for identifying, packaging, and disposing of such waste. Under the Hazardous Waste Control Act and Title 26, the generator of hazardous waste must complete a manifest that accompanies the waste from generator to transporter to the ultimate disposal location. Copies of the manifest must be filed with the DTSC.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program The Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program) requires the administrative consolidation of six hazardous materials and waste programs Program Elements) under one agency, a Certified Unified Program Agency (CUPA). The following Program Elements are consolidated under the Unified Program:

- Hazardous Waste Generator and Onsite Hazardous Waste Treatment Programs (a.k.a., Tiered Permitting);

- Aboveground Petroleum Storage Tanks (Spill Prevention Control and Countermeasures Plan [SPCC]);

- Hazardous Materials Release Response Plans and Inventory Program (a.k.a. Hazardous Materials Disclosure or "Community-Right-To-Know"), Hazardous Material Plans (HAZMP);

- California Accidental Release Prevention program requires a Risk Management Plan (RMP);

- Underground Storage Tank (UST) Program; and

- Uniform Fire Code Plans, Hazardous Materials Management, and Inventory Requirements.

The Unified Program is intended to provide relief to businesses complying with the overlapping and sometimes conflicting requirements of formerly independently managed programs. The Unified Program is implemented at the local government level by CUPAs. Most CUPAs have been established as a function of a local environmental health or fire department. Some CUPAs have contractual agreements with another local agency, a participating agency, which implements one or more Program Elements in coordination with the CUPA.

California Air Toxics Program The California Air Resources Board implements the California Air Toxics Program. The program establishes the process for the identification and control of TACs. It also includes provisions to enhance public awareness of significant toxic exposures, and seeks to reduce hazardous materials related to risks from TAC emissions. Within the program, California Air Resources Board maintains the TAC identification list, which provides information on substances identified as California TACs. The program also includes the Toxic Air Contaminant Control Program, which implements emission control measures on certain industrial and other activities that are known to be potential sources of TACs. For a discussion of Project-generated TAC emissions, see Section 3.4, "Air Quality."

Screening Levels for Hazardous Materials in Soil or Groundwater The Regional Water Board environmental screening limits are guidelines used to evaluate the potential risk associated with chemicals found in soil or groundwater where a release of hazardous materials has occurred. Residential screening levels are the most restrictive; soil with chemical concentrations below these levels generally would not require remediation and would be suitable for unrestricted uses if disposed of offsite. Commercial/industrial screening levels are generally higher than residential screening levels because they are based on potential worker exposure to hazardous materials in the soil (and these are generally less than residential exposures).

Screening levels for construction workers are also higher than for commercial/industrial workers because construction workers are only exposed to the chemical of concern during the duration of construction, while industrial workers are assumed to be exposed over a working lifetime.

The California Environmental Protection Agency (Cal/EPA) California Human Health Screening Levels (CHHSLs (Cal/EPA 2005) are concentrations of 54 hazardous chemicals in soil or soil gas that Cal/EPA considers to be below thresholds of concern for risks to human health. The CHHSLs can be used to screen sites for potential human health concerns where releases of hazardous chemicals have occurred. The presence of a chemical at concentrations in excess of a CHHSL does not indicate that adverse impacts are occurring or will occur, but suggests that further evaluation is warranted. The CHHSLs are guidance, and not regulatory cleanup standards.

Waste Classification Criteria In accordance with Title 22 of the CCR Section 66261.20 et seq., excavated soil is classified as a hazardous waste if it exhibits the characteristics of ignitability, corrosivity, reactivity, and/or toxicity. A waste is considered toxic in accordance with 22 CCR 66261.24 if it contains:

- total concentrations of certain substances at concentrations greater than the total threshold limit concentration;
- soluble concentrations greater than the soluble threshold limit concentration (STLC);
- soluble concentrations of certain substances greater than Federal toxicity regulatory levels using the toxicity characteristic leaching procedure (TCLP); or
- specified carcinogenic substances at a single or combined concentration of 0.001 percent.

State and Federal regulations consider waste to be hazardous if the soluble concentration exceeds the Federal regulatory level as determined by the TCLP. Because the TCLP involves a 20-to-1 dilution of the sample, the total concentration of a substance in the soil would need to exceed 20 times the regulatory level for the soluble concentration to exceed the regulatory level in the extract. A waste is also considered hazardous under State regulations if the soluble contaminant concentration exceeds the STLC as determined by the waste extraction test method. Because the waste extraction test analysis is performed using a 10-to-1 dilution of the sample, the total concentration of a substance would need to exceed 10 times the STLC for the soluble concentration to possibly exceed the STLC in the extract. A waste may also be classified as toxic if testing indicates toxicity greater than the specified criteria. Soil that is not classified as a hazardous waste can be accepted at a Class II or Class III designated landfill, depending on the waste acceptance criteria for the specific landfill.

California Department of Toxic Substances Control DTSC implements and oversees the Hazardous Waste and Substances Sites (Cortese) List. The Cortese List is used by State agencies, local agencies, and project developers in order to ensure compliance with CEQA requirements for providing information about the location of hazardous materials release sites. The list is updated at least annually, as required under CEQA, with input from DTSC as well as other State and local government agencies that are required to update and submit hazardous materials release information and updates. Cortese List

information is available through DTSC's EnviroStor website, and via the State Water Resources Control Board's GeoTracker website.

California Office of Emergency Services In order to protect the public health and safety and the environment, the California Office of Emergency Services is responsible for establishing and managing statewide standards for business and area plans relating to the handling and release or threatened release of hazardous materials. Basic information on hazardous materials handled, used, stored, or disposed of (including location, type, quantity, and the health risks) needs to be available to firefighters, public safety officers, and regulatory agencies needs to be included in business plans in order to prevent or mitigate the damage to the health and safety of persons and the environment from the release or threatened release of these materials into the workplace and environment. These regulations are covered under Chapter 6.95 of the California Health and Safety Code Article 1–Hazardous Materials Release Response and Inventory Program (Sections 25500 to 25520) and Article 2–Hazardous Materials Management (Sections 25531 to 25543.3).

California Public Resources Code Fire Safety Regulations The PRC includes fire safety regulations that restrict the use of equipment that may produce a spark, flame, or fire; require the use of spark arrestors on construction equipment that use an internal combustion engine; specify requirements for the safe use of gasoline powered tools in fire hazard areas; and specify fire suppression equipment that must be provided onsite for various types of work in fire-prone areas. These regulations include the following:

- Earthmoving and portable equipment with internal combustion engines would be equipped with a spark arrestor to reduce the potential for igniting a wildland fire (PRC Section 4442).

- Appropriate fire suppression equipment would be maintained during the highest fire danger period—from April 1 to December 1 (PRC Section 4428).

- On days when a burning permit is required, flammable materials would be removed to a distance of 10 feet from any equipment that could produce a spark, fire, or flame, and the construction contractor would maintain the appropriate fire suppression equipment (PRC Section 4427).

- On days when a burning permit is required, portable tools powered by gasoline-fueled internal combustion engines would not be used within 25 feet of any flammable materials (PRC Section 4431).

Uniform Fire Code The Uniform Fire Code, Article 80, includes specific requirements for the safe storage and handling of hazardous materials. These requirements reduce the potential for a release of hazardous materials and for mixing of incompatible chemicals, and specify the following specific design features to reduce the potential for a release of hazardous materials that could affect public health or the environment:

- separation of incompatible materials with a noncombustible partition;

- spill control in all storage, handling, and dispensing areas; and

- separate secondary containment for each chemical storage system. The secondary containment must hold the entire contents of the tank, plus the volume of water needed to supply the fire suppression system for a period of 20 minutes in the event of a catastrophic spill.

California Occupational Safety and Health Administration The California Occupational Safety and Health Administration (Cal/OSHA) is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. Cal/OSHA standards are generally more stringent than Federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR Sections 337-340). The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings.

Asbestos Asbestos exposure and the asbestos abatement process are regulated under State law, and asbestos management and removal must be completed in accordance with 7 CCR 5208, 8 CCR 1529, and 8 CCR 341.6 through 341.14. 7 CCR 5208 implements worker exposure limits for asbestos, and also requires exposure monitoring, provides for the establishment and demarcation of regulated areas, implements compliance programs, implements employee protection and hazards communication requirements, and provides for employee medical surveillance and reporting as warranted. 8 CCR 1529 regulates asbestos exposure for all construction work including asbestos abatement and management work by implementing permissible exposure limits, requiring exposure assessments and monitoring, requiring notification and training of employees, and provides specific requirements for handling and removal of asbestos and asbestos containing materials including removal procedures and worker safety/protection measures. 8 CCR 341.6 through 341.14 provide requirements for asbestos related work implemented through Cal/OSHA, including notification requirements for work with asbestos containing materials, and transport and disposal requirements for asbestos containing materials. Section 19827.5 of the California Health and Safety Code, adopted January 1, 1991, requires that local agencies not issue demolition or alteration permits until an applicant has demonstrated compliance with notification requirements under applicable Federal regulations regarding hazardous air pollutants, including asbestos.

Prior to renovation or demolition of buildings containing asbestos, contractors licensed to conduct asbestos abatement work must be retained. Asbestos abatement contractors must follow State regulations contained in 8 CCR 1529, and 8 CCR 341.6 through 341.14 where there is asbestos related work involving 100 square feet or more of asbestos containing material. Cal/OSHA must be notified 10 days prior to initiating construction and demolition activities. Asbestos encountered during demolition of an existing building must be transported and disposed of at an appropriate facility. The contractor and hauler of the material are required to file a Hazardous Waste Manifest which details the hauling of the material from the site and the disposal of it.

Lead and Lead Based Paint Abatement Regulations to manage and control exposure to lead and lead-based paint are described in CFR Title 29, Section 1926.62 and CCR Title 8 Section 1532.1. These regulations cover the demolition, removal, cleanup, transportation, storage and disposal of lead-containing material. The regulations outline the permissible exposure limit, protective measures, monitoring and compliance to ensure the safety of construction workers exposed to lead-based materials. Cal/OSHA's Lead in Construction Standard requires project proponents to develop and implement a lead compliance plan when lead based paint would be disturbed during construction. The plan must describe activities that could emit lead, methods for complying with the standard, safe work practices, and a plan to protect workers from exposure to lead during construction activities. These regulations also require notification to Cal/OSHA in the event that more than 100 square feet of lead-based paint would be disturbed.

Hazardous Materials Handling and Transport The California Hazardous Materials Release Response Plans and Inventory Law of 1985 requires preparation of hazardous materials business plans and disclosure of hazardous materials inventories. A business plan includes an inventory of hazardous materials handled, facility floor plans showing where hazardous materials are stored, an emergency response plan, and provisions for employee training in safety and emergency response procedures (California Health and Safety Code, Division 20, Chapter 6.95, Article 1). Statewide, DTSC has primary regulatory responsibility for management of hazardous materials, with delegation of authority to local jurisdictions that enter into agreements with the State. Local agencies are responsible for administering these regulations.

Several State agencies regulate the transportation and use of hazardous materials to minimize potential risks to public health and safety, including Cal/EPA and the California Emergency Management Agency. The California Highway Patrol and California Department of Transportation enforce regulations specifically related to the transport of hazardous materials. Together, these agencies determine container types used and license hazardous waste haulers for hazardous waste transportation on public roadways.

Local

The Project alignment is situated within Sacramento County and City of Sacramento jurisdictional boundaries and as such both City and County policies could apply to the proposed Project.

Sacramento County General Plan The Hazardous Materials Element of the Sacramento County General Plan (Sacramento County 2011) contains the following policies related to public health and safety that may be applicable to the Project:

- **Policy HM-4**. The handling, storage, and transport of hazardous materials shall be conducted in a manner so as not to compromise public health and safety standards.

- **Policy HM-7**. Encourage the implementation of workplace safety programs and to the best extent possible ensure that residents who live adjacent to industrial or

commercials facilities are protected from accidents and the mishandling of hazardous materials.

- **Policy HM-8**. Continue the effort to prevent ground water and soil contamination.
- **Policy HM-9**. Continue the effort to prevent surface water contamination.
- **Policy HM-10**. Reduce the occurrences of hazardous material accidents and the subsequent need for incident response by developing and implementing effective prevention strategies
- **Policy HM-11**. Protect residents and sensitive facilities from incidents which may occur during the transport of hazardous materials in the County.

SRWTP Hazards and Hazardous Materials Management Plans, Programs, and Requirements Existing hazards and hazardous materials are managed onsite through several risk management plans, programs, and requirements, described below.

Emergency Response and SRWTP's Emergency Response Program General emergency response for the SRWTP is provided by the Cosumnes Fire Department as the first responder for fire and other emergency services. Hazardous materials/waste spills are managed via a contract with a licensed hazardous waste hauler.

Hazardous Materials Plan SRWTP maintains an existing HAZMP pursuant to the requirements of the Sacramento County Environmental Management Department, so as to satisfy requirements for emergency response provisions of California Health and Safety Code Section 6.95. The HAZMP was most recently revised in 2013, and is certified annually by the Sacramento County Environmental Management Department pursuant to the requirements of California Health and Safety Code Section 25503.3(c). The purpose of the HAZMP is to minimize the potential for employee exposure or public exposure to an actual or threatened hazardous material release at the existing facility. The HAZMP is intended to satisfy the requirements for emergency response provisions of Section 6.95 of the California Health and Safety Code.

Principal elements of the HAZMP are descriptions of hazardous materials used at SRWTP, their properties and functions, training programs that facilitate their proper use, and maps showing locations of their use and storage. The plan also provides detailed instructions for reporting emergency events and notifying key response personnel and authorities in the event of a release; site evacuation procedures; and methods to use to mitigate a release, including locations and capabilities of emergency response equipment, spill containment, cleanup, and sources of technical advice. The Cosumnes Fire Department is the fire agency that serves the SRWTP and is notified in the event assistance is needed to handle a release or threatened release. Appendices to the HAZMP include emergency notification procedures, Material Safety Data Sheets, Safety Data Sheets for hazardous chemicals used at the SRWTP, and an inventory of chemicals stored/used onsite in reportable quantities. The HAZMP (with associated documentation) is on file at the SRWTP site.

Spill Prevention, Control, and Countermeasure Plan The SPCC, last updated in 2013, documents, defines, and describes the practices, procedures, structures, and equipment used to prevent, control, and/or mitigate releases of petroleum, oil, and lubricant products to the environment. The plan provides general information about existing petroleum usage and storage onsite, and provides standard procedures and other requirements for the loading, unloading, containment, and use of petroleum onsite. The SPCC also provides for emergency spill response, notification, and reporting; and implements requirements for training, inspections, and record keeping in accordance with Federal requirements. The SPCC is on file at the SRWTP site.

Other Procedures and Requirements An array of other hazardous materials procedures and requirements are also implemented at the existing SRWTP. These implement various State and local level requirements with respect to worker safety and hazards/hazardous materials management onsite. Examples include the following, which are on file at the SRWTP site:

- Standard Operating and Maintenance Procedures;
- Administrative Operating Procedures; and
- Homeland Security Procedures and Policies.

Sacramento 2030 General Plan The following goals and policies from the recently adopted Sacramento 2030 General Plan (Sacramento County 2011) are applicable to public health and hazards:

Public Health and Safety Element

- Goal PHS 3.1 Reduce Exposure to Hazardous Materials and Waste. Protect and maintain the safety of residents, businesses, and visitors by reducing, and where possible, eliminating exposure to hazardous materials and waste.
- Policy PHS 3.1.1 Investigate Sites for Contamination. The City shall ensure buildings and sites are investigated for the presence of hazardous materials and/or waste contamination before development for which City discretionary approval is required. The City shall ensure appropriate measures are taken to protect the health and safety of all possible users and adjacent properties.
- Policy PHS 3.1.2 Hazardous Material Contamination Management Plan. The City shall require that property owners of known contaminated sites work with Sacramento County, the State, and/or Federal agencies to develop and implement a plan to investigate and manage sites that contain or have the potential to contain hazardous materials contamination that may present an adverse human health or environmental risk.
- Policy PHS 3.1.4 Transportation Routes. The City shall restrict transport of hazardous materials within Sacramento to designated routes.

3.9.3 Environmental Setting

A material is considered hazardous if it appears on a list of hazardous materials prepared by a Federal, State, or local agency, or if it has characteristics defined as hazardous by such an agency. The CCR defines a hazardous material as a substance that, because of physical or chemical properties, quantity, concentration, or other characteristics, may either (1) cause an increase in mortality or an increase in serious, irreversible, or incapacitating, illness or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of, or otherwise managed (CCR, Title 22, Division 4.5, Chapter 10, Article 2, Section 66260.10). Hazardous wastes are defined in the same manner. Hazardous wastes are hazardous materials that no longer have practical use, such as substances that have been discarded, discharged, spilled, contaminated, or are being stored prior to proper disposal. Hazardous materials and hazardous wastes are classified according to four properties: toxicity, ignitability, corrosivity, and reactivity (CCR, Title 22, Chapter 11, Article 3).

Existing Use and Occurrence of Hazardous Materials at SRWTP

The Project alignment originates at the existing WRF on SRWTP property. Under existing conditions, routine operation of the SRWTP requires the onsite storage and use of a variety of chemicals in support of the wastewater treatment process and daily operations and maintenance. Chemicals utilized or otherwise located onsite in reportable quantities are inventoried and reported in accordance with applicable regulations. All chemicals are either consumed during use or disposed of as hazardous waste, in accordance with applicable regulations and requirements.

Known Hazardous Materials Sites

Data on historic and documented releases of hazardous materials at the SRWTP property and along the proposed pipeline alignments were obtained by accessing internet databases and included review of the State Water Board's GeoTracker database, the EPA's Envirofacts/Environmapper website, and the State's Cortese list via DTSC's EnviroStor database.

SRWTP Prior to 1998, several historic USTs were located onsite. These were used for storage of fuels at the facility. The State Water Board's GeoTracker database indicates that a leaking UST (LUST) was reported within the SRWTP in February 1986 (ID T0606700040). The LUST is reported to have released gasoline from an underground gasoline storage tank, which was formerly located onsite. Information documented in the GeoTracker database indicates that cleanup of the LUST was completed during 1986, and that the case has since been closed. Other non-leaking USTs remained onsite until they were eventually removed in 1998, and replaced by aboveground storage tanks (AST) (State Water Board 2013a). Today, ASTs are used onsite for the storage of gasoline and diesel.

Historic construction documentation indicates that hydrocarbon-impacted soil was transported from a County of Sacramento Public Works Agency facility to the SRWTP for use as sub-base for asphalt concrete paving with the approval of the Sacramento County Environmental Management Department. These hydrocarbon-impacted soils may be located on the SWRTP site; however, the depth and extent of hydrocarbon-

contaminated soils has not yet been identified. As such, the current hydrocarbon concentrations in soil have not been characterized to understand if the material will need special handling during Project construction.

The GeoTracker database also indicates that a land disposal site is located on Regional San property (ID L10007002783), and that cleanup efforts for that site are open/ongoing. Until 2003, SRWTP operations included management of biosolids generated by the SRWTP at a series of 20 onsite SSBs, along with dedicated land disposal (DLD) facilities. The facilities were operated under Waste Discharge Requirements (WDRs) issued by the Regional Water Board for digested sewage sludge, including WDR Order Nos. 98-087, 5- 01-263, and R5-2003-0076. After detecting increasing concentrations of salts, nitrate, chloride, and dissolved solids in groundwater downgradient of the facility, the Regional Water Board issued orders requiring closure or lining of the DLD facilities by 2005. Five DLDs were involved; Regional San opted to close two and line the other three. Closure and subsequent monitoring of the closed DLD facilities was initiated in 2005, which included remediation of the site and monitoring. Monitoring efforts included sampling of soil chemistry properties, plant tissues, and soil core measurements of moisture and salinity. Monitoring of the site is anticipated to continue until 2015, in accordance with Regional Water Board requirements (SWRCB 2013b).

Existing Grit and Screening Landfill A 23-acre grit and screenings landfill area, of which about eight acres were historically used for waste disposal, is located within the portion of the site which houses the existing WRF. The landfill was operated as an unlined Class III solid waste disposal site that accepted waste from December 1982 to January 1993. The landfill is permitted under the Regional Water Board WDR number R5-2003-0076. CalRecycle references the landfill by its solid waste information system (SWIS) number: 34-AA-0029. During operation, trenches were excavated into native soils, filled with waste, and then covered with soil. The landfill was officially closed in 1994 by the installation of a final soil cover. The landfill is currently in the post-closure maintenance and monitoring phase.

The waste stream consisted primarily of inert inorganic solids (grit) and ground organic and inorganic solids (screenings), and ash from the SRWTP incinerator. In addition to these process wastes, construction debris was also disposed.

Project Alignment Outside of the SRWTP There are several known hazardous materials storage or contamination sites located within 50 feet of the proposed recycled water main or proposed laterals outside of the SRWTP:

TOSCO Service Station #4587
GeoTracker ID# T0606701020
2390 Florin Road, Sacramento, California

The LUST is reported to have released gasoline from two underground gasoline storage tanks onsite. Drinking water wells and surface water supplies were not affected by this site. Information documented in the GeoTracker database indicates that cleanup of the

LUST was completed and that the case was closed in 2011. A closure letter or other formal closure decision document has been issued for the site.

Fruitridge Vista Water Company Wells 1, 2, 11, &12
GeoTracker ID# T10000001124
37th and 47th Streets, Sacramento, California

Contaminants at this site are unknown and the site is designated as Open-Inactive in the GeoTracker database; this designation denotes that no regulatory oversight activities are being conducted by the CVWRCB.

River City Oldsmobile
GeoTracker ID# T0606700511
2401 Florin Road, Sacramento, California

Specific contaminant(s) information for this site was not disclosed in GeoTracker. Drinking water wells were potentially affected by this site. Information documented in the GeoTracker database indicates that the case was closed in 1996. A closure letter or other formal closure decision document has been issued for the site.

GeoTracker ID# FA0008166 *Sacramento City College/Aero Hangar*
6230 24th Street, Sacramento, California

Specific contaminant(s) information for this site was not disclosed in GeoTracker. This is a currently Permitted Underground Storage Tank.

Emergency Response and Emergency Evacuation Plans

The Sacramento County Flood Emergency Evacuation Plan and the HAZMP identify evacuation areas and evacuation routes in the vicinity of the Project (in the event of accidental release of potentially hazardous materials such as chlorine gas, sulfur dioxide, and digester gas). Evacuation areas and routes are located to the north of Morrison Creek, and along and to the west of I-5, and including I-5 (City of Sacramento and Sacramento County 2005). Access roads to the Regional San property are not included as county level evacuation routes or evacuation areas, nor are any areas or roadways located to the east of the project area. As noted above, the District has developed an Emergency Response Plan for the SRWTP that addresses various potential emergencies such as earthquakes, floods, fire, power disruptions, etc.

Fire Hazards

The California Department of Forestry and Fire Protection (CAL FIRE) maintains fire hazard severity zone maps for local and State responsibility areas. Fire hazard is a way to measure physical fire behavior so that people can predict the damage a fire is likely to cause. Fire hazard measurement includes the speed at which a wildfire moves, the amount of heat the fire produces, and most importantly, the burning fire brands that the fire sends ahead of the flaming front. The fire hazard model considers wildland fuels. Fuel is natural vegetation that burns during the wildfire. The model also considers topography, especially steepness of the slopes. Fires burn faster as they burn up-slope. Weather (temperature, humidity, and wind) also has a significant influence on fire

behavior. The model recognizes that some areas of California have more frequent and severe wildfires than other areas. Finally, the model considers the production of burning fire brands (embers) how far they move, and how receptive the landing site is to new fires.

The project alignment is located in a local responsibility area (Sacramento County and City of Sacramento). The general background risk for the project alignment and its vicinity is expected to be low, and the only fire hazard is within open buffer areas surrounding the Regional San property, especially during late-season dry periods (CAL FIRE 2008).

3.9.4 Environmental Impacts and Recommended Mitigation Measures

Significance Criteria

Based on Appendix G of the State CEQA Guidelines, the Project could have a significant adverse effect related to geology and soils if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (“Cortese list”) and, as a result, would it create a significant hazard to the public or the environment
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands

Methods and Assumptions

Methods for the impact analysis provided below included a review of applicable laws, permits, and legal requirements pertaining to public health and safety and hazardous

materials and publicly available hazard and hazardous materials information, site/location and cleanup status information, and other available information, as discussed above, and as applicable to the SRWTP and the Project alignment.

The qualitative impact analysis considered potential for changes in the nature, extent, or potential for hazardous conditions to occur along the project alignment, as a result of project construction and operation, including increased potential for exposure to hazardous materials and hazardous conditions.

Issues or Impacts Not Discussed Further

Construction activities would involve the use of hazardous materials such as fuels, lubricants, paints, solvents, gasoline, asphalt, and oil. The use and storage of these materials could potentially expose and adversely affect workers, the public, or the environment as a result of improper handling or use; accident; environmentally unsound disposal methods; or fire, explosion, or other emergencies, resulting in adverse health effects. All allowable uses would be subject to compliance with Federal, State, and local hazardous materials regulations, and would be monitored by the State (e.g., Cal/OSHA and DTSC), County, and the District. Therefore, it is anticipated that the routine use of these materials handled in accordance with these laws and regulations would not create any impacts to the public or the environment. This issue is not discussed further in this Draft EIR.

Several of the proposed future laterals may offer recycled water connections to service school grounds. However, any connections to school irrigation systems and related construction would occur along existing road rights-of-way and would not occur on school grounds. Therefore, no impact related to schools would occur. This issue is not discussed further in this Draft EIR.

The Borges-Clarksburg Airport, a small, unpaved (i.e., turf runway) private airstrip for primarily agricultural and limited recreational use, is located approximately 1.2 miles west of the existing Regional San property where recycled water main construction will commence from the existing WRF. The next closest airport is the Sacramento Executive Airport, which is located approximately 3.5 miles northwest of the Regional San property and approximately 2,000 feet away from the proposed recycled water laterals and above-ground storage tank to be constructed to service Chorley Park and Bing Maloney Gold Course. The Project alignment is not located within any airport approach or departure safety zones, and no structures would be constructed that could result in a safety hazard. Therefore, no impact related to private airstrips or public airports would occur. This issue is not discussed further in this Draft EIR.

The proposed project will not involve demolition or tie-ins to existing building more than 50 years old on the Regional San property which may contain asbestos or lead-based paint, therefore no impacts related to release of these hazardous materials would occur, and asbestos and lead-based paint are not discussed further in this Draft EIR.

The proposed project is located on Regional San property or previously developed City of Sacramento lands, therefore there are no wildland fire risks associated with the project and no impact would occur. This issue is not discussed further in this Draft EIR.

The Sacramento County Flood Emergency Evacuation Plan identifies evacuation areas and evacuation routes in the vicinity of the proposed alignment. These are located to the north of Morrison Creek, and along and to the west of I-5, and including I-5 (City and County of Sacramento 2005). The Project will not generate traffic (except during construction; see Section 3.13, "Traffic and Transportation"), such that nearby evacuation routes would be affected. Therefore, Project construction is not expected to interfere with evacuation plans, and no impact would occur. This issue is not discussed further in this Draft EIR.

3.9.5 Environmental Impacts and Recommended Mitigation Measures

Impact 3.9-1: Exposure of people and the environment to hazardous materials.

Known contaminants along the Project alignment include USTs and hydrocarbon-contaminated soils. Although known contaminant sites will be avoided during construction, previously unknown subsurface contaminants may exist, and construction activities could potentially result in the disturbance of such contaminants. These actions could result in the exposure of project construction workers or members of the public to hazardous materials. This impact would be **potentially significant**.

See FEIR Pg. 3-8

Prior to 1998, several historic USTs were located on Regional San property and used for storage of fuels. SWRCB's GeoTracker database indicates that a LUST was reported within the project area in February 1986; cleanup of the LUST was completed in 1986, and the case has since been closed. Other non-leaking USTs remained onsite until they were eventually removed in 1998, and replaced by ASTs (SWRCB 2013a). Today, ASTs are used onsite for the storage of gasoline and diesel. Additionally, the results of the environmental records search indicate that several other documented hazardous materials ("Cortese list") sites or other areas of existing hazardous materials contamination exist as Closed, Inactive or currently permitted USTs within 50 feet of the proposed recycled water main or laterals alignment.

As noted previously, soils contaminated with hydrocarbons were recently identified on Regional San property. Identified soils are planned for removal and disposal at an appropriate landfill. Other potentially contaminated soils may exist on the Regional San that have not been identified; these soils could be encountered during construction. Project alignment soil is not known to be contaminated, and neither the off-haul nor the stockpile scenario would be expected to result in impacts related to public health and safety.

Exposure to hazardous materials is not expected during the course of construction, because known contaminated sites will be avoided. However, previously unknown subsurface contaminants may exist, and construction activities could potentially result in the disturbance of such contaminants. These actions could result in the exposure of

project construction workers or members of the public to hazardous materials. This impact would be **potentially significant.**

Mitigation Measure 3.9-1: Remediate contaminated soils discovered during construction

Known contaminated soils and/or hazardous material areas will be avoided during construction. However, if during construction of the Project alignment, currently unknown contaminated soils or hazardous materials are discovered, construction within the area shall be halted, the extent and type of contamination shall be characterized, and a clean-up plan shall be prepared and executed. The plan shall require remediation of contaminated soils. The plan shall be subject to the review and approval of DTSC, the Regional Water Board, or other agencies, as appropriate. Remediation can include in-situ treatment, disposal at an approved landfill, or other disposal methods, as approved. Construction can proceed within the subject area upon approval of and in accordance with the plan.

Significance After Mitigation Implementation of Mitigation Measure 3.9-1 would ensure that potential hazards associated with existing subsurface soil contamination, including exposure of project construction workers or members of the public to hazardous materials, would be minimized. Thus, this impact would be reduced to **less than significant.**

3.10 Hydrology and Water Quality

This section describes Federal, State, and/or local policies related to hydrology, water quality, and groundwater. In addition, this section describes the hydrologic resources, water quality, and groundwater conditions that could be affected by implementation of the Project and potential impacts associated with Project construction and operation.

3.10.1 Regulatory Setting

Federal

Clean Water Act The CWA establishes the basic structure for regulating discharges of pollutants to surface waters within the United States. The law authorizes the EPA to set point-source effluent limits for industry and publicly owned treatment works and requires states (or the EPA in the event of default by states) to set water quality standards for contaminants in surface waters. It also requires that discharges from most point sources achieve the water quality standards. The CWA authorizes the EPA to delegate many permitting, administrative, and enforcement aspects of the law to State governments. In such cases, however, the EPA still retains oversight responsibilities. In California, such responsibility has been delegated to the State, which administers the CWA through the State Water Board and the nine regional water quality control boards. Three particularly relevant programs resulting from the CWA are the NPDES, industrial waste pretreatment requirements, and the requirement to develop total maximum daily loads (TMDL) for impaired water bodies.

National Pollutant Discharge Elimination System Permit Program The CWA requires wastewater dischargers to obtain a permit that establishes effluent limitations and specifies monitoring and reporting requirements. The NPDES program requires wastewater dischargers to regulate non-domestic wastes discharged to sewers through activities such as pretreatment programs and sewer use ordinances. NPDES permits include the following terms and conditions: effluent discharge limitations, prohibitions, receiving water limitations, compliance monitoring and reporting requirements, and other provisions.

The SRWTP presently operates and discharges treated effluent to the Sacramento River under the requirements of an NPDES permit issued by the Central Valley Water Board in 2010 (Order No. R5-2010-0114-02, NPDES No. CA0077682), as amended in December 2011 (Order No. R5-2011-0083) and October 2013 (Order No. R5-2013-0124). On November 16, 1990, the EPA published final regulations that establish stormwater permit application requirements for specified categories of industries, including wastewater treatment plants. The regulations also provide that discharges to waters of the United States from construction projects that encompass one acre or more of soil disturbance are effectively prohibited unless the discharge is in compliance with an NPDES permit. The NPDES program for stormwater discharges is administered in California by the State Water Board.

Under the CWA, the EPA was required to establish the National Pretreatment Program, part of the NPDES Program, to prevent the discharge of toxic pollutants into a publicly

owned treatment works that would interfere with or, pass through untreated to rivers, lakes or waters of the United States, or otherwise be incompatible with such treatment works. Each publicly owned treatment works discharging over 5 million gallons per day (mgd) is required to develop a local pretreatment program to enforce national pretreatment standards. The EPA is responsible for enforcing the National Pretreatment Program at the Federal level. In California, Pretreatment Program enforcement is the responsibility of the regional water quality control boards. Regional San implements a pretreatment program through the Wastewater Source Control Section. The most recent local limit evaluation by Regional San demonstrated that local limits are unnecessary under existing conditions and will be re-evaluated after every NPDES permit renewal and after the project is operating.

National Toxics Rule and California Toxics Rule In 1992, pursuant to the CWA, U.S. EPA promulgated the National Toxics Rule (NTR) criteria to establish numeric criteria for priority toxic pollutants for California. The NTR established water quality standards for 42 pollutants not covered at that time under California's statewide water quality regulations. As a result of a September 1994 court order that revoked California's statewide water quality control plan for priority pollutants, U.S. EPA initiated efforts to promulgate additional numeric water quality criteria for California. In May 2000, U.S. EPA issued the California Toxics Rule (CTR), which promulgated numeric criteria for priority pollutants. The CTR documentation (Volume 65, pages 31682–31719 of the Federal Register [65 FR 31682–31719], May 18, 2000, along with amendments in February 2001) "carried forward" the previously promulgated criteria of the NTR, thereby providing a single document listing California's fully adopted and applicable water quality criteria for 126 priority pollutants. The CTR criteria are a component of the State water quality standards.

Federal Antidegradation Policy The Federal antidegradation policy is designed to protect existing uses and the level of water quality necessary to protect existing uses, and provide protection for higher quality and national water resources. The Federal policy directs states to adopt a statewide policy that includes the following primary provisions (40 CFR 131.12):

1. Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.

2. Where the quality of waters exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located.

3. Where high quality waters constitute an outstanding National resource, such as waters of national and State parks and wildlife refuges and waters of exceptional

recreational or ecological significance, that water quality shall be maintained and protected.

In August 2005, the EPA issued a memorandum discussing procedures for antidegradation analyses, where it is stated that the use of a 10 percent reduction in remaining assimilative capacity is a threshold considered "to be workable and protective in identifying the significant lowering of water quality that should receive a full antidegradation review, including public participation (EPA 2005)."

Safe Drinking Water Act The Safe Drinking Water Act (SDWA) was passed in 1974 to regulate the nation's drinking water supply. The law was amended in 1986 and 1996 and requires many actions to protect drinking water and its sources – rivers, lakes, reservoirs, springs, and groundwater. The SDWA authorizes the EPA to set national health-based standards for drinking water to protect against both naturally occurring and human-made contaminants that may be found in drinking water. The EPA sets national standards for drinking water based on science to protect against health risks, considering available technology and costs. These National Primary Drinking Water Regulations set enforceable maximum contaminant levels (MCL) for particular contaminants in drinking water or required ways to treat water to remove contaminants. The owners and operators of public water systems are required to comply with primary (health-related) MCLs and encouraged to comply with secondary (nuisance- or aesthetics-related) MCLs.

Federal Floodplain Management Policies The Federal Emergency Management Agency (FEMA) is responsible for the management and mapping of "special flood hazard areas," which consist of lands adjacent to streams that are subject to inundation from flood flows that have a statistical probability occurring once every 100 years (i.e., also can occur any given year at a one percent level of probability). The modeled and mapped area of a stream corridor that is subject to flooding at a 1 percent chance in any given year is known as the 100-year floodplain; accordingly, the areas subject to flooding at 0.5- and 0.2-percent probability levels in a year reflect the defined 200-year and 500-year floodplains, respectively. FEMA operates under CFR Title 44, particularly Section 9.2 (Floodplain Management and Protection of Wetlands) which seeks to avoid long- and short-term adverse impacts associated with the occupancy and modification of floodplains and destruction/modification of wetlands, promote measures to reduce the risk of flood loss, and restore and preserve the natural and beneficial values served by floodplains. The National Flood Insurance Program provides insurance for development in floodprone areas where local governments pass and enforce a floodplain management ordinance that specifies minimum requirements for any construction within the 100-year floodplain, as depicted on FEMA maps.

State

Porter-Cologne Water Quality Control Act The Porter-Cologne Water Quality Control Act is California's statutory authority for the protection of water quality. Under the act, California must adopt water quality policies, plans, and objectives that ensure beneficial uses of the State are reasonably protected. The Porter-Cologne Water Quality Control Act requires the nine regional water quality control boards to adopt water quality control plans and establish water quality objectives that will ensure the reasonable

protection of beneficial uses, and authorizes the State Water Board and regional water quality control boards to issue and enforce permits containing requirements for the discharge of waste to surface waters and land.

Water Quality Control Plan for the Sacramento River and San Joaquin River Basins

The Basin Plan prepared by the Central Valley Water Board defines the beneficial uses, water quality objectives, implementation programs, and surveillance and monitoring programs for waters of the Sacramento River and San Joaquin River basins (Central Valley Water Board 2011). The Basin Plan contains specific numeric water quality objectives for bacteria, dissolved oxygen, pH, pesticides, electrical conductivity (EC), total dissolved solids (TDS), temperature, turbidity, and trace elements, as well as numerous narrative water quality objectives, that are applicable to certain water bodies or portions of water bodies.

San Francisco Bay/Sacramento-San Joaquin Delta Water Quality Control Plan

The Bay-Delta WQCP establishes water quality control measures that contribute to the protection of the beneficial uses of the Delta (State Water Board 2006). As with other State water quality control plans, the Bay-Delta WQCP identifies the beneficial uses to be protected, the water quality objectives for reasonable protection of the beneficial uses, and a program of implementation for achieving the water quality objectives. The 2006 Bay-Delta WQCP adoption did not involve substantial changes to the prior 1995 WQCP. The 1995 WQCP was developed as a result of the December 15, 1994, Bay Delta Accord, which committed the State Water Project (SWP) and Central Valley Project (CVP) operations to new Delta habitat objectives. The new objectives were adopted by the State Water Board in 1999 through a water rights decision (D-1641) for SWP and CVP operations. One key feature of the 1995 WQCP is the estuarine habitat objectives ("X2") for Suisun Bay and the western Delta. The X2 standard refers to the position at which 2 parts per thousand salinity occurs in the Delta estuary, and is designed to improve shallow-water fish habitat in the spring of each year. Other elements of the WQCP include export-to-inflow ratios intended to reduce entrainment of fish at the export pumps, Delta Cross Channel gate closures, minimum Delta outflow requirements, and San Joaquin River salinity and flow standards.

The Bay-Delta WQCP contains specific numeric standards for Delta inflow and outflow, chloride, and EC at various locations in the Delta. EC standards in the Delta exist for agricultural, fish, and wildlife beneficial uses. EC is a measure of water's ability to conduct an electric current, and is an indirect measure of the concentration of dissolved salts in water.

Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California The SIP (State Water Board 2005) applies to discharges of toxic pollutants into inland surface waters, enclosed bays, and estuaries. The SIP provides the methods for determining the need for and setting effluent limits in NPDES permits from NTR and CTR criteria and priority pollutant objectives established in basin plans using one of several methods, including: (1) TMDL waste load allocation procedures; (2) steady-State modeling; and (3) dynamic modeling. Dynamic models used

for calculating effluent limitations predict the effects of receiving water and effluent flow and of concentration variability. The outputs of dynamic models can be used to base effluent limitations on probability estimates of receiving water concentrations rather than critical conditions, which are used in a steady-State model. The three dynamic modeling techniques recommended by the EPA for calculating effluent limitations are continuous simulation, Monte Carlo simulation, and lognormal probability modeling. (Note: CEQA requires the use of "plain language" [CCR Section 15140]; however, the analyses must also be fully substantiated and it is important, particularly for agencies and the public who are familiar with the modeling approaches upon which decisions may rely, to use those terms [e.g., Monte Carlo simulation] that reflect the complex statistical approaches that are used in the modeling process and are familiar to other modeling industry professionals.) The policy also establishes certain monitoring requirements and chronic toxicity control provisions, and includes special provisions for certain types of discharges.

State Water Resources Control Board Resolution No. 68-16 (Statement of Policy with Respect to Maintaining High Quality Waters in California) The goal of State Water Board Resolution No. 68-16 ("Statement of Policy With Respect to Maintaining High Quality Waters in California") is to maintain high quality waters where they exist in the State. State Board Resolution No. 68-16 states, in part:

1. Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies.

2. Any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.

The State Water Board has interpreted Resolution No. 68-16 to incorporate the Federal antidegradation policy, which is applicable if a discharge that began after November 28, 1975 will lower existing surface water quality. There are differing views as to the circumstances under which regional boards are to make determinations of consistency with Resolution 68-16 (and the Federal antidegradation policy). Regardless, the Central Valley Water Board determined that permitted discharge from the State Water Board at 181 mgd average dry weather flow (ADWF) is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16. Because the finding of consistency with the antidegradation requirements has been made by the Central Valley Water Board, this issue is not discussed further in this EIR. The water

quality impact analysis nevertheless fully evaluates whether the project has the potential to substantially degrade water quality.

Water Reclamation (Recycled Water) Regulations and Recycled Water Policy

Under the California Water Code (CWC Section 13522.5), entities proposing to produce reclaimed water (also referred to as recycled water) must file an engineering report with the appropriate regional water quality control board, which may then prescribe water recycling requirements necessary to protect public health, safety, or welfare (CWC Section 13523). Additionally, regional water boards must consult with and consider recommendations of the CDPH when issuing waste discharge/water recycling requirements. Regulations for recycled water are primarily under the purview of CDPH and specified in Title 22 of the California Code of Regulations, Division 4, Chapter 3, section 60301 et seq. CDPH regulatory criteria include specified approved uses of recycled water, numerical limitations and requirements, treatment method requirements, and performance standards. The intent of these regulations is to ensure protection of public health associated with the use of recycled water. CDPH also has jurisdiction over the distribution of recycled water and enforcement of Title 22 regulations. The SRWTP is currently permitted to reclaim up to 5 mgd of wastewater under Waste Discharge Requirements Order No. 97-146, adopted June 20, 1997, and includes a provision for expansion to 10 mgd.

The State Water Board approved a Recycled Water Policy in February 2009 (Resolution No. 2009-0011) for the purpose of facilitating increased use of recycled water from municipal wastewater for a variety of uses. The policy provides direction for proponents of recycled water projects and the public regarding the appropriate criteria to be used by the State Water Board and the Central Valley Water Board in issuing permits for recycled water projects. A key element of the policy is the development of salt and nutrient management plans for groundwater basins to be coordinated by regional water quality control boards to facilitate sustainable recycled water uses on a long-term basis that are compliant with State and Federal water quality laws and regulations. The Central Valley Water Board is developing the salinity and nutrient management plan for the Central Valley via the Central Valley Salinity Alternatives for Long-Term Sustainability program, which is a coalition of public agencies and stakeholder associations convened to develop salt management strategies and make potential modifications to Basin Plan policies and regulations. A “blue-ribbon” advisory panel also was convened to review available science relating to constituents of emerging concern in recycled water and guide development of provisions for these constituents in the Recycled Water Policy. The advisory panel finalized their report in June 2010, which recommended CEC monitoring requirements for groundwater recharge projects using recycled water. The Recycled Water Policy also directs the development of streamlined environmental permitting processes for recycled water projects, of which the State Water Board subsequently adopted general waste discharge requirements in May 2009 (Order No. 2009-0006-DWQ) for landscape irrigation projects.

State Water Resources Control Board General Construction Stormwater Permit

The State Water Board recently adopted a substantially revised general NPDES permit for stormwater discharges associated with construction activity (Construction General

Permit) in Order No. 2009-0009-DWQ, which became effective on July 1, 2010 (as amended by revised orders 2010-0014-DWQ and 2012- 006-DWQ). The Construction General Permit applies to projects that involve soil disturbance of more than one acre, and includes specific requirements based on the "risk level" of the site. Three different risk levels are dependent on two factors: (1) project sediment runoff risk, and (2) receiving water risk. Obtaining coverage under the Construction General Permit requires filing of a Notice of Intent and preparation and implementation of a SWPPP which specifies BMPs to reduce or eliminate sediment and other pollutants in stormwater as well as non-stormwater discharges. The Construction General Permit requires implementation of BMPs that control pollutant discharges using best available technology economically achievable for toxic contaminants, and best conventional technology for conventional contaminants, and any other necessary BMPs to meet water quality standards. The Construction General Permit contains technology-based numeric action levels (NAL) for pH and turbidity, and requires visual monitoring for potential contaminant runoff at all sites, and effluent monitoring at all risk level 2 and 3 sites, with follow-up actions required for exceedances of NALs. Risk level 2 and 3 sites also must prepare and implement Rain Event Action Plans for all storm events forecast to have measureable precipitation. The Construction General Permit also specifies runoff reduction requirements for all sites not covered by a municipal NPDES permit, to minimize post-construction stormwater runoff impacts. Authorization for coverage under the Construction General Permit may be required for some elements of the project, and appropriate BMPs will be implemented to ensure compliance with the permit conditions.

State Water Resources Control Board Industrial Stormwater Permit State Water Board's NPDES stormwater permit for general industrial facilities (General Industrial Permit, Order No. 97-03-DWQ) was adopted in 1997 and applies to specific industries, including municipal wastewater treatment plants. The General Industrial Permit requires the preparation of a SWPPP and implementation of BMPs for the control of stormwater and non-stormwater related discharges. The Industrial General Permit generally requires facility operators to eliminate unauthorized nonstormwater discharges and perform inspections/monitoring of stormwater discharges and authorized non-stormwater discharges. State Water Board is currently revising the General Industrial Permit (expected renewal in 2013) to contain substantial changes and updates to the 1997 permit requirements including additional stormwater monitoring and site inspection protocols, inclusion of NALs, and preparation/performance of Exceedance Response Actions when NALs are exceeded. Regional San received an exemption from coverage under this permit in June 2011 for the SRWTP for existing stormwater drainage facilities due to the fact that no stormwater drainage is directly discharged untreated to a surface water body.

California Department of Public Health Drinking Water Regulations CDPH has primary responsibility for implementing Federal SDWA regulations and California regulations under the Health and Safety Code for drinking water protection. CDPH must adopt drinking water standards and regulations that are at least as restrictive as the Federal MCLs and regulations. CDPH regulations cover more than 150 contaminants covering microorganisms, particulates, inorganic compounds, natural and synthetic organic compounds, trace metals, radionuclides, and disinfection byproducts (DBP).

Central Valley Regional Water Quality Control Board Drinking Water Policy A commitment of the CALFED Bay-Delta Program process and Record of Decision is the development of a new drinking water policy for Delta waters. Concerns have existed that both the Bay-Delta WQCP and the Basin Plan lack numeric water quality objectives for several known drinking water constituents of concern, such as organic carbon and certain specific pathogens, and also lack implementation strategies to ensure effective source water protection. In response to the CALFED commitment, the Central Valley Water Board developed a Drinking Water Policy for the surface waters of the Delta and its upstream tributaries below the first major dams. The Central Valley Water Board determined that new numeric objectives or new regulatory requirements for organic carbon were not required. The Central Valley Water Board adopted an amendment to the Basin Plan on July 26, 2013 to incorporate the Drinking Water Policy elements, which include recognition of all existing regulations that protect the drinking water uses of surface waters, clarification that the narrative objective for chemical constituents does include drinking water chemical constituents of concern (such as organic carbon), recognition of the importance of a multi-barrier approach to public health protection, and a narrative objective for Cryptosporidium and Giardia. The Basin Plan amendment was approved by the State Water Board in December 2013, and is awaiting final approval by the Office of Administrative Law and the EPA before becoming effective.

Delta Plan The Delta Plan is a comprehensive, long-term management plan for the Delta (Delta Stewardship Council 2013). Required by the 2009 Delta Reform Act, it creates new rules and recommendations to further the State's coequal goals for the Delta: Improve statewide water supply reliability, and protect and restore a vibrant and healthy Delta ecosystem, all in a manner that preserves, protects and enhances the unique agricultural, cultural, and recreational characteristics of the Delta. The Delta Plan was developed by the Delta Stewardship Council, a State agency created by the legislation that directed the development of the plan on May 16, 2013 and became effective with legally-enforceable regulations on September 1, 2013.

The Delta Plan contains a set of regulatory policies that will be enforced by the Delta Stewardship Council's appellate authority and oversight. The Delta Plan also contains priority recommendations, which are non-regulatory but call out actions essential to achieving the coequal goals. The plan's component to improve water quality to protect human health and the environment does not contain any regulatory policies, but does identify twelve recommended actions. The plan also identifies a number of flood control-related policies and recommendations to reduce risk to people, property, and State interests in the Delta. These policies and recommendations relate primarily to flood risk reduction through emergency response preparedness, investment in flood protection infrastructure, and floodplain protection.

The Delta Plan applies to "covered actions," which are defined by statute and regulations (California Water Code, Section 85057.5[a][3]; 23 CCR Section 5001[j][1]). According to the Delta Plan implementing regulations, a covered action is defined as a plan, program, or project that meets all of the following criteria:

- is a project under CEQA;

- will occur in whole or in part within the boundaries of the Delta;
- will be carried out, approved, or funded by a State or local public agency;
- will have a significant impact on achievement of one or both of the coequal goals or the implementation of government-sponsored flood control programs to reduce risks to people, property, and State interests in the Delta; and
- is covered by one or more provisions of the Delta Plan which, for these purposes, means one or more of the regulatory policies contained in Article 3 of Title 23 of the CCR.

The Delta Plan implementing regulations specify that, for the purpose of determining whether a project meets the definition of "covered action," significant impact means: a substantial positive or negative impact on the achievement of one or both of the coequal goals or the implementation of a government sponsored flood control program to reduce the risks to people, property, and State interests in the Delta, that is directly or indirectly caused by a project on its own or when the project's incremental effect is considered together with the impacts of other closely related past, present, or reasonably foreseeable future projects.

If a local agency determines that a project it is proposing is a covered action subject to the Plan, the agency must file a certification of consistency with the Delta Protection Commission addressing how the project is consistent with each of the regulatory policies contained in Article 3 of the regulations that are implicated by the covered action (23 CCR Section 5002).

The proposed Project is a CEQA project that will be carried out, approved, and funded by a local public agency. The Project will occur in part within the legal boundary of the Delta (to the extent that the recycled water laterals may be constructed along River Road in Freeport, within the proposed Delta Shores development, and other lateral connections) (Figure 3.10-1). The portion of the Project that would occur within the legal Delta boundary will not have a significant impact on achievement of the co-equal goals or the implementation of government sponsored flood control programs to reduce risks to people, property, and State interests in the Delta. Additionally, the Project is not covered by any of the regulatory policies set forth in Article 3 of the Delta Plan implementing regulations. For these reasons, the Project does not meet the definition of a "covered action" subject to the Delta Plan, and this issue is not discussed further in the EIR.

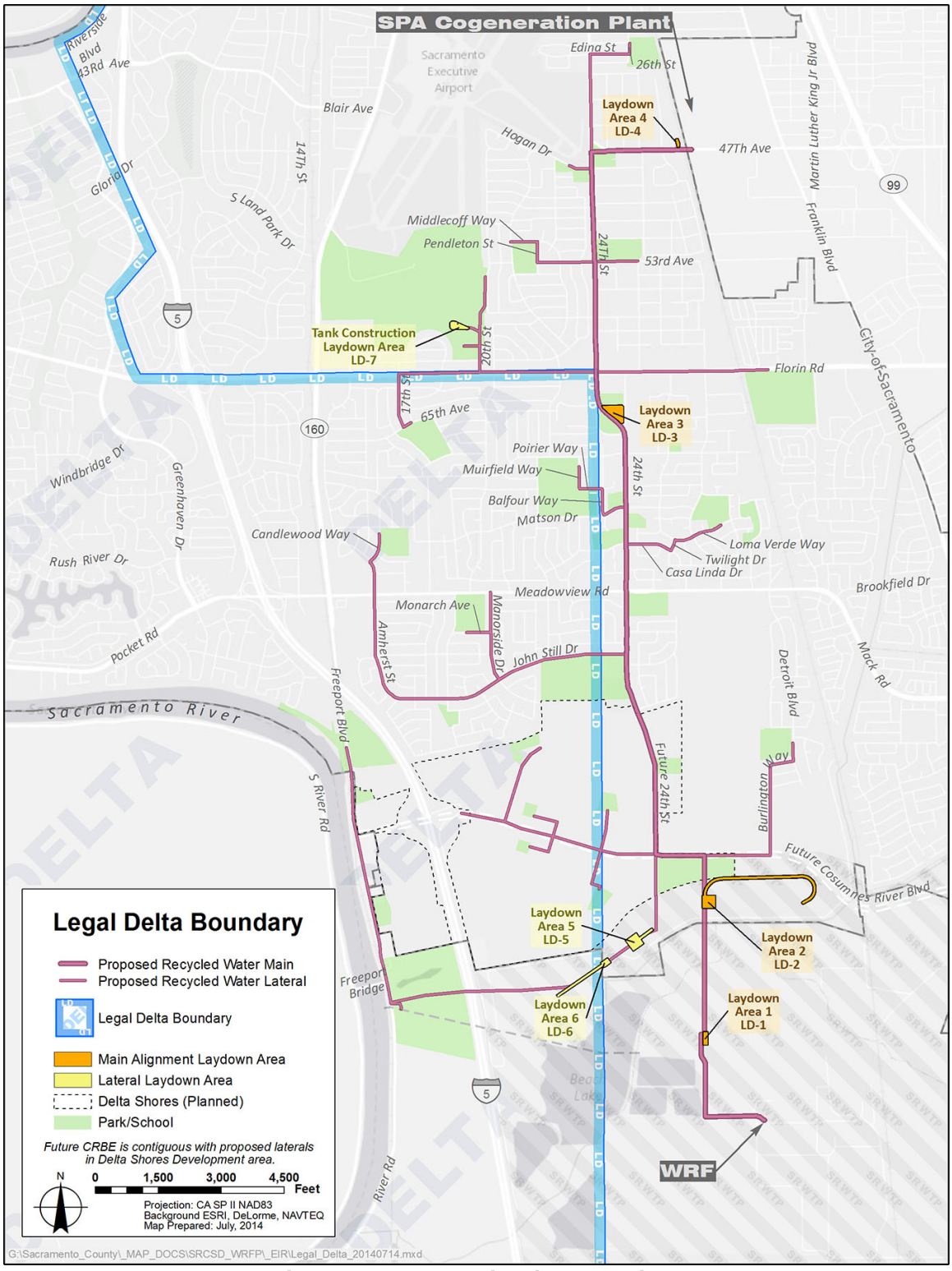


Figure 3.10-1. Legal Delta Boundary

State Plan of Flood Control The Central Valley Flood Protection Act of 2008 (authorized by Senate Bill 5) directed the DWR and the Central Valley Flood Protection Board to prepare a comprehensive flood protection plan for the Central Valley (DWR 2010). The resulting State Plan of Flood Control is meant to establish a system-wide approach to improving flood management in the areas currently receiving some amount of flood protection from existing Federal, State, and local flood control facilities. In addition, the State Plan of Flood Control provides recommended structural and nonstructural means for improving performance and eliminating the deficiencies of flood management facilities, while also addressing ecosystem and other water-related issues. The flood legislation also established the 200-year flood event (flood with a 1-in-200 chance of occurring in any year) as the minimum level of flood protection to be provided in urban and urbanizing areas. Additionally, cities and counties in the Central Valley must incorporate the data, policies, and implementation measures of the State Plan of Flood Control into their general plans. Development within designated floodways and floodplains must acquire an encroachment permit from the Central Valley Flood Protection Board.

Title 22 – California Code of Regulations

With recycled water, a key concern is the potential risk of human exposure to pathogenic organisms. Title 22 sets bacteriological water quality standards based on the expected degree of public contact with recycled water. Disinfected tertiary treatment of recycled water is required for use involving direct public contact. Disinfected tertiary recycled water is defined as a filtered and subsequently disinfected wastewater; this is the level of treatment for all water conveyed by the proposed Project.

The CDPH is responsible for regulating the use of recycled water in California. The California Regional water quality control boards issue requirements for individual projects in conformance with the CDPH regulations. Article 4 in Title 22 of the CCRsets water quality standards and treatment reliability criteria for recycled water, including Title 22 regulatory requirements for use of recycled water to protect the beneficial uses of recycled water for land applications, such as irrigation of fields, GCs, or public access lands.

Local

The Project alignment is located in the City of Sacramento and unincorporated areas of Sacramento County; therefore, both City and County policies would apply to Project construction.

Flooding and Floodplain Management There are several agencies with jurisdiction over flood control activities in the Project study area. These agencies include: Sacramento County, USACE, Sacramento Area Flood Control Agency (SAFCA), and FEMA. As a major public facility isolated from private development, the SRWTP is not subject to any Federal flood protection standards. Constructed flood protection improvements protect SRWTP facilities from a 200-year storm event. This is consistent with California Senate Bill 5, passed in 2007, which generally establishes a long-term 200-year flood protection standard for lands within the Central Valley.

The Bufferlands Master Plan contains policies and management strategies to protect the SRWTP and surrounding land from floods. The Bufferlands Master Plan flood control policies applicable to the Project are listed below (Regional San 2000).

- "Ensure that all land uses within designated floodways and 100-year floodplain zones are managed in conformance with county, State, and Federal ordinances limiting floodway and floodplain alterations, construction, within floodways and protection of floodplain structures."

- "Encourage flood control measures that preserve or enhance natural riparian habitat, protect water quality and soils, and recharge groundwater aquifers."

Sacramento County General Plan The following policies from the Conservation Element and Safety Element of the Sacramento County General Plan (Sacramento County 2011) are directly related to hydrology and water quality resource management issues and are applicable to the project:

Conservation Element

- **Objective #5**. Manage the quality and quantity of urban runoff to protect the beneficial uses of surface water and groundwater.

- **Policy CO-24**. Comply with the Sacramento Areawide NPDES Municipal Permit.

- **Policy CO-26**. Protect areas susceptible to erosion, natural water bodies, and natural drainage systems.

- **Policy CO-27**. Support surface water quality monitoring programs that identify and address causes of water quality degradation.

- **Policy CO-28**. Comply with other water quality regulations and NPDES permits as they apply to County projects or activities, such as the State's Construction General Permit and Aquatic Pesticides Permit.

- **Policy CO-30**. Require development projects to comply with the County's stormwater development/design standards, including hydromodification management and low impact development standards, established pursuant to the NPDES Municipal Permit.

Safety Element The goal for flooding identified in the Safety Element of the General Plan is to minimize the loss of life, injury, and property damage due to flood hazards. The adopted general policies for flooding relevant to the project consist of:

- **Policy SA-7**. In accordance with the County Floodplain Management Ordinance, the County shall locate, when feasible, new essential public facilities outside of flood hazard zones1 including hospitals and health care facilities, emergency shelters, fire stations, emergency command centers, and emergency

communications facilities; or identify construction methods or other methods to minimize damage if these facilities are located in flood hazard zones.

- **Policy SA-8**. Maintain the structural and operational integrity of essential public facilities during flooding.

- **Policy SA-10**. Fill within the 100-year floodplain of creeks outside of the Urban Service Boundary is permissible to accommodate structures (e.g., residential, commercial, accessory) and septic systems, and only when the Board of Supervisors finds that the fill will not impede water flows or storm runoff capacity. Such development shall not cause an increase in base flood elevation of the 100-year floodplain exceeding 0.10 feet, unless analysis clearly indicated that the physical and/or economic use of adjacent property within the floodplain will not be adversely affected. A permit is required if the fill is within the jurisdiction of the Central Valley Flood Protection Board.

- **Policy SA-13**. Where new upstream development in Sacramento County will increase or potentially impact runoff onto parcels downstream in a neighboring jurisdiction, such as the City of Sacramento, Sacramento County will coordinate with the appropriate neighboring jurisdiction to mitigate such impacts.

- **Policy SA-14**. The County shall require, when deemed to be physically or ecologically necessary, all new urban development and redevelopment projects to incorporate runoff control measures to minimize peak flows of runoff and/or assist in financing or otherwise implementing Comprehensive Drainage Plans

- **Policy SA-20**. Levees for the purpose of floodplain reclamation for development shall be strongly discouraged. Floodplain restoration shall be encouraged to provide flood protection and enhancement and protection of a riparian ecosystem.

- **Policy SA-21**. If levee construction is approved to reclaim floodplain for new development, 200-year flood protection is required.

Sacramento 2030 General Plan The following Sacramento 2030 General Plan goals and policies are applicable to hydrology, water quality, and drainage:

Goals Goal ER 1.1 Water Quality Protection. Protect local watersheds, water bodies and groundwater resources, including creeks, reservoirs, the Sacramento and American rivers, and their shorelines.

- **ER 1.1.3 Stormwater Quality**. The City shall control sources of pollutants and improve and maintain urban runoff water quality through storm water protection measures consistent with the City's NPDES Permit.

- **ER 1.1.4 New Development**. The City shall require new development to protect the quality of water bodies and natural drainage systems through site design, storm water treatment, and BMPs consistent with the city's NPDES Permit.

- **ER 1.1.5 Post-Development Runoff**. The City shall impose requirements to control post-development peak storm water runoff discharge rates and velocities to prevent or reduce downstream erosion and protect stream habitat.

- **ER 1.1.6 Construction Site Impacts**. The City shall continue to require construction contractors to comply with the City's erosion and sediment control and stormwater management and discharge control ordinances. Stormwater Drainage

Goal U 4.1 Adequate Stormwater Drainage. Provide adequate stormwater drainage facilities and services that are environmentally-sensitive, accommodate growth, and protect residents and property.

Policies

- **U 4.1.1 Adequate Drainage Facilities**. The City shall ensure that all new drainage facilities are adequately sized and constructed to accommodate stormwater runoff in urbanized areas.

- **U 4.1.2 Master Planning**. The City shall implement master planning programs to:

  – Identify facilities needed to prevent 10-year event street flooding and 100-year event structure flooding,

  – Ensure that public facilities and infrastructure are designed pursuant to approved basin master plans, and

  – Ensure that adequate land area and any other elements are provided for facilities subject to incremental sizing (e.g., detention basins and pump stations).

Goal EC 2.1 Flood Protection. Protect life and property from flooding hazards.

- **EC 2.1.7 Levee Setbacks for New Development**. The City shall prohibit new development within a minimum distance of 50 feet from the landside toe of levees. Development may encroach within this 50-foot area provided that "oversized" levee improvements are made to the standard levee section consistent with local, regional, State and Federal standards.

- **EC 2.1.8 Dedication of Levee Footprint**. The City shall require new development adjacent to a levee to dedicate the levee footprint in fee to the appropriate public flood control agency.

South Area Community Plan The following policy is relevant to flooding in the Community Plan area.

SA.EC 1.1 Flood Control Improvements. The City shall support the SAFCA levee improvement projects (including constructing floodwalls along portions of Florin, Morrison, Elder, and Unionhouse Creeks) that will provide 100-year flood protection from the Sacramento River to the Union Pacific railroad tracks.

City of Sacramento Stormwater Management and Control Code The City Stormwater Management and Control Code (Chapter 13.16 of the City Code) is intended to control non-stormwater discharges to the stormwater conveyance system; eliminate discharges to the stormwater conveyance system from spills, dumping, or disposal of materials other than stormwater; and reduce pollutants in urban stormwater discharges to the maximum extent practicable. Non-stormwater discharges are prohibited except where the discharge is regulated under a NPDES permit. Specified activities that do not cause or contribute to any violation of any plan standard and are exempt from this prohibition include: landscape irrigation, lawn watering and flows from fire suppression activities, are also exempt from this prohibition.

City of Sacramento Grading, Erosion, and Sediment Control Ordinance The City Grading, Erosion, and Sediment Control Ordinance (Title 15, Chapter 15.88 of the City Code) sets forth rules and regulations to control land disturbances, landfill, soil storage, pollution, and erosion and sedimentation resulting from construction activities. With limited exceptions, grading approval must be received from the City Department of Utilities before construction. All project applicants, regardless of project location, are required to prepare and submit separate erosion and sediment control plans applicable to the construction and post-construction periods.

City of Sacramento Stormwater Quality Improvement Plan (2004) The City of Sacramento Stormwater Management Program is a comprehensive program comprising various program elements and activities designed to reduce stormwater pollution to the maximum extent practicable and eliminate prohibited non-stormwater discharges in accordance with Federal and State laws and regulations. These laws and regulations are implemented through NPDES municipal stormwater discharge permits. An element of the program, the Construction Element, was designed to reduce the discharge of stormwater pollutants to the maximum extent practicable by requiring construction sites to reduce sediment in site runoff and reduce other pollutants such as litter and concrete wastes through good housekeeping procedures and proper waste management. The Construction Element strategy includes the following components:

- Ensure each grading permit or Improvement Plan includes an erosion and sediment control plan detailing erosion, sediment, and pollution control measures to be used during construction of the project;

- Ensure applicable projects obtain a State General Construction Permit and prepare a SWPPP containing:

  – A vicinity map;

  – A site map;

  - A site-specific listing of potential sources of stormwater pollution;
  - The type and location of erosion and sediment control BMPs to be employed;
  - The name and telephone number of the person responsible for implementing the SWPPP; and
  - A certification/signature by the landowner or authorized representative; and

- Inspect and enforce the project's erosion and sediment control plan, the Grading, Erosion, and Sediment Control Ordinance, and the Stormwater Discharge Control Ordinance.

Another element of the program, the New Development Element, was designed to specifically control post-construction urban runoff pollutants from new development or redeveloped areas. The New Development Element strategy for reducing stormwater pollutants from new development includes the following:

- Employing applicable source controls on all projects; and
- Employing regional water quality treatment control measures, such as water quality detention basins, for areas of large development (i.e., areas generally greater than 20 acres), where the opportunity exists.

3.10.2 Environmental Setting

This section defines the environmental setting for hydrology and water quality and provides an overview of existing hydrology and water quality conditions along the Project alignment.

Hydrology

The only natural drainage features within the Project study area are seasonal swales and irrigation/drainage ditches. Portions of the proposed alignment that are concurrent with the SRWTP are within the Morrison Creek Stream Group watershed, and thus the larger Sacramento River watershed. Areas along the Freeport Lateral are also within the Sacramento River watershed. The remainder of the Project is served by local drainage to storm drains.

The Morrison Creek Stream Group watershed is approximately 180-square-miles, which includes Morrison, Laguna, and Unionhouse (also known as Beacon) creeks, among others. The Morrison Creek Stream Group watershed has two major sub-basins: an upper basin upstream of the Beach Lake dike and a lower basin downstream of the Beach Lake dike. The SRWTP is located in a low-lying alluvial basin at the upper/lower Morrison Creek watershed boundary. Morrison Creek and its tributaries have been extensively relocated and channelized to accommodate high-density, urban development and peak stormflows. The modification ranges from their downstream end to as far east as Mather Field. Morrison Creek is a leveed channel.

The upper portion of the Morrison Creek watershed contains an area of approximately 128 square miles above the I-5 bridge on Morrison Creek. Areas contributing runoff to this sub-basin include: the City of Sacramento south of Highway 50; the city of Elk Grove, the communities of Florin, Laguna, Franklin, Point Pleasant, and Hood; former Mather Air Force Base and former Sacramento Army Depot campuses; and rural areas in the eastern and southern parts of the watershed. Runoff in the watershed is conveyed through a network of streams that generally flow from east to west. The major creeks, Morrison, Unionhouse and Laguna, converge just downstream of upper Beach Lake on the northeast side of the SRWTP. The combined discharge of the three watercourses continues as Morrison Creek, which is pumped to the Sacramento River via Sump 90. However, when Morrison Creek water elevations exceed 3.5 feet above mean sea level (msl) Morrison Creek flows to the southwest, and south through Southern Pacific Cut to the Beach-Stone Lakes system.

The Beach/Stone Lakes basin drains the Laguna, Elk Grove and Morrison creek watersheds. The Beach/Stone Lakes basin receives runoff from approximately 49 square miles of local urban and rural tributary areas and ultimately discharges into two downstream waterbodies: (1) Snodgrass Slough, a tributary of the Sacramento-San Joaquin Delta, which is hydraulically connected to the Mokelumne River through a culvert under Lambert Road that is controlled by a slide gate; and (2) Sacramento River via a pump station (i.e., no direct connection). The Lambert Road slide gate is open during the irrigation season to allow water to pass from Snodgrass Slough into the Beach/Stone Lakes basin.

Under typical flow conditions, flows in Morrison Creek and Laguna Creek are pumped into the Sacramento River resulting in no direct hydrologic connection between the Bufferlands and Snodgrass Slough and Mokelumne River. However, winter high-flow events may create sufficient water elevations (3.5 feet msl) such that flows spill over the Beach Lake dike resulting in a connection to Snodgrass Slough, thereby creating a direct hydrologic connection between Upper Beach Lake and the Mokelumne River. The dike retains water for eventual pumping into the Sacramento River, but, more importantly, it also prevents tidally influenced water from the Stone Lake basin from moving upstream to enter and flood Upper Beach Lake during all conditions except high storm event flows.

The Sacramento River near the SRWTP outfall discharge location (Freeport) drains a 26,146-square-mile basin that spans the entire northern Central Valley of California from the crest of the Coast Range to the crest of the Sierra Nevada. Runoff within this major drainage basin has source areas including alpine wilderness and parkland, forested watersheds, agricultural lands, and urbanized zones.

Precipitation is the principal source of surface runoff along the Project alignment. The average annual rainfall is approximately 16 inches, with approximately 90 percent of the annual rainfall occurring during the rainy season from November to April. Annual precipitation may vary substantially from year to year from less than 12 inches in dry years to over 30 inches (Western Regional Climate Center 2013). The maximum 24-hour recorded precipitation event for the Sacramento City National Weather Station is 5.28

inches (1877–2012) and 3.77 at the Sacramento Regional Airport (1941–2012) (Western Regional Climate Center 2013).

With the exception of the Sacramento River, stream flow within areas near the project alignment arises from storm runoff generated during winter storms, with little or no flows during the summer months. Irrigation runoff from agricultural uses and landscaped urban areas produces only minor dry season flows. Average monthly flows in the local streams vary from about 5 cubic feet per second (cfs), for the period of May through August, to 60 cfs in January and February. Morrison Creek low flows, as well as flows from minor storms, are pumped into the Sacramento River at a City of Sacramento pump station north of Lower Beach Lake. Flows exceeding the pump capacity overtop a weir on the north side of Lower Beach Lake and flow south (Regional San 2003). Peak flow-frequency estimates by the USACE for the 100-year event on Morrison Creek are: 8,290 cfs below the Unionhouse Creek confluence and 11,510 cfs below the Laguna Creek confluence. Flows in the Sacramento River are influenced by precipitation (rainfall and snowpack/snowmelt), but are also influenced by several reservoirs on the tributaries and main stem.

Flood Management

All surface water originating in or passing through the region discharges to the Pacific Ocean via the Sacramento and San Joaquin rivers and other rivers and creeks, which join at the Delta before flowing to the San Francisco Bay. High water levels along the Sacramento and American rivers are a common occurrence in the winter and early spring months due to increased flow from storm runoff and snowmelt.

An extensive system of dams, levees, overflow weirs, drainage pumping plants, and flood control bypass channels strategically located on the Sacramento and American rivers has been established to protect the area from flooding. The amount of water flowing through the levee system can be controlled to some extent by Folsom Dam on the American River and the reserve overflow area of the Yolo Bypass on the Sacramento River. However, flood zones in the city are still extensive and several areas of the city are subject to flooding by the overtopping of rivers and creeks and levee failures. Nuisance flooding occurs in isolated areas where urban drainage systems cannot accommodate large volumes of water during severe rainstorms.

In the Sacramento area, flooding can occur as the result of a flash flood or when water exceeds the bank of a creek, stream, or river. The following describes these types of flood events. The term ‘flash flood’ describes localized floods of high volume and short duration, generally in less than four hours. This type of flood usually results from a heavy rainfall on a relatively small drainage area.

Riverine flooding occurs when a watercourse exceeds its ‘bank-full’ capacity and is the most common type of flood event. Riverine flooding occurs as a result of prolonged rainfall that is combined with saturated soils from previous rain events, or combined with snowmelt, and is characterized by high peak flows of moderate duration and by a large volume of runoff. Riverine flooding occurs in river systems whose tributaries drain large geographic areas and can include many watersheds and sub-watersheds. The duration of

riverine floods varies from a few hours to many days. Factors that directly affect the amount of flood runoff include precipitation amount, intensity and distribution, soil moisture content, channel capacity, seasonal variation in vegetation, snow depth and water-resistance of the surface due to urbanization.

Urbanization may increase peak flow runoff as well as the total volume of stormwater runoff from a site. The increase is dependent upon the type of soil and its topography compared to the proposed land uses. Much of the City and Project alignment is urbanized with surfaces that are impervious and soils with low permeability and high runoff rates.

Water Quality

Section 303(d) Impaired Waters List Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States. Section 303(d) of the CWA further requires states to maintain a list of impaired water bodies so that a TMDL can be established. A TMDL is the amount of loading that the water body can receive and still meet water quality standards. The TMDL must include an allocation of allowable loadings to point and non-point sources, with consideration of background loadings and a margin of safety. Generally, NPDES permit limitations for section 303(d)-listed pollutants must be consistent with the load allocation identified in the TMDL. The most recently approved (2010) CWA Section 303(d) list for California identifies the following waterways as water-quality impaired for a number of constituents as shown in Table 3.10-1 (State Water Board 2011).

Table 3.10-1. 2010 CWA Section 303(d)-listed Pollutants and Sources for Morrison Creek the Sacramento River, and the Sacramento-San Joaquin Delta

Pollutant/Stressor	Listed Source
Morrison Creek	
Diazinon	Agriculture
Pentachlorophenol (PCP)	Toxic Organics
Pyrethroids	Agriculture
Sediment Toxicity	Total Toxics
Sacramento River (Knights Landing to Delta)	
Chlordane	Agriculture
DDT (Dichlorodiphenyltrichloroethane)	Agriculture
Dieldrin	Agriculture
Mercury	Resource Extraction
Polychlorinated biphenyl compounds (PCB)	Source Unknown
Unknown Toxicity	Source Unknown

Table 3.10-1. 2010 CWA Section 303(d)-listed Pollutants and Sources for Morrison Creek the Sacramento River, and the Sacramento-San Joaquin Delta (contd.)

Pollutant/Stressor	Listed Source
Sacramento-San Joaquin Delta	
Chlorpyrifos	Agriculture/Urban Runoff
DDT (Dichlorodiphenyltrichloroethane)	Non-point Source Agriculture
Diazinon	Agriculture/Urban Runoff
Electrical conductivity (specific conductance)	Agriculture
Group A Pesticides (one or more pesticide compounds including aldrin, dieldrin, chlordane, endrin, heptachlor, heptachlor epoxide, BHC (including Lindane), endosulfan, and toxaphene)	Agriculture
Invasive species	Source Unknown
Mercury	Abandoned Mines
Organic enrichment/Low dissolved oxygen 1	Municipal Point Sources, Urban Runoff/Storm Sewers
Polychlorinated biphenyl compounds (PCB)	Source Unknown
Unknown Toxicity	Source Unknown

Morrison Creek is included in the City of Sacramento Stormwater Quality Improvement Plan's Monitoring Plan as an urban tributary monitoring site, which calls for annual monitoring for constituents found in pesticides, such as diazinon and chlorphyrifos.

Groundwater

The proposed Project is located within the South American Groundwater Sub-basin, part of the larger Sacramento Valley Groundwater Basin, covering approximately 248,000 acres (388 square miles) and bound by the Sierra Nevada to the east, the American River to the north, the Sacramento River to the west, and the Cosumnes and Mokelumne rivers to the south (DWR 2003).

The following well-defined freshwater-bearing geologic units from the Holocene and Pleistocene eras are found in the project area; Alluvium, Flood Basin Deposits, and the Victor Formation. Alluvium is characterized by sand, gravel, silt, and minor amounts of clay; permeability and surface infiltration rates range from moderate to high, and the formation yields large quantities of water to wells of shallow depth. Tertiary-Quaternary Continental Deposits also found in the project area are thick-bedded deposits of silt and clay with thinner zones of sand and gravel. Flood Basin Deposits are composed of fine-grained material, chiefly silt and clay; permeability, surface infiltration rates, and water yields are low.

Groundwater occurs in various unconfined and semi-confined geologic formations throughout the sub-basin. Permeability and surface infiltration rates range from low to moderate, and deep wells obtain moderate yields from sandy layers. Groundwater has been encountered on the project site at depths ranging from approximately 3 to 14 feet below ground surface, with groundwater levels closest to the surface in the western portion of the project site, closer to the Sacramento River.

Where permeability of soils exists, and adhesion of contaminants to soil particles is not possible, urban point and non-point source pollutants, such as bacteria, nitrates from lawn and garden fertilizers containing nitrogen, and hydrocarbons from leaking underground gas storage tanks that supply gasoline at service stations can infiltrate to groundwater and impair the quality of groundwater. Groundwater quality in the South American Groundwater Sub-basin is generally within the secondary drinking water standards for municipal use, including standard levels of iron, manganese, arsenic, chromium, and nitrates. Groundwater in the project region can be described as a calcium magnesium bicarbonate or magnesium calcium bicarbonate. Other minor groundwater types include sodium calcium bicarbonate or calcium sodium bicarbonate in the vicinity of Elk Grove, and a magnesium sodium bicarbonate or sodium magnesium bicarbonate near the confluence of the Sacramento and American rivers. The water quality in the upper aquifer system is regarded as superior to that of the lower aquifer system and does not typically require treatment other than disinfection. The lower aquifer system has increased concentrations of TDS, a measure of salinity, than does the upper aquifer, although it typically meets potable water supply standards.

3.10.3 Environmental Impacts and Recommended Mitigation Measures

Significance Criteria

Based on Appendix G of the State CEQA Guidelines, the project could have a significant adverse effect related to hydrology and water quality if it would:

- Violate any water quality standards or waste discharge requirements
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?
- Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?
- Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

- Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

- Inundation by seiche, tsunami, or mudflow?

- Substantially degrade groundwater quality?

Methods and Assumptions

Existing information describing hydrology and water quality along the Project alignment was reviewed and the potential impacts associated with development of the proposed Project were assessed. The hydrology assessment evaluates effects related to changes in Sacramento River flows due to the full-capacity use of the existing WRF for this Project, up to 4.6-mgd. The qualitative water quality assessment provided in this section evaluates short-term, construction-related stormwater discharges to adjacent receiving waters related to the proposed Project.

Issues or Potential Impacts Not Discussed Further

During operation, the proposed Project will rely entirely on the existing WRF for supply and thus will not have any impacts to groundwater resources. This issue is not further discussed in the EIR.

Operation of the proposed Project will not have any effects to stormwater quality, as the WRF, recycled water main, laterals and lateral structures will act as a closed system, to convey recycled water to users and no discharges to surface waters will occur during Project operation. This issue is not further discussed in the EIR.

Operation of the proposed Project is not expected to require changes to Regional San's NPDES permit terms. However, because rated flows from the WRF were originally intended for delivery south to the Phase 2 recycled water area in Elk Grove, and a portion of the Phase 2 flow will go to the SPA Cogeneration Plant via the proposed Project, Regional San intends to file a change in point of use petition with the State Water Board along with release of the Water Recycling Pipeline Project Public Draft EIR. This issue is not further discussed in the EIR.

Construction and operation of the proposed Project will not result in construction of housing or other structures within a 100-year flood hazard area. This issue is not further discussed in the EIR.

Inundation of the proposed Project alignment by seiche, tsunami, or mudflow is not a possibility due to the Project location in an inland, urbanized area. This issue is not further discussed in the EIR.

3.10.4 Environmental Impacts and Recommended Mitigation Measures

Impact 3.10-1: Hydrology Impacts.

The existing WRF is rated and permitted to produce up to 5 mgd of recycled water. The Project's recycled water main will initially convey 1 mgd of water produced at the WRF to serve the SPA Cogeneration Plant on a year-round basis, but will be sized to convey a maximum of 4.6 mgd to serve additional future users via recycled water laterals, storage tanks, and booster pump stations. This 4.6-mgd of recycled water is currently released to the Sacramento River through the SRWTP outfall. Therefore, operation of the proposed Project may have hydrologic effects on the Sacramento River by slightly reducing flows through the SRWTP outfall. An analysis of Sacramento River flows at Freeport, with a period of record of October 1, 1949 to January 31, 2013, showed that during that period, the maximum flow was 115,000 cfs (during the 1986 flood), and a minimum of 3,970 cfs (during the drought of 1977) (USGS 2013). Using a daily timestep, the 90 percent exceedence flow is 9,180 cfs. The 90 percent exceedence flow is the low flow rate that is typically used in the design of water intakes and fish screens. The lowest monthly 90 percent exceedence is 7,500 cfs, and occurs in October. This impact would be **less than significant**.

The proposed Project would have a minimal effect on Sacramento River flows. At full operation of the proposed Project, up to 4.6 mgd (8.5 cfs) would be removed from the Sacramento River. At the lowest Sacramento River flow on record at Freeport, this would result in a reduction of in total flows of 0.2 percent, or a reduction of 0.1 percent during the 90 percent exceedance flow for October.

As demonstrated, the incremental decrease in Sacramento River flows attributed to operation of the proposed Project would be minimal relative to the background flows in the Sacramento River, and would likely not result in any changes in water surface elevations. This impact would be **less than significant.**

Mitigation Measures

No mitigation is proposed.

Impact 3.10-2: Construction-related stormwater quality impacts.

Stormwater runoff from construction-related activities could cause temporary water quality degradation in nearby waterways within the Morrison Creek watershed and to the Sacramento River. Construction of the proposed Project would involve grading and excavation, trenching, backfilling, hauling, compaction, soil disposal activities, the use and on-site storage of chemicals (petroleum and other potentially polluting substances), and construction material delivery. Construction of storage tanks and booster pump stations may also involve paving, lighting, drainage, reinforced concrete/steel structures. These activities have the potential to cause or increase soil erosion and could accidentally discharge waste petroleum products or other construction-related substances containing metals that could enter waterways in runoff. This impact would be **potentially significant**.

Approximately 60 percent of the Project alignment is within consolidated Pleistocene alluvial fan deposits of sand, silt and clay, and is above groundwater levels. However, approximately 40 percent of the Project alignment is within mostly unconsolidated flood basin sediments with potential groundwater/perched water conditions that may require dewatering during construction activities. Discharge of dewatered groundwater could exceed physical, chemical, and thermal standards.

The potential impact for temporary construction-related discharges to degrade water quality in receiving waters would to be **potentially significant.**

Mitigation Measure 3.10-2: Implement construction erosion control and water quality BMPs.

Regional San, or its designated general contractor, will prepare a Water Pollution Control Plan (WPCP) for all construction activities related to the proposed Project. In addition, since the total area of land disturbance for the proposed Project would exceed one acre, Regional San or its designated general contractor will file a Notice of Intent and Permit Registration Documents for authorization of project construction activities under State Water Board's NPDES Construction General Permit (Order No. 2009-0009-DWQ/NPDES Permit No. CAS000002, and all amendments). A SWPPP would also be required for conformance with the Construction General Permit.

The WPCP and SWPPP prepared for the Project will describe the BMPs that Regional San and its contractors will use to avoid and minimize potential adverse construction-related water quality effects. Construction designs, drawings, and contracts for construction activities will refer to and accommodate the requirements of the WPCP and, for applicable activities, the SWPPP and other requirements of the Construction General Permit. The WPCP and SWPPP will be required in the contract specifications. All water quality, erosion, and sediment control measures included in the WPCP/SWPPP will be implemented as specified. The WPCP/SWPPP also will identify responsibilities of construction contractors for implementation and inspection of BMPs, and training elements for the personnel responsible for installation and maintenance of the BMPs.

Plan measures may include, as relevant, but not be limited to, the following general categories of BMPs that have proven successful at reducing adverse water quality effects:

- **Waste Management and Spill Prevention and Response**: Waste management BMPs are designed to minimize exposure of waste materials at all construction sites and staging areas such as waste collection and disposal practices, containment and protection of wastes from wind and rain, and equipment cleaning measures. Spill prevention and response BMPs involve planning, equipment, and training for personnel for emergency event response.

- **Erosion and Sedimentation Control**: Erosion control BMPs are designed to prevent erosion processes or events including scheduling work to avoid rain events, stabilizing exposed soils; minimize offsite sediment runoff; remove sediment from onsite runoff before it leaves the site; and slow runoff rates across construction sites. Identification of appropriate temporary and long-term seeding,

mulching, and other erosion control measures as necessary. Sedimentation BMPs are designed to minimize offsite sediment runoff once erosion has occurred involving drainage controls, perimeter controls, detention/sedimentation basins, or other containment features. Regional San has committed to construction of a silt fence between the ESBs and Laguna Creek, and will develop other BMPs for erosion control as specified above.

- **Good Housekeeping and Non-Stormwater Discharge Management**: Good housekeeping BMPs are designed to reduce exposure of construction sites and materials storage to stormwater runoff including truck tire tracking control facilities; equipment washing; litter and construction debris; and designated refueling and equipment inspection/maintenance practices. Non-stormwater discharge management BMPs involve runoff measures for contaminants not directly associated with rain or wind including vehicle washing and street cleaning operations.

- **Construction Site Dewatering and Pipeline Testing**: Dewatering BMPs involve actions to prevent discharge of contaminants present in dewatering of groundwater during construction, discharges of water from testing of pipelines or other facilities, or the indirect erosion that may be caused by dewatering discharges.

See FEIR Pg. 3-9

- **BMP Inspection and Monitoring**: Identification of clear objectives for evaluating compliance with WPCP and/or SWPPP provisions, and specific BMP inspection and monitoring procedures, environmental awareness training, contractor and agency roles and responsibilities, reporting procedures, and communication protocols.

Significance After Mitigation The measures outlined in the previous section are routinely implemented in the construction industry to reduce stormwater and non-stormwater construction contaminant discharges. Implementing this mitigation measure would minimize and avoid many of the potential temporary construction-related water quality effects of the Project. Therefore, temporary construction-related activities would not be expected to result in discharges of sufficient frequency, magnitude, and geographic extent to result in a substantial degradation of water quality in receiving waters. Therefore, with implementation of this mitigation measure, the potential impact would be reduced to **less than significant**.

Impact 3.10-3: Flood Management Impacts.

Construction of the proposed Project will require tunneling under levees via the HDD method. Tunneling under levees will be required between Laydown Areas 1 and 2, where the recycled water main will pass under the SRWTP emergency storage basin, Laguna and Morrison Creeks, and thus the north and south levees that contain the creeks. Additionally, Freeport Lateral Option A will require tunneling under levees via the pipe jacking method to cross under the levee adjacent to I-5. This impact would be **less than significant.**

All construction near and under levees would comply with the terms of permits issued by the Central Valley Flood Protection Board (CVFPB). The HDD and pipe jacking tunnels would pass at least 30 feet below the levees, and tunneling will begin and "daylight" a minimum of 300 feet away from the toe of the levees. Because these conditions would avoid interference with the performance of levees, this impact would **be less than significant.**

Mitigation Measures

No mitigation is proposed.

Impact 3.10-4: Water Quality Impacts Due to Project Operation.

The use of recycled water in close proximity to surface water supplies and domestic groundwater wells during operation of the proposed Project may result in adverse water quality effects that could have health risks. Title 22 sets bacteriological water quality standards based on the expected degree of public contact with recycled water. Disinfected tertiary treatment of recycled water is required for use involving direct public contact; this is the level of treatment provided by the WRF for conveyance by the proposed Project. This impact is **less than significant.**

Surface Water

Runoff of excess recycled water into surface water or the domestic stormwater system will be reduced to the greatest extent possible by efficient irrigation practices. Recycled water conveyed by the proposed Project will only be used for irrigation, which is an allowed use under Title 22; any human contact with the recycled water would be secondary and therefore would not pose a human health risk.

Groundwater

Any recycled water that infiltrates into the groundwater would not be expected to pose a health risk. Compliance with Title 22 standards, for tertiary treated water, would ensure recycled water could not be used within 50 feet of any existing domestic groundwater well. Additionally, any recycled water that does percolate into the ground below the root zones of areas irrigated with would generally improve in quality as it reaches the groundwater aquifer because the soils act as natural filters.

Therefore, this impact would be **less than significant.**

Mitigation Measures

No mitigation is proposed.

3.11 Noise

3.11.1 Introduction

This section includes a description of the Federal, State and/or local polices relating to noise. In addition, this section describes the acoustic fundamentals, existing ambient noise conditions, and an analysis of potential short- and long-term noise impacts associated with Project implementation. Mitigation measures are recommended, as necessary, to reduce potentially significant adverse noise impacts. The information contained in this section is based, in part, on data from Section 3.13, "Traffic and Transportation."

3.11.2 Regulatory Setting

Key Federal, State, and local regulatory and conservation planning issues applicable to the project for noise-related impacts are discussed below. Background information on acoustical fundamentals, described below, is required context for regulatory and planning issues.

Acoustic Fundamentals

Acoustics is the scientific study that evaluates perception, propagation, absorption, and reflection of sound waves. Sound is a mechanical form of radiant energy, transmitted by a pressure wave through a solid, liquid, or gaseous medium. Sound that is loud, disagreeable, unexpected, or unwanted is generally defined as noise. Noise is typically expressed in "A-weighted decibels" (dB), which is a common measurement of sound energy that is explained in further detail below and takes into account human perception. Common sources of environmental noise and noise levels are presented in Table 3.11-1.

Table 3.11-1. Typical Noise Levels

Common Outdoor Activities	Noise Level (dB)	Common Indoor Activities
	110	Rock band
Jet flyover at 1,000 feet	100	
Gas lawnmower at 3 feet	90	
Diesel truck moving at 50 mph at 50 feet	80	Food blender at 3 feet, Garbage disposal at 3 feet
Noisy urban area, Gas lawnmower at 100 feet	70	Vacuum cleaner at 10 feet, Normal speech at 3 feet
Commercial area, Heavy traffic at 300 feet	60	
Quiet urban daytime	50	Large business office, Dishwasher in next room
Quiet urban nighttime	40	Theater, Large conference room (background)
Quiet suburban nighttime	30	Library, Bedroom at night, Concert hall (background)
Quiet rural nighttime	20	Broadcast/Recording Studio
	10	
Threshold of Human Hearing	0	Threshold of Human Hearing

Source: California Department of Transportation 2009

Notes:
dB=A-weighted dB
mph=miles per hour

Sound Properties

The properties of sound are complex, but the use of the dB is a convenient way to handle the million-fold range of sound pressures to which the human ear is sensitive. A dB is logarithmic; it does not follow normal algebraic methods and cannot be directly summed. For example, a 65 dB source of sound, such as a truck, when joined by another 65 dB source results in a sound amplitude of 68 dB, not 130 dB (i.e., doubling the source strength increases the sound pressure by 3 dB). A sound level increase of 10 dB corresponds to 10 times the acoustical energy, and an increase of 20 dB equates to a 100 fold increase in acoustical energy.

The loudness of sound perceived by the human ear depends primarily on the overall sound pressure level and frequency content of the sound source. The human ear is not equally sensitive to loudness at all frequencies in the audible spectrum. To better relate overall sound levels and loudness to human perception, frequency-dependent weighting networks were developed. The standard weighting networks are identified as A through E. There is a strong correlation between the way humans perceive sound and A-weighted sound levels. For this reason, the A-weighted sound levels can be used to predict community response to noise from the environment, including noise from transportation and stationary sources.

Noise can be generated by a number of sources, including mobile sources (i.e., transportation) such as automobiles, trucks, and airplanes and stationary sources (i.e., nontransportation) such as construction sites, machinery, and commercial and industrial operations. As acoustic energy spreads through the atmosphere from the source to the receiver, noise levels attenuate (i.e., decrease) depending on ground absorption characteristics, atmospheric conditions, and the presence of physical barriers. Noise generated from mobile sources generally attenuate at a rate of 4.5 dB per doubling of distance. Stationary noise sources spread with more spherical dispersion patterns that generally attenuate at a rate of 6 to 7.5 dB per doubling of distance.

Atmospheric conditions such as wind speed, turbulence, temperature gradients, and humidity may additionally alter the propagation of noise and affect levels at a receiver. Furthermore, the presence of a large object (e.g., barrier, topographic features, and intervening building façades) between the source and the receptor can provide significant attenuation of noise levels at the receiver. The amount of noise level reduction (i.e., shielding) provided by a barrier primarily depends on the size of the barrier, the location of the barrier in relation to the source and receivers, and the frequency spectra of the noise. Natural (e.g., berms, hills, and dense vegetation) and human-made features (e.g., buildings and walls) may be used as noise barriers.

All buildings provide some exterior-to-interior noise reduction. A building constructed with a wood frame and a stucco or wood sheathing exterior typically provides a minimum exterior-to-interior noise reduction of 25 dB with its windows closed, whereas a building constructed of a steel or concrete frame, a curtain wall or masonry exterior wall, and fixed plate glass windows of one-quarter-inch thickness typically provides an exterior-to-interior noise reduction of 30 to 40 dB with its windows closed (Caltrans 2002).

Common Noise Descriptors

The intensity of environmental noise fluctuates over time, and several different descriptors of time-averaged noise levels are used. The selection of a proper noise descriptor for a specific source depends on the spatial and temporal distribution, duration, and fluctuation of both the noise source and the environment. The noise descriptors most often in relation to the environment are defined below (Caltrans 2009).

- Equivalent Noise Level (Leq): The equivalent steady-State noise level in a stated period of time that would contain the same acoustic energy as the time-varying noise level during the same period (i.e., average noise level). Because it represents average noise energy, the same Leq value could represent a relatively stable sound source, or a highly variable sound environment.

- Maximum Noise Level (Lmax): The highest instantaneous noise level during a specified time period.

- Minimum Noise Level (Lmin): The lowest instantaneous noise level during a specified time period.

- Day-Night Noise Level (Ldn): The 24-hour Leq with a 10-dB penalty applied to sounds occurring during the noise-sensitive hours from 10 p.m. to 7 a.m., which are typically reserved for sleeping. The Ldn and CNEL (below) are the most common noise descriptors used for transportation noise considerations or other noise sources that may occur both during daytime and more noise-sensitive nighttime (during typical relaxation and sleep) hours when background noise is typically less.

- Community Noise Equivalent Level (CNEL): Similar to the Ldn described above with an additional 5-dB penalty applied during the noise-sensitive hours from 7 p.m. to 10 p.m., which are typically reserved for relaxation, conversation, reading, and watching television.

Effects of Noise on Humans

Excessive and chronic exposure to elevated noise levels can result in auditory and non-auditory effects on humans. Auditory effects of noise on people are those related to temporary or permanent hearing loss caused by loud noises. Non-auditory effects of exposure to elevated noise levels are those related to behavioral and physiological effects. The non-auditory behavioral effects of noise on humans are associated primarily with the subjective effects of annoyance, nuisance, and dissatisfaction, which lead to interference with activities such as communications, sleep, and learning. The non-auditory physiological health effects of noise on humans have been the subject of considerable research attempting to discover correlations between exposure to elevated noise levels and health problems, such as hypertension and cardiovascular disease. The mass of research infers that noise-related health issues are predominantly the result of behavioral stressors and not a direct noise-induced response. The extent to which noise contributes to non-auditory health effects remains a subject of considerable research, with no definitive conclusions.

The degree to which noise results in annoyance and interference is highly subjective and may be influenced by several non-acoustic factors. The number and effect of these non-acoustic environmental and physical factors vary depending on individual characteristics of the noise environment such as sensitivity, level of activity, location, time of day, and length of exposure. One key aspect in the prediction of human response to new noise environments is the individual level of adaptation to an existing noise environment. The greater the change in the noise levels that are attributed to a new noise source, relative to the environment an individual has become accustom to, the less tolerable the new noise source will be perceived.

With respect to how humans perceive and react to changes in noise levels, a 1 dB increase is imperceptible, a 3 dB increase is barely perceptible, a 6 dB increase is clearly noticeable, and a 10 dB increase is subjectively perceived as approximately twice as loud (Egan 2007). These subjective reactions to changes in noise levels were developed on the basis of test subjects' reactions to changes in the levels of steady-State pure tones or broad-band noise and to changes in levels of a given noise source. It is probably most applicable to noise levels in the range of 50 to 70 dB, as this is the usual range of voice and interior noise levels. For these reasons, a noise level increase of 3 dB or more is typically considered substantial in terms of the degradation of the existing noise environment.

Negative effects of noise exposure include physical damage to the human auditory system, interference, and disease. Exposure to noise may result in physical damage to the auditory system, which may lead to gradual or traumatic hearing loss. Gradual hearing loss is caused by sustained exposure to moderately high noise levels over a period of time; traumatic hearing loss is caused by sudden exposure to extremely high noise levels over a short period. Gradual and traumatic hearing loss both may result in permanent hearing damage. In addition, noise may interfere with or interrupt sleep, relaxation, recreation, and communication. Although most interference may be classified as annoying, the inability to hear a warning signal may be considered dangerous. Noise may also be a contributor to diseases associated with stress, such as hypertension, anxiety, and heart disease. The degree to which noise contributes to such diseases depends on the frequency, bandwidth, and level of the noise, and the exposure time (Caltrans 2009).

Vibration

Vibration is the periodic oscillation of a medium or object with respect to a given reference point. Sources of vibration include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) and those introduced by human activity (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, (e.g., operating factory machinery or transient in nature, explosions). Vibration levels can be depicted in terms of amplitude and frequency, relative to displacement, velocity, or acceleration.

Vibration amplitudes are commonly expressed in peak particle velocity (PPV) or root-mean-square (RMS) vibration velocity. PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is typically used in the monitoring of transient and impact vibration and has been found to correlate well to the stresses

experienced by buildings (Federal Transit Administration [FTA] 2006, Caltrans 2004). PPV and RMS vibration velocity are normally described in inches per second (in/sec).

Although PPV is appropriate for evaluating the potential for building damage, it is not always suitable for evaluating human response. It takes some time for the human body to respond to vibration signals. In a sense, the human body responds to average vibration amplitude. The RMS of a signal is the average of the squared amplitude of the signal, typically calculated over a 1-second period. As with airborne sound, the RMS velocity is often expressed in dB notation as vibration decibels (VdB), which serves to compress the range of numbers required to describe vibration (FTA 2006). This is based on a reference value of 1 micro (μ) in/sec.

The typical background vibration-velocity level in residential areas is approximately 50 VdB. Groundborne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels (FTA 2006).

Typical outdoor sources of perceptible ground vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Construction activities can generate ground vibrations, which can pose a risk to nearby structures. Constant or transient vibrations can weaken structures, crack facades, and disturb occupants (FTA 2006).

Construction vibrations can be transient, random, or continuous. Transient construction vibrations are generated by blasting, impact pile driving, and wrecking balls. Continuous vibrations result from vibratory pile drivers, large pumps, and compressors. Random vibration can result from jackhammers, pavement breakers, and heavy construction equipment. Table 3.11-2 describes the general human response to different levels of ground vibration-velocity levels.

Table 3.11-2. Human Response to Different Levels of Ground Noise and Vibration

Vibration-Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.

Source: FTA 2006

Key:
VdB = vibration dB referenced to 1 μ inch/second and based on the root mean square (RMS) velocity amplitude.

Federal

The Federal Noise Control Act of 1972 The primary motivating legislation for noise control in the United States was provided by the Federal Noise Control Act (1972), which addressed the issue of noise as a threat to human health and welfare, particularly in urban areas. In response to the Noise Control Act, the EPA published Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety EPA 1974). In summary, the EPA findings were that sleep, speech, and other types of essential activity interference could be avoided in residential areas if the Ldn did not exceed 55 dB outdoors and 45 dB indoors. The EPA Levels report also identified 5 dB as an adequate margin of safety before an increase in noise level would produce a significant increase in the severity of community reaction (i.e., increased complaint frequency, annoyance percentages, etc.) provided that the existing baseline noise exposure did not exceed 55 dB Ldn.

U.S. Department of Transportation To address the human response to ground vibration, FTA has set forth guidelines for maximum-acceptable vibration criteria for different types of land uses. These guidelines are presented in Table 3.11-3.

Table 3.11-3. Ground-Borne Vibration Impact Criteria for General Assessment

Land Use Category	GBV Impact Levels (VdB re 1 micro-inch/second)		
	Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]
Category 1: Buildings where vibration would interfere with interior operations.	65 [4]	65 [4]	65 [4]
Category 2: Residences and buildings where people normally sleep.	72	75	80
Category 3: Institutional land uses with primarily daytime uses.	75	78	83

Source: FTA 2006

Notes:
[1] Frequent Events" is defined as more than 70 vibration events of the same source per day.
[2] Occasional Events" is defined as between 30 and 70 vibration events of the same source per day.
[3] Infrequent Events" is defined as fewer than 30 vibration events of the same source per day.
[4] This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration-sensitive manufacturing or research will require detailed evaluation to define the acceptable vibration levels.

Key:
Vdb = vibration dB referenced to 1 µ inch/second and based on the root mean square (RMS) velocity amplitude.
GBV = Ground-Borne Vibration

State

The State of California General Plan Guidelines 2013 (Guidelines) promotes use of Ldn or CNEL for evaluating noise compatibility of various land uses with the expected degree of noise exposure. The designation of a level of noise exposure as "normally acceptable" for a given land use category implies that the expected interior noise would be acceptable to the occupants without the need for any special structural acoustic treatment. The Guidelines identify the suitability of various types of building construction relative to the

range of customary outdoor noise exposures. The Guidelines provide each local community some leeway in setting local noise standards that allow for the variability in individual perceptions of noise in that community. Findings presented in Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (EPA 1974) have had an obvious influence on the content of the Guidelines, most importantly in the latter's choice of noise exposure metrics and in the upper limits for the "normally acceptable" exposure of noise-sensitive uses (i.e., no higher than 60 dB Ldn or CNEL for low-density residential, which is just at the upper limit of the 5 dB "margin of safety" defined by the EPA for noise-sensitive land use categories).

California Department of Transportation In 2004, Caltrans published the Transportation-and Construction-Induced Vibration Manual, which provides general guidance on vibration issues associated with construction and operation of projects in relation to human perception and structural damage.

Table 3.11-4 presents recommended levels of vibration that could result in damage to structures exposed to continuous vibration.

Table 3.11-4. Caltrans Recommended Vibration Levels

PPV (in/sec)	Effect on Buildings
0.4-0.6	Architectural damage and possible minor structural damage
0.2	Risk of architectural damage to normal dwelling houses
0.1	Virtually no risk of architectural damage to normal buildings
0.08	Recommended upper limit of vibration to which ruins and ancient monuments should be subjected
0.006-0.019	Vibration unlikely to cause damage of any type

Source: Caltrans 2004

Key:
PPV = peak particle velocity

Local

The proposed facilities and pipeline alignments are located in unincorporated Sacramento County; therefore, the County's policies pertaining to noise are germane. Because project traffic and construction noise could affect land uses in Elk Grove (i.e., residences in the City immediately bordering the Regional San property) and the City of Sacramento (i.e., sensitive receptors in the City immediately bordering the pipeline alignment) , the policies in the City of Elk Grove General Plan and City of Sacramento General Plan are also considered.

Sacramento County General Plan The Noise Element of the Sacramento County General Plan (Sacramento County 2011) contains the following policies and standards related to noise that may be applicable to the project:

- Policy NOI-6. Where a project would consist of or include non-transportation noise sources, the noise generation of those sources shall be mitigated so as not

exceed the interior and exterior noise level standards of Table 2 at existing noise-sensitive areas in the project vicinity.

- Policy NOI-7. The "last use there" shall be responsible for noise mitigation. However, if a noise-generating use is proposed adjacent to lands zoned for uses which may have sensitivity to noise, then the noise generating use shall be responsible for mitigating its noise generation to a State of compliance with the Table 3 standards at the property line of the generating use in anticipation of the future neighboring development.

In addition to the policies listed above, Sacramento County has established noise standards for land uses affected by non-transportation noise (Table 3.11-5) and transportation noise (Table 3.11-6).

Table 3.11-5. Non-Transportation Noise Standards Median (L_{50})/Maximum (L_{max})[1]

Receiving Land Use	Outdoor Area[2]		Interior[3]
	Daytime	Nighttime	Day/Night
All Residential	55/75	50/70	35/55
Transient Lodging[4]	55/75	-	35/55
Hospitals & Nursing Homes[5,6]	55/75	-	35/55
Theaters & Auditoriums6	-	-	30/50
Churches, Meeting Halls, Schools, Libraries, etc.[6]	55/75	-	35/60
Office Buildings[6]	60/75	-	45/65
Commercial Buildings[6]	-	-	45/65
Playgrounds, Parks, etc.[6]	65/75	-	-
Industry[6]	60/80	-	50/70

Source: Sacramento County 2011

Notes:
[1] Standards in this table shall be reduced by 5 dB for sounds consisting primarily of speech or music, and for recurring impulsive sounds. If the existing ambient noise level exceeds the standards of this table, then the noise level standards shall be increased at 5 dB increments to encompass the ambient.
[2] The primary outdoor activity area associated with any given land use at which noise-sensitivity exists and the location at which the County's exterior noise level standards are applied.
[3] The primary outdoor activity area associated with any given land use at which noise-sensitivity exists and the location at which the County's exterior noise level standards are applied.
[4] Outdoor activity areas of transient lodging facilities are not commonly used during nighttime hours.
[5] Hospitals are often noise-generating uses. The exterior noise level standards for hospitals are applicable only at clearly identified areas designated for outdoor relaxation by either hospital staff or patients.
[6] Hospitals are often noise-generating uses. The exterior noise level standards for hospitals are applicable only at clearly identified areas designated for outdoor relaxation by either hospital staff or patients.
[7] Where median (L_{50}) noise level data is not available for a particular noise source, average (L_{eq}) values may be substituted for the standards of this table provided the noise source in question operates for at least 30 minutes of an hour. If the source in question operates less than 30 minutes per hour, then the maximum noise level standards shown would apply.

Key:
L_{50}= noise level that occurs 50% of the time during measurement duration
L_{max}= the maximum instantaneous noise level

Table 3.11-6. Significance Increase in Transportation Noise

Pre-Project Noise Environment (L_{dn})	Significant Increase
Less than 60 dB	5+ dB
60-65 dB	3+ dB
Greater than 65 dB	1.5+ dB

Source: Sacramento County 2011

Key:
L_{dn}= day-night average noise level

Sacramento County Code Section 6.68.070 of the Sacramento County Code contains exterior noise standards for specific zoning districts (Table 3.11-7).

Table 3.11-7. Exterior Noise Standards

Noise Area	County Zoning Districts	Time Period	Exterior Noise Standard
1	RE-1, RD-1, RE-2, RD-2, RE-3, RD-3, RD-4, R-1-A, RD-5, R-2, RD-10, R-2A, RD-20, R-3, R-D-30, RD-40, RM-1, RM-2, A-1-B, AR-1, A-2, AR-2, A-5, AR-5	7 a.m.-10 p.m.	55 dB
		10 p.m.-7 a.m.	50 dB

Source: Sacramento County 2011

Section 6.68.090 of the Sacramento County Code provides the following exemption to the exterior noise standards:

> *Noise sources associated with construction, repair, remodeling, demolition, paving or grading of any real property, provided said activities do not take place between the hours of eight p.m. and six a.m. on weekdays and Friday commencing at eight p.m. through and including seven a.m. on Saturday; Saturdays commencing at eight p.m. through and including seven a.m. on the next following Sunday and on each Sunday after the hour of eight p.m. Provided, however, when an unforeseen or unavoidable condition occurs during a construction project and the nature of the project necessitates that work in process be continued until a specific phase is completed, the contractor or owner shall be allowed to continue work after eight p.m. and to operate machinery and equipment necessary until completion of the specific work in progress can be brought to conclusion under conditions which will not jeopardize inspection acceptance or create undue financial hardships for the contractor or owner.*

City of Elk Grove General Plan As stated above, because project traffic and construction noise could affect land uses in Elk Grove (i.e., residences in the City immediately bordering the Regional San property), the following Elk Grove General Plan Noise Element (City of Elk Grove 2009) policies and standards related to noise are presented to determine whether the project would have any significant noise impacts based on application of the City's noise policies.

- **Policy NO-3**. Noise created by new proposed non-transportation noise sources shall be mitigated so as not to exceed the noise level standards of Table 3.11-8 as measured immediately within the property line of lands designated for noise-sensitive uses.

- **Policy NO-7**. The City shall not require the installation of sound walls in front yard areas to reduce noise to acceptable levels in residential areas which were originally constructed without sound walls. The City shall emphasize other methods to reduce noise levels in these situations.

- **Policy NO-8**. Where noise mitigation measures are required to achieve the standards indicated in Tables 3.11-8, 3.11-9, and 3.11-10, the emphasis of such measures shall be placed upon site planning and project design. The use of noise barriers shall be considered a means of achieving the noise standards only after all other practical design-related noise mitigation measures—including the use of distance from noise sources—have been integrated into the project.

In addition to the policies listed above, the City of Elk Grove has established noise standards for land uses affected by transportation noise (Table 3.11-8) and performance standards for non-transportation noise sources (Tables 3.11-9 and 3.11-10).

Table 3.11-8. Maximum Allowable Noise Exposure from Transportation Noise Sources by Land Use Type

Land Use	Outdoor Activity Areas[1] L_{dn}/CNEL, dB	Interior Spaces	
		L_{dn}/CNEL, dB	L_{eq}, dB[2]
Residential	60 [3]	45	-
Residential subject to noise from railroad tracks, aircraft overflights, or similar noise sources which produce clearly identifiable, discrete noise events (the passing of a single train, as opposed to relatively steady noise sources such as roadways)	60 [3]	40[5]	-
Transient Lodging	60 [4]	45	-
Hospitals, Nursing Homes	60 [3]	45	-
Theaters, Auditoriums, Music Halls	-	-	35
Churches, Meeting Halls	60	-	40
Office Buildings	-	-	45
Schools, Libraries, Museums	-	-	45
Playgrounds, Neighborhood Parks	70	-	-

Source: City of Elk Grove 2009

Notes:

[1] Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use. Where it is not practical to mitigate exterior noise levels at patio or balconies of apartment complexes, a common area such as a pool or recreation area may be designed as the outdoor activity area.

[2] As determined for a typical worst-case house during periods of use.

[3] Where it is not possible to reduce noise in outdoor activity areas to 60 dB Ldn/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB Ldn/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

[4] In the case of hotel/motel facilities or other transient lodging, outdoor activity areas such as pool areas may not be included in the project design. In these cases, only the interior noise level criterion will apply.

[5] The intent of this noise standard is to provide increased protection against sleep disturbances located near railroad tracks.

Key:
CNEL= Community Noise Equivalent Level
L_{dn}= day-night average noise level

Table 3.11-9. Performance Standards for Typical Stationary Noise Sources

Noise Level Descriptor	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly L_{eq}, dB	55	45

Source: City of Elk Grove 2009

Notes:
[1] These standards will apply generally to noise sources that are not tonal, impulsive, or repetitive in nature.
[2] Typical noise sources in this category would include HVAC systems, cooling towers, fans, blowers, etc.

Key:
dB = decibel
Leq = Equivalent Continuous Noise Level

Table 3.11-10. Performance Standards for Stationary Noise Sources Which are Tonal, Impulsive, Repetitive, or Consist Primarily of Speech or Music

Noise Level Descriptor	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly L_{eq}, dB	50	40

Source: City of Elk Grove 2009

Notes:
1 These standards apply to noises which are tonal in nature, impulsive or repetitive, or which consist primarily of speech or music (e.g., humming sounds, outdoor speaker systems, etc.).
2 Typical noise sources in this category include: pile drivers, drive-through speaker boxes, punchpresses, steam valves, and transformer stations.

Key:
dB = decibel
Leq = Equivalent Continuous Noise Level

City of Elk Grove Municipal Code Section 6.32.080 of the Elk Grove Municipal Code contains exterior noise standards for specific zoning districts (Table 3.11-11).

Table 3.11-11. Exterior Noise Standards

Noise Area	City Zoning Districts	Time Period	Exterior Noise Standard
I	Agricultural; Residential	7:00 a.m. – 10:00 p.m.	55 dB
		10:00 p.m. – 7:00 a.m.	45 dB

Source: Elk Grove Municipal Code

The City of Elk Grove uses the same construction noise exemptions as Sacramento County, as indicated above under "Sacramento County Code."

City of Sacramento 2030 General Plan The proposed recycled water pipeline alignment extends north from the SRWTP north into the City of Sacramento. The Environmental Constraints Element of the *Sacramento 2030 General Plan* (City of Sacramento 2009) contains the following goals and policies related to noise that may be applicable to the project. These policies are presented to determine whether the project would have any significant noise impacts based on application of the City's noise policies.

Goal EC 3.1 Noise Reduction. Minimize noise impacts on land uses and human activity to ensure the health and safety of the community.

Policies EC 3.1.1 Exterior Noise Standards. The City shall require noise mitigation for all development where the exterior noise standards exceed those shown in Table 3.11-12, below, to the extent feasible.

Table 3.11-12. City of Sacramento 2030 General Plan – Exterior Noise Compatibility Standards for Various Land Uses

Land Use Type	Highest Level of Noise Exposure that is Regarded as "Normally Acceptable"[1] (L_{dn}[2] or CNEL[3])
Residential – Low Density Single Family, Duplex, Mobile Homes	60 dB[4,5]
Residential – Multi-family	65 dB
Urban Residential Infill[6] and Mixed-use Projects[7]	70 dB
Transient Lodging – Motels, Hotels	65 dB
Schools, Libraries, Churches, Hospitals, Nursing Homes	70 dB
Auditoriums, Concert Halls, Amphitheaters	Mitigation based on site-specific study
Sports Arena, Outdoor Spectator Sports	Mitigation based on site-specific study
Playgrounds, Neighborhood Parks	70 dB
GCs, Riding Stables, Water Recreation, Cemeteries	75 dB
Office Buildings – Business, Commercial, and Professional	70 dB
Industrial, Manufacturing, Utilities, Agriculture	75 dB

Source: Governor's Office of Planning and Research, State of California General Plan Guidelines 2003, October 2003.

Notes:
[1] As defined in the Guidelines, "Normally Acceptable" means that the "specified land use is satisfactory, based upon the assumption that any building involved is of normal conventional construction, without any special noise insulation requirements."
[2] L_{dn} or Day Night Average Level is an average 24-hour noise measurement that factors in day and night noise levels.
[3] CNEL or Community Noise Equivalent Level measurements are a weighted average of sound levels gathered throughout a 24-hour period.
[4] dB or A-weighted decibel, a measure of noise intensity.
[5] The exterior noise standard for the residential area west of McClellan Airport known as McClellan Heights/Parker Homes is 65 dB.
[6] With land use designations of Central Business District, Urban Neighborhood (Low, Medium, or High), Urban Center (Low or High), Urban Corridor (Low or High).
[7] All mixed-use projects located anywhere in the City of Sacramento.

- **EC 3.1.2 Exterior Incremental Noise Standards**. The City shall require mitigation for all development that increases existing noise levels by more than the allowable increment as shown in Table 3.11-13, to the extent feasible.

Table 3.11-13. City of Sacramento 2030 General Plan – Exterior Incremental Noise Impact Standards for Noise-Sensitive Uses (dB)

Residences and buildings where people normally sleep[1]		Institutional land uses with primarily daytime and evening uses[2]	
Existing L_{dn}	Allowable Noise Increment	Existing Peak Hour L_{eq}	Allowable Noise Increment
45	8	45	12
50	5	50	9
55	3	55	6
60	2	60	5
65	1	65	3
70	1	70	3
75	0	75	1
80	0	80	0

Source: Federal Transit Administration, Transit Noise Impact and Vibration Assessment, May 2006.

Notes:
[1] This category includes homes, hospitals, and hotels where a nighttime sensitivity to noise is assumed to be of utmost importance.
[2] This category includes schools, libraries, theaters, and churches where it is important to avoid interference with such activities as speech, meditation, and concentration on reading material.

- **EC 3.1.3 Interior Noise Standards**. The City shall require new development to include noise mitigation to assure acceptable interior noise levels appropriate to the land use type: 45 dB Ldn for residential, transient lodgings, hospitals, nursing homes and other uses where people normally sleep; and 45 dB Leq (peak hour) for office buildings and similar uses.

- **EC 3.1.5 Interior Vibration Standards**. The City shall require construction projects anticipated to generate a significant amount of vibration to ensure acceptable interior vibration levels at nearby residential and commercial uses based on the current City or FTA criteria.

- **EC 3.1.7 Vibration**. The City shall require an assessment of the damage potential of vibration-induced construction activities, highways, and rail lines in close proximity to historic buildings and archaeological sites and require all feasible mitigation measures be implemented to ensure no damage would occur.

- **EC 3.1.8 Operational Noise**. The City shall require new mixed-use, commercial, and industrial development to mitigate operational noise impacts to adjoining sensitive uses when operational noise thresholds are exceeded.

- **EC 3.1.10 Construction Noise**. The City shall require development projects subject to discretionary approval to assess potential construction noise impacts on nearby sensitive uses and to minimize impacts on these uses to the extent feasible.

- **EC 3.1.11 Alternatives to Sound Walls**. The City shall encourage the use of design strategies and other noise reduction methods along transportation corridors in lieu of sound walls to mitigate noise impacts and enhance aesthetics.

City of Sacramento Code Section 8.68.060 of the City of Sacramento Code contains the following exterior noise standards:

A. The following noise standards unless otherwise specifically indicated in this article shall apply to all agricultural and residential properties.

1. From seven a.m. to ten p.m. the exterior noise standard shall be fifty-five (55) dB.

2. From ten p.m. to seven a.m. the exterior noise standard shall be fifty (50) dB.

B. It is unlawful for any person at any location to create any noise which causes the noise levels when measured on agricultural or residential property to exceed for the duration of time set forth following, the specified exterior noise standards in any one hour by:

	Cumulative Duration of the Intrusive Sound	Allowance dB
1.	Cumulative period of 30 minutes per hour	0
2.	Cumulative period of 15 minutes per hour	+5
3.	Cumulative period of 5 minutes per hour	+10
4.	Cumulative period of 1 minute per hour	+15
5.	Level not to be exceeded for any time per hour	+20

C. Each of the noise limits specified in subsection B of this section shall be reduced by five dB for impulsive or simple tone noises, or for noises consisting of speech or music.

D. If the ambient noise level exceeds that permitted by any of the first four noise limit categories specified in subsection B of this section, the allowable noise limit shall be increased in five dB increments in each category to encompass the ambient noise level. If the ambient noise level exceeds the fifth noise level category, the maximum ambient noise level shall be the noise limit for that category. (Prior code § 66.02.201)

Section 8.68.100 of the City of Sacramento Code also states:

> *It is unlawful for any person to create any noise which causes the noise level at any school, hospital or church while the same is in use to exceed the noise standards specified in Section 8.68.060 of this chapter or to create any noise which unreasonably interferes with the use of such institution or unreasonably disturbs or annoys patients in the hospital. In any disputed case, interfering noise which is ten (10) dB or more, greater than the ambient noise level at the building, shall be deemed excessive and unlawful. (Prior code § 66.02.205)*

Section 8.68.080 provides the following exemption from the provisions of the Code, which may be applicable to the proposed project:

D. Noise sources due to the erection (including excavation), demolition, alteration or repair of any building or structure between the hours of seven a.m. and six p.m., on Monday, Tuesday, Wednesday, Thursday, Friday and Saturday, and between nine a.m. and six p.m. on Sunday; provided, however, that the operation of an internal combustion engine shall not be exempt pursuant to this subsection if such engine is not equipped with suitable exhaust and intake silencers which are in good working order. The director of building inspections may permit work to be done during the hours not exempt by this subsection in the case of urgent necessity and in the interest of public health and welfare for a period not to exceed three days. Application for this exemption may be made in conjunction with the application for the work permit or during progress of the work.

3.11.3 Environmental Setting

Sensitive Land Uses

Noise-sensitive land uses are generally considered to include those uses to which 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 parks, schools, historic sites, cemeteries, and recreation areas are also generally considered sensitive to increases in exterior noise levels. Places of worship, transit lodging, and other places where low interior noise levels are essential are also considered noise-sensitive. Those noted above are also considered vibration-sensitive land uses in addition to commercial and industrial buildings where vibration would interfere with operations within the building, including levels that may be well below those associated with human annoyance.

Existing noise- and vibration- sensitive land uses in the vicinity of the Project alignment primarily include single- and multi-family residences. The nearest sensitive receptors to the Project are single-family residences located adjacent to the proposed recycled water main and laterals. The closest residential structures from the centerline of roadways along the proposed recycled water main and laterals alignments, where most construction activity would occur, are located approximately 50 feet away.

Sources and Ambient Levels

The existing noise environment in the project area is primarily influenced by transportation noise from vehicle traffic on the roadway systems (e.g., 24th Street, 47th Street, Florin Road, and I-5). Other noise sources that contribute to the existing noise environment include existing activities at the SRWTP and nearby neighborhood schools and parks. Noise from Sacramento Executive Airport, primarily related to the operation of aircraft to and from the airport, is also perceivable within the project area.

Existing traffic noise levels were modeled for roadway segments in the project vicinity based on Caltrans' traffic noise analysis protocol and the technical noise supplement (Caltrans 2006, 2009) and available data from the Regional San Echowater Project (Fehr & Peers 2013) and the City of Sacramento 2030 General Plan Master EIR (City of

Sacramento 2008), as shown in Table 3.11-14. Truck usage and vehicle speeds on project area roadways were estimated from field observations, the project-specific traffic report, and information from existing studies of the Project alignment.

Table 3.11-14. Existing Traffic Noise Levels

Roadway	Roadway Segment		Existing CNEL at 100 Feet from Roadway Centerline	Distance to Contours (feet)		
				70 CNEL	65 CNEL	60 CNEL
Dwight Road	Laguna Boulevard	SRWTP Entrance	58.1	6	20	65
24th Street	47th Avenue	45th Avenue	66.2	41	131	414
24th Street	Florin Road	Meadowview Road	66.0	40	126	398

Source: City of Sacramento 2030 General Plan Master EIR, 2009; Ascent Environmental 2013

Key:
CNEL = community noise equivalent level
SRWTP = Sacramento River Water Treatment Plant

3.11.4 Environmental Impacts and Recommended Mitigation Measures

This section describes the Project's construction-related (short-term) and operation-related (long-term) effects on noise. The discussion includes the criteria for determining the level of significance of the effects and a description of the methods and assumptions used to conduct the analysis.

Significance Criteria

Based on Appendix G of the State CEQA Guidelines, the Project could have a significant adverse effect related to noise if it would:

- expose persons to or generate noise levels in excess of applicable standards (e.g., long-term exposure of nearby sensitive receptors to increased stationary-source noise levels from project operations that exceed exterior noise levels of 55 dB Leq during daytime hours (7 a.m. to 10 p.m.) and 45 dB Leq during nighttime hours (10 p.m. to 7 a.m.);

- expose persons to or generate excessive ground vibration or ground noise levels (e.g., exceed Caltrans's recommended level of 0.2 in/sec PPV with respect to the prevention of structural damage for normal buildings or FTA's maximum acceptable level of 80 VdB with respect to human response for residential uses [i.e., annoyance] at nearby existing vibration-sensitive land uses);

- result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project (e.g., long-term exposure of nearby sensitive receptors to increased stationary- or traffic source noise levels that exceed noise levels of 55 dB Leq during daytime hours (7 a.m. to 10 p.m.) and 45 dB Leq during nighttime hours (10 p.m. to 7 a.m.);

- result in a substantial temporary (or periodic) increase in ambient noise levels in the project vicinity above levels existing without the project;

- for a project located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels; or

- for a project within the vicinity of an active private airstrip, expose people residing or working in the project area to excessive noise levels.

Methods and Assumptions

To assess potential short-term (construction-related) noise and vibration impacts, sensitive receptors and their relative exposure were identified. Project-generated construction source noise and vibration levels were determined based on methodologies, reference emission levels, and usage factors from FTA's Transit Noise and Vibration Impact Assessment (FTA 2006) and FHWA's Roadway Construction Noise Model User's Guide (FHWA 2006). Reference levels are noise and vibration emissions for specific equipment or activity types that are well documented and the usage thereof common practice in the field of acoustics.

Note that estimated construction noise levels do not account for sound absorption from soft or vegetated ground or attenuation as a result of temporary or permanent objects between the line of sight of sensitive receptors and noise sources (e.g., areas of construction activity, lay down areas). In addition, estimated noise levels were based on peak construction-traffic estimates that would occur for a brief period of time (i.e., approximately 1 month in 2016). Traffic noise was based on the maximum daily trips possible during construction rather than average traffic numbers for the entire construction period. For these reasons, the estimated construction noise levels are considered conservative.

With respect to non-transportation (e.g., stationary) noise sources associated with project implementation, the assessment of long-term (operational-related) impacts was based on reconnaissance data, existing documentation, reference noise emission levels, and standard attenuation rates and modeling techniques. As stated above, reference levels are noise emissions for specific equipment or activity types that are well documented and the usage thereof common practice in the field of acoustics.

To evaluate relative significance of impacts, anticipated noise and vibration levels were compared to applicable regulations and guidance provided by Federal, State, and local agencies.

Issues or Potential Impacts not Discussed Further

Project operation would not result in any new employees at the SRWTP or SPA Cogeneration Plant, resulting in no substantial new vehicle trips or traffic-related noise. Therefore, this issue is not discussed further in this EIR.

The Project alignment is located within two miles of an active private airstrip and a public use airport. The Borges-Clarksburg Airport, a small, unpaved (i.e., turf runway) private airstrip for primarily agricultural and limited recreational use, is located approximately 1.2 miles west of the SRWTP, immediately west of the Sacramento River. The Sacramento Executive Airport is the closest public airport and is located adjacent to the alignment of the recycled water main, as it extends north along 24th Street. Because the proposed project would not involve the construction of facilities that would introduce new sensitive receptors or result in the development of new structures that would potentially alter flight patterns associated with either of the two airfields, the project would not result in noise impacts related to the exposure of people residing or working in the project area to excessive aircraft-related noise levels. Therefore, this issue is not discussed further.

3.11.5 Impact Analysis and Mitigation Measures

Impact 3.11-1: Short-term construction noise impacts.

Existing noise-sensitive receptors are located approximately 50 feet from the proposed Project alignment. Construction activities would take place primarily during the daytime hours with occasional nighttime work at the intersections of 24th Street and Florin Road and 24th Street and Meadowview Road. Construction-related activities could occur outside of the exempt daytime hours. Therefore, construction-related noise could exceed applicable nighttime standards. This impact would be **significant**.

Construction activities would include trenching for new pipes and installation of a new storage tanks and booster pump station along the proposed Project alignment, including the use of four temporary staging/laydown areas. In general, construction activities would be conducted during the daytime, although some activities may be necessary in the evening/night. When construction-related noise levels are being evaluated, activities that occur during the more noise-sensitive evening and nighttime hours are of increased concern. Because exterior ambient noise levels typically decrease during the late evening and nighttime hours as traffic volumes and commercial activities decrease, construction activities performed during these more noise-sensitive periods of the day can result in increased annoyance and potential sleep disruption for occupants of nearby residences.

Proposed construction activities would result in two distinct noise sources at different locations along the proposed Project alignment; noise associated with heavy-duty construction equipment and mobile noise associated with daily material delivery and employee trips along local and regional roadways. These two noise sources are discussed in detail and summarized below. For the purposes of this analysis, the City of Elk Grove noise standards and noise ordinance are only considered with respect to vehicle/truck noise that may occur along local roadways within the City of Elk Grove.

Construction Equipment Noise Construction equipment noise levels in the vicinity of the Project alignment would fluctuate depending on the particular type, number, and duration of usage for the varying equipment and construction activities taking place. The effects of construction noise largely depend on the type of construction activities

occurring on any given day, noise levels generated by those activities, distances to noise sensitive receptors, and the existing ambient noise environment in the receptor's vicinity.

Based on Project-specific data, it is anticipated that the construction would be regular over the entire construction period with approximately 120 linear feet of pipeline installed each day. During this activity, several pieces of heavy-duty construction equipment could be operating simultaneously during the daytime, including mobile cranes, excavators, and front-end loaders. Nighttime construction would occur at two locations (the intersections of 24th Street/Meadowview Road and 24th Street/Florin Road) in an effort to limit potential local traffic congestion. Nighttime activities at these two locations would be similar to daytime activities related to pipeline installation.

Based on the types of construction activities associated with the project (e.g., pavement removal, trenching, pipe installation, repaving) it is expected that the primary sources of noise would include cranes, excavators, dump trucks, front-end loaders, compressors, welders, sheet piling, and various trucks (e.g., pick-up trucks, flatbed trucks, fuel trucks). Noise emission levels from these types of construction equipment are shown in Table 3.11-15.

Table 3.11-15. Noise Emission Levels from Construction Equipment

Equipment Type	Typical Noise Level (dB) @ 50 feet
Air Compressor	81
Backhoe	80
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Crane, Mobile	83
Dozer	85
Fork lift	85
Generator	81
Grader	85
Jack Hammer	88
Loader	85
Paver	89
Pile Driver	95
Pneumatic Tools	85
Rail Saw	90
Rock Drill	98
Roller	74
Scraper	89
Trucks	74–88
Water Pump	76

Source: FTA 2006

Notes: Assumes all equipment is fitted with a properly maintained and operational noise control device, per manufacturer specifications. Noise levels listed are manufacture-specified noise levels for each piece of heavy construction equipment.

Project generated noise levels are determined at the property lines of sensitive receptors. While the nearest sensitive uses vary at different locations along the alignment and at the proposed storage tank location(s), it is assumed for the purposes of analysis that sensitive receptors could be as close as 50 feet from construction activities and that a mobile crane, excavator, and front end loader could be in operation at the same time. Based on these assumptions, sensitive receptors in the Project vicinity could experience noise levels up to 83 dB Leq as a result of construction activities (refer to Appendix D for modeling results). As noted above, construction of the proposed water recycled main and laterals would proceed at a rate of approximately 120 feet per day. Therefore, perceived noise levels at each receptor could reach 83 dB Leq for one day as a result of the operation of construction equipment and would be noticeably less thereafter (e.g., 75 dB Leq after one day, 69 dB Leq after two days).

The City of Sacramento Code (Section 8.68.060) and the Sacramento County Code (Section 6.68.090) exempts construction noise from established noise limits in each respective Code. In accordance with these provisions, construction activities would be limited to the hours of 7:00 a.m. to 6:00 p.m. Monday through Saturday, and 9:00 a.m. to 6:00 p.m. on Sunday. Construction within the hourly limitations identified in both codes would be considered consistent with the noise standards established therein and those of the City of Sacramento and Sacramento County general plans.

With respect to nighttime construction at the intersections of 24th Street/Meadowview Road and 24th Street/Florin Road, both of these locations are within the City of Sacramento and construction noise would be subject to only the requirements of City of Sacramento Code. Construction activities at these locations would be a minimum of 250 feet from the nearest residential structures. Taking into account attenuation of construction noise over distance, noise levels during nighttime construction would be approximately 69 dB Leq, which would exceed the nighttime exterior noise standard of 50 dB Leq. Although Regional San would likely pursue permission from the City's Director of Building Inspections for the nighttime construction work, acquisition of this permit would not prevent the potential increases in ambient noise levels or the potential disturbance of individuals in nearby residences.

Construction Traffic Noise Up to 124 one-way vehicle trips (60 workforce trips and 64 truck trips) could occur each day during project construction. Trips would include construction worker commute and material off-haul/delivery. These trips would originate from various locations throughout Sacramento County and travel to the project alignment along regional and local roadways, such as 24th Street and Dwight Road. Anticipated traffic noise levels along local roadways during construction activities are shown in Table 3.11-16. These roadway segments were selected for analysis based on their location, the likelihood of use by project-related traffic, and the presence of sensitive receptors nearby.

Modeling results show that hourly average traffic-noise levels associated with construction activities could increase by up to 0.8 dB along the modeled roadway segments. This temporary, incremental change in ambient noise levels along roadways in the project area would not be considered substantial or in excess of the standards established by Sacramento County, the City of Sacramento, or the City of Elk Grove.

Table 3.11-16. Summary of Construction-Related Traffic Noise Levels

Roadway Segment	Between		Existing CNEL (dB) at 100 feet from Roadway Centerline[1]	Existing CNEL (dB) at 100 feet from Roadway Centerline[1]	Net Change	Significant Impact?
	From	To				
Dwight Road	Laguna Boulevard	SRWTP Entrance	58.1	58.9	0.8	No
24th Street	47th Avenue	45th Avenue	66.2	66.6	0.4	No
24th Street	Florin Road	Meadowview Road	66.0	66.4	0.4	No

Source: Data modeled by Ascent Environmental in 2013

Notes:
[1] Nearest offsite sensitive receptors are residences located approximately 1,700 feet to the east of Dwight Road.
[2] Refer to Appendix D for detailed noise modeling input data and output results.

Key:
CNEL = community noise equivalent level
dB = A-weighted decibels
SRWTP = Sacramento Regional water Treatment Plant

Nighttime construction activities would exceed City of Sacramento noise standards and could disturb sensitive receptors during this noise-sensitive period. Therefore, this impact would be **significant.**

Mitigation Measure 3.11-1: Construction traffic.

Regional San shall comply with the following measures to reduce ambient noise levels during nighttime construction:

- Limit deliveries to the Project alignment for nighttime construction to the hours of 7:00 a.m. and 6:00 p.m. on Monday through Saturday and the hours of 9:00 a.m. and 6:00 p.m. on Sunday. Materials shall be stored temporarily in close proximity to the nighttime construction location such that the use of trucks to transport materials to and from the active construction area is not required at night. Delivered materials shall be fenced and/or secured during the day.

- Use temporary noise barriers during nighttime construction to prevent line-of-sight between construction equipment and nearby residences. Barriers shall consist of movable noise curtains (e.g. noise-insulating blankets secured to temporary/movable fencing). The construction contractor shall inspect the barriers daily and prior to operation of equipment to insure that no gaps or tears are present that would otherwise diminish the effectiveness of the barriers. Should the use of barriers be considered infeasible at a particular location due to space or equipment considerations, the construction contractor shall provide advanced notice of the intended nighttime construction schedule one week prior to the initiation of nighttime construction and within 2,000 feet of that location.

Significance After Mitigation Implementation of Mitigation Measure 3.11-1 would reduce ambient noise levels associated with nighttime construction. However, the use of temporary noise barriers at the two nighttime construction locations would conceivably

reduce construction noise by 3-10 dB Leq, which would still exceed City of Sacramento exterior noise standards. Therefore, this impact would be **significant and unavoidable**.

Impact 3.11-2: Ground vibration impacts.

Construction- and operational-related Project activities would not result in vibration levels at the nearest sensitive land use that exceed the Caltrans recommended level of 0.2 in/sec PPV with respect to the prevention of structural damage for normal buildings or the FTA maximum acceptable level of 80 VdB with respect to human response for residential uses (i.e., annoyance). Thus, implementation of the Project would not result in the exposure of existing sensitive receptors to excessive ground vibration or noise levels. Therefore, this impact would be **less than significant**.

Project operation would not result in any new or additional sources of substantial ground vibration and, therefore, the focus of this analysis is on construction-related vibration.

Construction activities generate varying degrees of temporary ground vibration, depending on the specific construction equipment used and activities 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. The effects of ground vibration may be imperceptible at the lowest levels, result in low rumbling sounds and detectable vibrations at moderate levels, and at high levels cause sleep disturbance in places where people normally sleep or annoyance in buildings that are primarily used for daytime functions.

As described in Impact 3.11-1, proposed construction activities would require the use of heavy-duty construction equipment such as cranes, forklifts, backhoes, dozers, graders, excavators, concrete trucks and pumps, compressors, welders, and various trucks (e.g., job trucks, water trucks, fuel trucks). In addition, sheet piling would be required for several proposed facilities. Ground vibration and noise levels associated with the types of construction equipment and activities that would take place within the project alignment are summarized in Table 3.11-17.

Table 3.11-17. Representative Ground Vibration and Noise Levels for Construction Equipment

Equipment	PPV at 25 feet (in/sec)[1]	Approximate VdB at 25 feet[2]
Small Dozer/Loader	0.003	58
Loaded Trucks	0.076	86

Source: FTA 2006

Key:
L_V = the root mean square velocity expressed in vibration dB (VdB), assuming a crest factor of 4
PPV = peak particle velocity
VdB = vibration decibels

Of the equipment most likely to generate ground vibration, as listed in Table 3.11-15, loaded trucks would result in the greatest levels of ground vibration. Therefore, for

purposes of this analysis, ground vibration levels were modeled for this type of equipment, based on FTA's recommended procedure for applying a propagation adjustment to construction equipment vibration reference levels (as indicated in Table 3.11-15). If construction activities were to occur within 50 feet of existing buildings, they would not exceed the Caltrans recommended level of 0.2 in/sec PPV with respect to the prevention of structural damage and, therefore, could result in structural damage to nearby existing buildings. In addition, vibration levels would not exceed FTA's maximum-acceptable vibration standard of 80 VdB with respect to human annoyance for residential uses at locations within 300 feet of construction activities. Therefore, construction activities would not result in structural damage or vibration noise impacts. This impact would be **less than significant**.

Mitigation Measures

No mitigation is required.

Impact 3.11-3: Operational stationary source noise impacts.

Proposed lateral structures would include booster pump stations, which would be new stationary noise sources. Project-generated stationary source noise levels would not exceed applicable noise standards and, therefore, would not result in a substantial increase in ambient noise levels at nearby existing noise-sensitive receptors. As a result, this impact would be **less than significant**.

Implementation of the proposed Project would result in stationary noise sources: two new pumps at the existing SRWTP WRF, one pump at the Regional San Area 9 facilities east of SR 160, and one new pump at a proposed storage tank to be located either within Chorley Park or at the SPA Cogeneration Plant. The booster pump station at the SRWTP WRF would be located outside, adjacent to six existing pumps with no shielding or enclosure. The pumps at the Regional San Area 9 facilities and associated with the proposed storage tank would be located below-ground in a large manhole/vault. Noise from pumps is somewhat constant and would not be expected to vary substantially throughout a given day. To determine the worst-case noise that could be generated by pump operation, noise modeling was completed assuming that all pumps would be above-ground, unshielded, and would operate simultaneously; thus, modeled noise levels represent a worst-case scenario. For detailed assumptions and noise modeling results, refer to Appendix D.

At the proposed location of the two pumps at WRF, the nearest receptor is located approximately 5,850 feet to the southeast in the City of Elk Grove. Based on reference noise measurements from existing pumps on site, future project-related stationary noise sources could result in hourly average (L_{eq}) noise levels of up to 58 dB at 50 feet from each pump. When considered in combination with the six existing pumps at this location, noise levels at 50 feet from the pumps would be approximately 67 dB L_{eq}. Based on typical attenuation rates due to distance alone from the noise source, the combined noise from the pumps (existing and proposed) would be approximately 12 dB. This would be lower than background noise levels at the nearest offsite sensitive receptors and therefore inaudible from the nearest receptors. These noise levels would also not exceed the City of

Elk Grove's daytime or nighttime noise standards for stationary noise sources (i.e., 55 dB Leq between 7 a.m. and 10 p.m. and 45 dB L_{eq} between 10 p.m. and 7 a.m.).

As noted above, a new pump is proposed to serve the Freeport lateral (option B) at Regional San's Area 9 chemical storage facility east of SR 160. The nearest sensitive receptor to the pump at this site is approximately 50 feet to the north. Although noise from an above-ground tank would be approximately 58 dB, the pump at the Area 9 facility would be located below ground within a concrete vault. The minimum noise reduction that would be achieved, as compared to an unshielded, above-ground pump, would be a 25 dB reduction (Lipscomb and Taylor 1978). Therefore, the Area 9 pump noise at the nearest sensitive receptor would be approximately 33 dB. This would be lower than the background noise levels at nearest sensitive receptor and would not exceed the County of Sacramento's daytime or nighttime noise standards for stationary noise sources (i.e., 55 dB L_{eq} between 7 a.m. and 10 p.m. and 50 dB L_{eq} between 10 p.m. and 7 a.m.).

An additional booster pump station would be installed adjacent to the proposed storage tank, either at the SPA Cogeneration Plant or at Chorley Park. Similar to the proposed pump at Regional San's Area 9 chemical storage facility, discussed above, this pump would be located below ground within a concrete vault and noise levels at either Chorley Park or the SPA Cogeneration Plant would be 33 dB L_{eq} at 50 feet, which would be lower than background noise levels in the area. Further, no residential structures are located within 50 feet of either location. As a result, the pumps would be considered inaudible from the nearest receptors to either location. Pump-related noise would not exceed the City of Sacramento's daytime or nighttime noise standards for stationary noise sources (i.e., 55 dB L_{eq} between 7 a.m. and 10 p.m. and 50 dB Leq between 10 p.m. and 7 a.m.) at either location. Therefore, offsite sensitive receptors would not be exposed to excessive noise from operation of the project, and this impact would be **less than significant.**

Mitigation Measures

No mitigation is required.

3.12 Recreation

This section describes Federal, State, and/or local recreation policies and the existing parks and recreational resources present within the Project alignment. This section also discusses potential impacts associated with Project implementation. For an assessment of visual impacts due to implementation of the Project on parks and recreational resources, see Section 3.2 "Aesthetics."

3.12.1 Regulatory Setting

Federal

There are no Federal regulations regarding recreational resources that pertain to the proposed Project alignment.

State

Quimby Act California Government Code section 66477, Subdivision Map Act, referred to as the Quimby Act, permits local jurisdictions to require the dedication of land and/or the payment of in-lieu fees solely for park and recreation purposes. The required dedication and/or fee are based upon the residential density, parkland cost, and other factors. Land dedication and fees collected pursuant to the Quimby Act may be used for acquisition, improvement, and expansion of park, playground, and recreational facilities or the development of public school grounds.

Local

Bufferlands Master Plan The Bufferlands Master Plan is an element of the approved 2020 SRWTP Master Plan. The plan establishes guidelines and management practices to establish a long-term, cost effective management direction for the Bufferlands that would maintain the existing buffer zone, provide for future expansion at the SRWTP, and protect and enhance the area's environmental resources. The plan provides guidelines and policies for alternative land uses, visitor use and access, and vegetation and wildlife management. The leased areas within the Bufferlands are managed under mineral, Plant, or residential leases.

City of Sacramento 2030 General Plan The City of Sacramento 2030 General Plan (City of Sacramento 2009) includes several goals regarding recreational resources that are applicable to the Project alignment or where the proposed Project would support the City's recreational goals by providing the option to service parks and other open space areas with recycled water.

Goal ERC 2.1 Integrated Parks and Recreation System. Provide an integrated system of parks, open space areas, and recreational facilities that are safe and connect the diverse communities of Sacramento.

ERC 2.1.2 Connected Network. The City shall connect all parts of Sacramento through integration of recreation and community facilities with other public spaces and rights-of-way (e.g., buffers, medians, bikeways, sidewalks, trails, bridges, and transit routes) that are easily accessible by alternative modes of transportation.

Goal ERC 2.2 Parks, Community and Recreation Facilities and Services. Plan and develop parks, community and recreation facilities, and services that enhance community livability; improve public health and safety; are equitably distributed throughout the city; and are responsive to the needs and interests of residents, employees, and visitors.

ERC 2.2.2 Timing of Services. The City shall ensure that the development of parks and community and recreation facilities and services keeps pace with development and growth within the city.

ERC 2.2.7 Capital Investment Priorities. The City shall give priority to the following parks and recreation capital investments:

- Acquiring land for or constructing parks and recreation facilities where adopted Service Level Goals are not being met
- Acquiring, restoring and preserving large natural areas for habitat protection and passive recreation use such as walking, hiking, and nature study
- Acquiring and developing areas for recreation use and public access along the banks of the American and Sacramento Rivers
- Building and improving parks and facilities to ensure safety for users and adjacent properties

ERC 2.2.10 Range of Experience. The City shall provide a range of small to large parks and recreational facilities. Larger parks and complexes should be provided at the city's edges and along the rivers as a complement to smaller sites provided in areas of denser development.

ERC 2.2.12 Compatibility with Adjoining Uses. The City shall ensure that the location and design of all parks, recreation, and community centers are compatible with existing adjoining uses.

ERC 2.2.17 Joint-Use Facilities Co-located. The City shall support the development of parks and recreation facilities co-located with public and private facilities (e.g., schools, libraries, and detention basins).

ERC 2.2.18 Private Commercial Recreational Facilities. The City shall encourage the development of private commercial recreational facilities to help meet recreational interests of Sacramento's residents, workforce, and visitors.

Goal ERC 2.4 Rivers, Creeks, and Natural Resource Areas. Provide positive recreational experiences and enjoyment of nature through the development, maintenance, patrol, and preservation of the rivers, creeks, and natural resource areas.

ERC 2.4.1 Service Levels. The City shall provide 0.5 linear mile of parks/parkways and trails/bikeways per 1,000 population.

ERC 2.4.3 Connections to Other Trails. The City shall maintain existing and pursue new connections to local, regional, and State trails.

There are several aesthetic resources addressed in the Environmental Resources element of the general plan that are also applicable to recreational resources along the proposed alignment. The following goals and policies are applicable to the proposed Project.

Goal ER 7.1 Visual Resource Preservation. Maintain and protect significant visual resources and aesthetics that define Sacramento.

- **Policy ER 7.1.2 Visually Complimentary Development**. The City shall require new development be located and designed to visually complement the natural environment/setting when near the Sacramento and American rivers, and along streams (RDR).

- **Policy ER 7.1.3 Minimize Removal of Existing Resources**. The City shall require new commercial, industrial, and residential development to minimize the removal of mature trees, and other significant visual resources present on the site (RDR).

City of Sacramento Parks and Recreation Master Plan 2005-2010 The City of Sacramento Parks and Recreation Department prepared the 2005-2010 Parks and Recreation Master Plan, and the City Council adopted it on December 7, 2004. The Master Plan is considered part of the City's General Plan, Conservation and Open Space Element. The Master Plan calls for a ratio of approximately 13 park acres per 1,000 residents (2.5 ac/1,000 residents for neighborhood parks, 2.5 ac/ 1,000 residents for community parks and 8 ac/1,000 residents for regional parks, along with a service level goal of 0.5 mils of trail or bikeways for every 1,000 residents).

Chorley Park Master Plan The Chorley Park Master Plan was developed in 2009, for multiple recreational, public use, habitat enhancement and green space improvements to Chorley Park (City of Sacramento 2009).

3.12.2 Environmental Setting

Sacramento County

There are no County recreational resources policies that are applicable to the proposed alignment.

City of Sacramento

The City of Sacramento Department of Parks and Recreation (Department) maintains more than 3,100 acres of both developed and undeveloped parkland, and manages more than 204 parks, 81 miles of on- and off- road bikeways and trails, 17 lakes, ponds, or beaches, over 20 aquatic facilities, and 18 community centers. The City of Sacramento Parks and Recreation Master Plan (PRMP) identifies 11 planning areas. The Project alignment crosses multiple planning areas.

City parks contain a variety of recreational facilities, with areas available for organized sports, including soccer fields, baseball diamonds, tennis courts, volleyball courts, and basketball courts. Additionally, benches, picnic tables, and barbecues are available for informal recreation activities. Biking and walking trails are also utilized. In addition, swimming pools and wading and play pool facilities are available to the public. Additional recreational facilities include community centers; bocce ball courts; equestrian trails; four 18-hole GCs; and two 9-hole GCs. Specialized recreational facilities include the Shepherd Garden & Art Center, the Southside Jogging Center, the Mangan Rifle and Pistol Range, and the Sacramento Horsemen's Association.

Regional San Property There are no City recreational resources on the Regional San property.

3.12.3 Environmental Impacts and Recommended Mitigation Measures

Significance Criteria

Based on Appendix G of the State CEQA Guidelines, the Project could have a significant adverse effect related to geology and soils if it would:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated

- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment

- Result in substantial temporary restrictions to parks or GCs

- Result in permanent displacement of existing recreational facilities or substantial permanent decrease in access to existing recreational facilities or opportunities

Issues or Potential Impacts Not Discussed Further

The Project would not conflict with plans, policies, or regulations that have been adopted for the protection or enhancement of recreational resources by the City of Sacramento. Therefore, this topic is not addressed further.

The Project would provide a continuing reliable supply of water for irrigation at recreational sites (Chorley Park and Bartley Cavanaugh GC). However, these facilities have access to water other than recycled water and would continue irrigation these recreational sites regardless if the Project is implemented. Therefore, providing recycled water would not increase recreational use at these facilities. Nor does the Project include the construction or expansion of recreational facilities. Therefore, this topic is not addressed further.

For a discussion on short-term disruption to pedestrian and bicycle recreational facilities, see Section 3.13 "Transportation and Traffic."

For a discussion on possible removal of mature trees during storage tank construction at Chorley Park, see Section 3.2 “Aesthetics.”

All surface areas that would be disturbed during construction of the recycled water main and laterals would be restored to preconstruction conditions upon completion of construction. The pipeline would be underground and would have no effect on visitor use or operations at Chorley Park or the GC. There would be no impacts to recreational resources associated with the operation and maintenance of the Project. Therefore, impacts associated with operations and maintenance are not addressed further.

3.12.4 Impact Analysis and Mitigation Measures

Impact 3.12-1: Substantial temporary restrictions to parks or GCs.

Construction of a storage tank and booster pump station at Chorley Park, and construction of recycled water laterals on Bartley Cavanaugh GC and Bing Maloney GC, could require temporary restrictions on use of these recreational areas. This impact would be minor and temporary, and therefore would be **less than significant**.

At Chorley Park, a 1.9-mgd storage tank, approximately 120-feet in diameter and 27-feet high, and booster pump station are proposed along with a lateral alignment that would pass through the park and onto the Bing Maloney GC. An east-west lateral would connect to the GC lateral and storage tank. Construction in this area could have a temporary effect on recreation.

The exact location of the storage tank and route for the access road has not been determined, but the tank would be approximately 400 feet to the west of the pedestrian path, north of the Bantam Soccer field, in the open area between the soccer field and the GC fence, and would not restrict exiting recreational activities in the park.

Construction of the recycled water laterals would have a temporary, localized effect on the usability or availability of the Bartley Cavanaugh GC and Chorley Park. Open-cut trenching is proposed for these laterals, and construction equipment would include a crane, excavator, dump truck, front end loader, pick-up truck, and flatbed semi. However, construction disturbance would be temporary. Construction activities associated with open-cut construction are estimated to progress at a rate of 120 feet per day; therefore the trench work would be under construction for only a few days at any one location. HDD methods may be an option to avoid interference with the Bartley Cavanaugh GC during construction.

The potential for construction activities to interfere with use of Chorley Park or Bartley Cavanaugh GC would be minor and temporary; the open-cut trench would be filled, and pavement and vegetation would be restored following construction. Therefore, this impact would be **less than significant.**

Mitigation Measures

No mitigation is required.

Impact 3.12-2: Permanent displacement of existing recreational facilities or substantial permanent decrease in access to existing recreational facilities or opportunities.

The Project includes two alternative locations for a storage tank and booster pump station: at Chorley Park, or at the SPA Cogeneration Plant on 47th Avenue. The Project would not result in the permanent displacement of any existing recreational facilities or opportunities at either location. Therefore, this impact would be **less than significant**.

If the Florin West lateral is constructed, a storage tank and booster pump station would also be constructed within existing open space in Chorley Park. The proposed alignment and storage tank would be integrated into the design of the Chorley Park Master Plan, if possible.

The storage tank and booster pump station at Chorley Park would remove open space currently available in the park. Additionally, installation of the tank would require construction of a small access and maintenance road through the park and possible installation of fencing around the tank. However, the removal of open space for tank construction is minimal (120-feet in diameter) in comparison to the overall developed park (11.84 acres). This minimal amount of land will not be available for continued recreational use, but does not affect the existing developed uses in the park which include two picnic areas, an adventure play area, wading pool, full size soccer field, and one restroom. The Project would not result in the permanent displacement of any existing recreational facilities.

An alternative site for the storage tank and pump has been proposed at the SPA Cogeneration Plant on 47th Avenue. The exact location of the tank has not been established, but could be located on the east side near the entrance or on the western side of the plant. The plant and surrounding area are developed with industrial uses and there are no recreational resources on the SPA Cogeneration Site. Therefore, this impact would be **less than significant.**

Mitigation Measures

No mitigation is required.

3.13 Transportation and Traffic

3.13.1 Introduction

This section describes Federal, State and/or local polices associated with transportation and traffic. This section also describes the existing transportation system in the vicinity of the Project alignment and evaluates transportation impacts from construction and operation of the Project. The analysis includes a description of the existing transportation conditions on Project study area roadways, the methods used for assessment, the potential impacts associated with Project construction and operation, and mitigation measures necessary to address potentially significant impacts.

3.13.2 Regulatory Setting

Federal

No Federal plans, policies, regulations, or laws related to traffic and transportation are applicable to the analysis in this EIR.

State

California Department of Transportation

Corridor System Management Plans A Corridor System Management Plan (CSMP) is a foundation document aimed at managing a transportation corridor as a system. The CSMP serves as a long-range planning document that identifies the acceptable, or concept, level of service (LOS) for the applicable highway facility. Level of service is a qualitative measure describing the operating condition of the roadways and freeway facilities. LOS ranges from A through F, which represents driving conditions from best to worst, respectively. In general, LOS A represents free-flow conditions with no congestion, and LOS F represents severe congestion and delay under stop-and-go conditions. A deficiency or need for improvement is triggered when the actual LOS falls below the concept LOS. The SR 99 & I-5 CSMP identifies LOS F as the Concept LOS for both SR 99 and I-5 within the Project study area (Caltrans 2009).

Guide for the Preparation of Traffic Impact Studies Caltrans' Guide for the Preparation of Traffic Impact Studies (2002) provides guidance on the evaluation of traffic impacts to State highway facilities. It outlines when a traffic impact study is needed and what should be included in the scope of the study.

Local

Project construction would require temporary lane closures on local roadways and would generate workforce and truck traffic that would access the Project alignment through roadways under the jurisdiction of Sacramento County and the City of Sacramento. Thus, the relevant transportation policies of these jurisdictions are considered and discussed below.

Sacramento County General Plan The Circulation Element of the Sacramento County General Plan (Sacramento County 2011) provides the framework for Sacramento County

decisions concerning the countywide transportation system. It also provides for coordination with the cities and unincorporated communities within the county. Relevant General Plan policies related to transportation and the preparation of this report are described below.

- **Policy CI-9**. Plan and design the roadway system in a manner that meets LOS D on rural roadways and LOS E on urban roadways, unless it is infeasible to implement project alternatives or mitigation measures that would achieve LOS D on rural roadways or LOS E on urban roadways. The urban areas are those areas within the Urban Service Boundary as shown in the Land Use Element of the Sacramento County General Plan. The areas outside the Urban Service Boundary are considered rural.

- **Policy CI-10**. Land development projects shall be responsible to mitigate the project's adverse impacts to local and regional roadways.

Sacramento County Traffic Impact Study Analysis Guidelines The Sacramento County Traffic Impact Study Analysis Guidelines (Sacramento County 2004) provides evaluation criteria for traffic impact studies including guidance on when a study is needed, analysis scenarios, methodologies, and impact thresholds.

City of Sacramento 2030 General Plan The Mobility Element of the Sacramento 2030 General Plan (2009) outlines goals and policies that coordinate the transportation and circulation system with planned land uses. Relevant General Plan policies related to transportation and the preparation of this report are described below.

- **Policy M 1.2.2**. The City shall allow for flexible LOS standards, which will permit increased densities and mix of uses to increase transit ridership, biking, and walking, which decreases auto travel, thereby reducing air pollution, energy consumption, and greenhouse gas emissions.

  c. Base Level of Service Standard – The City shall seek to maintain the following standards for all areas outside of multi-modal districts:

  – Maintain operations on all roadways and intersections at LOS A-D at all times, including peak travel times, unless maintaining this LOS would, in the City's judgment, be infeasible and/or conflict with the achievement of other goals. LOS E or F conditions may be accepted, provided that provisions are made to improve the overall system and/or promote non-vehicular transportation as part of a development project or City-initiated project.

- **Policy M 7.1.5**. The City shall designate official truck routes to minimize the impacts of truck traffic on residential neighborhoods and other sensitive land uses.

- **Policy M 7.1.6**. The City shall seek to minimize noise and other impacts of truck traffic, deliveries, and staging in residential and mixed-use neighborhoods.

Traffic Impact Guidelines The *Traffic Impact Guidelines* (1996) provides a checklist for preparing traffic impact studies for the City of Sacramento. The document includes guidance on when a study is needed, analysis scenarios, methodologies, and impact thresholds.

City of Elk Grove General Plan The Circulation Element of the Elk Grove General Plan (2009) identifies goals and policies related the movement of people and goods in the City. Relevant General Plan policies related to transportation and the preparation of this report are described below.

- **Policy CI-13**. The City shall require that all roadways and intersections in Elk Grove operate at a minimum Level of Service "D" at all times.

- **Policy CI-14**. The City recognizes that Level of Service D may not be achieved on some roadway segments, and may also not be achieved at some intersections. Roadways on which LOS D is projected to be exceeded are shown in the General Plan Background Report, based on the latest traffic modeling conducted by the City. On these roadways, the City shall ensure that improvements to construct the ultimate roadway system as shown in this Circulation Element are completed, with the recognition that maintenance of the desired level of service may not be achievable.

- **Policy CI-15**. The City shall regulate truck travel as appropriate for the transport of goods, consistent with circulation, air quality, congestion management, and land use goals.

Traffic Impact Study Analysis Guidelines The Traffic Impact Study Analysis Guidelines for the City of Elk Grove (2000) provides evaluation criteria for traffic impact studies including guidance on when a study is needed, scope of the study, scenarios, and impact thresholds.

Sacramento Area Council of Governments The Sacramento Area Council of Governments (SACOG) is an association of local governments from six counties and 22 cities within the Sacramento Region. The counties include El Dorado, Placer, Sacramento, Sutter, Yolo, and Yuba. SACOG provides transportation planning and funding for the region.

The 2035 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) (SACOG 2011a) is a long-range plan for transportation improvements in the region. The plan is based on projections for growth in population, housing, and jobs.

3.13.3 Environmental Setting

The following section describes the existing conditions of the roadway, transit, bicycle, and pedestrian systems in the study area.

Existing Roadway Network

Figure 3.16-1 illustrates the existing street system serving the Project study area. I-5 and SR 99 provide regional access to the study area. The local roadways under which the Project would be installed would be used during construction for worker and vehicle access. Brief descriptions of principal roads and highways serving the study area, including their existing LOS, are provided below. The LOS data is from a variety of sources, including recent data collected for the Regional San EchoWater Project Draft EIR (2014), from the City of Sacramento 2030 General Plan Master EIR (certified March 3, 2009), and from the Delta Shores Draft EIR (2008). It should be noted that LOS data from 2008 and 2009 is considered to be a reasonable representation of local roadway service because conditions in the area (residential/commercial development, population) have essentially remained the same due to the economic downturn in the recent past.

I-5 is a north-south interstate highway to the west of the Project alignment. I-5 extends through Sacramento to the north and connects the region to Stockton and the San Joaquin Valley to the south. In the Project vicinity, I-5 is a six-lane facility with interchanges at Laguna Boulevard, Pocket Road/Meadowview Road, and Florin Road. A new interchange with Cosumnes River Boulevard is currently under construction north of the SRWTP. I-5 northbound and southbound through the Project study area currently functions at LOS F (Regional San 2014).

SR 99 is a north-south State highway located approximately three miles east of the SRWTP. SR 99 is a six-lane facility in the Project vicinity, and extends north to U.S. Highway 50 and south through the communities of Galt, Lodi, and Stockton. SR 99 functions at LOS F in both the northbound and southbound directions through the Project study area (Regional San 2014).

Laguna Boulevard is an east-west arterial roadway that connects to I-5 in the west and to SR 99 to the east. In the vicinity of the SRWTP, Laguna Boulevard is a six-lane roadway. Laguna Boulevard would be the primary route used for trips to and from the Project alignment via Dwight Road. In the Project study area, Laguna Boulevard operates at LOS D (Regional San 2014).

Dwight Road is a north-south collector roadway that connects the SRWTP to Laguna Boulevard. It is a four-lane roadway with a center two-way left-turn lane. Dwight Road would provide the primary access to the SRWTP.

Franklin Boulevard is a north-south arterial roadway located approximately one mile east of the SRWTP. It extends toward downtown Sacramento to the north and through Elk Grove to the south. In the vicinity of the Project alignment, Franklin Boulevard is a four- to six-lane roadway that operates at LSO D (Regional San 2014).

Cosumnes River Boulevard will be extended from Franklin Boulevard westerly to the new interchange with I-5 and eventually to Freeport Boulevard, bisecting the Delta Shores planned project site. A total of four lanes would be provided between Franklin Boulevard and 24th Street, increasing to six lanes from 24th Street to the I-5 interchange connecting to Freeport Boulevard. The extension of Cosumnes River Boulevard is a

separate project previously approved by local, State, and Federal agencies and is currently under construction. Cosumnes River Boulevard to SR 99 (southbound) functions at LOS C; northbound functions at LOS B (City of Sacramento 2008). The northbound off ramp from SR 99 to Cosumnes River Boulevard operates at LOS F during the p.m. peak hour (City of Sacramento 2008).

24th Street is a north-south roadway that runs from the northern boundary of the Delta Shores project site north to Sutterville Road, where its northern terminus is located adjacent to Sacramento City College. 24th Street is a wide two-lane street from its southern terminus to Meadowview Road, where it widens to a four-lane street. It is bounded primarily by residential and some commercial uses. 24th Street functions at LOS A-C, based on volumes near Meadowview and near 47th Avenue (City of Sacramento 2009b). A future 24th Street right of way is proposed within the Delta Shores development, from the southern end of the existing 24th Street, but it has not yet been dedicated.

Meadowview Road is an east-west roadway between Freeport Boulevard (SR 160) and Franklin Boulevard. West of Freeport Boulevard, Meadowview Road becomes Pocket Road. East of Franklin Road, Meadowview Road becomes Mack Road. Meadowview Road is a four-lane roadway within the study area and serves a mix of residential and commercial uses. Meadowview Road functions at LOS E between Freeport and Mack Road (City of Sacramento 2009) and the Meadowview and 24th Intersection functions at LOS C during the a.m. peak hour and LOS D during the p.m. peak hour (City of Sacramento 2008).

Florin Road is an east-west roadway between Riverside Boulevard and Sunrise Boulevard. Florin Road is a four-lane roadway in the study area and serves a mix of commercial and residential uses. Florin Road functions at LOS E between Greenhaven Drive and I-5, west of the main Project alignment, and at LOS F between the UP Rail line and Luther Drive, east of the recycled water main alignment (City of Sacramento 2009b).

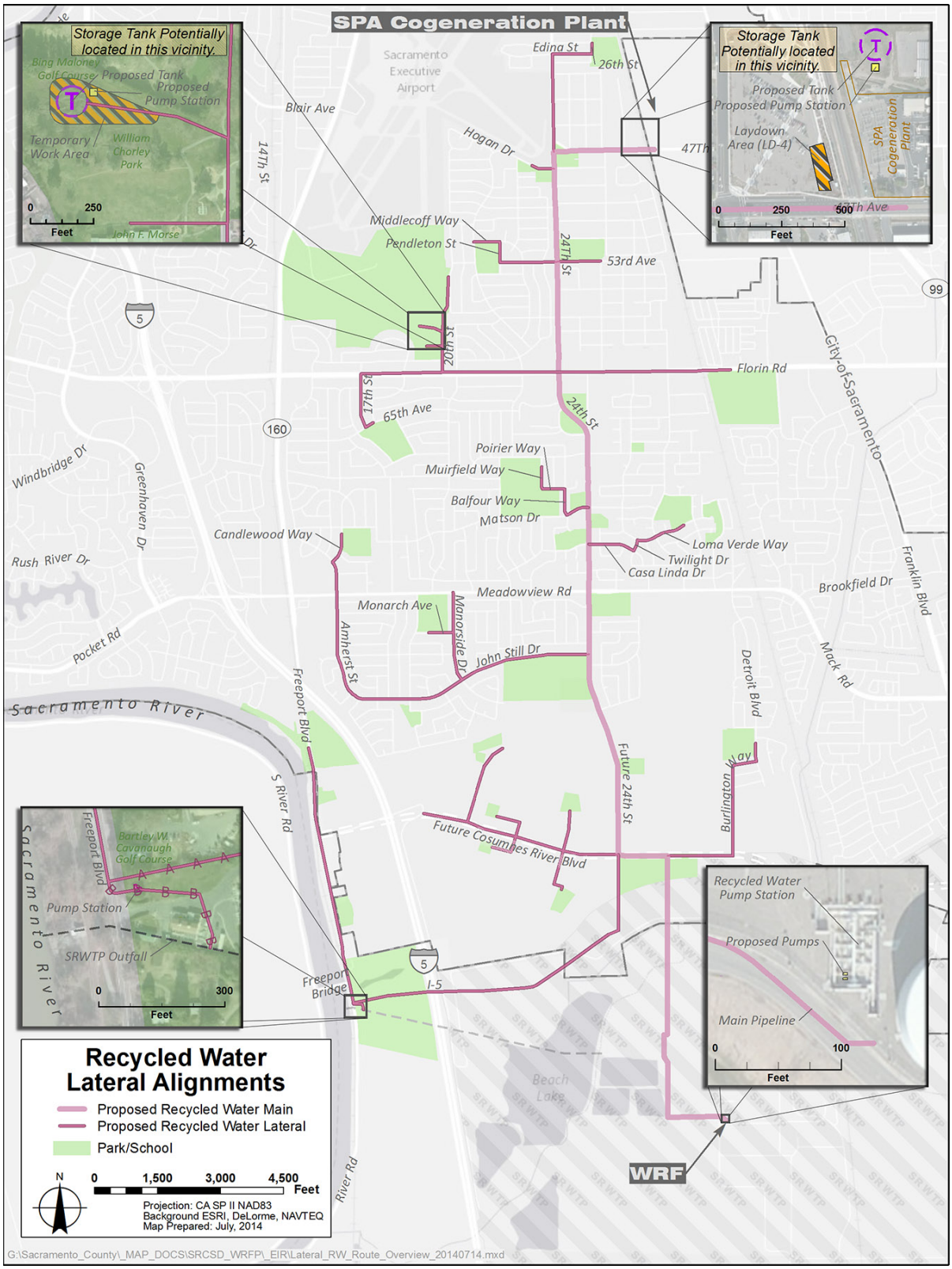


Figure 3.13-1. Existing Street System and Proposed Project Alignments

47th Avenue is an east-west roadway between 24th Street and Stockton Boulevard, where it becomes Elder Creek Road and continues east to Excelsior Road. 47th Avenue is a four-lane roadway in the study area and serves a mix of residential and industrial uses. 47th Avenue between 24th Street and Franklin Boulevard functions at LOS A-C (City of Sacramento 2009b).

Local residential roadways throughout the Project alignment are generally two-lane un-striped roadways.

Existing Transit Service

The Sacramento Regional Transit District (RT) provides public transit service, both light rail service and bus service, in the vicinity of the Project. The Meadowview light rail station is the southern terminus station of the Blue Line light rail service that extends north through downtown Sacramento to the line's northern terminus at the I-80/Watt light rail station. Bus service is currently provided along the Meadowview Road, Florin Road, and Franklin Boulevard corridors.

Route 47 (Phoenix Park) operates on approximately 60 minute headways between the Meadowview light rail station and the Florin Towne Centre. The route provides service on 25th Street, Meadowview Road, Franklin Boulevard, and Florin Road. Service is generally provided from 6:00 a.m. to 7:00 p.m. Monday through Friday (Sacramento Regional Transit District 2014).

Route 56 (Pocket to Cosumnes River College) operates on approximately 60 minute headways between Cosumnes River College and Rush River/Windbridge, providing service along Meadowview through the Project alignment. Service is generally provided from 6:00 a.m. to 10:00 p.m. Monday through Friday and 8:00 a.m. to 9:00 or 10:00 p.m. Saturdays and Sundays (Sacramento Regional Transit District 2014).

Route 65 (Franklin South) operates on approximately 60 minute headways between the Laguna Town Hall and the Florin light rail station. The route provides service on Laguna Boulevard, Franklin Boulevard, and Florin Road. Service is generally provided from 6:00 a.m. to 8:00 p.m. Monday through Friday (Sacramento Regional Transit District 2014).

Route 81 (Florin to 65th Light Rail Station) operates on approximately 30 minute headways between Florin and Riverside and the 65th Street light rail station. This route provides service on Florin through the Project alignment. Service is generally provided from 5:00 a.m. to 10:00 p.m. Monday through Friday, 7:00 a.m. and 10:00 p.m. Saturday, and 7:00 a.m. to 9:00 p.m. Sunday (Sacramento Regional Transit District 2014).

In addition, the Blue Line light rail line provides service between the Meadowview Light Rail Station and Watt and I-80 Light Rail Station, with stops at Florin, Fruitridge, City College, 16th Street, St Rose of Lima, Arden/Del Paso, and Marconi Arcade. Service is generally provided on approximately 15 minute headways between 5:00 a.m. and midnight Monday through Saturday and 5:00 a.m. to 10:00 p.m. on Sunday (Sacramento Regional Transit District 2014).

Existing Bicycle and Pedestrian Facilities

Bicycle and pedestrian facilities are provided on major streets within the Project vicinity. Meadowview Road, Florin Road, 24th Street, and 47th Avenue all have Class II on-street bike lanes (i.e., signed and striped) and sidewalks. The extensions of 24th Street and Cosumnes River Boulevard through the Delta Shores development are also proposed to have Class II on-street bike lanes (SACOG 2011b).

3.13.4 Environmental Impacts and Recommended Mitigation Measures

Significance Criteria

Criteria for determining the significance of impacts related to transportation are based on the local and State policies identified in the Regulatory Background section above and the methodologies identified in the applicable traffic impact study analysis guidelines.

Impacts on transportation resulting from implementation of the Project would be considered significant if the Project would:

Caltrans

- Cause a Caltrans facility operating at LOS E or better to operate at LOS F.
- Result in an increase in traffic to a Caltrans facility that is currently operating at LOS F.

County of Sacramento

- Cause a County of Sacramento intersection or roadway segment operating at an acceptable LOS E or better to operate at an unacceptable LOS F.
- Increase the volume-to-capacity ratio by 0.05 or more for a County of Sacramento roadway segment operating at an unacceptable LOS (i.e., LOS F).
- Cause a freeway ramp or segment operating at an acceptable LOS E or better to deteriorate to an unacceptable LOS F, according to the Caltrans threshold defined in the Caltrans Route Concept Report for that facility.
- Eliminate or adversely affect an existing bikeway or pedestrian facility in a way that would discourage its use.
- Interfere with the implementation of a planned bikeway as shown in the Bicycle Master Plan, or be in conflict with the Pedestrian Master Plan.
- Result in unsafe conditions for bicyclists or pedestrians, including unsafe bicycle/pedestrian, bicycle/motor vehicle, or pedestrian/motor vehicle conflict.
    - Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

City of Sacramento

- Cause a City of Sacramento roadway segment operating at an acceptable LOS D or better to an unacceptable LOS E or F.

- Increase the volume-to-capacity ratio by 0.02 or more for a City of Sacramento roadway segment operating at an unacceptable LOS (i.e., LOS E or F).

City of Elk Grove

- Cause a City of Elk Grove roadway segment or intersection operating at an acceptable LOS D or better to an unacceptable LOS E or F.

- Increase the volume-to-capacity ratio by 0.05 or more for a City of Elk Grove roadway segment operating at an unacceptable LOS (i.e., LOS E or F).

- Increase the average vehicle delay by more than five seconds for a City of Elk Grove an intersection operating at an unacceptable LOS (i.e., LOS E or F).

- Cause a deficiency in pavement conditions.

- Disrupt or interfere with existing or planned bicycle or pedestrian facilities.

The LOS criteria listed above are typically applied to Projects that would result in a permanent change to traffic, such as a new development or infrastructure. For construction impacts, the change in traffic would be temporary. However the above criteria are being used on this construction project because they are based on city, county, and State policies. Project construction is expected to take approximately one year for the recycled water main between the SRWTP and the SPA Cogeneration Plant, and another two years for construction of recycled water laterals and lateral structures, with open-cut construction in streets proceeding at approximately 120 feet per day.

Methods and Assumptions

The analysis of the transportation and traffic effects of the Project is based on the projected changes in traffic associated with Project construction and operation, as well as any potential changes to the transportation network.

The estimated change in traffic generated by the Project is based on projected levels of construction activity only, as there would be no change in employment at SRWTP or SPA due to the Project and maintenance would only involve vehicle trips once or twice a year. Construction activities for the recycled water main between the SRWTP and SPA Cogeneration Plant are expected to begin in 2015 and be completed in 2016 (approximately 300 days of construction). Construction activities for the recycled water laterals would occur in the future, dates to be determined, and would be expected to take two years to complete all laterals and lateral structures (approximately 600 days of construction). The amount of construction traffic would vary depending on the phase of construction, the number of construction workers, and the intensity of construction activity.

Project construction would generate vehicle trips from the commutes of construction workforce and the movement of construction equipment, material, and spoils. This analysis uses the following inputs to estimate the number of trips generated by Project construction.

Each construction worker is expected to generate two trips per day: one trip arriving during the morning and one trip departing in the afternoon. Carpooling is not assumed (which results in a conservatively high estimate of traffic) and minimal mid-shift construction worker trips (such as for lunch breaks) are expected. Mid-shift trips, if any, would be during off-peak hours and would not, therefore, affect peak roadway congestion. Based on an estimated workforce of approximately 30, construction would result in 60 worker trips per day.

Each delivery of construction material and equipment is expected to generate two trips per day: one inbound trip and one outbound trip. These delivery trips may occur at any time during the day; however, for purposes of this analysis they are assumed to occur during the peak hour. As shown in Table 3.16-1, construction of the recycled water main is anticipated to result in a total of 5,275 truck trips and construction of the recycled water laterals is anticipated to result in a total of 12,200 truck trips.

Table 3.13-1. Estimated Construction Truck Trips

	Mobilization and Site Preparation	Project Construction	Shaft Construction for Pipe Jacking	Total Estimated Truck Trips
Recycled Water Main SRWTP to SPA Cogeneration Plant[1]	42	5,149	84	5,275
Lateral Pipelines[2]	42	12,032	168	12,200

Source: data provided by MWH 2014

Notes:
[1] Approximately 300 days of construction.
[2] Approximately 600 days of construction.

Peak construction traffic is anticipated to occur when construction is active on both open-cut and pipe jacking, generating approximately 32 one-way truck trips per day, or 64 total trips. On average, the recycled water main construction would result in an estimated 18 one-way truck trips per day (5,275 truck trips over 300 days) and construction of the recycled water laterals would result in an estimated 20 one-way truck trips per day (12,200 truck trips over 600 days).

Construction traffic would use local freeways and streets to access the project study area, primarily I-5, SR 99, Meadowview Road, Florin, 47th Avenue, and 24th Street. However, specific routing of construction workforce commute trips, material and equipment delivery trips, and off-haul trips is unknown. Therefore, for a conservative analysis the peak construction trips are all assumed to take a single route to the Project alignment, rather than being split over multiple haul routes. The estimated peak vehicle trips for construction would be 124 trips, accounting for 64 truck trips and 60 workforce trips.

Issues or Potential Impacts Not Discussed Further

Project Operations: Operation of the Project would not result in any new employees at the SRWTP or the SPA Cogeneration Plant; therefore, no new employee vehicle trips would result from Project operation. Maintenance of the Project alignment would result in minimal vehicle trips, estimated at once or twice a year, which would not substantially affect traffic conditions on area roadways. Furthermore, the Project would not involve any changes to a design feature of a roadway. Therefore, operation-related transportation effects are not discussed further in this Draft EIR.

Airport Operations: Although the Project alignment is within two miles of the Sacramento Executive Airport, the temporary construction activities and the operation of the proposed Project would not result in a change in air traffic patterns or a change in safety risks. Therefore, airport operations are not discussed further in this Draft EIR.

Parking: During construction of the Project, construction equipment and workers' vehicles would be parked at identified laydown (staging) areas (Exhibit 3.16-2). These areas have ample space for the small number of vehicles and equipment anticipated for each phase of construction. Moreover, the neighboring properties would be notified of the location and duration of construction. The Project would have no long-term effects on parking, since maintenance vehicle visits would be infrequent. Therefore, impacts on parking capacity would be less than significant and are not discussed further in this EIR.

3.13.5 Impact Analysis and Mitigation Measures

Impact 3.13-1: Short-term increase in construction traffic on roadways.

Construction-related activities would result in a short-term lane closures and increases in traffic on the roadway network, which could reduce the level of service on local roadways and highways. This impact would be **potentially significant**.

Construction of the recycled water main between SRWTP and the SPA Cogeneration Plant (Exhibit 3.16-1) would be completed in sections. The first section, Station (Sta.) 0+00 to Sta. 35+30, would extend north from the WRF booster pump station along Sims Road, turn west at ESBD Road, then turn north on a future road alignment (related to the EchoWater Project) to Laydown Area 1 (LD-1). Section 1 would be open-cut construction. The second section, Sta. 35+30 to Sta.67+60, would be constructed using horizontal directional drilling to avoid impacts to Laguna and Morrison Creeks. The entrance and exits locations would be located within the SRWTP boundary; the HDD entrance would be located in the future EchoWater Project laydown area and the HDD exit would be located north of the north levee of Laguna and Morrison creeks. The third section, Sta. 67+60 to Sta. 260+20, would involve open-cut construction in the future 24th Street right of way through the Delta Shores community (which has not yet been dedicated) to Cosumnes River Boulevard, head west to 24th Street, then north on 24th Street to 47th Avenue. Open-cut construction would take place in the center lane or number 1 lane, which would require lane closures and traffic control. The fourth section, Sta. 260+20 to Sta. 284+, starts at the intersection of 24th Street and 47th Avenue and continues north on 47th Avenue to the SPA Cogeneration Plant.

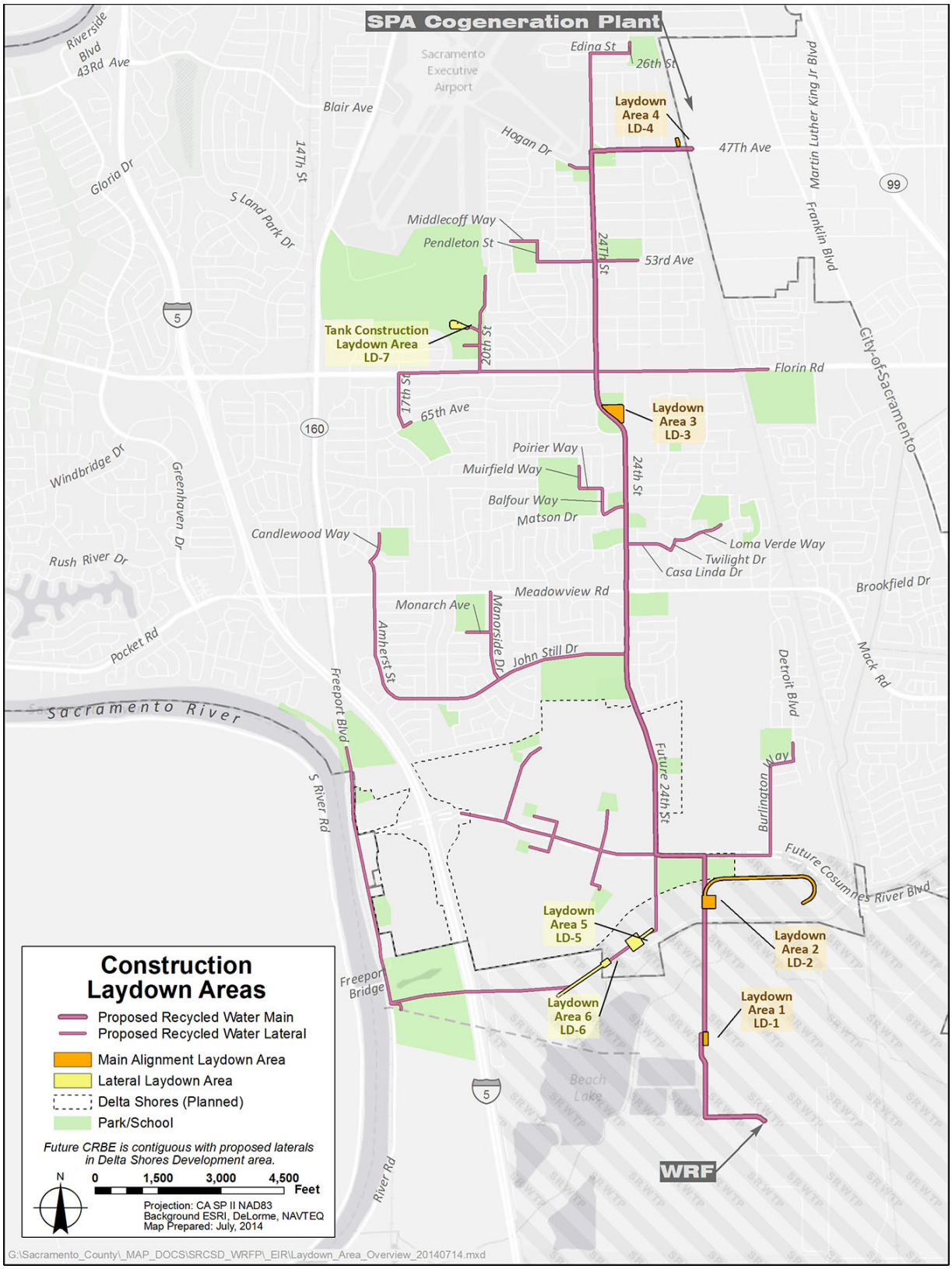


Figure 3.13-2. Construction Laydown Areas

Most of this section would be open-cut construction. However, this section would also involve pipe jack construction to install the pipeline under the railroad right of way. Like Section 3, the open-cut construction in this section would take place in the center lane or number 1 lane, which would require lane closures and traffic control.

The future recycled water laterals to extend the recycled water delivery network (Exhibit 3.16-1) would be also completed in phases, with open-cut construction occurring in public roadways, in the center lane or number 1 lane, requiring lane closures and traffic control. Where necessary, pipe jack or horizontal directional drilling would be used to avoid surface disruption.

As described above, construction worker commutes, anticipated to be up to 30 morning and 30 afternoon trips each day, would add traffic to local roadways during peak morning and peak afternoon traffic hours. In addition, as shown in Table 3.16-1, on average, the recycled water main construction would result in an estimated 18 one-way truck trips per day (5,275 truck trips over 300 days) and construction of the recycled water laterals would result in an estimated 20 one-way truck trips per day (12,200 truck trips over 600 days). Peak construction truck traffic is anticipated to occur when construction is active on both the open-cut trench and pipe jacking for the recycled water main, generating approximately 32 one-way truck trips per day, or 64 total trips per day.

Local roadways affected by the Project, including residential streets, 24th Street, 47th Avenue, and Cosumnes River Boulevard currently function at LOS A-C. Laguna Boulevard and Franklin Boulevard, serving the SRWTP, both currently function at LOS D. However, sections of Meadowview Road and Florin Road currently function at LOS E, and I-5 and SR 99 function at LOS F in the Project study area. LOS F would generally be considered unacceptable, but due to existing traffic congestion and anticipated growth in the Project study area, SR 99 & Interstate 5 CSMP identifies LOS F as the Concept LOS for both SR 99 and I-5 within the vicinity of Project (Caltrans 2009). The County's goal is to maintain LOS E on urban roadways, and the City's goal is to maintain LOS D, although LOS E or F may be acceptable provided that all provisions are implemented to mitigate the temporary impacts to the transportation system. The addition of up to 60 commute trips and 64 truck trips to peak roadway volumes would temporarily degrade existing deficient LOS conditions on local roadways as well as I-5 and SR-99. For example, the Sacramento 2030 General Plan Master EIR (2009) shows average daily traffic volume on Meadowview Road to be approximately 35,200 trips per day (LOS E) and 36,700 trips per day on Florin (LOS F). The addition of up to 124 one-way trips represents a temporary increase of approximately 0.35 percent on Meadowview and Florin. Although the Project-related increase in trips would be less than one percent of roadway traffic volumes, the temporary addition of slow-moving construction vehicles and lane closures could have an effect on a freeway or arterial roadway already at or nearly at unacceptable levels of congestion. This impact would be potentially significant.

Mitigation Measure 3.13-1: Implement construction traffic management plan.

Before issuance of a permit and beginning construction, Regional San shall prepare a detailed construction traffic management plan (TMP) that will be subject to review and

approval by the City of Sacramento Department of Public Works, Transportation Division, City of Elk Grove Department of Public Works, and other affected agencies. The TMP shall provide for maintenance of acceptable operating conditions on local roadways and transit routes. At a minimum, the TMP shall include:

- the time, and day of street closures;
- description of material delivery routes, number of truck trips, and specification of construction vehicle travel hour limits;
- locations of laydown (staging) areas with a limitation on the number of trucks that can be waiting;
- driveway access plan so that safe vehicular, pedestrian, and bicycle movements are maintained (e.g., steel plates, minimum distances of open trenches, and private vehicle pick up and drop off areas);
- maintenance of safe and efficient access routes for emergency vehicles;
- maintenance of safe and efficient access routes for transit services;
- manual traffic control when necessary;
- proper advance warning and posted signage concerning street closures;
- procedures for construction area evacuation in the case of an emergency declared by county or other local authorities;
- alternate access routes via detours to maintain continual circulation for local travelers in and around construction zones, including bicycle riders and pedestrians, where applicable;
- submittal of the construction TMP to local emergency response agencies and notification to such agencies shall at least 14 days prior to the commencement of construction that would partially or fully obstruct roadways; and
- posting of contact information in case of emergency or complaint.

If necessary to minimize unexpected operational impacts or delays experienced during real-time construction, Regional San will also be responsible for modifying the TMP to address such effects.

Significance after Mitigation Implementation of the TMP as required by Mitigation Measure 3.16-1 will provide for maintenance of acceptable operating conditions on local roadways and transit routes during construction, thereby reducing construction traffic impacts to **less than significant**.

Impact 3.13-2: Emergency Access.

Construction-related activities would result in short-term lane closures and increases in traffic on area roadways, which could impede emergency access. This impact would be **potentially significant**.

During construction, presence of construction equipment and trench, temporary lane closures, and the presence of slow-moving construction equipment and vehicles on local roads, could have a potentially significant but temporary impact on access for emergency vehicles. The proposed Project does not involve permanent modifications to public roadways.

Mitigation Measure 3.13-2: Maintain Emergency Access During Construction.

Regional San shall implement Mitigation Measure 3.16-1, which involves development and implementation of a site-specific construction Traffic Management Plan (TMP) that addresses the specific steps to be taken before, during, and after construction to minimize traffic impacts. The TMP will be subject to review and approval by the City of Sacramento Department of Public Works, Transportation Division, City of Elk Grove Department of Public Works, and other affected agencies, including emergency response agencies (such as the Sacramento and Elk Grove Fire and Police Departments). As required by the TMP, these agencies shall be notified at least 14 days prior to the commencement of construction that would partially or fully obstruct roadways.

Significance After Mitigation Implementation of the TMP as required by Mitigation Measure 3.16-1 will address provision of access by emergency service vehicles during construction. Therefore, impacts would be **less than significant**.

Impact 3.13-3: Short-term disruption to transit, pedestrian, and bicycle facilities.

Construction-related activities would result in short-term lane closures and increases in traffic on area roadways, which could disrupt transit services or the safe use of pedestrian and bicycle facilities. This impact would be **potentially significant**.

Transit routes and bicycle and pedestrian facilities (sidewalks) are provided on major streets within the Project study area. Regional Transit bus routes run on Florin Road, Meadowview Road, Cosumnes River Boulevard, and Franklin Boulevard in the Project study area; however, no existing transit routes serve 24th Street, where the majority of the recycled water main would be installed. Meadowview Road, Florin Road, 24th Street, and 47th Avenue have Class II on-street bicycle lanes (i.e., signed and stripped) and sidewalks. In addition, the extensions of 24th Street and Cosumnes River Boulevard through the Delta Shores development are proposed to have Class II on-street bike lanes.

Although the Project does not propose any permanent changes to existing or planned transportation facilities, including existing or planned transit, bicycle, and pedestrian facilities, temporary construction activities, which require open-cut construction in local roadways and lane closures, could temporarily disrupt bus services, the use of on-street

bicycle lanes or sidewalks, or result in unsafe conditions. The temporary disruption of transit, pedestrian, and bicycle facilities would be a **potentially significant**.

Mitigation Measure 3.13-2: Maintain pedestrian and bicyclist safety during construction.

Regional San shall implement Mitigation Measure 3.16-1, which involves development and implementation of a site-specific construction TMP that addresses the specific steps to be taken before, during, and after construction to minimize traffic impacts. The TMP will address provision of roadway access for transit services, safe pedestrian access, and identify alternative bicycle routes around construction zones to maintain safe bicycle access.

Significance after Mitigation Implementation of the TMP as required by Mitigation Measure 3.16-1 will provide continual roadway access for transit service, safe pedestrian access, and alternative bicycle routes during Project construction. Accordingly, potential safety impacts to pedestrians and bicyclists would be **less than significant**.

3.14 Environmental Justice

3.14.1 Introduction

Environmental justice is defined by the EPA as "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies" (EPA 2010). Fair treatment means that "no group of people, including racial, ethnic, or socioeconomic group, shall bear a disproportionate share of negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of Federal, State, local, and tribal programs and policies" (EPA 2011). This section characterizes the demographic and socioeconomic status of the census tracts where the Project would be constructed and Sacramento County as a whole, and evaluates whether the Project would have a disproportionate effect on a minority or low-income community.

3.14.2 Regulatory Setting

Federal

Title VI of the Civil Rights Act of 1964 prohibits recipients of Federal financial assistance from discriminating on the basis of race, color, and national origin. Under EPA's Title VI regulations, recipients of EPA financial assistance are prohibited from, among other things, using "criteria or methods of administering its program which have the effect of subjecting individuals to discrimination based on their race, color, or national origin."

Executive Order (EO) 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" (59 Federal Register 7629 [1994]), establishes achieving environmental justice as part of the mission of all Federal agencies. EO 12898 is intended to promote nondiscrimination in Federal programs that affect human health and the environment, as well as provide minority and low-income communities access to public information and public participation. Pursuant to EO 12898, "each Federal agency shall conduct its programs, policies, and activities that substantially affect human health or the environment, in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons (including populations) from participation in, denying persons (including populations) the benefits of, or subjecting persons (including populations) to discrimination under, such programs, policies, and activities, because of their race, color, or national origin." In addition, the order directs Federal agencies to develop agency-wide environmental strategies that identify and address disproportionately high and adverse human health or environmental effects of the agency's programs, policies, and activities on minority and low-income populations. EO 12898 directs Federal agencies to analyze information on the race, national origin, and income level of "areas surrounding facilities or sites expected to have a substantial environmental, human health, or economic effect on the surrounding populations."

The Council on Environmental Quality (CEQ) has oversight of the Federal government's compliance with EO 12898. To facilitate compliance, CEQ prepared and issued, in consultation with EPA, Environmental Justice Guidance under the National Environmental Policy Act (CEQ 1997). As defined in this guidance, environmental justice concerns may arise from impacts on the natural and physical environment, such as human health or ecological impacts on minority populations, low-income populations, and Indian tribes, or from related social or economic impacts.

In 2011, EPA released an updated strategy, Plan EJ 2014, as a roadmap to help EPA integrate environmental justice into its programs, policies, and activities. The plan is intended to advance environmental justice through: protecting the environment and health in overburdened communities;[1] empowering communities to take action to improve their health and environment; and establishing partnerships with local, State, tribal, and Federal governments and organizations to achieve healthy and sustainable communities. Goals of the plan include minimization and mitigation of disproportionate, negative impacts while fostering environmental, public health, and economic benefits for overburdened communities through the use of interagency legal tools, such as NEPA.

State

In California, Senate Bill 115 (Chapter 690, Statutes of 1999) established the Governor's Office of Planning and Research as the coordinating agency for State environmental justice programs (California Government Code Section 65040.12[a]) and defined environmental justice in statute as "the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies" (California Government Code Section 65040.12[e]).

Local

Sacramento County General Plan of 2005-2030 Minority and low-income populations are discussed in the Housing Element of the 2030 General Plan, but there are no policies in the 2030 General Plan related to environmental justice that would be applicable to the proposed Project.

City of Sacramento 2030 General Plan The Housing Element of the City of Sacramento General Plan includes several goals and policies related to environmental justice. Specifically, Goal H-1.3: Balanced Communities and the seven accompanying policies are designed to promote racial, economic, and demographic integration in new and existing neighborhoods. Other goals and policies relate directly to the development and funding of homes for low income individuals.

[1] In *Plan EJ 2014*, EPA uses the term "overburdened" to describe the minority, low-income, tribal, and indigenous populations or communities in the United States that potentially experience disproportionate environmental harms and risks as a result of greater vulnerability to environmental hazards. This increased vulnerability may be attributable to an accumulation of both negative and lack of positive environmental, health, economic, or social conditions within these populations or communities.

3.14.3 Environmental Setting

The proposed recycled water main would originate at the SRWTP located in unincorporated Sacramento County, south of the City of Sacramento and north of the City of Elk Grove. The alignment would extend approximately 1 mile north-northwesterly through Regional San property to the intersection of the future 24th Street extension and Cosumnes River Boulevard. In the vicinity of the intersection of 24th Street and Cosumnes River Boulevard, the recycled water main would follow 24th Street north approximately 4 miles north through an area incorporated into the City of Sacramento to its terminus at the SPA Cogeneration Plant, which is located north of 47th Avenue in unincorporated Sacramento County. A number of recycled water laterals would be constructed to serve potential future recycled water uses (i.e., cemeteries, commercial/business parks, GCs, industries, parks and schools) along the route.

The main alignment and laterals would cross, or parallel the boundaries of, several established census tracts (Figure 3.14-1).

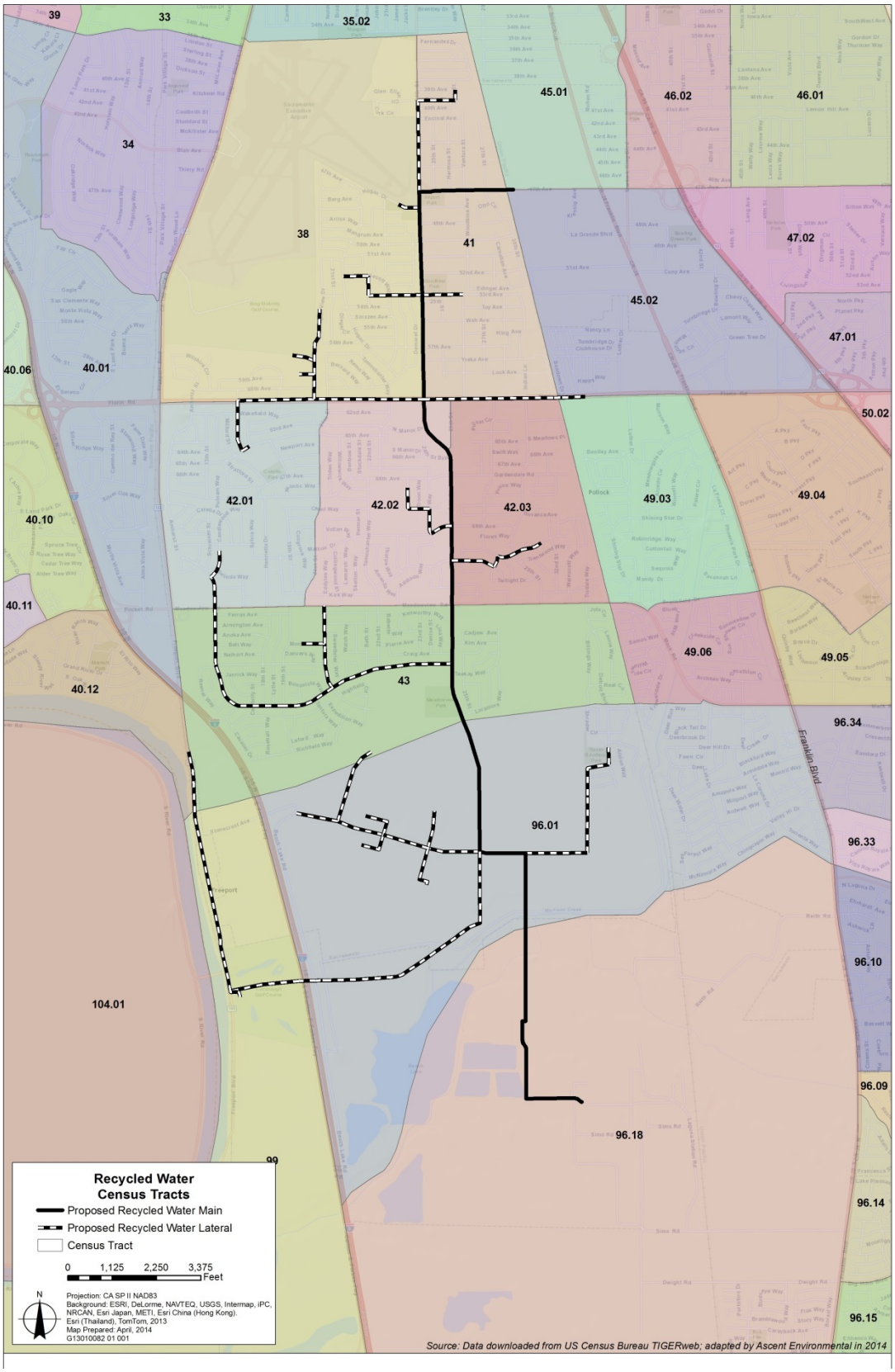


Figure 3.14-1. Project Area Census Tracts

Demographics

Demographically, the study area is relatively diverse. The ratio of racial backgrounds varies between the census tracts; however, the range of population density of racial groups generally spans the figures for Sacramento County, which represents the population of the greater study area and provides a useful comparison to the characteristics of the study area. For example, approximately 10 percent of individuals in the county identify as Black or African American, while this ratio is between 0 percent (Census Tract 99) and 29 percent (Census Tract 96.01) in the individuals census tracts, and 14 percent of individuals in the county identify as Asian, while this ration is between 9 percent (Census Tract 99) and 37 percent (Census Tract 49.03) in the individual census tracts.

The population of Sacramento County is approximately 58 percent white. Comparatively, fewer individuals in the specific Project-alignment census tracts self-identify as white (with the exception of Census Tract 99). In addition, the portion of the population that identifies as Hispanic or Latino is higher in eight of the 12 census tracts under evaluation than in Sacramento County.

Specific demographic characteristics for each of the census tracts in the Project area are provided in Table 3.14-1.

Income and Poverty Status

As shown in Table 3.14-1, income distribution is generally comparable between the Project area and the county, although some specific census tracts have somewhat lower and higher income levels. Per capita income in Sacramento County is approximately $27,000, and ranges between approximately $11,000 (Census Tract 45.01) and $49,000 (Census Tract 42.12) for the individual census tracts in the Project area (see Table 3.14-2). The individual poverty rate in the county is approximately 15 percent and ranges between 6 percent (Census Tract 42.120) and 40 percent (Census Tract 49.03) in the Project area.

This page left blank intentionally.

Table 3.14-1 Demographics and Income Status of the Census Tracts in the Project Study Area

	Census Tract 96.18		Census Tract 99		Census Tract 96.01		Census Tract 40.12		Census Tract 43		Census Tract 42.01		Census Tract 42.02		Census Tract 42.03		Census Tract 49.03		Census Tract 38		Census Tract 41		Census Tract 45.01		Sacramento County	
Total Population	4,947		3,996		6,926		3,539		10,005		5,183		5,473		5,258		6,419		5,417		4,580		3,670		1,418,788	
Households	1,538		1,233		1,837		1,440		2,419		1,579		1,477		1,457		1,913		1,696		1,508		1,042		512,496	
Race																										
White	2,229	45.1%	2,737	68.5%	2,014	29.1%	1,531	43.3%	3,073	30.7%	2,180	42.1%	1,870	34.2%	1,540	29.29%	1,699	26.5%	2,645	48.8%	1,755	38.3%	1,021	27.8%	815,151	57. 5%
Black or African American	615	12.4%	0	0.0%	1,986	28.7%	450	12.7%	2,172	21.7%	1,376	26.6%	1,108	20.2%	548	10.4%	1,676	26.1%	1,131	20.9%	534	11.7%	479	13.1%	147,058	10.4%
American Indian and Alaska Native	34	0.7%	17	0.4%	20	0.3%	0	0.0%	78	0.8%	30	0.6%	39	0.7%	1	0.0%	12	0.2%	39	0.7%	52	1.1%	113	3.1%	14,308	1.0%
Asian	1,537	31.1%	353	8.8%	2,286	33.0%	1,169	33.0%	3,017	30.2%	913	17.6%	916	16.7%	1,371	26.1%	2,371	36.9%	1,256	23.2%	1,391	30.4%	1,143	31.1%	203,211	14.3%
Native Hawaiian and Other Pacific Islander	26	0.5%	2	0.1%	185	2.7%	0	0.0%	319	3.2%	50	1.0%	544	9.9%	839	16.0%	70	1.1%	0	0.0%	71	1.6%	199	5.4%	13,858	1.0%
Some Other Race	188	3.8%	682	17.1%	163	2.4%	102	2.3%	543	5.4%	367	7.1%	651	11.9%	735	14.0%	247	3.9%	224	4.1%	373	8.1%	602	16.4%	131,691	9.3%
Two or More Races	318	6.4%	205	5.1%	272	3.9%	287	8.1%	803	8.0%	267	5.2%	384	7.0%	224	4.3%	344	5.4%	122	2.3%	404	8.8%	113	3.1%	93,511	6.6%
Hispanic or Latino (of any race)																										
Hispanic or Latino	753	15.2%	1,572	39.3%	1,399	20.2%	362	10.2%	2,549	25.5%	1,570	30.3%	1,864	34.1%	1,776	33.8%	1,214	18.9%	1,759	32.5%	1,224	26.7%	1,653	45.0%	306,196	21.6%
Not Hispanic or Latino	4,194	84.8%	2,424	60.7%	5,527	79.8%	3,177	89.8%	7,456	74.5%	3,613	69.7%	3,609	65.9%	3,482	66.2%	5,205	81.1%	3,658	67.5%	3,356	73.3%	2,017	55.0%	1,112,592	78.4%
Household Income																										
Less than $10,000	69	4.5%	11	0.9%	92	5.0%	91	6.3%	175	7.2%	55	3.45%	85	5.8%	214	14.7%	155	8.1%	72	4.3%	84	5.6%	17	1.6%	28,187	5.5%
$10,000 to $14,999	45	2.9%	83	6.7%	88	4.8%	0	0.0%	170	7.0%	101	6.4%	161	10.9%	229	15.7%	313	16.4%	75	4.4%	229	15.2%	104	10.0%	29,212	5.7%
$15,000 to $24,999	65	4.2%	140	11.6%	208	11.3%	78	5.4%	259	10.7%	148	9.4%	111	7.5%	232	15.9%	377	19.7%	225	13.3%	353	23.4%	324	31.1%	50,225	9.8%
$25,000 to $34,999	128	8.3%	95	7.7%	257	14.0%	37	2.6%	255	10.5%	230	14.6%	338	22.9%	185	12.7%	189	9.9%	187	11.0%	205	13.6%	262	25.1%	52,275	10.2%
$35,000 to $49,999	145	9.4%	179	14.5%	206	11.2%	143	9.9%	560	23.2%	336	21.3%	416	28.2%	161	11.1%	229	12.0%	213	12.6%	191	12.7%	116	11.1%	69,187	13.5%
$50,000 to $74,999	343	22.3%	273	22.1%	436	23.7%	258	17.9%	419	17.3%	327	20.7%	176	11.9%	195	13.4%	251	13.1%	509	30.0%	264	17.5%	125	12.0%	97,374	19.0%
$75,000 to $99,999	225	14.6%	91	7.4%	321	17.5%	138	9.6%	297	12.3%	237	15.0%	108	7.3%	113	7.8%	228	11.9%	270	15.9%	80	5.3%	79	7.6%	66,624	13.0%
$100,000 to $149,999	338	22.0%	191	15.5%	158	8.6%	253	17.6%	176	7.3%	90	5.7%	71	4.8%	65	4.5%	102	5.3%	120	7.1%	90	6.0%	0	0.0%	71,749	14.0%
$150,000 to $199,999	137	8.9%	101	8.2%	55	3.0%	190	13.2%	77	3.2%	55	3.5%	11	0.7%	56	3.8%	26	1.4%	25	1.5%	4	0.3%	15	1.4%	27,162	5.3%
$200,000 or more	45	2.9%	69	5.6%	16	0.9%	252	17.5%	31	1.3%	0	0.0%	0	0.0%	7	0.5%	43	2.3%	0	0.0%	8	0.5%	0	0.0%	19,987	3.9%

Source: US Census Bureau 2012

This page left blank intentionally.

Table 3.14-2 Poverty Status

	Census Tract 96.18	Census Tract 99	Census Tract 96.01	Census Tract 42.12	Census Tract 43	Census Tract 42.01	Census Tract 42.02	Census Tract 42.03	Census Tract 49.03	Census Tract 38	Census Tract 41	Census Tract 45.01	Sacramento County
Median Household Income	71,844	61,220	54,334	96,731	44,287	47,967	36,265	26,520	30,902	51,845	28,656	26,827	$56,553
Per Capita Income	26,606	30,457	16,461	49,495	14,523	17,572	12,691	11,891	16,703	18,476	14,159	10,778	$27,180
Poverty Status – Families (% of Population)	12.2%	8.0%	22.4%	3.5%	22.9%	18.0%	15.5%	36.9%	33.4%	17.4%	31.0%	30.9%	11.2%
Poverty Status – Individuals (% of Population)	12.5%	13.2%	26.8%	6.4%	26.4%	24.9%	26.8%	37.4%	39.7%	23.2%	39.7%	38.5%	14.9%

Source: US Census Bureau 2012

3.14.4 Environmental Impacts and Recommended Mitigation Measures

Significance Criteria

The proposed Project would be deemed to result in disproportionately high and adverse effects on a minority or low-income population if three conditions are met simultaneously: (1) there must be a minority or low-income population in the affected area, (2) a high and adverse effect must exist, and (3) the effect must be disproportionately high and adverse on the minority or low-income population.

Methods and Assumptions

This analysis of environmental justice follows the principles set forth in the CEQ Environmental Justice Guidance under NEPA (1997). As established therein, "agencies should recognize that the question of whether agency action raises environmental justice issues is highly sensitive to the history or circumstances of a particular community or population, the particular type of environmental or human health impact, and the nature of the proposed action itself. There is not a standard formula for how environmental justice issues should be identified or addressed" (CEQ 1997: 8).

The CEQ also released Guidance for Federal Agencies on Key Terms in Executive Order 12898 as an appendix to the 1997 Environmental Justice under the National Environmental Policy Act. Based on these guidelines, a minority[2] population is present in a Project area if either the minority population of the affected area exceeds 50 percent or the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population. By the same rule, a low-income population exists if the Project area consists of 50 percent or more people living below the poverty threshold, as defined by the US Census Bureau, or is significantly greater than the poverty percentage of the general population.

Once the presence of a minority or low-income community is established, the Guidance for Federal Agencies on Key Terms in Executive Order 12898 suggests that agencies may consider the following factors when determining whether human health effects are disproportionately high and adverse.

- Whether the health effects are significant (as employed by NEPA), or above generally accepted norms. Adverse health effects may include bodily impairment, infirmity, illness, or death.

- Whether the risk or rate of hazard exposure by a minority population, low-income population, or Indian tribe to an environmental hazard is significant (as employed by NEPA) and appreciably exceeds or is likely to appreciably exceed the risk or rate to the general population or other appropriate comparison group.

[2] Minority is defined by the CEQ as individuals who are members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic.

- Whether health effects occur in a minority population, low-income population, or Indian tribe affected by cumulative or multiple adverse exposures from environmental hazards.

When determining whether environmental effects are disproportionately high and adverse, agencies may consider the following factors.

- Whether there is or will be an impact on the natural or physical environment that significantly (as employed by NEPA) and adversely affects a minority population, low-income population, or Indian tribe. Such effects may include ecological, cultural, human health, economic, or social impacts on minority communities, low-income communities, or Indian tribes when those impacts are interrelated to impacts on the natural or physical environment.

- Whether environmental effects are significant (as employed by NEPA) and are, or may, have an adverse impact on minority populations, low-income populations, or Indian tribes that appreciably exceeds or is likely to appreciably exceed those on the general population or other appropriate comparison group.

- Whether the environmental effects occur or would occur in a minority population, low-income population, or Indian tribe affected by cumulative or multiple adverse exposures from environmental hazards.

Identification of a disproportionately high and adverse human health or environmental effect on a low-income population, minority population, or Indian tribe does not preclude a proposed agency action from going forward, nor does it necessarily compel a conclusion that a proposed action is environmentally unsatisfactory.

3.14.5 Impact Analysis and Mitigation Measures

Impact 3.14-1: Disproportionate Effects on Minority and Low Income Populations.

The proposed recycled water pipeline would be constructed across several census tracts that include minority and low-income populations. The effects of construction would be short term and would not result in a substantial adverse effect on the population within the study area. This impact would be **less than significant.**

The affected area includes minority populations, but does not include any low-income populations. With the exception of Census Tract 99, the census tracts in the study area consist of populations that are more than 50 percent American Indian, Asian, Pacific Islander, Black, or Hispanic persons (Sacramento County as a whole is not a minority population [approximately 48 percent of the population is minority]) (US Census Bureau 2012). As indicated above in Table 3.14-2, the poverty rate is less than 50 percent in all of the census tracts under evaluation, and generally reflects those for Sacramento County. Although the poverty rates in Census Tracts 41, 42.03, 45.01, and 49.03 are notably higher than the poverty rate for Sacramento County, this is not a substantial difference from the county-wide rates.

The proposed Project would convey recycled water from Regional San's wastewater treatment plant to SPA's Cogeneration Plant (located in Census Tract 45.01), and other potential customers. Pipelines and support facilities would be generally located in public rights of way (i.e., under roads) or on public land, but would be near or adjacent to existing and proposed residences. A water tank, pump, and access road are proposed in William Chorley Park (located in Census Tract 38). Construction of the pipeline would progress at a rate of approximately 40 to 120 feet each day, depending on construction method. At this rate, it would take between approximately 2 and 6.5 months to complete a 1 mile section of the Project.

Nighttime construction would occur at the intersection of 24th Street and Meadowview Road (at the intersection of Census Tract 42.02, 42.03, and 43) and at the 24th Street and Florin Road intersection (which is the intersection of Census Tracts 38, 41, and 42.02). The intersection of 24th Street and Meadowview Road is characterized by vacant lots on the northeast, northwest, and southwest corners – the southeast corner is a landscaped area associated with the Pannell Meadowview Community Center. The intersection of 24th Street and Florin Road is entirely developed with commercial uses.

Minority populations could be subject to construction impacts related to aesthetic resources, increased dust emissions, potential sites of contamination, noise, and traffic, as summarized below.

Aesthetics: People living and recreating at park facilities along the alignment are most likely to be effected by installation of the recycled water pipelines and associated facilities. Although most of the potential visual effects of the recycled water line would be temporary, there would be permanent changes to Chorley Park and the Bing Maloney GC associated with installation of the water tank and access road, and the potential removal of trees. Mitigation Measure 3.2a will require that removal of oak trees is avoided to the extent possible and that oak trees are replaced where they must be removed. Mitigation Measure 3.2b will also require that the tank be sited to minimize views from recreation areas in the park and that plantings are used to screen the site. With implementation of these mitigation measures, the Project would not have a substantial adverse effect on the aesthetic resources in Census Tract 38.

Air Quality: The Project would result in short-term construction-related emissions of fugitive dust, which could contribute to existing non-attainment conditions in the air basin. Mitigation Measure 3.4-1 will implement fugitive dust control measures from SMAQMD's Rule 403, which would reduce emissions to a less-than-substantial adverse effect on the existing minority populations.

Hazards and Hazardous Materials: Although there are no known hazardous waste sites that would be disturbed by construction of the proposed Project, previously unknown soil contamination could be encountered during ground disturbance. As described in Mitigation Measure 3.9-1, work in the area would stop and a clean-up plan would be prepared for approval by the appropriate regulatory agencies. With mitigation, this would be a less-than-substantial adverse effect on the existing minority populations.

Noise: The nighttime construction proposed at 24th Street and Meadowview Road and 24th Street and Florin Road would occur in a portion of the study area with a minority population. This nighttime work would be necessary at these busy intersections to reduce potential traffic impacts, but would exceed the City of Sacramento's nighttime noise standards. Mitigation Measure 3.11-1 limits the delivery of materials necessary for night work to daytime hours and prescribes either the use of sound barriers or the notification of residents about the nighttime work one week in advance.

Although use of temporary noise barriers at the two nighttime construction locations would reduce construction noise, construction would still be likely to exceed City of Sacramento exterior noise standards. However, this is a normal inconvenience associated with construction. A temporary increase in noise is not considered to be an adverse effect on human health or an ecological impact; nor would the temporary construction represent an adverse effect on social practices or economics. As such, the temporary construction-related nighttime noise would not be considered a disproportionately high or adverse effect on the minority population near the Project alignment.

Traffic and Transportation: The addition of construction traffic associated with construction workers and material deliveries, as well as lane closures and the presence of construction equipment, could impact local traffic, impair emergency access, and cause a short-term disruption to transit, pedestrian, and bicycle facilities. Mitigation Measure 3.13-1 would require the preparation of a Construction Management Traffic Plan, which will effectively address these potential effects of construction. With implementation of the traffic management plan, there would not be substantial adverse effects to the local minority populations due to construction traffic.

Public Outreach: The District has provided, and will continue to provide, opportunities for meaningful involvement by the local minority population in the environmental analysis of the Project. In accordance with PRC Section 21092 and CCR Section 15082, Regional San issued an NOP on December 19, 2013, to inform agencies and the general public that an EIR was being prepared and to invite comments on the scope and content of the document. The NOP was circulated for 30 days, through January 19, 2013. A noticed scoping meeting for the EIR occurred on January 8, 2014, from 5:00 p.m. to 7:00 p.m. at the Sacramento City Hall, Council Chambers, 915 I Street, 1st Floor, Sacramento, California.

Alternatives: The Project was identified in a 2013 Feasibility Study and Regional San's 2014 Facilities Plan Report. As discussed in Chapter 4, "Alternatives," five alternative routes for the proposed Project were considered but eliminated from further consideration in the Draft EIR. Two alternatives to the proposed Project were analyzed in detail: the No Project Alternative and the Reduced Project Alternative. Implementation of the Reduced Project Alternative could result in less environmental impacts than the proposed Project, as this alternative utilizes the steel pipeline obtained from PG&E from Sims Road to Cosumnes Boulevard and would require less construction. However, the Reduced Project Alternative would not meet the objectives of the Project.

Conclusion

As provided in the CEQ guidance on environmental justice, whether an action raises an environmental justice concern depends on the history of the area, the type of impact, and the nature of the proposed action.

The Project would cause temporary construction noise at two busy intersections within minority communities. There are no homes with sensitive receptors immediately adjacent to this proposed work; vacant parcels buffer nearby residences at the 24th Street/Meadowview Road intersection, and the 24th Street/Florin Road intersection is located in a commercial area. A temporary increase in noise is not considered to be an adverse effect on human health or an ecological impact; nor would the temporary construction noise represent an adverse effect on social practices or economics.

The District has provided opportunity for meaningful public involvement, analyzed alternatives to the proposed Project, and is proposing to install infrastructure that will enable use of recycled water in appropriate locations throughout the Project area. The Project is not expected to have substantial environmental, human health, or economic effects on the surrounding population. As such, the District is not proposing an activity that discriminates against any population, and the Project would not result in a disproportionately high or adverse effect on the minority population in the Project area.

Mitigation Measures

No mitigation is required.

4.0 Alternatives

CEQA requires that an EIR describe and evaluate a range of reasonable alternatives to a project or to the location of a project, which would feasibly attain most of the basic project objectives and avoid or substantially lessen significant project impacts. The purpose of the alternatives analysis is to determine whether or not a variation of the proposed Project would reduce or eliminate significant project impacts in the basic framework of the project's objectives. The focus and definition of the alternatives evaluated in this Draft EIR is governed by the "rule of reason" in accordance with Section 15126.6(f) of the CEQA Guidelines requiring evaluation of only those alternatives "necessary to permit a reasoned choice." Further, an EIR "need not consider an alternative whose effect cannot be reasonable ascertained and whose implementation is remote and speculative." The objectives of the Project are presented in Chapter 2 "Project Description," and are to:

- Maximize the beneficial uses of Regional San's recycled water supplies from its treatment facilities located at the SRWTP, while minimizing total construction costs;

- provide recycled water to customers for allowable uses to offset existing potable water usage; and

- reduce groundwater pumping of potential customers in the Project Area.

4.1 Alternative Analysis

Alternatives to the proposed Project were analyzed for their ability to meet the basic objectives of the project. Where alternatives were found to attain most of the basic objectives, they were included as part of the detailed analysis presented in this chapter. Where alternatives were not found to attain most of the basic project objectives, they were eliminated from further detailed consideration. The alternatives considered but rejected are discussed in subsection 4.2. The alternatives carried forward for analysis are discussed in subsection 4.3. The CEQA Guidelines also requires that the "environmentally superior alternative" be identified in the EIR. Subsection 4.4 identifies the environmentally superior alternative.

4.2 Alternatives Considered but Rejected

This section presents an analysis of alternatives that were considered for the Project, but were rejected because they would not meet basic project objectives, and/or were determined to be infeasible for technological, environmental, legal, social, or other reasons. The alternatives that were considered but rejected were:

- **Franklin Boulevard Route.** An alternative was considered where the recycled water main alignment connected to the existing WRF pipeline at the SRWTP,

continued east along Sims Road, then north along the Franklin Boulevard to 47th Avenue. The recycled water main would then travel west on 47th Avenue to the SPA Cogeneration Plant. The recycled water lateral alignment(s) would be the same as the proposed Project. This alignment requires substantial construction as it is not the most direct route to the SPA Cogeneration Plant, nor was it the most direct route to areas potentially served by the recycled water laterals. In addition, this alternative affects traffic on Franklin Boulevard, a very congested thoroughfare. Therefore, this alternative was rejected from further consideration

- **Railroad Route**. An alternative was considered where the recycled water main alignment connected to the existing WRF pipeline at the SRWTP, continued east along Sims Road, then north along the railroad to 47th Avenue. The recycled water main would then travel west on 47th Avenue to the SPA Cogeneration Plant. The recycled water lateral alignment(s) would be the same as the proposed Project. This alignment requires substantial construction as it is not the most direct route to the SPA Cogeneration Plant, nor was it the most direct route to areas potentially served by the recycled water laterals. In addition, there are utility conflicts, including underground fuel lines, overhead power lines and limited room within in the utility corridor. Therefore, this alternative was rejected from further consideration.

- **Franklin Boulevard to 24th Street Route**. An alternative was considered in which the alignment was the same as the proposed Project along 24th Street and included the same recycled water laterals and lateral structures (i.e. booster pump station and storage tank), but included a different alignment of the pipeline exiting the SRWTP. This alternative connected to the existing WRF pipeline at the SRWTP, continued east along Sims Road, then north along the Franklin Boulevard to Cosumnes River Boulevard to 24th Street. This alignment requires substantial construction as it is not the most direct route to the SPA Cogeneration Plant. In addition, the alternative affects traffic on Franklin Boulevard, a very congested thoroughfare.

- **Plant Facilities Route.** An alternative was considered in which the alignment was the same as the proposed Project along 24th Street and included the same recycled water laterals and lateral structures (i.e. booster pump station and storage tank), but included a different alignment of the pipeline exiting the SRWTP. This alternative connected to the WRF at the SRWTP and the recycled water main continued east along Laguna Station Road. The water recycled main continued north along Digesters Way and west along Cosumnes River Boulevard to 24th Street. This alignment interfered with SRWTP operations, had a high probability of interfering with future EchoWater construction, significant utility conflicts, and would interfere with traffic on Digesters Way. Therefore, this alternative was rejected from further consideration.

- **Plant Facilities Route II.** An alternative was considered in which the alignment was the same as the proposed Project along 24th Street and included the same recycled water laterals and lateral structures (i.e. booster pump station and storage

tank), but included a different alignment of the pipeline exiting the SRWTP. This alternative tied-in to the WRF at the SRWTP and the recycled water main continued west along Laguna Station Road. It then followed a future road north and west to Digesters Way. The recycled water main continued north on Digesters way and west along Cosumnes River Boulevard to 24th Street. This alignment interfered with SRWTP operations, had a high probability of interfering with future EchoWater construction, significant utility conflicts, and would interfere with traffic on Digesters Way. Therefore, this alternative was rejected from further consideration.

4.3 Alternatives Carried Forward for Analysis

In addition to the proposed Project, three alternatives were carried forward for Analysis, the no-project alternative, Reduced Project Alternative, and Bufferlands Route Alternative.

4.3.1 No-Project Alternative

According to Section 15126.6(e) of CEQA Guidelines, discuss of the No-Project Alternative must include a description of existing conditions and reasonably-foreseeable future conditions that would exist if the proposed Project was not approved. Under the No-Project Alternative, Regional San would not approve or implement the Project.

Impact Analysis

Under the No-Project Alternative, the SPA Cogeneration Plant, and/or parks, schools, and GCs in south Sacramento would continue to use potable water supplied by the City for irrigation and industrial water demands. The Bartley Cavanaugh GC would continue to use groundwater for irrigation demands. The City would continue to use groundwater to narrow the gap between normal water supply reliability and single and multiple dry water years. The City has been generally able to meet water demands; however, in dry years (as in 2014) the water supply portfolio may require groundwater extraction greater than the long-term average use rate of the basin, resulting in a significant impact not identified with implementation of the proposed Project.

Regional San would construct treatment facilities to meet the requirements of the 2010 NPDES Permit (Title 22 disinfected tertiary equivalent) and would discharge the 4.2-mgd of recycled water to the Sacramento River and Regional San's recycled water would not be beneficially used in the region. Other recycled water projects to serve customers in the City of Elk Grove and south Sacramento County may still be constructed, and existing customers in the Phase 1 Demonstration Project would continue to be served. None of the environmental impacts identified in Chapter 3.0 "Environmental Setting, Environmental Impacts and Mitigation Measures" would occur.

There are no anticipated benefits with the discharge of 4.2-mgd into the Sacramento River. The 4.2-mgd is a very minor amount (less than .02 percent) of discharge currently being released from the SRWTP outfall into the Sacramento River. Therefore, the additional 4.2-mgd is not anticipated to benefit aquatic species and/or habitat in the Sacramento River over what is currently being released into the Sacramento River by Regional San.

Ability to Meet Project Objectives

Implementation of the No Project Alternative would not meet any of the proposed project objectives. There would be no increase in the use of recycled water beyond current levels; therefore, there would be no offset of potable water use and no sustainability of water supply. Finally, this alternative would not facilitate goals related to recycled water set forth in Regional San's Water Asset Management Vision and other State/regional water recycling regulations and initiatives.

4.3.2 Reduced Project Alternative

In accordance with CEQA Guidelines, a Reduced Project Alternative is considered in this EIR to determine if such an alternative could avoid or substantially lessen the significant effects of the project while accomplishing the most basic objectives of the project. Identical to the proposed project, this alternative would include the same recycled water main and recycled water laterals along 24th Street. However, the recycled water main would tie-into the existing WRF pipeline and would continue east along Sims Road, then tie-into the abandoned Pacific Gas and Electric (PG&E) 16" steel pipeline. The recycled water main would be within the PG&E 16" steel pipeline and travel north along the railroad from Sims road to Cosumnes River Boulevard. At this point the recycled water main would exit the PG&E pipeline and travel west on Cosumnes River Boulevard to 24th Street.

Impact Analysis

Implementation of the Reduced Project Alternative would result in potentially less environmental impacts than the proposed Project as this alternative utilizes the steel pipeline obtained from PG&E from Sims Road to Cosumnes River Boulevard and therefore would require less construction. However, the PG&E pipeline was constructed in 1930 and the integrity of the entire pipeline is unknown unless Regional San unearths, accesses, and completes CCTV of the pipeline. Also, operations and maintenance of the recycled water main within the PG&E pipeline would be difficult because it is adjacent to a UPRR easement, a PG&E easement (gas), and a Sacramento Municipal Utilities District (SMUD) easement (gas). In addition, the pipeline would not be available until 2015 pushing the construction timeframe back 12-24 months which would potentially conflict with Regional San's ability to utilize the WaterSMART grant money. This is due to the fact that the WaterSMART grant requires construction of the entire Project by 2016 for the funds to be utilized by Regional San. The timeframe and location of the reduced project alternative may put the SPA pipeline project in conflict with EchoWater Project improvements in the same area and time. Exiting the existing 16" steel PG&E pipeline could be complicated because record drawings appear to place it underneath the north levee of Morrison Creek. Open cut construction of the levee, in order to connect the new SPA pipeline to the old PG&E pipeline, would incur additional time, cost, and risk for Regional San.

Ability to Meet Project Objective

The Reduced Project Alternative has the ability to meet the basic needs of the Project objectives albeit with a slightly reduced hydraulic capacity for future customers. However, the integrity of the PG&E pipeline and potential for a substantially more amount of construction work, including levee rebuilding and certification, represent too

much residual risk for Regional San to invest in this Alternative for long term recycled water supply and operation.

4.3.3 Bufferlands Route Alternative

This alternative has the same alignment as the proposed Project along 24th Street and included the same recycled water laterals and lateral structures (i.e. booster pump station and storage tank), but included a different alignment of the pipeline exiting the SRWTP. This alternative connected to the WRF at the SRWTP and the recycled water main continued west along Laguna Station Road. The recycled water main would then exit the plant to the northwest through the Bufferlands and then north to the Cosumnes River Boulevard Extension.

Impact Analysis

Implementation of the Bufferlands Route Alternative would result in more environmental impacts than the proposed Project as this alternative includes construction through wetlands, native oak trees, a large mitigation area of native trees and grasses, and special status species habitat. HDD construction was considered in order to avoid environmental impacts and impacts to the Morrison Creek Levee, but two segments of HDD with a central HDD shaft would be required in wetlands and could not be avoided. Also, this alternative provided less accessibility for operations and maintenance.

Ability to Meet Project Objective

The Bufferlands Route Alternative has the ability to meet some of the Project objectives; however this alternative would impact wetlands and has the potential to impact special status species or habitat. The mitigation required would increase the construction costs associated with this alternative. Therefore, this alternative does not meet the project objective "Maximize the beneficial uses of Regional San's recycled water supplies from its treatment facilities located at the SWRTP, while minimizing total construction costs." This alternative was rejected from further consideration.

4.4 Environmentally Superior Alternative

CEQA requires identification of an environmental superior alternative; that is, the alternative that has the least significant impacts on the environment. The No Project Alternative would not achieve any of the proposed Project objectives and could have impacts associated groundwater pumping to narrow the gap between normal water supply reliability and single and multiple dry water years. In addition, the Bufferlands Route Alternative does not achieve all of the proposed Project objectives due to construction costs associated with greater impacts to wetlands, special status species, and native oak trees than the proposed Project.

As discussed above, Implementation of the Reduced Project Alternative would result in potentially less environmental impacts than the proposed Project as this alternative utilizes the steel pipeline obtained from PG&E from Sims Road to Cosumnes River Boulevard and would require less construction. Therefore the Reduced Project Alternative would be the environmentally superior alternative, but, as described above, would not meet the objectives of the project.

This page left blank intentionally.

5.0 Other CEQA Requirements

This chapter describes the growth-inducing impacts, cumulative impacts and significant and unavoidable impacts.

5.1 Growth-Inducing Impacts

CEQA Guidelines (§15126.2(d)) require that an EIR evaluate the growth inducing impacts of a proposed action. The EIR should:

> *Discuss the way in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.*

Direct growth inducement would result if a project involved construction of new housing, which would facilitate new population to an area. A project can have indirect or secondary growth-inducement potential if it would establish substantial new permanent employment opportunities (e.g., commercial, industrial or governmental enterprises) or if it would involve a substantial construction effort with substantial short-term employment opportunities and indirectly stimulate the need for additional housing and services to support the new employment demand. Similarly, as explained in the CEQA Guidelines, a project would indirectly induce growth if it would remove an obstacle to additional growth and development, such as removing a constraint or increasing the capacity of a required public service, such as increased water supply capacity.

5.1.1 Direct Growth Inducement

To determine direct growth inducement potential, the proposed Project was evaluated to verify whether an increase in population or employment, or the construction of new housing would occur as a direct result of the Project. As discussed in Chapter 1, "Introduction", approximately 30 construction workers would be temporarily employed during construction of the recycled water main from the SRWTP to the SPA Cogeneration Plant and during construction of recycled water laterals and structures.

Therefore, it is not anticipated that substantial numbers of workers would relocate to the area, creating a demand for housing.

Operation of the proposed Project would not involve a substantial change in the existing operation and maintenance activities of the existing SRWTP, SPA Cogeneration Plant, or other landscaped areas such as common areas, medians, GCs, parks, and school fields. Therefore, the proposed Project would not require any additional permanent SRWTP or SPA employees to operate the recycled water pipelines. Construction and operation of the recycled water main, laterals, or lateral structures would not require the removal of any existing homes or displace businesses or people, nor would the Project result in the construction of any housing.

Therefore, the proposed Project would not result in a direct increase in population or employment or new housing.

5.1.2 Indirect Growth Inducement

To determine indirect growth inducement potential, the proposed Project was reviewed to determine whether it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service. Therefore, to assess whether the proposed Project would induce growth indirectly, it must be determined whether the Project would increase the amount of potable water or groundwater that would be available for urban development, thus removing an obstacle for growth. While growth may be consistent with local planning policies, it could still promote secondary effects to the local environment. Secondary effects of growth include increased demand on other community and public services and infrastructure, increased traffic and noise, degradation of air and water quality, degradation or loss of plant and animal habitats, and conversion of agricultural and open space land to developed uses.

The City of Sacramento Urban Water Management Plan (UWMP) (City of Sacramento 2010) was reviewed in comparison to the proposed Project. The UWMP addressed current and projected water demands and population projections. The service area described in the UWMP includes the Project alignment within the City of Sacramento. The only portion of the Project alignment in the unincorporated portion of Sacramento County is the recycled water main and lateral structures within the SRWTP. The recycled water is not anticipated to be utilized within the SRWTP, therefore it is not discussed further in this section.

The UMWP projected water supplies and demands for normal water years through 2035. The water demands through 2035 were estimated based on historical daily use, water use targets, and population projections (see Table 5-1).

Table 5-1. City of Sacramento Water Supply and Demand Comparison

City of Sacramento Water Supply and Demand Comparison – Normal Water Year					
	2015	**2020**	**2025**	**2030**	**2035**
Available Water Supplies[1] (AFY)	290,800	310,300	329,800	346,800	346,800
Total Water Demands[2] (AFY)	172,589	185,788	217,886	249,984	260,984
Difference (AFY)	118,211	124,512	111,914	96,816	85,816
Difference as % of Supply	41%	40%	34%	28%	25%
Difference as % of Demand	68%	67%	51%	39%	33%

Source: 2010 Urban Water Management Plan City of Sacramento, 2011

Notes:

1 Includes surface water, groundwater.

2 Estimated based on the historical daily use criteria, water use targets, and population projections. Includes Retail and Maximum Wholesale/Wheeling Deliveries.

Key:

AFY = acre feet per year

Objectives of the Project include off-setting potable water usage and reducing groundwater pumping, and would not generate a new primary source of water supply. The Project would utilize up to 4.6 mgd of recycled water, which would offset an equivalent amount of potable water use and/or groundwater pumping to improve water supply reliability. It is expected that the 4.6 mgd of recycled water could supply up to 4,526 AFY of recycled water to off-set the City of Sacramento's potable water use and 301 AFY of recycled water to off-set groundwater pumping for irrigation at the Bartley Cavanaugh GC (Regional San 2013).

The proposed Project would not directly or indirectly induce growth or remove an obstacle to growth, since the increased population would occur with or without the Project in place, based on the City's approved General Plans and development policies. The recycled water that would be made available as a result of the proposed Project would not cause secondary effects, nor meet demand greater than what has been approved as part of the City of Sacramento's General Plan. Instead, recycled water would be used to meet a small percentage of projected demand that would otherwise be met using potable water or groundwater.

5.2 Cumulative Impacts

Section 15130(a) of the CEQA Guidelines requires a discussion of the cumulative impacts of a project when the project's incremental effect is cumulatively considerable. Cumulatively considerable, as defined in CEQA Guidelines Section 15065(a)(3), means that the "incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects."

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. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

5.2.1 Cumulative Impact Approach

State CEQA Guidelines Section 15130(b)(1) identifies two basic methods for establishing the cumulative environment in which the project is to be considered: a) the use of a list of past, present, and probable future projects; and b) the use of projections contained in relevant planning documents.

This Project uses a combination of the "list" approach and the "projections" approach to identify the cumulative setting. The projections contained in the General Plans for Sacramento County and City of Sacramento, and the City of Elk Grove, were used to determine the cumulative setting for the Project (see Section 5.2.3 for the list of related major projects).

The following categories of projects were considered in formulating the list of past, present, and probable future projects:

1. projects partially occupied or under construction;

2. projects which have received final discretionary approvals;

3. projects whose applications have been accepted as complete and are currently undergoing environmental review; and

4. proposed projects that have been discussed publically by an applicant or that otherwise become known to the lead department, provided sufficient information is available about the project to allow at least a general analysis of environmental impacts.

The analysis also considers planning efforts that address regional environmental issues, such as water quality improvement programs, and potential effects associated with climate change. These plans, programs, and effects are discussed in relevant resource discussions below.

5.2.2 Geographic Scope of Cumulative Impacts

The geographic area that could be affected by the Project varies depending on the type of environmental resource being considered. Table 5-2 presents the general geographic areas associated with the different resources addressed in this cumulative impact analysis. Several resources were identified that would not experience any potential environmental impacts from the proposed Project. Accordingly, these resources (See Section 1.6.1 "Effects Not Found to be Significant") are not discussed in this cumulative section.

Table 5-2. Geographic Scope of Cumulative Impacts

Resource Issue	Geographic Area
Aesthetics	Local (limited to common viewshed)
Agricultural Resources	Regional and local
Air Quality	Local (construction-related and odors) Sacramento Valley Air Basin (construction-related and mobile sources)
Climate Change	Global/statewide (greenhouse gas emissions)
Cultural Resources	Local (limited to Project alignment)
Geology and Soils	Local (limited to Project alignment)
Hydrology and Water Quality	Local and regional , including the Delta region
Biological Resources	Regional and local
Public Health and Safety	Local (immediate Project vicinity)
Noise	Local (immediate Project vicinity)
Traffic and Transportation	Regional and local

5.2.3 List of Related Major Projects

Table 5-3 provides the list of projects and plans that were considered in determining the proposed Project's cumulative impacts. Except for Regional San's EchoWater project, there are no recently approved or proposed projects within the unincorporated County areas that would contribute to cumulative impacts related to the Project. While Regional San's EchoWater project is included in the List of Related Projects, it is also incorporated by reference in this Draft EIR (as described in Chapter 1 "Introduction").

Table 5-3. List of Related Major Projects

Lead Agency	Project Name	Project Description
Proposed Projects – Environmental Review		
California Department of Water Resources, U.S. Bureau of Reclamation, National Oceanic and Atmospheric Administration Fisheries, and U.S. Fish and Wildlife Service	Bay Delta Conservation Plan	Located in the Delta, downstream of the SRWTP. Habitat Conservation Plan, Natural Community Conservation Plan aimed at providing more reliable delivery of water exports through the State Water Project and the Central Valley Project from the Delta while addressing Delta ecological health. 50 year plan; Draft EIR/EIS released in December 2013.

Table 5-3. List of Related Major Projects (contd.)

Lead Agency	Project Name	Project Description
City of Elk Grove	Southeast Policy Area Strategic Plan	4.8 miles southeast of the SRWTP. Strategic Plan on 1,200 acres located west of SR 99 in the southeast portion of the City of Elk Grove. Proposed Plan's dwelling unit potential is 4,850 including a mix of estate, low density, medium density, high density, and mixed use. The plan provides for 15 acres of commercial uses; 290 acres office; 110 acres light industrial/flex space; 30 acres schools, 20 acres parks; 95 acres drainage channel/open space. The strategic plan includes: • Community Plan policy document • Community design guidelines, • Roadway sizing and intersection studies • Preliminary drainage plan Preliminary water and sewer plans NOP review closed May 9, 2013
City of Elk Grove	Moore Sheldon Center	Located north side of Sheldon Road, east of East Stockton Boulevard. Construction of approximately 27,430 square feet of commercial buildings on 4.46 acres. NOP review closed May 20, 2013.
Regional San	EchoWater Project	Regional San proposes to upgrade its existing facilities at the SRWTP to meet NPDES permit requirements issued by the Central Valley Water Board as confirmed and modified by the State Water Board.
Approved Projects – Pending or Under Construction		
City of Sacramento	Delta Shores	Approximately 800 acres located in the South Area Community Plan. Immediately north of the SCRSD property within the City limits. Approved in 2009. Planned for 5,200 residential units, 250,000 square feet of commercial property and hotels, 1.3 million square feet of retail. The project is dependent upon the construction of the Cosumnes River Boulevard Project, north of the SRWTP site, which commenced in the spring of 2013 with construction on I-5/Cosumnes River Blvd Interchange.

Table 5-3. List of Related Major Projects (contd.)

Lead Agency	Project Name	Project Description
City of Sacramento	Cosumnes River Boulevard Extension and I-5 Interchange Project	An extension of Cosumnes River Boulevard, creating an east-west arterial which will reduce traffic delays and improve safety. The connection will include a new interchange where the boulevard will cross I-5, linking I-5 with SR 99 to the east and providing a new regional connection between Franklin and Freeport Boulevards. The road will extend just north of the SRWTP site. Construction commenced in spring 2013 with the I-5/Cosumnes River Blvd Interchange. Construction is anticipated to last three construction seasons with planned completion in the summer of 2015.
City of Elk Grove	Lent Ranch Market Place Special Planning Area	Located at the intersection of SR 99 and Kammerer Road. Regional mall, community commercial, office and entertainment, visitor commercial, and multi-family residential on a 295-acre site. Partially constructed, but construction has been halted. Approved June 27, 2001. Project construction has stalled.

Key:
EIR = Environmental Impact Report
EIS = Environmental Impact Statement
I-5 = Interstate 5
NOP = Notice of Preparation
SCRSD = Sacramento Regional County Sanitation District
SR = State Route
SRWTP = Sacramento Regional Wastewater Treatment Plant

5.2.4 Aesthetics

Development of past projects, current projects, and future proposed projects continues to alter the visual environment in Sacramento County, including the cities of Sacramento and Elk Grove. In general, the visual resource impacts of the related projects are site-specific and would not combine with other projects that are not in the same viewshed to create a cumulative impact. However, any related projects in close proximity to the Project facilities and alignments could combined with the impacts of the Project site development and potentially result in cumulative impacts to visual resources.

The primary visual impacts related to the Project would be temporary, as they would be related to the visibility of construction equipment and materials for pipeline installation. Construction is anticipated to progress at approximately 120 per day, which would limit the temporary aesthetic impacts resulting from construction in any given location. Upon completion of construction, the recycled water main and laterals would be underground and therefore, not visible, and the surface would be generally restored to pre-project conditions.

The Project also includes permanent structures needed to operate the recycled water system, some of which would remain visible after construction. These include new booster pumps at the WRF and the Area 9 facility east of SR 160, and a new storage tank and booster pump station either at Chorley Park or the SPA Cogeneration Plant. The booster pumps at the WRF would be located adjacent to existing pumps within the SRWTP, which is surrounded by Bufferlands and has very limited visibility from surrounding public areas or roadways. The booster pump station at the Regional San facilities east of SR160 and either Chorley Park or the SPA Cogeneration Plant would be placed underground and, therefore, would not be visible from the roadways or surrounding areas. Although the storage tank at Chorley Park would be above ground and visible, it would be screened with landscape vegetation to reduce its visual prominence to a less-than-significant level. The second siting option for the storage tank at the SPA Cogeneration Plant is surrounded by industrial facilities such that the presence of the new tank would be consistent with the existing visual environment.

It does not appear that any other proposed or planned projects would be located within the same viewshed of either Chorley Park or the SPA Cogeneration Plant. Therefore, the Project would not have a cumulatively considerable contribution to any cumulative impact related to visual resources or aesthetics. The cumulative impact to would be **less than significant**.

5.2.5 Agricultural Resources

As described in Section 3.3, "Agricultural Resources," all farmlands temporarily disturbed by construction would be restored upon completion of construction, and all pipelines would be underground. Operation of the proposed Project would have no effect on continued agricultural use of affected areas. Therefore, the Project's contribution to loss of farmland would not be cumulatively considerable and the cumulative impact would be **less than significant**.

5.2.6 Air Quality

The proposed recycled water pipelines and related future projects would contribute to air pollutant emissions in Sacramento County and to the nonattainment status of the SMAQMD for ozone, PM_{10}, and $PM_{2.5}$, primarily associated with construction emissions. Implementation of Mitigation Measure 3.4-1 (see Section 3.4, "Air Quality") would reduce fugitive dust and exhaust emissions associated with Project construction; thus, the Project would not result in a considerable contribution to the existing nonattainment status of the SVAB for ozone, PM_{10}, or $PM_{2.5}$.

As discussed in detail in Impact 3.4-2 of this Draft EIR, implementation of the Project would not result in long-term operational emissions of ROG, NO_X, PM_{10}, or $PM_{2.5}$ that would exceed SMAQMD's thresholds of significance or substantially contribute to concentrations that exceed the NAAQS or CAAQS. Therefore, Project-related operational emissions of criteria air pollutants and precursors would result in less-than-significant air quality impacts at the project level.

Based on a review of the cumulative projects and their timing with respect to this Project, it is anticipated that other earth movement activities associated with nearby projects could

potentially occur at the same time as grading and earth movement for the Project. Assuming that all related projects would also implement construction emission control measures consistent with SMAQMD guidelines, construction emissions of the related projects may be less than significant. However, this impact cannot be more precisely determined because the related projects would develop on their own schedules, which are not known at this time. It would, thus, be speculative to try to add together the various projects with their differing and changing schedules. Therefore, given the level of development that could occur with the related projects, taken in total and combined with the nonattainment status of Sacramento County for PM_{10}, these cumulative projects would result in a cumulatively significant construction-related air quality impact. The Project's contribution, while not individually significant, would be cumulatively considerable. The Project applicant will implement all measures necessary to reduce its impact to less than significant, but does not have control over cumulative projects, and therefore it is not known whether maintaining this impact at a less-than-significant level will reduce the cumulative impact to less than significant. Therefore, cumulative impacts related to PM_{10} would be **significant and unavoidable**.

As discussed in Impact 3.4-3, short-term construction activities would result in emissions of diesel PM, a TAC within 50 feet of sensitive receptors. However, construction would vary over the construction period, with peak emissions at any one location occurring for approximately four days. TAC impacts are localized in nature, and there are no other major stationary or area sources of TAC emissions in the vicinity of the offsite receptors that would contribute to this cumulative impact during construction. Operation of the Project would not result in any additional sources of TACs. Therefore, cumulative impact of the Project related to construction emissions of TACs would be **less than significant**.

As discussed in Section 3.4, "Air Quality," the Project area is in attainment for NAAQS and CAAQS for CO, and has not experienced a violation of CO standards for many years. Operation of the Project would not result in an increase in vehicle trips on the local roadway network, as maintenance would result in minimal (one or two) vehicle trips each year. During construction, workforce and truck trips could generate an estimated 124 trips during peak phases of Project construction. SMAQMD provides screening levels to determine project-level significance with regard to CO concentrations. Neither construction nor operation of the Project would contribute traffic congestion to an affected intersection that exceeds the recommended level of 31,600 vehicles per hour (SMAQMD 2013b). Therefore, Project-generated traffic would not result in a contribution to a violation of an air quality standard for CO or contribute to nonattainment conditions. The cumulative impact would be **less than significant**.

As discussed under Impact 3.4-4, construction of the proposed recycled water pipelines, storage tank, and booster pump stations would involve the use of heavy equipment that would generate exhaust pollutants and may create short-term odors. However, any construction-related odors would be temporary and limited to the immediate vicinity of the equipment. The pumping and use of recycled water, treated to Title 22 standards (fully-oxidized water for reclamation purposes, so no odor-generating compounds remain the water), would not create objectionable odors affecting a substantial number of people. Because of the localized nature of odor impacts and the lack of odors from pumping

recycled water, the Project would not have a cumulatively considerable contribution to odor complaints such that a significant cumulative odor-related impact would occur; the cumulative impact would be **less than significant**.

5.2.7 Biological Resources

As detailed in Section 3.10, Hydrology and Water Quality, effects of the proposed Project on Sacramento River flows would be negligible (approximately 0.1 to 0.2%). Additionally, all impacts to Morrison Creek would be avoided by using the HDD method for tunneling approximately 30 feet underneath the creek channel and staging equipment and laydown areas at least 300 feet from the toe of the levee that encloses Morrison Creek. These measures avoid impacts to aquatic habitat and fisheries species during Project construction and operation. Therefore, the Project will not contribute considerably to the future cumulative conditions for aquatic biological resources within the affected environment. The cumulative impact related to aquatic biological resources would be **less than significant**.

Past development in the City and Sacramento County, ranging from conversion of land to agricultural production more than a hundred years ago to recent expansion of urban development, has resulted in a substantial loss of native habitat to other uses. This land conversion has benefited a few species, such as those adapted to agricultural uses, but the overall effect on native plants, animals, and habitat has been adverse. Although many future projects proposed in the vicinity of the Project site would be required to mitigate significant impacts on terrestrial biological resources, in compliance with CEQA, the Federal ESA, CESA, and other State, local, and Federal statutes, many types of habitats and species are provided no protection. Therefore, it can be expected that the net loss of native habitat for plants and wildlife, agricultural lands, and open space areas that support important terrestrial biological resources in the City and Sacramento County will continue.

Significant adverse impacts on sensitive habitats and special-status species would be associated with the future urban growth expected to occur in Sacramento County as a result of buildout of planned communities (e.g., East Antelope, Vineyard Springs, Florin Vineyard Gap), development of New Growth Areas (e.g., Grant Line East, Jackson Highway Corridor, Easton Planning Area), and other development (Sacramento County 2009). Additionally, the City of Sacramento's Delta Shores project and other projects listed in Table 5- 2 would also result in impacts to sensitive and common terrestrial biological resources. The EIR for the Sacramento County General Plan (General Plan) update indicates that even if the General Plan policies and programs to preserve conservation and open space elements, and project mitigation measures, were implemented, the impacts to wetland and riparian habitats, special-status species, and other sensitive resources from future conversion of open space would be significant and unavoidable (Sacramento County 2009). The City of Sacramento 2035 Master Plan EIR is under development (City of Sacramento 2013).

Although the General Plan EIR came to these conclusions, significant and unavoidable impacts to species that are protected under ESA or CESA would not be permitted under law. Both of these acts require that any take of species is minimized and fully mitigated.

The development of the proposed SSCHCP, and its implementation if approved, aims to ensure that cumulative development within the County would not substantially affect special-status species. However, the SSCHCP is currently undergoing environmental review and is not an adopted plan.

As analyzed and described in Section 3.5, "Biological Resources," implementation of the Project could result in significant impacts to waters of the United States and waters of the State, special-status species (e.g., vernal pool species, Swainson's hawk and other nesting raptors, burrowing owl), and native perennial grassland. Mitigation measures include provisions to reduce, avoid, and/or compensate for impacts in accordance with the requirements of ESA and CESA and other regulatory programs that protect habitats, such as CWA Section 404 and the Porter-Cologne Water Quality Act, and in compliance with Sacramento County and City General Plan goals and policies for resource protection. Through full implementation of the mitigation measures, potential Project-related impacts would be avoided, reduced, or compensated to such an extent that they are not expected to not result in a considerable contribution to a cumulative impact. Therefore, the Project would not result in a cumulatively considerable incremental contribution to a cumulatively significant biological resource impact; the cumulative impact would be **less than significant**.

5.2.8 Climate Change

Section 3.8, "Climate Change," addresses the Project's contribution to climate change, an impact that is inherently cumulative. The analysis estimates the quantity of GHG emissions associated with construction and operation of the recycled water pipelines and related facilities, and assesses its effects on climate change. Conversely, the potential effects of global climate change on the Project are also identified based on available scientific data.

As described in Section 3.8, because the estimated net increase in GHG emissions associated with implementation of the Project would be below the threshold of significance recommended by SMAQMD (10,000 MT CO_2e/year), the Project's GHG emissions would not result in a considerable incremental contribution to a cumulatively significant impact on GHG emissions and global climate change. Therefore, cumulative GHG impacts would be **less than significant**.

5.2.9 Cultural Resources

The geographic scope of potential cumulative impacts related to cultural resources would be the Project alignment and the immediate geographic area, within the city and county of Sacramento. Although the Project would have potentially significant impacts to archaeological resources and human remains, there are no other past, present, or reasonably foreseeable future development projects in Sacramento County and the City of Sacramento (including damage to known archaeological sites) that could combine with the Project's impacts to form a significant, cumulative impact to archaeological resources or human remains within the Project alignment. Therefore, the Project would not result in significant cumulative impacts to cultural resources and cumulative cultural resources impacts are considered **less than significant**.

5.2.10 Geology, Soils and Mineral Resources

The Project alignment would cause less-than-significant impacts related to expansive and unstable soils. The potential of the Project to increase soil erosion is low. Effects of the Project related to geology and soils would be localized to the Project alignment, and there are no other planned projects identified in Section 5.3.3, "List of Related Major Projects," with which the effects of the Project would combine to result in cumulative hazards at the Project site related to geologic and soil conditions. Therefore, the Project would not have a cumulatively considerable contribution to any cumulative impact related to geology and soils; the cumulative impact would be **less than significant**.

5.2.11 Hazard and Hazardous Materials

The potential for cumulative projects or the proposed Project to result in a release of hazardous materials resulting in an increased risk of exposure would be limited. Exposure to existing soil and groundwater contamination is generally site-specific and depends on past, present, and future uses and existing soil, sediment, and groundwater conditions. Any hazardous materials uncovered during construction activities would be managed consistent with applicable Federal, State and local laws to limit exposure and clean up the contamination. In addition, the storage, handling and transport of hazardous materials are also regulated by Federal, State and local regulatory agencies to limit risk of exposure.

The contribution of the Project to cumulative risk of exposure would not be considerable. While construction and operational activities could result in accidental spills or leaks in the vicinity, the extent of the contamination is not likely to extend beyond the Project site boundaries due to the type and limited quantities of hazardous materials likely to be used (for example, motor fuels, hydraulic oils, paint, and lubricants). Furthermore, as identified above, all proposed Project activities associated with the use, storage and transportation of hazardous materials would be required to adhere to all applicable laws and regulations. In summary, the construction and operation of the Project in combination with other projects would not create a significant hazard to the public or the environment through the routine transport, use, disposal or accidental release of hazardous materials due to the site-specific nature of the potential impacts and existing laws and regulations that minimize the risk of exposure. The cumulative impact would be **less than significant**.

5.2.12 Hydrology and Water Quality

As discussed in Section 3.10, "Hydrology and Water Quality," the Project's recycled water main will initially convey 1 mgd of water produced at the WRF to serve the SPA Cogeneration Plant on a year-round basis, but will be sized to convey a maximum of 4.6 mgd to serve additional future users via recycled water laterals, storage tanks, and booster pumps. This 4.6 mgd of recycled water is currently released to the Sacramento River through the SRWTP outfall. Therefore, operation of the proposed Project may have hydrologic effects on the Sacramento River by slightly reducing flows through the SRWTP outfall. An analysis of Sacramento River flows at Freeport, with a period of record of October 1, 1949 to January 31, 2013, showed that during that period, the maximum flow was 115,000 cfs (during the 1986 flood), and a minimum of 3,970 cfs (during the drought of 1977) (USGS 2013). Using a daily timestep, the 90 percent exceedence flow is 9,180 cfs. The 90 percent exceedence flow is the low flow rate that is

typically used in the design of water intakes and fish screens. The lowest monthly 90 percent exceedence is 7,500 cfs, and occurs in October. When combined with other projects in the area, proposed Project would have a minimal effect on Sacramento River flows. At full operation of the proposed Project, up to 4.6 mgd (8.5 cfs) would be removed from the Sacramento River. At the lowest Sacramento River flow on record at Freeport, this would result in a reduction of in total flows of 0.2 percent, or a reduction of 0.1 percent during the 90 percent exceedence flow for October. The cumulative impact to Sacramento River flows would be **less than significant**.

Implementation of the Project, in combination with the construction and operation of other projects that would contribute runoff to Morrison Creek and/or the Sacramento River, could degrade water quality resulting in a significant cumulative impact. Erosion, and sediment loading attributed to construction site runoff would not be considerable because the proposed Project, as well as any other construction project, would be required to comply with NPDES requirements. Therefore, the cumulative impact to water quality as a result of erosion, sediment and construction site runoff would be **less than significant**.

Construction of the proposed Project would require tunneling under levees via the HDD method. Tunneling under levees would be required between Laydown Areas 1 and 2, where the recycled water main would pass under the SRWTP emergency storage basin, Laguna and Morrison Creeks, and thus the north and south levees that contain the creeks. Additionally, Freeport Lateral Option A would require tunneling under levees via the pipe jacking method to cross under the levee adjacent to I-5. The Project and all other construction projects near and under the above-mentioned levees would comply with the terms of permits issued by the CVFPB. Therefore, the cumulative impact would be **less than significant**.

The use of recycled water in close proximity to surface water supplies and domestic groundwater wells during operation of the proposed Project may result in adverse water quality effects that could have health risks. Except for the proposed Project, there are no known recycled water projects in the vicinity of the Project that would be applying or using recycled water. Title 22 sets bacteriological water quality standards based on the expected degree of public contact with recycled water. Disinfected tertiary treatment of recycled water is required for use involving direct public contact; this is the level of treatment provided by the WRF for conveyance by the proposed Project. This impact is **less than significant**.

5.2.13 Noise

Short-term Construction Noise Impacts

Construction of the Project combined with the related cumulative projects could generate noise that would affect existing ambient noise conditions in the region and affect the same sensitive receptors. Construction of some projects could occur simultaneously and within the same streets as the Project. The City of Sacramento Code (Section 8.68.060) and the Sacramento County Code (Section 6.68.090) exempt construction noise in each respective jurisdiction from established noise limits. In accordance with these provisions,

Project construction activities would be limited to the hours of 7:00 a.m. to 6:00 p.m. Monday through Saturday, and 9:00 a.m. to 6:00 p.m. on Sunday. Construction within the hourly limitations identified in both codes would be consistent with the noise standards established therein and those of the City of Sacramento and Sacramento County general plans. However, the Project would involve nighttime construction at the intersections of 24th Street/Meadowview Road and 24th Street/Florin Road, which would result in noise levels at the nearest residences that exceed the nighttime exterior noise standard of 50 dB Leq. The contribution of the proposed Project would be considerable if other noise-generating activities were to occur at the same time. This impact is cumulatively **significant**.

Implementation of Mitigation Measure 3.11-1 (see Section 3.11, "Noise") would reduce ambient noise levels associated with nighttime construction. However, the use of temporary noise barriers at the two nighttime construction locations would reduce construction noise by 3-10 dB Leq, which would not be sufficient to reduce construction noise levels below City of Sacramento exterior noise standards. Therefore, the Project contribution to short-term, nighttime construction noise would be considerable and the impact would be cumulatively **significant and unavoidable**.

Operational Stationary Source Noise Impacts

The related projects operating in Sacramento County and the City of Sacramento could contribute considerably to unacceptable noise levels resulting from permanent sources. However, the only source of permanent noise resulting from the Project would be four booster pumps: two at the existing SRWTP WRF, one at the existing Regional San Area 9 facilities east of SR 160, and one with a new storage tank at Chorley Park or the SPA Cogeneration Plant. Collectively, the noise levels generated by the booster pumps, the distance to receptors, and the design measure that would be implemented in accordance with Mitigation Measure 3.12-3 would sufficiently attenuate noise such that long-term operational noise levels would not exceed exterior nose standards. Because the Project's contribution to cumulative increases operational noise levels would be less than considerable; this cumulative impact would be **less than significant**.

5.2.14 Recreation

As described in 3.12, "Recreation," the Project would provide a continuing reliable supply of water for irrigation at recreational sites (Chorley Park and Bartley Cavanaugh GC). However, these facilities have access to water other than recycled water and would continue irrigating these recreational sites regardless of whether the Project is implemented. Therefore, providing recycled water would not increase recreational use at these facilities. Nor does the Project include the construction or expansion of recreational facilities.

Areas disturbed during construction of the recycled water main and laterals would be restored to preconstruction conditions upon completion of construction. The pipeline would be underground and would have no effect on visitor use or operations at Chorley Park or the Bartley Cavanaugh GC. There would be no impacts to recreational resources associated with the operation and maintenance of the Project, nor would there be permanent displacement of any existing recreational facilities. Construction of a storage

tank and booster pump station at Chorley Park and construction of recycled water laterals on Bartley Cavanaugh GC and Bing Maloney GC, could require temporary restrictions on use of these recreational areas; however, these restrictions would be short-term. While temporarily increased traffic associated with the construction of the proposed Project and cumulative development in the vicinity would introduce potential conflicts between motorized and non-motorized vehicles, adherence to safe driving and bicycling practices as required by law would ensure road safety. Therefore, this cumulative impact would be **less than significant**.

5.2.15 Traffic and Transportation

As described in Section 3.13, "Traffic and Transportation," the Project would not increase the number of employees commuting to and from the SRWTP or SPA Cogeneration Plant or the number of truck trips related to their operations. Therefore, the Project would have no impact on long-term transportation and circulation. During construction, however, workforce and truck trips would temporarily increase on area roadways. If construction of the Project were to overlap with the construction periods of other related projects, combined traffic could further impair roadways with existing deficient levels of service. In addition, construction-related traffic would cause temporary increases in traffic congestion, increased potential for traffic safety hazards, and short-term lane closures. The potential overlap of construction periods could generate increased traffic at the same time on the same roads as would the proposed Project, causing increased congestion and delays. The potential overlap of construction periods could generate simultaneous increases in traffic on the same roads, causing increased congestion and delays. This cumulative impact is **significant**.

Implementation of a construction traffic management plan, which would be subject to review and approval by the City of Sacramento Department of Public Works, Transportation Division, City of Elk Grove Department of Public Works, and other affected agencies, (Measure 3.16-2) would substantially reduce the Project's contribution to significant construction impacts by requiring that Regional San coordinate with the appropriate local government departments, and with utility districts and agencies regarding the timing of construction activities. In addition, Project contractors would be required to obtain roadway encroachment permits and to develop and implement traffic control plans. However, because the magnitude, specific timing, and location of haul routes, construction, and operation of related projects cannot be known at this time, it is possible that—despite implementation of a traffic management plan for the proposed Project—cumulative traffic and transportation result in substantial degradation of levels of service on area roadways, including those with already deficient levels of service. Therefore, the Project's contribution to cumulative traffic, though temporary during construction, is considerable, and the impact would be cumulatively **significant and unavoidable**.

5.2.16 Environmental Justice

As described in Section 3.14, environmental justice is defined by the EPA as "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies" (EPA 2010). Fair treatment means that "no

group of people, including racial, ethnic, or socioeconomic group, shall bear a disproportionate share of negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of Federal, State, local, and tribal programs and policies" (EPA 2011). The EPA's Framework for Cumulative Risk Assessment provides a collaborative problem-solving approach to address the vulnerability of disadvantaged, underserved, and overburdened communities with pre-existing deficits of both a physical and social nature, that make the effects of environmental pollution more burdensome.

As addressed in Impact 3.14-1, although the Project would be constructed in an area that includes minority populations, the affected area does not include low-income populations. With the exception of Census Tract 99, the census tracts in the study area consist of populations that are more than 50 percent American Indian, Asian, Pacific Islander, Black, or Hispanic persons (Sacramento County as a whole is not a minority population [approximately 48 percent of the population is minority]) (US Census Bureau 2012). As indicated in Table 3.14-2, the poverty rate is less than 50 percent in all of the census tracts under evaluation, and generally reflects those for Sacramento County. Although the poverty rates in Census Tracts 41, 42.03, 45.01, and 49.03 are notably higher than the poverty rate for Sacramento County, this is not a substantial difference from the county-wide rates. The diverse communities in the Project area are not considered disadvantaged, underserved, or overburdened communities, as they do not experience a disproportionate share of stressors or vulnerability to issues of physical environmental harm (such as the presence of contamination or polluting industry) or social harm (lack of health care or participation in the community).

The proposed conveyance of recycled water from Regional San's wastewater treatment plant to SPA's Cogeneration Plant and other potential customers would serve the project area communities. The Project would cause temporary construction noise at two busy intersections within minority communities. However, there are no homes with sensitive receptors immediately adjacent to this proposed work; vacant parcels buffer nearby residences at the 24th Street/Meadowview Road intersection, and the 24th Street/Florin Road intersection is located in a commercial area. A temporary increase in noise is not considered to be an adverse effect on human health or an ecological impact; nor would the temporary construction noise represent an adverse effect on social practices or economics. In addition, with the exception of the Sacramento Regional Wastewater Treatment Plant, located at the southern terminus of the pipeline and surrounded by 2,650 acres of open space (bufferlands), and the SPA's Cogeneration Plant at the northern terminus of the pipeline, there are no substantial industrial or quasi-industrial land uses in the project vicinity that result in a cumulative impact with regard to existing disproportionate environmental stressors to the community.

The District has provided opportunity for meaningful public involvement, analyzed alternatives to the proposed Project, and is proposing to install infrastructure that will enable use of recycled water in appropriate locations throughout the Project area. Because the Project consists of construction of a pipeline to make effective use of recycled water and would not result in any new industry, substantial and permanent use of toxic substances, nor increased emissions of concern, the Project would not have

substantial environmental, human health, or economic effects on the surrounding population. As such, the District is not proposing an activity that discriminates against any population, and the Project would not result in a disproportionately high or adverse effect on the minority population in the Project area. Therefore, the project would neither result in, nor contribute to a cumulative environmental justice impact.

5.3 Significant and Unavoidable Adverse Effects

Section 21100(b)(2)(A) of the State CEQA Guidelines provides that an EIR shall include a detailed statement setting forth "in a separate section: any significant effect on the environment that cannot be avoided if the project is implemented." Accordingly, this section provides a summary of significant environmental impacts of the Project that cannot be mitigated to **less than significant**.

Chapter 3.0, "Environmental Setting, Environmental Impacts, and Mitigation Measures," provides a description of the potential environmental impacts of the Project and recommends various mitigation measures to reduce impacts, to the extent feasible. Chapter 5.3, "Cumulative Impacts," determines whether the incremental effects of this Project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects. After implementation of the recommended mitigation measures, most of the impacts associated with development of the Project would be reduced to a less-than-significant level. The following impacts are considered significant and unavoidable; that is, no feasible mitigation is available to reduce the Project's impacts to **less than significant**.

5.3.1 Air Quality (Cumulative)

As discussed in detail in Impact 3.4-2 of this Draft EIR, implementation of the Project would not result in long-term operational emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$ that exceed SMAQMD's thresholds of significance (65 lb/day for ROG and NO_X) or substantially contribute to concentrations that exceed the NAAQS or CAAQS. Therefore, Project-related operational emissions of criteria air pollutants and precursors would result in less-than-significant air quality impacts at the project level.

However, based on a review of the cumulative projects and their timing with respect to this Project, it is anticipated that other earth movement activities associated with nearby projects could potentially occur at the same time as grading and earth movement for the Project. Assuming that all related projects would also implement construction emission control measures consistent with SMAQMD guidelines, construction emissions of the related projects may be less than significant. However, this impact cannot be more precisely determined because the related projects would develop on their own schedules, which are not known at this time. It would, thus, be speculative to try to add together the various projects with their differing and changing schedules. Therefore, given the level of development that would occur with the related projects, taken in total and combined with the nonattainment status of Sacramento County for PM_{10}, these cumulative projects would result in a cumulatively significant construction-related air quality impact. The Project's contribution, while not individually significant, would be cumulatively considerable. The Project applicant will implement all measures necessary to reduce its

impact to less than significant, but does not have control over cumulative projects, and therefore it is not known if this impact can be further mitigated. Therefore, cumulative impacts related to PM_{10} would be **significant and unavoidable**.

5.3.2 Noise (Individual and Cumulative)

Construction of the Project alone and combined with the related cumulative projects could generate noise that would affect existing ambient noise conditions in the region and affect the same sensitive receptors. The Project would involve nighttime construction at the intersections of 24th Street/Meadowview Road and 24th Street/Florin Road, which would result in noise levels at the nearest residences that exceed the nighttime exterior noise standard of 50 dB Leq. The contribution of the proposed Project would be considerable if other noise-generating activities were to occur at the same time. The impact is individually and cumulatively **significant**.

Implementation of Mitigation Measure 3.11-1 (see Section 3.11 "Noise") would reduce ambient noise levels associated with nighttime construction. However, the use of temporary noise barriers at the two nighttime construction locations would reduce construction noise by 3-10 dB Leq, which would not be sufficient to reduce construction noise levels below City of Sacramento exterior noise standards. Therefore, the Project contribution to short-term, nighttime construction noise would be considerable and the impact would be individually and cumulatively **significant and unavoidable**.

5.3.3 Traffic (Cumulative)

Implementation of a construction traffic management plan, which would be subject to review and approval by the City of Sacramento Department of Public Works, Transportation Division, City of Elk Grove Department of Public Works, and other affected agencies, (Measure 3.13-2) would substantially reduce the Project's contribution to significant construction impacts by requiring that the Regional San coordinate with the appropriate local government departments, and with utility districts and agencies regarding the timing of construction activities. In addition, Project contractors would be required to obtain roadway encroachment permits and to develop and implement traffic control plans. However, because the magnitude, specific timing, and location of haul routes, construction, and operation of related projects cannot be known at this time, it is possible that—despite implementation of a traffic management plan for the proposed Project—cumulative traffic and transportation result in substantial degradation of levels of service on area roadways, including those with already deficient levels of service. Therefore, the Project's contribution to cumulative traffic, though temporary during construction, is considerable, and the impact would be cumulatively **significant and unavoidable**.

6.0 Compliance with Federal Environmental Laws and Regulations

6.1 Introduction

Project construction could be partially funded with a loan or grant from the State Water Board SRF Loan Program, which is partially funded by the EPA. The EPA has allowed a modified CEQA document, called CEQA-Plus, to be the compliance base for projects applying for SRF monies.

This chapter summarizes the Federal environmental laws and regulations that apply to the proposed Project and describes the project's compliance with those laws and regulations. The Federal regulations addressed in this section are based on guidance from the State Water Board for CEQA-Plus environmental impact reports related to State Revolving Fund loans and per EPA guidance for environmental information documents related to Special Appropriation Fund Grants.

6.1.1 Clean Air Act of 1963, as amended

The Federal CAA of 1963 (PL 84-159) required the EPA to establish NAAQS. The EPA has established primary and secondary NAAQS for the following criteria air pollutants: ozone, PM_{10}, $PM_{2.5}$, CO, NO_2, SO_2, and lead. The primary standards protect the public health and the secondary standards protect public welfare. The CAA also required each State to prepare an air quality control plan referred to as an SIP.

Under the CAA, the primary responsibility for planning for attainment and maintenance of the NAAQS rests with the State and local agencies. Accordingly, State and local air quality agencies are also designated as the primary permitting and enforcement authorities for most CAA requirements. As described in Section 3.4, "Air Quality," the Project area is designated nonattainment for the Federal and State standards for ozone, Federal attainment and State nonattainment for PM_{10}, Federal and State nonattainment for $PM_{2.5}$ and Federal and State attainment for CO.

The EIR includes a discussion of criteria pollutant emissions (construction and operational), nuisance odors, the methodology for analysis, Project phasing, Project elements and mitigation measures, and cumulative air quality impacts. A discussion of criteria pollutant emissions (construction and operational), nuisance odors, the methodology for analysis, and mitigation measures have been provided in the air quality analysis in Section 3.4 of this Draft EIR. Project phasing and Project elements are discussed in Chapter 2 "Project Description" and cumulative air quality impacts are discussed in Chapter 5 "Cumulative Impacts". A copy of this document will be provided to the SMAQMD for review and comment.

As discussed in Section 3.4, "Air Quality," construction-related activities would result in Project-generated emissions of ROG, NO_X, PM_{10} and $PM_{2.5}$ (a subset of PM_{10}). However,

construction emissions of criteria air pollutants would not exceed any SMAQMD mass emissions thresholds and Regional San will implement Mitigation Measure 3.4-1 consistent with SMAQMD Rule 403 to reduce fugitive dust during construction. Furthermore, modeled worst-case construction emissions would be substantially below the SMAQMD-recommended threshold; levels of toxic air contaminants from Project-related construction would not result in a substantial increase in health risk exposure at offsite sensitive receptors; and estimated maximum construction activities would result in minimal CO emissions. The Project would not result in additional sources of odors and a substantial number of people would not be affected by the Project.

Implementation of the Project would not result in long-term operational emissions of criteria air pollutants (ROG, NO_X, CO, PM_{10} and $PM_{2.5}$) that exceed SMAQMD's thresholds of significance or violate an air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. The proposed Project (including implementation of proposed mitigation measures) would not exceed the EPA's General Conformity *de minimis* thresholds or hinder the attainment of air quality objectives in the local air basin. A conformity determination is not necessary because the Project would result in emissions less than the *de minimis* thresholds, and would thereby conform with attainment planning efforts in the region.

6.1.2 Coastal Barrier Resources Act of 1982, as amended

The Coastal Barrier Resources Act (PL 97-348) designated various undeveloped coastal barrier islands, depicted by specific maps, for inclusion in the Coastal Barrier Resources System. Areas so designated were made ineligible for direct or indirect Federal financial assistance that might support development, including flood insurance, except for emergency life-saving activities. Exceptions for certain activities, such as fish and wildlife research, are provided, and National Wildlife Refuges and other, otherwise protected areas are excluded from the System. The System includes relatively undeveloped coastal barriers along the Atlantic and Gulf coasts, as well as the Great Lakes and Puerto Rico and the Virgin Islands.

The Recycled Water Pipeline Project and surrounding lands are not located within the Coastal Barrier Resources System; therefore, compliance with this Act is not applicable.

6.1.3 Coastal Zone Management Act of 1972, as amended

The Coastal Zone Management Act (PL 92-583), administered by NMFS' Office of Ocean and Coastal Resource Management, provides for management of the nation's coastal resources, including the Great Lakes, and balances economic development with environmental conservation.

The Act outlines two national programs, the National Coastal Zone Management Program and the National Estuarine Research Reserve System. The 34 coastal programs aim to balance competing land and water issues in the coastal zone, while estuarine reserves serve as field laboratories to provide a greater understanding of estuaries and how humans impact them. The Act's overall program objectives remain balanced to

"preserve, protect, develop, and where possible, to restore or enhance the resources of the nation's coastal zone."

The Recycled Water Pipeline Project and surrounding lands are not located within California's coastal zone, which generally extends 1,000 yards inland from the mean high tide line of the sea; therefore, compliance with this Act is not required.

6.1.4 Endangered Species Act of 1973, as amended

Pursuant to the Federal ESA (PL 93-205), the USFWS and NMFS have regulatory authority over federally listed species. Under ESA, a permit to "take" a listed species is required for any Federal action that may harm an individual of that species. Take is defined under ESA Section 9 as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Under Federal regulation, take is further defined to include habitat modification or degradation where it would be expected to result in death or injury to listed wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. ESA Section 7 outlines procedures for Federal interagency cooperation to conserve federally listed species and designated critical habitat. Section 7(a)(2) requires Federal agencies to consult with USFWS and/or NMFS to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species.

As discussed in Section 3.5, "Biological Resources," of this Draft EIR, the Recycled Water Pipeline Project result in potential take of giant garter snake upland habitat (Impact 3.5-4). However, implementation of Mitigation Measure 3.5-4 would reduce any potential project impacts on this species to a less-than-significant level. Additionally, potential take of an elderberry shrub could occur (Impact 3.5-5) but potential impacts would be reduced to a less-than-significant level by implementation of Mitigation Measure 3.5-5.

For biological resources, it is anticipated that the EPA will issue a "no effect" determination for the recycled water main and a "may affect" determination and request and receive a letter of concurrence from USFWS for the recycled water laterals. A copy of the Draft EIR will be provided to USFWS for review and comment.

6.1.5 Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

EO 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" (59 Federal Register 7629 [1994]), directs Federal agencies to identify and address disproportionately high and adverse health or environmental effects of their actions on minority and low-income populations, to the greatest extent practicable and permitted by law. The EO also directs each Federal agency to develop a strategy for implementing environmental justice. EO 12898 is also intended to promote nondiscrimination in Federal programs that affect human health and the environment, as well as provide minority and low-income communities access to public information and public participation.

The CEQ has oversight of the Federal government's compliance with EO 12898. To facilitate compliance, CEQ prepared and issued, in consultation with EPA, *Environmental Justice Guidance under the National Environmental Policy Act* (CEQ 1997).

Section 3.14, "Environmental Justice," of this Draft EIR addresses environmental justice issues related to implementation of the Project. As discussed in Impacts 3.14-1, although the Project would be constructed in an area with a minority population, the only adverse impact identified that would disproportionately affect this community would be temporary construction noise at two busy intersections. There are no homes with sensitive receptors immediately adjacent to this proposed work; vacant parcels buffer nearby residences at the 24th Street/Meadowview Road intersection, and the 24th Street/Florin Road intersection is located in a commercial area. A temporary increase in noise is not considered to be an adverse effect on human health or an ecological impact; nor would the temporary construction noise represent an adverse effect on social practices or economics.

The District has provided opportunity for meaningful public involvement, analyzed alternatives to the proposed Project, and is proposing to install infrastructure that will enable use of recycled water in appropriate locations throughout the Project area. The Project is not expected to have substantial environmental, human health, or economic effects on the surrounding population. As such, the District is not proposing an activity that discriminates against any population, and the Project would not result in a disproportionately high or adverse effect on the minority population in the Project area.

6.1.6 Farmland Protection Policy Act of 1981

The purpose of the Federal Farmland Protection Policy Act (FPPA) of 1981 (Public Law 97-98) is to minimize Federal contributions to the conversion of farmland to nonagricultural uses by ensuring that Federal programs are administered in a manner compatible with State government, local government, and private programs designed to protect farmland. The NRCS is the agency primarily responsible for implementing the FPPA, which is a voluntary program that provides funds to help purchase development rights to keep productive farmland in agricultural uses. The program provides matching funds to State, local, or tribal government entities and nongovernmental organizations with existing farmland protection programs to purchase conservation easements. Participating landowners agree not to convert the land to nonagricultural uses and retain all rights to the property for future agriculture. A minimum 30-year term is required for conservation easements, and priority is given to applications with perpetual easements. NRCS provides up to 50% of the fair market value of the easement (NRCS 2012).

U.S. Department of Agriculture (USDA) Regulations (7 CFR Part 658) implementing the FPPA requires Federal agencies to conduct a farmland conversion impact rating (using USDA Form AD-1006) when a proposed project may convert farmlands to non-agricultural uses. This impact rating should be done when the impacts of a proposed project will affect farmlands in the following categories:

- prime farmland - the highest quality land for food and fiber production having the best chemical and physical characteristics for producing;

- unique farmland - land capable of yielding high value crops such as citrus fruits, olives, etc.; and

- farmlands designated as important by State and local governments, with the approval of the Secretary of Agriculture.

Neither the Act nor the regulations apply if:

- the proposed project site does not contain farmland in categories identified above.

- the proposed project is on prime farmland that is already "committed" to urban development or water storage (applies to prime farmland only – refer to 7 CFR 658.2(a)).

- projects were beyond the planning stage prior to August 6, 1984.

- projects involving grants, loans or mortgage insurance for purchase or rehabilitation of existing structures.

Section 658.2 of the FPPA defines that "Farmland means prime or unique farmlands as defined in section 1540(c)(1) of the Act or farmland that is determined by the appropriate State or unit of local government agency or agencies with concurrence of the Secretary to be farmland of statewide of local importance. 'Farmland' does not include land already in or committed to urban development or water storage."

As discussed in Section 3.3, "Agricultural Resources," of this Draft EIR, an HDD "daylight" area is located within lands classified as *Prime Farmland.* As discussed in Impact 3.3-1, implementing the Project would result in temporary, construction-related impacts to approximately 3,000 square feet of Prime Farmland to the north of the SRWTP.

Consultation with the NRCS (including submittal of the Farmland Conservation Impact Rating form) does not apply to temporary activities that would not result in permanent conversion of farmland or remove it from production (see 7 CFR Part 658) and therefore is not required for the project.

6.1.7 Executive Order 11988, Floodplain Management

EO 11988, "Floodplain Management" (May 24, 1977), directs Federal agencies to issue or amend existing regulations and procedures to ensure that the potential effects of any action it may take in a floodplain are evaluated and that its planning programs and budget requests reflect consideration of flood hazards and floodplain management. The purpose of this directive is "to avoid to the extent possible the long and short term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable

alternative." Guidance for implementation of EO 11988 is provided in the floodplain management guidelines of the U.S. Water Resources Council (40 CFR Part 6030; February 10, 1978) and in *A Unified National Program for Floodplain Management*, prepared by the Federal Interagency Task Force on Floodplain Management (1982).

As discussed in Section 3.6, "Hydrology and Water Quality," of this Draft EIR, implementation of the Project will not result in construction of housing or other structures within a 100-year flood hazard area.

6.1.8 National Historic Preservation Act of 1966, as amended

Section 106 of the NHPA and its implementing regulations (36 CFR Part800, as amended in 2004) require Federal agencies to consider the potential effects of their proposed undertakings on historic properties. Historic properties are cultural resources that are listed on, or are eligible for listing on, the NRHP (36 CFR Section 800.16[l]). Undertakings include activities directly carried out, funded, or permitted by Federal agencies. Federal agencies must also allow the State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on the proposed undertaking and its potential effects on historic properties.

Section 3.6, "Cultural Resources," of this Draft EIR evaluates the potential impacts on cultural resources from implementation of the Project. The analysis is based on a Section 106-compliant Cultural Resources Inventory, which identifies the area of potential effect; establishes the regulatory and environmental setting; describes research and field methods; makes findings; determines effects; and provides recommendations. Based on the Cultural Resources Inventory, Impacts 3.6-2 through 3.6-4 were determined to result in less-than-significant impacts on previously undiscovered prehistoric or historic cultural resources, , human remains, and paleontological resources with implementation of Mitigation Measures 3.6-2 through 3.6-4. As discussed in Impact 3.6-1, the segments of three cultural resources identified within the Project alignment—the WPRR (P-34-0491), Morrison Creek Levee (P-34-1363), and unnamed, earthen ditch (P-34-3867)—are not eligible for listing in the NRHP and CRHR, or for local listing, and thus do not qualify as historic properties or historical resources. Additionally, the earthen ditch (P-34-3867) has been destroyed since it was recorded in 2001. Three of five additional cultural resources identified immediately adjacent to the Project alignment (P-34-0833, P-34-1706, and P-34-4265) have also been found not eligible for listing in the NRHP, CRHR or local register, and thus do not qualify as historic properties or historical resources. The remaining two cultural resources identified immediately adjacent to the Project alignment (P-34-0639 and P-34-2104) have been found to be locally significant features of the South Area Community Plan Area of the City of Sacramento. The proposed Project would avoid each of these resources and have no direct or indirect impact on the material integrity of the segments of the two extant resources within the Project alignment or the five resources immediately adjacent to the Project alignment. Therefore, implementation of the Project would not cause a substantial adverse change in the significance of a historical resource.

Determinations of the specific mitigation measures to be implemented will be made by Regional San in consultation with the SHPO as part of the determination and eligibility and effect process, as required by Section 106.

The State Water Board is anticipated to take the lead in initiating Section 106 consultation and will therefore submit the Cultural Resources Inventory for the Project to SHPO with a request to initiate Section 106 consultation.

6.1.9 Sustainable Fisheries Act

In response to growing concern about the status of United States fisheries, Congress passed the Sustainable Fisheries Act of 1996 (PL 104-297) to amend the Magnuson-Stevens Fishery Conservation and Management Act (PL 94-265), the primary law governing marine fisheries management in the Federal waters of the United States. The Magnuson-Stevens Conservation and Management Act, as amended (U.S.C. 180 et seq.), requires that essential fish habitat (EFH) be identified and described in Federal fishery management plans. Federal action agencies must consult with NMFS on any activity which they fund, permit, or carry out, that may adversely affect EFH. NMFS is required to provide EFH conservation and enhancement recommendations to the Federal action agencies. EFH is defined as those waters and substrates necessary to fish for spawning, breeding, feeding or growth to maturity.

As discussed in Section 3.5, "Biological Resources," of this Draft EIR, implementation of the proposed Project would have no impacts on fisheries or EFH; therefore, compliance with this Act is not applicable.

6.1.10 Migratory Bird Treaty Act

The MBTA (16 U.S.C. Section 703, et seq.), first enacted in 1918, provides for protection of international migratory birds and authorizes the Secretary of the Interior to regulate the taking of migratory birds. The MBTA provides that it shall be unlawful, except as permitted by regulations, to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird. The current list of species protected by the MBTA can be found in Title 50 of the CFR, Section 10.13 (50 CFR 10.13). The list includes nearly all birds native to the United States.

Compliance with the MBTA is being addressed through compliance with the ESA and the CESA As discussed in Section 3.5, "Biological Resources," of this Draft EIR, implementation of Mitigation Measures 3.5-1 and 3.5-2 would reduce any potential project impacts on migratory birds, including Swainson's hawk, and other nesting raptors to a less-than-significant level.

6.1.11 Executive Order 11990, Protection of Wetlands

The purpose of EO 11990 (May 24, 1977) is to "minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands." To meet these objectives, EO 11990 requires Federal agencies, in planning their actions, to consider alternatives to wetland sites and limit potential damage if an activity affecting a wetland cannot be avoided. EO 11990 applies to: acquisition, management, and disposition of Federal lands and facilities construction and

improvement projects which are undertaken, financed, or assisted by Federal agencies; and Federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulation, and licensing activities.

Section 3.5, "Biological Resources," of this Draft EIR evaluates the potential impacts on biological resources from implementation of the proposed Project. As explained in Section 3.5.4, the proposed Project does not involve direct impacts to Morrison Creek, Laguna Creek, or other riparian or wetland areas.

6.1.12 Safe Drinking Water Act of 1974, as amended

The SDWA (42 USC Section 300f et seq.) was established to protect the quality of drinking water in the U.S. This law focuses on all waters actually or potentially designed for drinking use, whether from above ground or underground sources.

SDWA authorizes EPA to establish minimum standards to protect tap water and requires all owners or operators of public water systems to comply with these primary (health-related) standards. The 1996 amendments to the SDWA require that EPA consider a detailed risk and cost assessment, and best available peer-reviewed science, when developing these standards. State governments, which can be approved to implement these rules for EPA, also encourage attainment of secondary standards (nuisance-related). Under the SDWA, EPA also establishes minimum standards for State programs to protect underground sources of drinking water from endangerment by underground injection of fluids.

The Project and surrounding lands are not located within an area designated by EPA Region 9 as a sole source aquifer. Moreover, Morrison Creek is not currently being used for domestic or municipal water supply (MUN), nor is it expected to receive such use in the near future. Therefore, compliance with this Act is not required.

6.1.13 Wild and Scenic Rivers Act of 1968, as amended

The Wild and Scenic Rivers Act (16 USC Section 1271 et seq.) establishes a National Wild and Scenic Rivers System for the protection of rivers with important scenic, recreational, fish and wildlife, and other values. Rivers are classified as wild, scenic, or recreational. The act designates specific rivers for inclusion in the System and prescribes the methods and standards by which additional rivers may be added. Morrison Creek drains to the Sacramento River which is not designated as a Wild and Scenic River.

7.0 List of Preparers

Name	Qualifications	Background/ Expertise	Participation
Lead CEQA Agency: Regional San			
Primary Consultant: MWH			
Meredith Parkin, PMP, J.D.	B.S., Human Nutrition and Food Science, J.D., Law 19 years of experience	Environmental Compliance and Permitting	Project Management; Environmental Compliance
Erica Bishop	B.S., Geography; M.A., Water Resources 11 years of experience	Environmental Compliance, Hydrology, Watershed Science	Environmental Compliance, Agriculture, Recreation, Hazards and Hazardous Materials
Jill Chomycia, P.H. C.P.S.S	B.S., Geological Sciences; M.S., Soil Science; M.S., Hydrology 6 years of experience	Environmental Compliance	Environmental Compliance, Geology, Soils, and Seismicity; Water Quality; Groundwater
Cynthia Jones	B.S. Biology; M.S. Environmental Studies 17 years of experience	Biological Resources	Biological Resources
Michael Massaro, PMP P.E.	B.S., Civil Engineering; M.S. Environmental Engineering 14 years of experience	Water Recycling Planning and Facilities	Facilities Planning
Rich Plecker, P.E.	B.S., Civil Engineering 25 years of experience	Water Recycling Facilities and Planning	Facilities Planning
Eric Clyde, P.E.	B.S., Civil Engineering; M.S., Civil Engineering 39 years of experience	Water Resources Planning and Management	Hydrology
Steve Irving	B.A., Philosophy 21 years of experience	Technical Mapping	GIS Specialist
Amy Lehman	20 years of experience	Document Production	Word Processing

Consultant: Ascent			
Sydney Coatsworth, AICP	M.A., Geography B.A., Earth Science 27 years of experience	Environmental Compliance	Project Management; Environmental Compliance
Suzanne Enslow	B.A., Environmental Studies 14 years of experience	Environmental Compliance	Environmental Compliance, Traffic/Transportation
Heather Phillips, AICP	M.S., Atmospheric Science B.S., Atmospheric Science 8 years of experience	Air Quality and Climate Change	Air Quality, Climate Change
Chris Mundhenk	B.A., Biology/Public Policy 14 years of experience	Environmental Compliance, Noise Modeling	Noise
Jessica Babcock	B.A., Environmental Studies 7 years of experience	Environmental Compliance	Environmental Justice
Melinda Rivasplata	B.A., Environmental Biology 30 years of experience	Environmental Compliance	Aesthetics
Gayiety Lane	16 years of experience	Document Production	Word Processing

1

2

8.0 References

8.1 Chapter 1

California Department of Health Services. 2007. Sacramento Rules and Regulations for Recycled Water Use and Distribution.

California Department of Public Health. 2014. Regulations Related to Recycled Water, June 18, 2014 (Revisions effective of 6/18/14).

California Employment Development Department. 2013a. Labor Market Profile, website, accessed Nov 21, 2013). Available: <http://www.labormarketinfo.edd.ca.gov/cgi/dataBrowsing/localAreaProfileQSResults.asp?menuChoice=&state=true&geogArea=0604000067&selectedArea=Sacramento%20County>.

————. 2013b. Sacramento-Arden-Roseville Metropolitan Statistical Area Labor Information, September 20, 2013, website accessed November 21, 2013. Available: <http://www.calmis.ca.gov/file/lfmonth/sacr$pds.pdf>.

CDPH. *See* California Department of Public Health.

DHS. *See* California Department of Health Services.

EDD. *See* California Employment Development Department.

PBS&J. 2008. *Delta Shores Draft Environmental Impact Report*. SCH No. 2007042070. September 2008. Prepared for the City of Sacramento by PBS&J, Sacramento, California.

Regional San. *See* Sacramento Regional County Sanitation District.

Regional Water Authority. 2013. *American River Basin Integrated Regional Water Management Plan*. July 2013.

RWA. *See* Regional Water Authority.

Sacramento County Community Planning and Development Department. 2011. Sacramento County General Plan Conservation Element. Adopted December 15, 1993 and amended November 9, 2011.

Sacramento Regional County Sanitation District. 2007. Water Recycling Opportunities Study.

————. 2014F. *SRCSD/SPA/City of Sacramento Water Feasibility Study Draft Report*. January 2013.

————. 2014a. *Regional San's Draft Facilities Plan Report*. February 2014.

————. 2014b. *Regional San's Echo Water Project Draft Environmental Impact Report*. SCH No. 2012052017. March 4, 2014.

Sacramento Water Recycling Coalition. 2013. Statement of Principles. Available: http://www.regionalsan.com/sacramento-water-recycling-coalition. Accessed February 23, 2014.

State Water Resources Control Board. 1996. Application WW-28-Sacramento River Tributary to Sacramento San Joaquin Delta in Sacramento County, Sacramento Regional Sanitation District petition for change.

U.S. Census Bureau. 2014a. State and County QuickFacts. Sacramento County, California. Data derived from Population Estimates, American Community Survey, Census of Population and Housing, State and County Housing Unit Estimates, County Business Patterns, Nonemployer Statistics, Economic Census, Survey of Business Owners, Building Permits. Last Revised: Monday, 06-Jan-2014 17:28:16 EST. Available: http://quickfacts.census.gov/qfd/states/06/06067.html. Accessed February 19, 2014.

————. 2014b. State and County QuickFacts. Sacramento (city), California. Data derived from Population Estimates, American Community Survey, Census of Population and Housing, County Business Patterns, Economic Census, Survey of Business Owners, Building Permits, Consolidated Federal Funds Report, Census of Governments. Last Revised: Tuesday, 07-Jan-2014 10:48:43 EST. Available: http://quickfacts.census.gov/qfd/states/06/0664000.html. Accessed February 19, 2014.

8.2 Chapter 2

None

8.3 Chapter 3

None

8.3.1 Section 3.1

None

8.3.2 Section 3.2

Bacon, Warren R. 1979. *The Visual Management System of the Forest Service, USDA*. In: Elsner, Gary H., and Richard C. Smardon, technical coordinators. 1979. Proceedings of Our National Landscape: a conference on applied techniques for analysis of management of the visual resource [Incline Village, Nev. April 23-25, 1979]. Gen. tech. Rep. PSW-GRT-35. Berkeley, California. Pacific Southwest Forest and Range Exp. Stn, Forest Service, U.S. Department of Agriculture: p 660-665.

California Department of Transportation. 2008 (October). Landscape Architecture Program Division of Design. *Scenic Highway Guidelines*. http://www.dot.ca.gov/hq/LandArch/scenic/guidelines/scenic_hwy_guidelines_04-12-2012.pdf. Accessed August 13, 2012.

————. 2012. *Scenic Highway Program Eligible and Designated Routes*. Available: http://www.dot.ca.gov/hq/LandArch/scenic/cahisys.htm. Accessed November 12, 2012. Last updated July 2012.

City of Sacramento. 2009. *2030 City of Sacramento General Plan*. City of Sacramento Department of Community Development. Adopted March 3, 2009.

Federal Highway Administration. 1988. _____.

FHWA. *See* Federal Highway Administration.

Sacramento County. 2009 (April). *Sacramento County General Plan Update Draft EIR*. Available:http://www.per.saccounty.net/EnvironmentalDocuments/Pages/SearchDocuments.aspx. Accessed December 2013.

————. 2011 (November). *Sacramento County General Plan of 2005–2030*. Sacramento, California. Adopted December 15, 1993; amended November 9, 2011. Available: http://www.per.saccounty.net/LandUseRegulationDocuments/Pages/GeneralPlanUpdate.aspx. Accessed October 2013.

Stone Lakes National Wildlife Refuge, Comprehensive Conservation Plan, Federal Highway Administration, Office of Environmental Policy. 1988. *Visual Impact Assessment for Highway Projects*. Publication No. FHWA-HI-88-054.

U.S. Department of Agriculture, Forest Service. 1995. *Landscape Aesthetics: A Handbook for Scenery Management. Agricultural Handbook Number 701*. Chapter 1: Landscape Character. Chapter 2: Scenic Integrity. Chapter 3: Constituent Information. Chapter 4: Landscape Visibility and Scenic Classes. Chapter 5: Scenery Management System Application.

U.S. Fish and Wildlife Service. 2007 (January). *Stone Lakes National Wildlife Refuge, Comprehensive Conservation Plan*.

USFWS. *See* U.S. Fis and Wildlife Service.

8.3.3 Section 3.3

City of Sacramento. 2009. *2030 City of Sacramento General Plan*. City of Sacramento Department of Community Development. Adopted March 3, 2009.

California Department of Conservation. 2009. Sacramento County Williamson Act Lands 2009. Williamson Act Program. Available:

ftp://ftp.consrv.ca.gov/pub/dlrp/wa/Sacramento_WA_08_09.pdf. Accessed April 2, 2014.

———. 2010. *Sacramento County Important Farmland 2010*. Farmland Mapping and Monitoring Program, 1984–2008. Available: http://www.conservation.ca.gov/dlrp/fmmp/products/Pages/DownloadGISdata.aspx. Accessed April 2, 2014.

Sacramento County. 2011. *Sacramento County General Plan of 2005-2030*. Sacramento, California: Sacramento County Community Planning & Development Department.

8.3.4 Section 3.4

ARB. *See* California Air Resources Board.

California Air Resources Board. 2003. *HARP User Guide*. Sacramento, California.

———. 2008. Sacramento County 2008 Emissions Inventory. Available: http://www.arb.ca.gov/app/emsinv/emssumcat_query.php?F_DIV=-4&F_DD=Y&F_YR=2008&F_SEASON=A&SP=2009&F_AREA=CO&F_CO=34

———. 2009. California Almanac of Emissions and Air Quality. Available: http://www.arb.ca.gov/aqd/almanac/almanac09/almanac09.htm

———. 2013a. Ambient Air Quality Standards. Available: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf

———. 2014a. Attainment Designations. Available: http://www.arb.ca.gov/desig/adm/adm.htm

———. 2014b. Air Quality Data. Available: http://www.arb.ca.gov/adam/topfour/topfour1.php

OEHHA. *See* Office of Environmental Health Hazard Assessment.

Office of Environmental Health Hazard Assessment. 2001. *A Guide to Health Risk Assessment*. Available: <http://www.oehha.org/pdf/HRSguide2001.pdf>.

Sacramento Metropolitan Air Quality Management District. 2013a. Air Quality Standards Attainment Status. Last modified December 23, 2013. Accessed December 31, 2013. Available: http://www.airquality.org/aqdata/attainmentstat.shtml

———. 2013b. Guide to Air Quality Assessment. Available: http://airquality.org/ceqa/ceqaguideupdate.shtml

SMAQMD. *See* Sacramento Metropolitan Air Quality Management District.

U.S. EPA. *See* U.S. Environmental Protection Agency

U.S. Environmental Protection Agency. 2012. Criteria Air Pollutant Information. Available: http://www.epa.gov/air/urbanair/

Western Regional Climate Center. 2012a. Climate Summary for Sacramento Station. Available: http://www.wrcc.dri.edu/summary/smf.ca.html. Accessed February 17, 2011.

————. 2012b. Wind Direction Data. Available: http://wrcc.dri.edu/htmlfiles/westwinddir.html#CALIFORNIA. Accessed February 17, 2011

WRCC. *See* Western Regional Climate Center.

Zhu and Hinds. 2002. Study of Ultrafine Particles near a Major Highway with Heavy-duty Diesel Traffic. Atmospheric Environment 36 (2002) 4323–4335. Text says Zhu et al. Check this.

Personal Communications

Abraham, Ken. 2014. Phone call from Suzanne Enslow of Ascent Environmental to Ken Abraham of Regional San to discuss potential for odors from pumping and use of recycled water. April 9, 2014.

8.3.5 Section 3.5

Ascent Environmental. 2014. EchoWater Draft Environmental Impact Report. Prepared for Sacramento Regional County Sanitation District (Regional San), March 2014.

CALFED Bay-Delta Program. 2000 (July). *CALFED Final Programmatic Environmental Impact Statement/Environmental Impact Report*, Chapter 5–Physical Environment. State Clearinghouse No. 1996032083.

California Burrowing Owl Consortium. 1993. Burrowing Owl Survey Protocol and Mitigation Guidelines. April.

California Department of Fish and Game. 2011. Staff Report on Burrowing Owl Mitigation. Available on-line at: http://www.dfg.ca.gov/wildlife/nongame/survey_monitor.html

————. 2011. Biogeographic Data Branch California Natural Diversity Database. Special Animals (898 taxa). January 2011.

————. 1994. Staff Report Regarding Mitigation for Impacts to Swainson's Hawks *(Buteo swainsoni)* in the Central Valley of California. Central Valley Water Board. 2011.

California Department of Fish and Wildlife. 2014. California Wildlife Habitat Relationships (CWHR) Life History Accounts and Range Maps. Available on-line at: https://www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx

————. 2012. California Least Tern Breeding Survey, 2012 Season. By Nancy Frost.

California Natural Diversity Database. 2014. Biogeographic Data Branch. California Department of Fish and Wildlife. April 1, 2014.

California Native Plant Society, Rare Plant Program. 2014. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society, Sacramento, CA. Nine-quad query, centered on the Florin quad. Website http://www.rareplants.cnps.org [accessed April and June 2014].

CDFG. *See* California Department of Fish and Game.

CDFW. *See* California Department of Fish and Wildlife.

City of Sacramento. 2008. *Delta Shores Draft Environmental Impact Report*. SCH No. 2007042070. September 2008.

CNDD. *See* California Natural Diversity Database.

CDPS. *See* California Native Plant Society.

eBird. 2014. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available on-line at: http://ebird.org/ebird/map/burowl?neg=true&env.minX=-121.57302938383594&env.minY=38.42876903627936&env.maxX=-121.35330282133594&env.maxY=38.538686878753765&zh=true&gp=false&ev=Z&mr=1-12&bmo=1&emo=12&yr=range&byr=2004&eyr=2014. (Accessed: June 11, 2014).

MWH. 2014. Preliminary Delineation of Waters of the United States for Sacramento Regional County Sanitation District/Sacramento Power Authority/City of Sacramento Water Recycling Pipeline Project. May 2014.

Regional San. *See* Sacramento Regional County Sanitation District.

Sacramento County. 2013. Sacramento County. 2013 (June 26). Swainson's Hawk: Environmental Impacts and Issues. A Guide for the Unincorporated Areas of Sacramento County. Available: http://www.per.saccounty.net/EnvironmentalDocuments/Pages/SwainsonsHawkOrdinance. aspx. Accessed November 16, 2013.

Sacramento Regional County Sanitation District. 2014. Riparian Habitat, a Home to Wildlife and Endangered Species. Available on-line at:

http://www.regionalsan.com/general-information/riparian-habitat-home-wildlife-and-endangered-species

————. 2000. Bufferlands Master Plan – Final Draft. August 2000. Available on-line at: http://www.regionalsan.com/bufferlands-master-plan

State Water Resources Control Board. 2006. *Water Quality Control Plan for the San Francisco Bay/Sacramento San Joaquin Delta Estuary*. Available: http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/wq_control_plans/2006wqcp/docs/2006_plan_final.pdf.

USACE. *See*. U.S. Army Corps of Engineers.

U.S. Army Corps of Engineers. 2010. Department of the Army Permit SPK-2006-00311. Issued to David Geiser, Merlone Geier Management, LLC on December 21, 2010.

U.S. Fish and Wildlife Service. 2014. Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Florin, Clarksburg, Sacramento East, or Sacramento West U.S.G.S. 7 1/2 Minute Quads. Document Number: 140605122313. Current as of: June 5, 2014. http://sacramento.fws.gov/es/spp_lists/auto_list_form.cfm

————. 2008. Birds of Conservation Concern 2008. United States Department of Interior, Fish and Wildlife Service, Division of Migratory Bird Management, Arlington, Virginia. 85 pp. [Online version available at <http://www.fws.gov/migratorybirds/>]

————. 2006. Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon. Available on-line at: http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=K03D

————. 1996. Programmatic Formal Endangered Species Act Consultation on Issuance of 404 Permits for Projects with Relatively Small Effects on Listed Vernal Pool Crustaceans Within the Jurisdiction of the Sacramento Field Office, California (Service file number 1-1-96-F-1). Prepared by Sacramento Fish and Wildlife Office. 17 pp.

USFWS. *See* U.S. Fish and Wildlife Service.

Personal Communications

Borges, Joe. 2014. Phone call with Cynthia Jones of MWH to Joe Borges, farmer in Regional San Bufferlands, to discuss agricultural and irrigation practices and history in the Project area. May 2014.

Young, Bryan. 2014. Various communications between Bryan Young of Regional San and MWH, including phone call with Erica Bishop to discuss biological issues onsite (April 2014), Regional San draft CEQA document comments (May 2014),

and e-mail communications with Cynthia Jones to discuss annual bird monitoring and sensitive species in the Bufferlands (June 2014).

8.3.6 Section 3.6

Chavez, David. 1987. *Cultural Resources Evaluation for the Riverbend/I-5 Interchange Project, Sacramento, California*. Report prepared for Nichols-Berman, Benicia, California.

City of Sacramento. 2013. *City Council Consent Report on Freeport Boulevard Victory Tree Replacement Project*. February 2, 2013. http://sacramento.granicus.com/MetaViewer.php?view_id=22&clip_id=3176&meta_id=394624, accessed March 22, 2014.

————. 2009. *City of Sacramento 2030 General Plan. Part Three: Community Plan Areas and Special Study Areas, South Area Community Plan*. Adopted March 3, 2009. Prepared by the City of Sacramento.

Guerrero, Marcos L. 2007. *Cultural Resources Survey and Evaluation for Delta Shores, Sacramento County, California, Project 2005-346, and Subsurface Testing and Evaluation of Two Historic Sites at Delta Shores West*. Report prepared by ECORP Consulting, Sacramento, California.

Helley, Edward J. and David S. Harwood. 1985. Geologic Map of the Late Cenozoic Deposits of the Sacramento Valley and Northern Sierran Foothills, California. U.S. Department of the Interior, U.S. Geological Survey Publication MF-1790.

Hoover, Mildred B., Hero E. Rensch, Ethel G. Rensch, and William N. Abeloe. 2002. *Historic Spots in California*. 5th ed., revised by Douglas E. Kyle. Stanford University Press, Stanford, California.

Johnson, Jerald J. 1974. *Reconnaissance Archaeological Survey of the Morrison Stream Group in Sacramento County, CA*. Report prepared for U.S. Army Corps of Engineers, Sacramento District.

Jones & Stokes. 2002. *Historic Resources Evaluation Report, I-5/Cosumnes River Boulevard Interchange Project, Sacramento County, CA*. Report prepared for Caltrans and the City of Sacramento.

Kroeber, Alfred J. 1925. Handbook of the Indians of California. *Bureau of American Ethnology, Smithsonian Institution Bulletin 78*. Government Printing Office, Washington, D.C. Reprinted 1976 by Dover Publications, Inc., New York.

Levy, Richard. 1978. Eastern Miwok. In *California*, edited by Robert F. Heizer, pp. 398–413. Handbook of North American Indians, Vol. 8, William G. Sturtevant, general editor, Smithsonian Institution, Washington, D.C.

Meyer, Jack, and Jeffrey S. Rosenthal. 2008. *A Geoarchaeological Overview and Assessment of Caltrans District 3: Cultural Resources Inventory of Caltrans*

District 3 Rural Conventional Highways. Report prepared by Far Western Anthropological Research Group, Davis, California, for California Department of Transportation, District 3, Marysville, California.

National Park Service. 1997. *How to Apply the National Register Criteria for Evaluation*. National Register Bulletin 15. U.S. Department of the Interior, National Park Service.

PBS&J. 2008. *Delta Shores Draft Environmental Impact Report*. SCH No. 2007042070. September 2008. Prepared for the City of Sacramento by PBS&J, Sacramento, California.

Rosenthal, Jeffrey S., Gregory G. White, and Mark Q. Sutton. 2007. The Central Valley: A View from the Catbird's Seat. In *California Prehistory: Colonization, Culture, and Complexity*, edited by Terry L. Jones and Kathryn A. Klar, pp. 147–163. AltaMira Press, Lanham, Maryland.

Society of Vertebrate Paleontology. 2010. *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Nonrenewable Paleontological Resources*. http://vertpaleo.org/PDFS/8f/8fe02e8f-11a9-43b7-9953-cdcfaf4d69e3.pdf, accessed March 23, 2014.

SVP. *See* Society of Vertebrate Paleontology.

UCMP. *See* University of California Museum of Paleontology.

University of California Museum of Paleontology. 2014. *UCMP Browse US Localities by State and County*. http://ucmpdb.berkeley.edu/Browse_US_states2.html, accessed: March 19, 2014.

Wagner, D.L., C.W. Jennings, T.L. Bedrossian, and E.J. Bortugno. 1981. Geologic Map of the Sacramento Quadrangle. Regional Geologic Map No. 1A, 1:250,000 scale. California Division of Mines and Geology.

Wilson, Norman L., and Arlean H. Towne. 1978. Nisenan. In *California*, edited by Robert F. Heizer, pp. 387–397. Handbook of North American Indians, Vol. 8, William G. Sturtevant, general editor, Smithsonian Institution, Washington, D.C.

8.3.7 Section 3.7

Ascent Environmental. 2014. EchoWater Draft Environmental Impact Report. Prepared for Sacramento Regional County Sanitation District (Regional San), March 2014.

Branum, S. Harmsen, E. Kalkan, M. Petersen, and C. Wills. Map Sheet 48.

California Geological Survey. 2008. Earthquake Shaking Potential for California. Prepared by D.

City of Sacramento. 2009. 2030 City of Sacramento General Plan. City of Sacramento Department of Community Development. Adopted March 3, 2009.

————. 2009. 2030 General Plan Master Environmental Impact Report.

Jennings, C.W. and W.A. Bryant. 2010. Fault Activity Map of California: California Geological Survey Geologic Data Map No. 6, map scale 1:750,000.

Natural Resources Conservation Service. 1993 (April). Soil Survey of Sacramento County, California.

————. 2008. NRCS Data Gateway.

NRCS. *See* Natural Resources Conservation Service.

Sacramento County. 2011. *Sacramento County General Plan of 2005-2030*. Sacramento, California: Sacramento County Community Planning & Development Department.

Shannon & Wilson, Inc. 2012. Geotechnical Design Report, Sacramento Regional County Sanitation District, Advanced Wastewater Treatment Plant, Dwight Road Extension, 8521 Laguna Station Road Elk Grove, California. Sacramento, California. Prepared for the Sacramento Regional County Sanitation District, Elk Grove, California.

8.3.8 Section 3.8

ARB. *See* California Air Resources Board

Cal-Adapt 2012. Sea Level Rise: Threatened Areas Map. Available: http://cal-adapt.org/sealevel/ Accessed August 7, 2012.

California Air Resource Board. 2010a. *Greenhouse Gas Emissions Inventory Summary for Years 2000-2008*. Available: <http://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_ scopingplan_00-08_2010-05-12.pdf>. Last updated May 12, 2010. Accessed May 2, 2012.

———. 2010b (May). Local Government Operations Protocol-For the quantification and reporting of greenhouse gas emissions inventories. Version 1.1. Developed in partnership by California Air Resources Board, California Climate Action Registry, Local Governments for Sustainability, and the Climate Registry.

———. 2011. *Status of Scoping Plan Recommended Measures*. Available: http://www.arb.ca.gov/ cc/scopingplan/status_of_scoping_plan_measures.pdf. Accessed May 2, 2012.

California Department of Water Resources. 2006 (July). *Progress on Incorporating Climate Change into Management of California's Water Resources*. Technical Memorandum Report. Available:

<http://baydeltaoffice.water.ca.gov/climatechange/DWRClimateChangeJuly06.pdf>. Accessed August 3, 2012.

California Natural Resources Agency. 2009. 2009 *California Climate Adaptation Strategy*. California Natural Resources Agency. Sacramento, California.

California Energy Commission. 2012. *Our Changing Climate: Vulnerability & Adaptation to the Increasing Risks from Climate Change in California*. Publication CEC-500-2012-007. Available: <http://www.energy.ca.gov/2012publications/CEC-500-2012-007/CEC-500-2012-007.pdf>. Last updated July 31, 2012. Accessed August 3, 2012.

CEC. *See* California Energy Commission.

CNRA. *See* California Natural Resources Agency.

DWR. *See* California Department of Water Resources.

Governor's Office of Planning and Research. 2008 (June 19). Technical Advisory: CEQA and Climate Change: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review. Sacramento, California. Available at: <http://opr.ca.gov/ceqa/pdfs/june08-ceqa.pdf>. Last updated [June 19, 2008]. Accessed Month day, year.

Intergovernmental Panel on Climate Change. 2007 (February). *Climate Change 2007: The Physical Science Basis*. Contribution of Working Group I to the Fourth Assessment Report of the IPCC. Geneva, Switzerland.

OPR. *See* Governor's Office of Planning and Research.

Sacramento County. 2011. *Sacramento County General Plan of 2005-2030*. Sacramento, California: Sacramento County Community Planning & Development Department.

Sacramento Stormwater Quality Partnership. 2011. *Sacramento Stormwater Quality Partnership Hydromodification Management Plan*. Adopted July 2011; revised February 2014. Sacramento, California. Available: http://www.beriverfriendly.net/Newdevelopment/. Accessed October 14, 2013.

Seinfeld, J. H., and S. N. Pandis. 1998. *Atmospheric Chemistry and Physics*. John Wiley & Sons, Inc. New York, New York.

USACE. *See* U.S. Army Corps of Engineers.

U.S. Army Corps of Engineers. 2013. (February). 2012 Annual Erosion Reconnaissance Engineering Report, Sacramento River Bank Protection Project, Sacramento River and Tributaries. Sacramento District, Sacramento, California.

U.S. Environmental Protection Agency. 2011 (March). PSD and Title V Permitting Guidance for Greenhouse Gases. Available: <http://www.epa.gov/nsr/ghgdocs/ghgpermittingguidance.pdf>. Accessed August 3, 2012.

———. 2012. Final Rule- Prevention of Significant Deterioration and Title V Operating Permit Greenhouse Gas Tailoring Rule Step 3 and GHG Plantwide Applicability Limits. Available: <http://www.epa.gov/nsr/documents/20120702fs.pdf>. Accessed August 3, 2012.

U.S. Environmental Protection Agency and Department of Water Resources. 2011 (November). Climate Change Handbook for Regional Water Planning. Available: http://www.water.ca.gov/climatechange/CCHandbook.cfm. Accessed October 14, 2013.

U.S. EPA. *See* U.S. Environmental Protection Agency.

U.S. EPA and DWR. *See* U.S. Environmental Protection Agency and Department of Water Resources.

Personal Communications

Berry, Jeane. Sacramento Metropolitan Air Quality Management District. August 6, 2012 email to Heather Phillips, Ascent Environmental, regarding GHG significance threshold recommendations.

8.3.9 Section 3.9

Sacramento County. 2011. *Sacramento County General Plan of 2005-2030*. Sacramento, California: Sacramento County Community Planning & Development Department.

Cal/EPA. *See* California Environmental Protection Agency.

CAL FIRE. *See* California Department of Forestry and Fire Protection.

California Department of Forestry and Fire Protection. 2008 (October). Sacramento County Fire.

———. 2008. Hazard Severity Zone Map. Available: http://www.fire.ca.gov/fire_prevention/fhsz_maps_sacramento.php. Accessed April 2014.

California Environmental Protection Agency. 2005 (January). Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties. Available: http://www.calepa.ca.gov/brownfields/documents/2005/chhslsguide.pdf. Accessed April 2014.

City of Sacramento and Sacramento County. 2005. Flood Emergency Evacuation Plan: Rescue and Evacuation Areas Sacramento River-Pocket. Map 35. Prepared by

Wood Rodgers. Available: http://www.stormready.saccounty.net/Pages/Flood-Depth-and-Evacuation.aspx. Accessed April 2014.

State Water Resources Control Board. 2013a. Wastewater Treatment Plant SIT (T0606700040). Available: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0606700040. Accessed April 2014.

———. 2013b. Biosolids/Solids Disposal Fac (L1007002783). Available:http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=L10007002783. Accessed April 2014.

8.3.10 Section 3.10

————. 2006. *Water Quality Control Plan for the San Francisco Bay/Sacramento San Joaquin Delta Estuary*. Available: http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/wq_control_plans/2006wqcp/docs/2006_plan_final.pdf.

California Department of Water Resources. *Central Valley Flood Management Planning Program, State Plan of Flood Control, Descriptive Document*. Available: http://www.water.ca.gov/cvfmp/docs/DRAFT_SPFC_Descriptive_Doc_20100115.pdf. Accessed November 12, 2013.

Central Valley Regional Water Quality Control Board. 2011. *Water Quality Control Plan (Basin Plan) for Sacramento River Basin and San Joaquin River Basin*. Revised October 2011 (with Approved Amendments). Rancho Cordova, California.

Central Valley Water Board. *See* Central Valley Regional Water Quality Control Board.

Delta Stewardship Council. 2013. The Delta Plan. Sacramento, California.

Regional San. *See* Sacramento Regional County Sanitation District.

Sacramento Regional County Sanitation District. 2000 (August). *Final Draft Bufferlands Master Plan,* Chapter 4–General Management Direction. Available: http://www.srcsd.com/buffer-masterplan. php. Accessed October 2013.
Sacramento County General Plan (Sacramento County 2011)

State Water Resources Control Board. 2005. *Policy for Implementation of Toxics Standards forInland Surface Waters, Enclosed Bays, and Estuaries of California*. Available:http://www.swrcb.ca.gov/water_issues/programs/state_implementation_policy/docs/final.pdf.Bay-Delta WQCP

————. 2006. *Water Quality Control Plan for the San Francisco Bay/Sacramento San Joaquin Delta Estuary*. Available: http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/wq_control_plans/2006wqcp/docs/2006_plan_final.pdf.

————. 2011. 2010 CWA Section 303(d) List of Water Quality Limited Segments. Approved by U.S. EPA on December 23, 2011. Available: http://www.swrcb.ca.gov/centralvalley/water_issues/tmdl/impaired_waters_list/index.shtml#currentrpt.

U.S. Environmental Protection Agency. 2005. King, Ephraim S. Director. Office of Science and Technology, Washington, D.C. August 10–Memorandum to Water Management Division Directors, Regions 1-10, regarding Tier 2 Antidegradation Reviews and Significance Thresholds.

U.S. Geological Survey. 2013. Water-resources data for the United States, Water Year 2011: U.S. Geological Survey Water-Data Report WDR-US-2011, site 11447650. Available: http://wdr.water.usgs.gov/wy2011/pdfs/11447650.2011.pdf. Accessed February 27, 2013.

Western Regional Climate Center. 2013. Climate Data for the City of Sacramento and Sacramento Regional Airport. Available: http://www.wrcc.dri.edu/summary/Climsmcca.html. Accessed August 16, 2013. Regional San 2003

8.3.11 Section 3.11

California Department of Transportation. 2002 (January). *California Airport Land Use Planning Handbook*. Division of Aeronautics. Sacramento, California. Prepared by Shutt Moen Associates.

———. 2004. *Transportation- and Construction-Induced Vibration Guidance Manual*. Noise, Vibration, and Hazardous Waste Management Office. Sacramento, California. Prepared by ICF Jones & Stokes

———. 2006 (August). *Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction Projects, and Retrofit Barrier Projects*. Division of Environmental Analysis.

———. 2009 (November). *Technical Noise Supplement*. Division of Environmental Analysis. Sacramento, California. Prepared by ICF Jones & Stokes.

Caltrans. *See* California Department of Transportation.

Elk Grove, City of. 2009. General Plan Noise Element.

Egan, M. David. 2007. *Architectural Acoustics*. J. Ross Publishing. Fort Lauderdale, Florida.

Federal Highway Administration. 2006 (January). *Roadway Construction Noise Model User's Guide*. Washington, D.C. Prepared by the Research and Innovative Technology Administration, Cambridge, Massachusetts.

Federal Transit Administration. 2006. *Transit Noise and Vibration Impact Assessment*. Washington, D.C.

FHA. *See* Federal Highway Administration.

FTA. *See* Federal Transit Administration.

Lipscomb, D.M. and A.C. Taylor. 1978. *Noise Control – Handbook of Principles and Practices*. New York. New York.

Sacramento, City of. 2009. 2030 General Plan Master Environmental Impact Report.

Sacramento County. 2011. 2030 General Plan.

8.3.12 Section 3.12

City of Sacramento. 2009. City of Sacramento 2030 General Plan. Adopted March 3, 2009. Prepared by the City of Sacramento.

———. 2009. *Chorley Park Master Plan*. Prepared by the City of Sacramento. http://www.cityofsacramento.org/parksandrecreation/parks/sites/pdf/09-parkmpChorley.pdf.

City of Sacramento Parks and Recreation Department. 2004. *2005-2010 Parks and Recreation Master Plan*. December 7.

8.3.13 Section 3.13

Ascent Environmental. 2014. EchoWater Draft Environmental Impact Report. Prepared for Sacramento Regional County Sanitation District (Regional San), March 2014. Traffic data compiled by Fehr & Peers in 2013.

California Department of Transportation. 2002. Guide for the Preparation of Traffic Impact Studies. December.

———. 2009. State Route 99 & Interstate 5 Corridor System Management Plan. District 3. May.

Caltrans. *See* California Department of Transportation.

City of Elk Grove. 2000. Traffic Impact Analysis Guidelines. Elk Grove, California: City of Elk Grove Planning.

———.2009. Elk Grove General Plan. Elk Grove, California: City of Elk Grove Planning.

City of Sacramento. 1996. Traffic Impact Analysis Guidelines. Sacramento, California: City of Sacramento Department of Public Works.

PBS&J. 2008. *Delta Shores Draft Environmental Impact Report*. SCH No. 2007042070. September 2008. Prepared for the City of Sacramento by PBS&J, Sacramento, California, Section 5.9, Transportation and Circulation, pages 5.9-7 and 5.9-8. Sacramento, California. City of Sacramento Community Development Department. Data provided from Fehr & Peers, 2007.

———. 2009a. Sacramento 2030 General Plan, Mobility Element. Sacramento, California. City of Sacramento Community Development Department.

———. 2009b. Sacramento 2030 General Plan Master Environmental Impact Report, Section 6.12, Transportation and Circulation, Tables 6.12-3 and 6.12-5. Sacramento, California. City of Sacramento Community Development Department. Certified March 3, 2009.

Sacramento Area Council of Governments. 2011a. 2035 Metropolitan Transportation Plan/ Sustainable Communities Strategy (MTP/SCS).

———. 2011b. Regional Bicycle, Pedestrian and Trails Master Plan Amendments, B-68. June.

Sacramento County. 2004. Traffic Impact Study Analysis Guidelines.

———. 2011. *Sacramento County General Plan of 2005-2030.* Sacramento, California: Sacramento County Community Planning & Development Department.

Sacramento Regional Transit District. 2014. System Map and Descriptions of Transit Routes. Accessed via < http://www.sacrt.com/systemmap/B1.stm>. Accessed on March 18, 2014.

8.3.14 Section 3.14

CEQ. *See* Council on Environmental Quality.

Council on Environmental Quality. 1997 (December). Environmental Justice: Guidance Under the National Environmental Policy Act.

EPA. *See* U.S. Environmental Protection Agency.

U.S. Environmental Protection Agency. 2010 (July). EPA's Action Development Process: Interim Guidance on Considering Environmental Justice During the Development of an Action.

———. 2011 (September). Plan EJ 2014.

U.S. Census Bureau. 2012. 2008-2012 American Community Survey. Table DP03: Selected Economic Characteristics and Table DP05: ACS Demographic and Housing Estimates.

8.4 Chapter 4

None

8.5 Chapter 5

City of Sacramento. 2010. *City of Sacramento Urban Water Management Plan* (UWMP).

Regional San. *See* Sacramento Regional County Sanitation District.

Regional Water Authority. 2013. 2013 Update of American River Basin Integrated Regional Water Management Plan.

Sacramento Regional County Sanitation District. 2013. Feasibility Study for Bartley Cavanaugh Golf Course. (Prepared by RMC).

RWA. *See* Regional Water Authority.

8.6 Chapter 6

None

This page left blank intentionally.

Final Environmental Impact Report

Sacramento Regional County Sanitation District/Sacramento Power Authority/City of Sacramento Water Recycling Pipeline Project

State Clearinghouse Number: 2013122046
Date: November 12, 2014

This page left blank intentionally.

Table of Contents

1.0 Introduction 1-1
1.1 Public Review Process for the Draft EIR 1-1
1.2 Organization 1-2
2.0 Comments and Responses 2-1
2.1 List of Commenters 2-1
2.2 Response to Comments 2-1
2.3 Letter 1 – Central Valley Flood Protection Board 2-2
2.4 Letter 2 – Central Valley Regional Water Quality Control Board 2-5
2.5 Letter 3 – County of Sacramento Environmental Management Department 2-10
2.6 Letter 4 – State Water Resources Control Board 2-15
3.0 Revisions to the Draft EIR 3-1
3.1 Introduction 3-1
3.2 Changes to the Draft EIR in Response to Comments 3-1
3.3 Staff-Initiated Changes to the Draft EIR 3-9

Appendix

Appendix A – Mitigation Monitoring and Reporting Program

This page left blank intentionally.

1.0 Introduction

This chapter describes the process and organization for the Response to Comments Document for the Sacramento Regional County Sanitation District (Regional San or SRCSD) / Sacramento Power Authority (SPA) / City of Sacramento (City) Water Recycling Pipeline Project (Project).

The Draft EIR for the Project, along with this Response to Comments on the Draft EIR Document, constitutes the Final EIR for the Project. The Final EIR is an informational document prepared by the Lead Agency that must be presented, reviewed and considered by the decision-making body before approving the Project and must reflect the Lead Agency's independent judgment and analysis of the significant environmental effects of the Project on the environment (California Environmental Quality Act (CEQA) *Guidelines*, Section 15090). CEQA *Guidelines* Section 15132 specifies the following:

"The Final EIR shall consist of:

(a) The draft EIR or a revision of the draft.

(b) Comments and recommendations received on the draft EIR either verbatim or in summary.

(c) A list of persons, organizations, and public agencies commenting on the draft EIR.

(d) The responses of the Lead Agency to significant environmental points raised in the review and consultation process.

(e) Any other information added by the Lead Agency."

This document has been prepared pursuant to CEQA and in conformance with the CEQA *Guidelines*. This Response to Comments Document reproduces all comments from public agencies and contains good faith, reasoned responses by the Lead Agency to those comments.

1.1 Public Review Process for the Draft EIR

On July 16, 2014, Regional San, the CEQA Lead Agency, released for public review a Draft Environmental Impact Report (Draft EIR) for the Project. The public review and comment period for the Draft EIR began on July 16, 2014 and ended August 29, 2014. On July 16, 2014, the Draft EIR and Notice of Completion were provided to the State Clearinghouse for distribution to interested State agencies. In addition, a public notice was posted in the Sacramento Bee on July 16, 2014.

Hardcopies of the Draft EIR were made available at the Sacramento Public Library (Central Location) located at 828 "I" Street in Sacramento, California and at Regional

San located at 10060 Goethe Road in Sacramento, CA. The Draft EIR was also made available for viewing and downloading on the following websites:

- http://www.regionalsan.com/
- http://www.per.saccounty.net/EnvironmentalDocuments/pages/default.aspx

The public meeting was held at Sacramento City Hall Council Chambers on July 30, 2014.

1.2 Organization

This Response to Comments Document for the Project contains information in response to comments raised during the public comment period and is organized as follows:

Chapter 1, Introduction, describes the CEQA public review process and the organization of this Response to Comments Document.

Chapter 2, Comments and Responses on the Draft EIR, presents the list of agencies that commented on the Draft EIR.

Chapter 3, Revisions to the Draft EIR, contains text changes to the Draft EIR. Some changes were initiated by Regional San and others were made in response to comments received on the Draft EIR.

2.0 Comments and Responses

This chapter contains copies of the comment letters submitted during the public review period on the draft EIR, and the responses to those comments. Each written comment letter is designated with a number (e.g., 1-4) in the upper right-hand corner of the letter. The letters are organized alphabetically.

Within each written comment letter, individual comments are labeled with a number in the margin. Immediately following each comment letter is an individual response to each numbered comment. Where responses have resulted in changes to the Draft EIR, these changes appear in Chapter 3 "Revisions to the Draft EIR" of this Response to Comments Document.

The only comments received by Regional San on the Draft EIR were from State, regional, and local agencies. Organization, individual, or general public written comments were not received by Regional San, nor were any oral or written comments received during the public meeting held at the Sacramento City Hall Council Chambers on July 30, 2014.

2.1 List of Commenters

Regional San received four comment letters during the open comment period on the Draft EIR for the Project. The comment letters were authored by representatives of State, regional, and local agencies:

Letter 1 .....Central Valley Flood Protection Board

Letter 2 .....Central Valley Regional Water Quality Control Board

Letter 3 .....County of Sacramento Environmental Management Department

Letter 4 ..... State Water Resources Control Board

2.2 Response to Comments

The Response to Comments section includes responses to each of the comment letters submitted regarding the Project. Each bracketed comment letter is followed by numbered responses to each bracketed comment.

2.3 Letter 1 – Central Valley Flood Protection Board

Comment Letter 1

STATE OF CALIFORNIA – CALIFORNIA NATURAL RESOURCES AGENCY
EDMUND G. BROWN JR., GOVERNOR

CENTRAL VALLEY FLOOD PROTECTION BOARD
3310 El Camino Ave., Rm. 151
SACRAMENTO, CA 95821
(916) 574-0609 FAX: (916) 574-0682
PERMITS: (916) 574-2380 FAX: (916) 574-0682

August 5, 2014

Mr. Jose Ramirez
Sacramento Regional Sanitation District
10060 Goethe Road
Sacramento, CA 95827

Subject: CEQA Comments: Sacramento Regional County Sanitation District Water Recycling Pipeline Project, Draft Environmental Impact Report, SCH No. 2013122046

Location: Sacramento County

Dear Mr. Ramirez:

Central Valley Flood Protection Board (Board) staff has reviewed the subject document and provides the following comments:

The proposed project is located within Morrison Creek and the Sacramento River which are under Board jurisdiction. The Board enforces its Title 23, California Code of Regulations (23 CCR) for the construction, maintenance, and protection of adopted plans of flood control that protect public lands from floods. Adopted plans of flood control include federal-State facilities of the State Plan of Flood Control, regulated streams, and designated floodways. The geographic extent of Board jurisdiction includes the Central Valley, and all tributaries and distributaries of the Sacramento and San Joaquin Rivers, and the Tulare and Buena Vista basins (23 CCR, Section 2). 1-01

Pursuant to 23 CCR a Board permit is required prior to working in the Board's jurisdiction for the following:

- Placement, construction, reconstruction, removal, or abandonment of any landscaping, culvert, bridge, conduit, fence, projection, fill, embankment, building, structure, obstruction, encroachment, excavation, the planting, or removal of vegetation, and any repair or maintenance that involves cutting into the levee (23 CCR Section 6);
- Existing structures that predate permitting, or where it is necessary to establish the conditions normally imposed by permitting. The circumstances include those where responsibility for the encroachment has not been clearly established or ownership and use have been revised (23 CCR Section 6);
- Vegetation plantings require submission of detailed design drawings; identification of vegetation type; plant and tree names (both common and scientific); quantities of each type of plant and tree; spacing and irrigation method; a vegetative management plan for

maintenance to prevent the interference with flood control operations, levee maintenance, inspection, and flood fight procedures (23 CCR Section 131). 1-01

Other local, federal and State agency permits may be required and are the responsibility of the applicant to obtain.

Board permit application forms and our complete 23 CCR regulations can be found on our website at http://www.cvfpb.ca.gov/. Maps of the Board's jurisdiction including all tributaries and distributaries of the Sacramento and San Joaquin Rivers, and Board designated floodways are also available on a Department of Water Resources website at http://gis.bam.water.ca.gov/bam/.

Additional Considerations Related to Potential Impacts of Vegetation and Hydraulics

Accumulation and establishment of woody vegetation that is not managed may have negative impacts on channel capacity and may increase the potential for levee over-topping or other failure. When vegetation develops and becomes habitat for wildlife, maintenance to initial baseline conditions typically becomes more difficult as the removal of vegetative growth may be subject to federal and State resource agency requirements for on-site mitigation. 1-02
The proposed project should include mitigation measures to avoid decreasing floodway channel capacity.

Adverse hydraulic impacts of proposed encroachments could impede flood flows, reroute flood flows, and/or increase sediment accumulation. The proposed project should include mitigation measures for channel and levee improvements and maintenance to prevent and/or reduce hydraulic impacts. If possible off-site mitigation outside of the Board's jurisdiction should be used when mitigating for vegetation removed at the project location.

If you have any questions please contact James Herota at (916) 574-0651, or via email at james.herota@water.ca.gov.

Sincerely,

Len Marino, P.E.
Chief Engineer

cc: Governor's Office of Planning and Research
State Clearinghouse
1400 Tenth Street, Room 121
Sacramento, California 95814

Comment 1-1: This comment identifies the general requirements for compliance with Title 23, California Code of Regulations and states that the Project may require permit coverage. Section 3.10 "Hydrology and Water Quality" of the Draft EIR states construction near and under levees (including federal-state facilities of the State Plan of Flood Control (SPFC)) would comply with the terms of permits issued by the Central Valley Flood Protection Board. No changes were made to the Draft EIR.

Comment 1-2: This comment identifies additional considerations related to potential impacts of vegetation and hydraulics on channel capacity, and notes that the project may require mitigation if there are negative impacts. The proposed project does not include changes (either increasing or decreasing) to floodway channel capacity of federal-State facilities of the SPFC, nor does the project include vegetation removal or plantings near federal-State facilities of the SPFC. As stated in Section 3.10 "Hydrology and Water Quality" of the Draft EIR, the Project includes tunneling under levees via the horizontal

directional drilling (HDD) method. The HDD and pipe jacking tunnels would pass at least a minimum 30 feet below the toe of the levees and tunneling will begin and "daylight" a minimum of 300 feet away from the toe of the levees. These Project conditions are intended to avoid interference with the performance of the levees, and avoid any construction-related effects to channel or levee vegetation. In addition, all construction near and under federal-State facilities of the SPFC would comply with the terms of permits issued by the Central Valley Flood Protection Board. No changes were made to the Draft EIR.

2.4 Letter 2 – Central Valley Regional Water Quality Control Board

Comment Letter 2

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Central Valley Regional Water Quality Control Board

1 August 2014

Jose Ramirez
Sacramento Regional County Sanitation District
10060 Goethe Road
Sacramento, CA 95827

CERTIFIED MAIL
7013 1710 0002 3644 7433

COMMENTS TO REQUEST FOR REVIEW FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT, SACRAMENTO REGIONAL COUNTY DISTRICT/SACRAMENTO POWER AUTHORITY/ CITY OF SACRAMENTO WATER RECYCLING PIPELINE PROJECT, SCH NO. 20131322046, SACRAMENTO COUNTY

Pursuant to the State Clearinghouse's 16 July 2014 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Draft Environmental Impact Report* for the Sacramento Regional County District/Sacramento Power Authority/City of Sacramento Water Recycling Pipeline Project, located in Sacramento County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction Activities (Construction General Permit), Construction General Permit Order No. 2009-009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). 2-01

For more information on the Construction General Permit, visit the State Water Resources Control Board website at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml.

Phase I and II Municipal Separate Storm Sewer System (MS4) Permits[1]

The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/.

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml

2-01

Cont'd.

Industrial Storm Water General Permit

Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 97-03-DWQ.

For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/index.shtml.

Clean Water Act Section 404 Permit

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACOE). If a Section 404 permit is required by the USACOE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements.

2-02

If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACOE at (916) 557-5250.

[1] Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

Clean Water Act Section 401 Permit – Water Quality Certification

If an USACOE permit, or any other federal permit, is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications. 02-02 Cont'd.

Waste Discharge Requirements

If USACOE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project will require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation. 02-03

For more information on the Water Quality Certification and WDR processes, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/help/business_help/permit2.shtml.

Low or Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Dewatering and Other Low Threat Discharges to Surface Waters* (Low Threat General Order) or the General Order for *Limited Threat Discharges of Treated/Untreated Groundwater from Cleanup Sites, Wastewater from Superchlorination Projects, and Other Limited Threat Wastewaters to Surface Water* (Limited Threat General Order). A complete application must be submitted to the Central Valley Water Board to obtain coverage under these General NPDES permits. 02-04

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0074.pdf

For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0073.pdf

If you have questions regarding these comments, please contact me at (916) 464-4684 or tcleak@waterboards.ca.gov.

Trevor Cleak
Environmental Scientist

cc: State Clearinghouse Unit, Governor's Office of Planning and Research, Sacramento

Comment 2-1: This comment identifies the general requirements for compliance with the National Pollutant Discharge Elimination System (NPDES) permit(s) and states that the project may require permit coverage. As stated in Section 3.10 "Hydrology and Water Quality," of the Draft EIR, Regional San, or its designated general contractor, will prepare a Water Pollution Control Plan (WPCP) for all construction activities related to the proposed Project. In addition, since the total area of land disturbance for the proposed Project would exceed one acre, Regional San or its designated general contractor will file a Notice of Intent and Permit Registration Documents for authorization of project construction activities under State Water Board's NPDES Construction General Permit (Order No. 2009-009-DWQ/NPDES Permit No. CAS000002 and all amendments). A Stormwater Pollution Prevention Plan (SWPPP) would also be required for conformance with the Construction General Permit. Regional San will comply with Phase I and II Municipal Separate Storm Sewer System (MS4) Permit or Industrial Storm Water General Permit, if applicable. No changes were made to the Draft EIR.

Comment 2-2: This comment identifies permit requirements under the Section 404/401 of the Clean Water Act, and notes that the project may require a Section 404/401 permit if the project involves a discharge into United States Army Corps of Engineers (USACE) jurisdictional waters. As discussed in Chapter 1 "Introduction" of the Draft EIR, Table 1-2 identifies potential federal and state approval actions that may be required before implementing individual elements of the project, including compliance and permits associated with Section 404/401 of the Clean Water Act. Regional San conducted a wetland delineation for the main alignment in May 2014 and submitted the wetland delineation to USACE in June 2014.

Impact 3.5-8: "Construction-related effects on Sensitive Natural Communities and Habitats, including Water of the United States and Waters of the State," was added to Section 3.5, "Biological Resources," in the Final EIR for clarification regarding the Section 404 and 401 Clean Water Act permitting process.

Comment 2-3: This comment states that the project is required to obtain a Waste Discharge Requirement (WDR) permit. Impact 3.5-8: "Construction-related effects on Sensitive Natural Communities and Habitats, including Water of the United States and Waters of the State," was added to Section 3.5, "Biological Resources," of the Final EIR for clarification regarding the WDR permit process.

Comment 2-4: This comment states that if the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a NPDES permit. Section 3.10 "Hydrology and Water Quality," discusses dewatering. Additional language has been added to this section of the Final EIR to clarify that, if dewatering is required, Regional San will obtain the necessary NPDES permits in accordance with Central Valley Regional Water Board NPDES dewatering discharge requirements.

2.5 Letter 3 – County of Sacramento Environmental Management Department

Environmental Management Department
Val F. Siebal, Director

County of Sacramento

Divisions
Environmental Compliance
Environmental Health

Comment Letter 3

August 26, 2014

Sent via Electronic Mail and Regular Mail

Jose Ramirez, Project Manager
Regional San
10060 Goethe Road
Sacramento, CA 95827
Email: ramirezj@sacsewer.com

Subject: Comment Letter - Draft Environmental Impact Report (EIR) Sacramento Regional County Sanitation District/Sacramento Power Authority/City of Sacramento Water Recycling Pipeline Project (Project)

Dear Mr. Ramirez:

Sacramento County Environmental Management Department (EMD) has reviewed the above referenced draft EIR. The draft EIR project consists of the construction of a pipeline (recycled water main) and other necessary facilities to convey recycled water from the Sacramento Regional Wastewater Treatment Plant (SRWTP) to the Sacramento Power Authority (SPA) Cogeneration Plant. Our comments (attached) are offered consistent with our goal of protecting public health and the environment.

Additionally, EMD requests that we be added to the recycled water stakeholder list for future project review and comment.

Please contact me for any additional information and clarification.

Sincerely,

Elise Rothschild

Elise Rothschild, REHS
Chief, Environmental Compliance Division

Attachment

ER:CH:ea

W:\DATA\HUNLEY\RECYCLED WATER\REG SAN EIR\8-25-14 SRCSD EMD DRAFT EIR COMMENT LETTER.DOCX

10590 Armstrong Ave. Suite A • Mather, CA 95655 • phone (916) 875-8550 • fax (916) 875-8513 • www.emd.saccounty.net

Sacramento County EMD Comments on Draft EIR: Sacramento Regional County Sanitation District / Sacramento Power Authority / City of Sacramento Water Recycling Pipeline Project
August 26, 2014
Page A-1

Title 22, Chapter 3 Regulations (Section 1.1.2)

Clarification Edit
Remove lines 34-36 from page 1-4 which state, "Locally, Sacramento County's Environmental Management Division, and Department of Health and Human Services ensure high quality treatment of recycled water in Sacramento County." Neither EMD, nor the Sacramento County Department of Health and Human Services provides oversight of recycled water treatment. 03-01

Recycled Water Lateral Alignments (Section 2.3.2)

Recycled Water Use Site Monitoring and Inspection Discussion Needed
The EIR should note that this is the first recycled water use project in the City of Sacramento and should address the extensive plumbing retrofitting, site monitoring and inspection infrastructure needed for the potential customers listed in Table 2-2 of the EIR which includes cemeteries, commercial / business parks, golf courses, industries, parks and schools. The potential recycled water demand to these City customers is estimated to be approximately 3,650 AFY, or approximately 3.25 million gallons per day at build-out. 03-02

For comparison purposes, the existing Regional San Phase 1 recycled water service area provides up to 3.5 million gallons per day of recycled water to neighboring parks, landscaped street medians and commercial and school sites in the Laguna area of Sacramento County. Pursuant to the Waste Discharge Requirements Order No. 97-146, issued by the Central Valley Regional Water Quality Control Board (CVRWQCB), a robust plan review, permitting and inspection system had to be put in place for Phase 1 customers to ensure safety of the public health and environment. Please provide additional information on the plan review, permitting and inspection process for the potential customers listed in the EIR.

Hazards and Hazardous Materials (Section 3.9)

Hazardous Materials
Pages 3.9-7 through 3.9-16 discuss Hazards and Hazardous Materials related to the Project. As the project is going to be a year-long (and possibly longer) construction site, please add the following language. 03-03

"If hazardous materials are stored in reportable quantity and/or hazardous waste is generated at any laydown area along the pipeline, separate hazardous materials and/or hazardous waste permits may be required for each location. Permits are business and owner specific and may not be transferred to other owners or locations. Since construction of the main pipeline is anticipated to last 13 months the construction exemption outlined in Sacramento County Code 6.96.095 may not apply."

For permanent structures, please add the following language.

"If hazardous materials are stored in reportable quantity and/or hazardous waste is generated at any appurtenant facilities along the pipeline, a separate hazardous materials and/or hazardous waste permit may be required for each location. Permits are business and owner specific and may not be transferred to other owners or locations."

Existing Grit and Screenings Landfill

On page 3.9-11, lines 19-31, the EIR states, "A 23-acre grit and screenings landfill area, of which about eight acres were historically used for waste disposal, is located within the portion of the site which houses the existing WRF. The landfill was operated as an unlined Class III solid waste disposal site that accepted waste from December 1982 to 23 January 1993. The landfill is permitted under the Regional Water Board WDR number R5-2003-0076. CalRecycle references the landfill by its solid waste information system (SWIS) number: 34-AA-0029. During operation, trenches were excavated into native soils, filled with waste, and then covered with soil. The landfill was officially closed in 1994 by the installation of a final soil cover. The landfill is currently in the post-closure maintenance and monitoring phase. The waste stream consisted primarily of inert inorganic solids (grit) and ground organic and inorganic solids (screenings), and ash from the SRWTP incinerator. In addition to these process wastes, construction debris was also disposed." 03-04

The recycled water pipeline project is located to the north of an existing closed landfill, which accepted grit and screenings from SRCSD. Per Title 27 of the California Code of Regulations (27 CCR), Section 21190 (c), the Local Enforcement Agency (LEA) shall review and approve proposed postclosure land uses if the project involves structures within 1,000 feet of the disposal area, structures on top of waste, modification of the low permeability layer, or irrigation over waste.

The project description states that two new above-ground pumps are to be installed at the Water Reclamation Facility (WRF), but it does not provide the distance to the landfill. If the project involves structures within 1,000 feet of the landfill, then the structures must meet the construction standards of 27 CCR 21190 (g), or an exemption must be applied for and approved by the LEA and CalRecycle.

Please provide additional information on the distance of the WRF from the closed landfill and describe how the requirements of 27 CCR 21190 will be met.

Recycled Water Connections to School Grounds

On page 3.9-14, lines 20-24, the EIR states, "Several of the proposed future laterals may offer recycled water connections to service school grounds. However, any connections to school irrigation systems and related construction would occur along existing road rights-of-way and would not occur on school grounds. Therefore, no impact related to schools would occur. This issue is not discussed further in this Draft EIR." The EIR does not account for the impacts caused from retrofitting the school grounds for recycled water irrigation, or for the periodic shut down tests and annual site inspections needed to ensure recycled water and potable water are not cross-connected. 03-05

Hydrology and Water Quality (Section 3.10)

Water Reclamation (Recycled Water) Regulations and Recycled Water Policy

On page 3.10-6, lines 16-19, the EIR states, "The SRWTP is currently permitted to reclaim up to 5 mgd of wastewater under Waste Discharge Requirements Order No. 97-146, adopted June 20, 1997, and includes a provision for expansion to 10 mgd." The referenced Order No. 97-146 states that the Sacramento County Water Agency will be responsible for distribution of the 03-06

Sacramento County EMD Comments on Draft EIR: Sacramento Regional County Sanitation District / Sacramento Power Authority / City of Sacramento Water Recycling Pipeline Project
August 26, 2014
Page A-3

reclaimed [recycled] water off of the Sacramento Regional Wastewater Treatment Plant. The EIR states that the City of Sacramento will be the water purveyor for the Project. This change may affect the existing order and require approval from the CVRWQCB. 03-06 Cont'd

Comment 3-1: This comment is a request to remove lines 34-36 from page 1-4. This change has been made to Chapter 1 "Introduction," of the Final EIR.

Comment 3-2: This comment is stating that the Draft EIR should address the extensive plumbing retrofitting, site monitoring and inspection infrastructure needed for the potential customers listed in Table 2-2. As stated in Chapter 2 "Project Description," the customers listed in Table 2-2 are potential customers. Regional San is still in the stakeholder development process with these potential customers. Other than a verbal agreement from Sacramento Municipal Utilities District (SMUD), Regional San has not obtained written or verbal agreements from these customers for their use of the recycled water. Therefore, in anticipation of reaching agreements with future customers, Regional San has opted to assess the potential environmental impacts associated with the construction of recycled water laterals (see Chapter 2, "Project Description") to serve prospective customers along the alignment. However, evaluation of impacts as a result of plumbing retrofitting, site monitoring and inspection as result of the Project are speculative and outside the control of Regional San. No changes were made to the Draft EIR.

Comment 3-3: This comment is request to add additional text to Section 3.9 "Hazardous Materials" of the Draft EIR. The requested text was added to Section 3.9 "Hazards and Hazardous Materials."

Comment 3-4: This comment is regarding the existing grit and screenings landfill. Regional San is planning to clean-close the existing grit and screenings landfill (remove it completely) under the Site Preparation Project as part of Regional San's EchoWater Project beginning early 2015. Regional San has been working with Lea Gibson at Sacramento County Environmental Management Department as the Local Enforcement Agency. Analysis of the closure of the landfill is included in the EchoWater Project Draft EIR. No changes were made to the draft EIR.

Comment 3-5: The comment is regarding recycled water connections to school grounds. As stated in Chapter 2 "Project Description," the customers listed in Table 2-2 are potential customers. Regional San is still in the stakeholder development process with these potential customers. Other than a verbal agreement from SMUD, Regional San has not obtained written or verbal agreements from schools for their use of the recycled water. Therefore, in anticipation of reaching agreements with future customers, Regional San has opted to assess the potential environmental impacts associated with the

construction of recycled water laterals (see Chapter 2, "Project Description") to serve prospective customers along the alignment. However, evaluation of impacts as a result of connections to school irrigation systems, retrofitting school grounds, shut down tests and annual site inspections as result of the Project are speculative and outside the control of Regional San. No changes were made to the Draft EIR.

Comment 3-6: The comment is regarding Section 3.10 "Hydrology and Water Quality" section of the Draft EIR. The Draft EIR does not state that the City of Sacramento (City) is water purveyor for the Project. Principles of Agreement are currently being negotiated with the City regarding a potential retailer/wholesaler relationship, but have not been finalized. As stated in the *Wholesale Agreement Between Sacramento Regional County Sanitation District and Sacramento County Water Agency for the water Recycled Program* (SRCSD 2002), SRCSD is responsible for treating the SRWTP effluent to tertiary standards and ensuring compliance with California Regional Water Quality Control Board Master Water Reclamation Permit (Order No. 97-146), and providing recycled water to the Sacramento County Water Agency (SCWA) at specified rates and pressures. The SCWA is responsible for compliance with off-site permit requirements, responding to customer service requests, training customers in the proper use of reclaimed water, and maintaining the recycled water distribution system. However, this agreement is only applicable to the SCWA's Phase 1 Area for recycled water. It is not known at this time if a change to the existing Master Water Reclamation Permit (Order No. 97-146) will be required. No changes were made to the Draft EIR.

2.6 Letter 4 – State Water Resources Control Board

Comment Letter 4

CALIFORNIA Water Boards

EDMUND G. BROWN JR. GOVERNOR

MATTHEW RODRIQUEZ SECRETARY FOR ENVIRONMENTAL PROTECTION

State Water Resources Control Board

AUG 1 4 2014

Jose Ramirez
Sacramento Regional County Sanitation District
10060 Goethe Road
Sacramento, CA 95827

Dear Mr. Ramirez:

ENVIRONMENTAL IMPACT REPORT (EIR) FOR SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT (DISTRICT); SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT/ SACRAMENTO POWER AUTHORITY/ CITY OF SACRAMENTO WATER RECYCLING PIPELINE PROJECT (PROJECT); SACRAMENTO COUNTY; STATE CLEARINGHOUSE NO. 2013122046

We understand that the District is pursuing Clean Water State Revolving Fund (CWSRF) financing for this Project. As a funding agency and a state agency with jurisdiction by law to preserve, enhance, and restore the quality of California's water resources, the State Water Resources Control Board (State Water Board) is providing the following information on the EIR to be prepared for the Project.

The State Water Board, Division of Financial Assistance, is responsible for administering the CWSRF Program. The primary purpose for the CWSRF Program is to implement the Clean Water Act and various state laws by providing financial assistance for wastewater treatment facilities necessary to prevent water pollution, recycle water, correct nonpoint source and storm drainage pollution problems, provide for estuary enhancement, and thereby protect and promote health, safety and welfare of the inhabitants of the state. The CWSRF Program provides low-interest funding equal to one-half of the most recent State General Obligation Bond Rates with a 20-year term. Applications are accepted and processed continuously. Please refer to the State Water Board's CWSRF website at: www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/index.shtml. 04-01

The CWSRF Program is partially funded by the United States Environmental Protection Agency and requires additional "CEQA-Plus" environmental documentation and review. Three enclosures are included that further explain the CWSRF Program environmental review process and the additional federal requirements. For the complete environmental application package, please visit: http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/srf_forms.shtml. The State Water Board is required to consult directly with agencies responsible for implementing federal environmental laws and regulations. Any environmental issues raised by federal agencies or their representatives will need to be resolved prior to State Water Board approval of a CWSRF financing commitment for the proposed Project. For further information on the CWSRF Program, please contact Mr. Ahmad Kashkoli, at (916) 341-5855.

FELICIA MARCUS, CHAIR | THOMAS HOWARD, EXECUTIVE DIRECTOR

1001 I Street, Sacramento, CA 95814 | Mailing Address: P.O. Box 100, Sacramento, Ca 95812-0100 | www.waterboards.ca.gov

RECYCLED PAPER

It is important to note that prior to a CWSRF financing commitment, projects are subject to provisions of the Federal Endangered Species Act (ESA), and must obtain Section 7 clearance from the United States Department of the Interior, Fish and Wildlife Service (USFWS), and/or the United States Department of Commerce National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS) for any potential effects to special-status species.

Please be advised that the State Water Board will consult with the USFWS, and/or the NMFS regarding all federal special-status species that the Project has the potential to impact if the Project is to be financed by the CWSRF Program. The District will need to identify whether the Project will involve any direct effects from construction activities, or indirect effects such as growth inducement, that may affect federally listed threatened, endangered, or candidate species that are known, or have a potential to occur in the Project site, in the surrounding areas, or in the service area, and to identify applicable conservation measures to reduce such effects. 04-02

In addition, CWSRF projects must comply with federal laws pertaining to cultural resources, specifically Section 106 of the National Historic Preservation Act (Section 106). The State Water Board has responsibility for ensuring compliance with Section 106, and must consult directly with the California State Historic Preservation Officer (SHPO). SHPO consultation is initiated when sufficient information is provided by the CWSRF applicant. If the District decides to pursue CWSRF financing, please retain a consultant that meets the Secretary of the Interior's Professional Qualifications Standards (http://www.nps.gov/history/local-law/arch_stnds_9.htm) to prepare a Section 106 compliance report. 04-03

Note that the District will need to identify the Area of Potential Effects (APE), including construction and staging areas, and the depth of any excavation. The APE is three-dimensional and includes all areas that may be affected by the Project. The APE includes the surface area and extends below ground to the depth of any Project excavations. The records search request should extend to a ½-mile beyond the Project APE. The appropriate area varies for different projects but should be drawn large enough to provide information on what types of sites may exist in the vicinity.

Other federal environmental requirements pertinent to the Project under the CWSRF Program include the following (for a complete list of all federal requirements please visit: http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/docs/forms/application_environmental_package.pdf):

A. Compliance with the Federal Clean Air Act: (a) Provide air quality studies that may have been done for the Project; and (b) if the Project is in a nonattainment area or attainment area subject to a maintenance plan; (i) provide a summary of the estimated emissions (in tons per year) that are expected from both the construction and operation of the Project for each federal criteria pollutant in a nonattainment or maintenance area, and indicate if the nonattainment designation is moderate, serious, or severe (if applicable); (ii) if emissions are above the federal de minimis levels, but the Project is sized to meet only the needs of current population projections that are used in the approved State Implementation Plan for air quality, quantitatively indicate how the proposed capacity increase was calculated using population projections. 04-04

B. Compliance with the Coastal Zone Management Act: Identify whether the Project is within a coastal zone and the status of any coordination with the California Coastal Commission. 04-05

C. Protection of Wetlands: Identify any portion of the proposed Project area that should be evaluated for wetlands or United States waters delineation by the United States Army Corps of Engineers (USACE), or requires a permit from the USACE, and identify the status of coordination with the USACE. 04-06

D. Compliance with the Farmland Protection Policy Act: Identify whether the Project will result in the conversion of farmland. State the status of farmland (Prime, Unique, or Local and Statewide Importance) in the Project area and determine if this area is under a Williamson Act Contract. 04-07

E. Compliance with the Migratory Bird Treaty Act: List any birds protected under this act that may be impacted by the Project and identify conservation measures to minimize impacts. 04-08

F. Compliance with the Flood Plain Management Act: Identify whether or not the Project is in a Flood Management Zone and include a copy of the Federal Emergency Management Agency flood zone maps for the area. 04-09

G. Compliance with the Wild and Scenic Rivers Act: Identify whether or not any Wild and Scenic Rivers would be potentially impacted by the Project and include conservation measures to minimize such impacts. 04-10

Following are specific comments on the District's draft EIR:

1. Please quantify the Project's operational air emissions in section 3.4 Air Quality. 04-11

2. Table 3.6-1 on page 3.6-12 indicates the cultural resources record search by the North Central Information Center was conducted within 0.25 miles of the Project alignment. The CWSRF Program requires a record search that extends 0.5 miles beyond the Project's APE. Please define the APE, adjust the records search, and reevaluate the Project's impacts to Cultural Resources. 04-12

3. Page 3.6-26 states: "mitigation for trenchless drilling using HDD or pipe jacking methods is infeasible." Therefore, Mitigation Measure 3.6-4 does not mitigate Impact 3.6-4 to a less than significant level since the District states there is a known presence of paleontological resources in the region. Please consider other mitigation measures such as soil sampling to determine the depth of the potential paleontological resources in order to ensure the Project's impact to paleontological resources will be less than significant after mitigation. 04-13

4. Page 3.9-10 and 3.9-11 state: "hydrocarbon-impacted soils may be located on the SWRTP site; however, the depth and extent of hydrocarbon-contaminated soils has not yet been identified." Consider conducting soil sampling or a risk assessment of the SWRTP site to avoid potential exposure of contaminants to workers and the public. 04-14

5. Page 3.10-22 states: "Construction and operation of the proposed Project will not result in construction of housing or other structure within a 100-year flood hazard area." Please attach a floodplain map to confirm that the future 120-foot diameter, 27-foot high storage tank will not be within the 100-year flood hazard area. 04-15

Please provide us with the following documents applicable to the proposed Project following the District's California Environmental Quality Act (CEQA) process: (1) one copy of the draft and final EIR, (2) the resolution adopting the EIR and making CEQA findings, (3) all comments received during the review period and the District's response to those comments, (4) the adopted Mitigation Monitoring and Reporting Program (MMRP), and (5) the Notice of Determination filed with the Sacramento County Clerk and the Governor's Office of Planning and Research, State Clearinghouse. In addition, we would appreciate notices of any hearings or meetings held regarding environmental review of any projects to be funded by the State Water Board. 04-16

Thank you for the opportunity to review the District's draft EIR. If you have any questions or concerns, please feel free to contact me at (916) 341-5855, or by email at Ahmad.Kashkoli@waterboards.ca.gov, or contact Vicki Lin at (916) 341-7388, or by email at Vicki.Lin@waterboards.ca.gov.

Sincerely,

Ahmad Kashkoli
Senior Environmental Scientist

Enclosures (3)

1. Clean Water State Revolving Fund Environmental Review Requirements
2. Quick Reference Guide to CEQA Requirements for State Revolving Fund Loans
3. Basic Criteria for Cultural Resources Reports

cc: State Clearinghouse
(Re: SCH# 2013122046)
P.O. Box 3044
Sacramento, CA 95812-3044

CLEAN WATER STATE REVOLVING FUND

California Environmental Quality Act Requirements

State Water Resources Control Board
Division of Financial Assistance

The State Water Resources Control Board (State Water Board), Division of Financial Assistance, administers the Clean Water State Revolving Fund (CWSRF) Program. The CWSRF Program is partially funded by grants from the United States Environmental Protection Agency. All applicants seeking CWSRF financing must comply with the California Environmental Quality Act (CEQA), and provide sufficient information so that the State Water Board can document compliance with federal environmental laws. The "Environmental Package" provides the forms and instructions needed to complete the environmental review requirements for CWSRF Program financing. It is available at:

http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/srf_forms.shtml

We've got the **green**...
to keep California's **water clean**.
CLEAN WATER STATE REVOLVING FUND

LEAD AGENCY

The applicant is usually the "Lead Agency" and must prepare and circulate an environmental document before approving a project. Only a public agency, such as a local, regional or state government, may be the "Lead Agency" under CEQA. If a project will be completed by a non-governmental organization, "Lead Agency" responsibility goes to the first public agency providing discretionary approval for the project.

RESPONSIBLE AGENCY

The State Water Board is generally a "Responsible Agency" under CEQA. As a "Responsible Agency," the State Water Board must make findings based on information provided by the "Lead Agency" before financing a project.

ENVIRONMENTAL REVIEW

The State Water Board's environmental review of the project's compliance with both CEQA and federal cross-cutting regulations must be completed before a project can be financed by the CWSRF Program.

DOCUMENT REVIEW

Applicants are encouraged to consult with State Water Board staff early during preparation of CEQA document if considering CWSRF financing. Applicants shall also send their environmental documents to the State Water Board, Environmental Review Unit during the CEQA public review period. This way, any environmental concerns can be addressed early in the process.

REQUIRED DOCUMENTS

The Environmental Review Unit requires the documents listed below to make findings and complete its environmental review. Once the State Water Board receives all the required documents and makes its own findings, the environmental review for the project will be complete.

- ✓ Draft and Final Environmental Documents: Environmental Impact Report, Negative Declaration, and Mitigated Negative Declaration as appropriate to the project
- ✓ Resolution adopting/certifying the environmental document, making CEQA findings, and approving the project
- ✓ All comments received during the public review period and the "Lead Agency's" responses to those comments
- ✓ Adopted Mitigation Monitoring and Reporting Plan, if applicable
- ✓ Date-stamped copy of the Notice of Determination or Notice of Exemption filed with the County Clerk(s) and the Governor's Office of Planning and Research
- ✓ CWSRF Evaluation Form for Environmental Review and Federal Coordination with supporting documents

Contact Information: For more information related to the CWSRF Program environmental review process and requirements, please contact your State Water Board Project Manager or Mr. Ahmad Kashkoli at 916-341-5855 or Ahmad.Kashkoli@waterboards.ca.gov

CALIFORNIA Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS
waterboards.ca.gov

REVISED: FEB. 2014

CLEAN WATER STATE REVOLVING FUND

Basic Criteria for Cultural Resources Report Preparation

State Water Resources Control Board
Division of Financial Assistance

For Section 106 Consultation with the State Historic Preservation Officer (SHPO) under the National Historic Preservation Act

CULTURAL RESOURCES REPORT

The Cultural Resources Report must be prepared by a qualified researcher that meets the Secretary of the Interior's Professional Qualifications Standards. Please see the Professional Qualifications Standards at the following website at: *http://www.cr.nps.gov/local-law/arch_stnds_9.htm*

The Cultural Resources Report should include one of the four "findings" listed in Section 106. These include:

"No historic properties affected"
(no properties are within the area of potential effect (APE; including below the ground).

"No effect to historic properties"
(properties may be near the APE, but the project will not have any adverse effects).

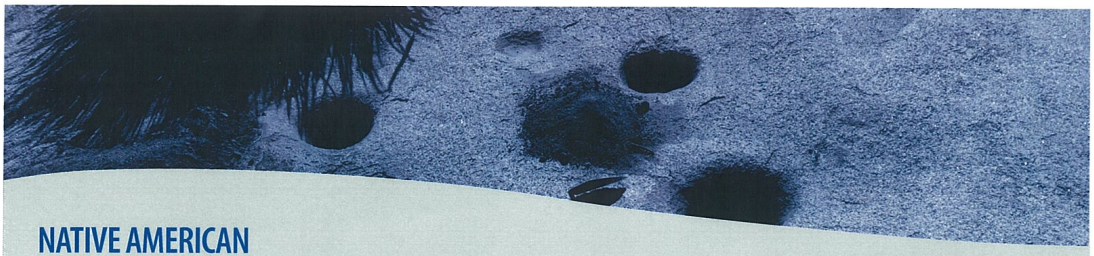
"No adverse effect to historic properties"
(the project may affect "historic properties", but the effects will not be adverse).

"Adverse effect to historic properties"
Note: Consultation with the SHPO will be required if a "no adverse effect to historic properties" or an "adverse effect to historic properties" determination is made, to develop and evaluate alternatives or modifications to the proposed project that could avoid, minimize or mitigate adverse effects on "historic properties."

RECORDS SEARCH

- A records search (less than one year old) extending to a half-mile beyond the project APE from a geographically appropriate Information Center is required. The records search should include maps that show all recorded sites and surveys in relation to the APE for the proposed project, and copies of the confidential site records included as an appendix to the Cultural Resources Report.
- The APE is three-dimensional (depth, length and width) and all areas (e.g., new construction, easements, staging areas, and access roads) directly affected by the proposed project.

We've got the **green**...
to keep California's **water clean**.
CLEAN WATER STATE REVOLVING FUND



NATIVE AMERICAN and INTERESTED PARTY CONSULTATION

- Native American and interested party consultation should be initiated at the planning phase of the proposed project to gather information to assist with the preparation of an adequate Cultural Resources Report.
- The Native American Heritage Commission (NAHC) must be contacted to obtain documentation of a search of the Sacred Lands Files for or near the project APE.
- All local Native American tribal organizations or individuals identified by the NAHC must be contacted by certified mail, and the letter should include a map and a description of the proposed project.
- Follow-up contact should be made by telephone and a phone log maintained to document the contacts and responses.
- Letters of inquiry seeking historical information on the project area and local vicinity should be sent to local historical societies, preservation organizations, or individual members of the public with a demonstrated interest in the proposed project.

Copies of all documents mentioned above (project description, map, phone log and letters sent to the NAHC and Native American tribal organizations or individuals and interested parties) must be included in the Cultural Resources Report.

Contact Information: For more information related to the CWSRF Program Cultural Resources and Requirments, please contact Mr. Ahmad Kashkoli at 916-341-5855 or Ahmad.Kashkoli@waterboards.ca.gov

PRECAUTIONS

A finding of ***"no known resources"*** without supporting evidence is unacceptable. The Cultural Resources Report must identify resources within the APE or demonstrate with sufficient evidence that none are present.

"The area is sensitive for buried archaeological resources," followed by a statement that ***"monitoring is recommended."*** Monitoring is not an acceptable option without good-faith effort to demonstrate that no known resource is present.

If ***"the area is already disturbed by previous construction"*** documentation is still required to demonstrate that the proposed project will not affect "historic properties." An existing road can be protecting a buried archaeological deposit or may itself be a "historic property." Additionally, previous construction may have impacted an archaeological site that has not been previously documented.

SHPO CONSULTATION LETTER

Submit a draft consultation letter prepared by the qualified researcher with the Cultural Resources Report to the State Water Resources Control Board. A draft consultation letter template is available for download on the State Water Board webpage at: *http://www.waterboards.ca.gov/water_issues/programs/grants_loans/cwsrf_requirements.shtml*

CALIFORNIA Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS
waterboards.ca.gov

REVISED: JAN. 2014

ENVIRONMENTAL REVIEW REQUIREMENTS

The Clean Water State Revolving Fund (CWSRF) Program is partially funded by the United States Environmental Protection Agency (EPA), and is subject to federal environmental regulations as well as the California Environmental Quality Act (CEQA). All applicants seeking CWSRF financing must comply with both CEQA and the federal cross-cutting regulations. The **"Environmental Package"** provides the forms and instructions needed to complete the environmental review requirements for CWSRF financing. The forms and instructions are available at: *http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/srf_forms.shtml.*

Lead Agency/Applicant

The applicant will generally act as the "Lead Agency" for environmental review. It will prepare, circulate, and consider the environmental documents prior to approving the project. It also provides the State Water Board with copies of the CEQA documents, and a completed **"Environmental Evaluation Form for Environmental Review and Federal Coordination"** *(http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/docs/forms/application_environmental_package.pdf)* with supporting documents as part of the **"Environmental Package."**

Responsible Agency/State Water Board

The State Water Board acts on behalf of EPA to review and consider the environmental documents before approving financing. The State Water Board may require additional studies or documentation to make its own CEQA findings, as well as circulate CEQA documents and other environmental reports to relevant federal agencies for consultation before making a determination about the project financing.

The Applicant must address all relevant federal agencies' comments before project financing is approved.

FEDERAL CROSS-CUTTING REGULATIONS

The CWSRF Program requires consultation with relevant federal agencies on the following federal environmental regulations, if applicable to the project:

- Clean Air Act
- Coastal Barriers Resources Act
- Coastal Zone Management Act
- Endangered Species Act
- Environmental Justice
- Farmland Protection Policy Act
- Floodplain Management
- Magnuson-Stevens Fishery Conservation and Management Act
- Migratory Bird Treaty Act
- National Historic Preservation Act
- Protection of Wetlands
- Safe Drinking Water Act, Sole Source Aquifer Protection
- Wild and Scenic Rivers Act

The following is a brief overview of requirements for some of the key regulations.

Clean Air Act (CAA)

The CAA general conformity analysis only applies to projects in areas not meeting the National Ambient Air Quality Standards or subject to a maintenance plan.

If project emissions are below the federal "de minimis" levels then:

- A general conformity analysis is not required.

If project emissions are above the federal "de minimis" levels then:

- A general conformity determination for the project must be made. A general conformity determination can be made if facilities are sized to meet the needs of current population projections used in an approved State Implementation Plan for air quality.
- Using population projections, applicants must explain how the proposed capacity increase was calculated.

An air quality modeling analysis is necessary of all projects for the following criteria pollutants, regardless of attainment status:

- Carbon monoxide
- Lead
- Oxides of nitrogen
- Ozone
- Particulate matter (PM2.5 and PM10)
- Sulfur dioxide

Endangered Species Act (ESA)

The ESA requires an analysis of the effects on federally listed species. The State Water Board will determine the project's potential effects on federally listed species, and will initiate informal/formal consultation with the United States Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service, as necessary under Section 7 of the ESA.

Required Documents:

- ✓ A species list, less than one year old, from the USFWS and the California Department of Fish and Wildlife's Natural Diversity Database;
- ✓ A biological survey conducted during the appropriate time of year;
- ✓ Maps or documents (biological reports or biological assessments, if necessary); and
- ✓ An assessment of the direct or indirect impacts to any federally listed species and/or critical habitat. If no effects are expected, explain why and provide the supporting evidence.

Comment 4-1: This comment is an introductory statement. This comment also provides information on the Clean Water State Revolving Fund (CWSRF) financing requirements and information on the State Water Resources Control Board's (State Water Board) Division of Financial Assistance, which is responsible for administering the CWSRF program. It does not address the adequacy of the Draft EIR. No changes were made to the Draft EIR.

Comment 4-2: This comment states that the prior to a CWSRF financing commitment, projects are subject to the provisions of the Federal Endangered Species Act (ESA). The comment also states that the State Water Board will consult with the United States Fish and Wildlife Service (USFWS) and/or National Marine Fisheries Service (NMFS) regarding all federal special-status species that the Project has the potential to impact if the Project is to be financed by the CWSRF Program. Section 3.5 "Biological Resources," of the Draft EIR addresses the ESA requirements, potential effects to special status species as a result of construction of the Project, role of the South Sacramento County Habitat Conservation Plan, and mitigation measures. Text was added to Section 3.5 "Biological Resources," Section 3.5.4 "Effects Determination for Federally Listed Species from Operation of the Project," in the Final EIR to clarify that operation of the project is expected to have no effect on federally-listed aquatic species. Section 5.1 "Growth-Inducing Impacts," discusses the potential for direct or indirect grown inducement as a result of implementation of the project.

Comment 4-3: The comment states that CWSRF projects must comply with federal laws pertaining to cultural resources, specifically Section 106 of the National Historic Preservation Act (Section 106). Regional San will submit information to the State Water Board so it can initiate consultation with the State Historic Preservation Officer. This includes a Section 106 compliance report that identifies the Area of Potential Effects (APE) and a records search that extends to a 0.5 mile beyond the project APE.

Comment 4-4: This comment is regarding Project compliance with the Federal Clean Air Act. Section 3.4, "Air Quality," and Section 3.8 "Climate Change," of the Draft EIR address compliance with the federal Clean Air Act (CAA) regulations. Section 3.4, "Air Quality," of the Draft EIR addresses criteria air pollutants and documents the attainment status designations for Sacramento County for both the federal and state standards (see Draft EIR Table 3.4-4). Impacts 3.4-1 through 3.4-4 address the Project's short-term construction and long-term operational emissions of criteria air pollutants and precursors, toxic air contaminants, and odors. Impact 3.8-1 addresses the Project's greenhouse gas emissions. All project-generated emissions would be less than significant with mitigation incorporated. Furthermore, as shown in Section 3.4, "Air Quality," Table 3.4-7, of the Draft EIR, the Project's emissions would not exceed applicable *de minimis* thresholds and no further evaluation is required under the federal General Conformity Rule. No changes were made to the Draft EIR.

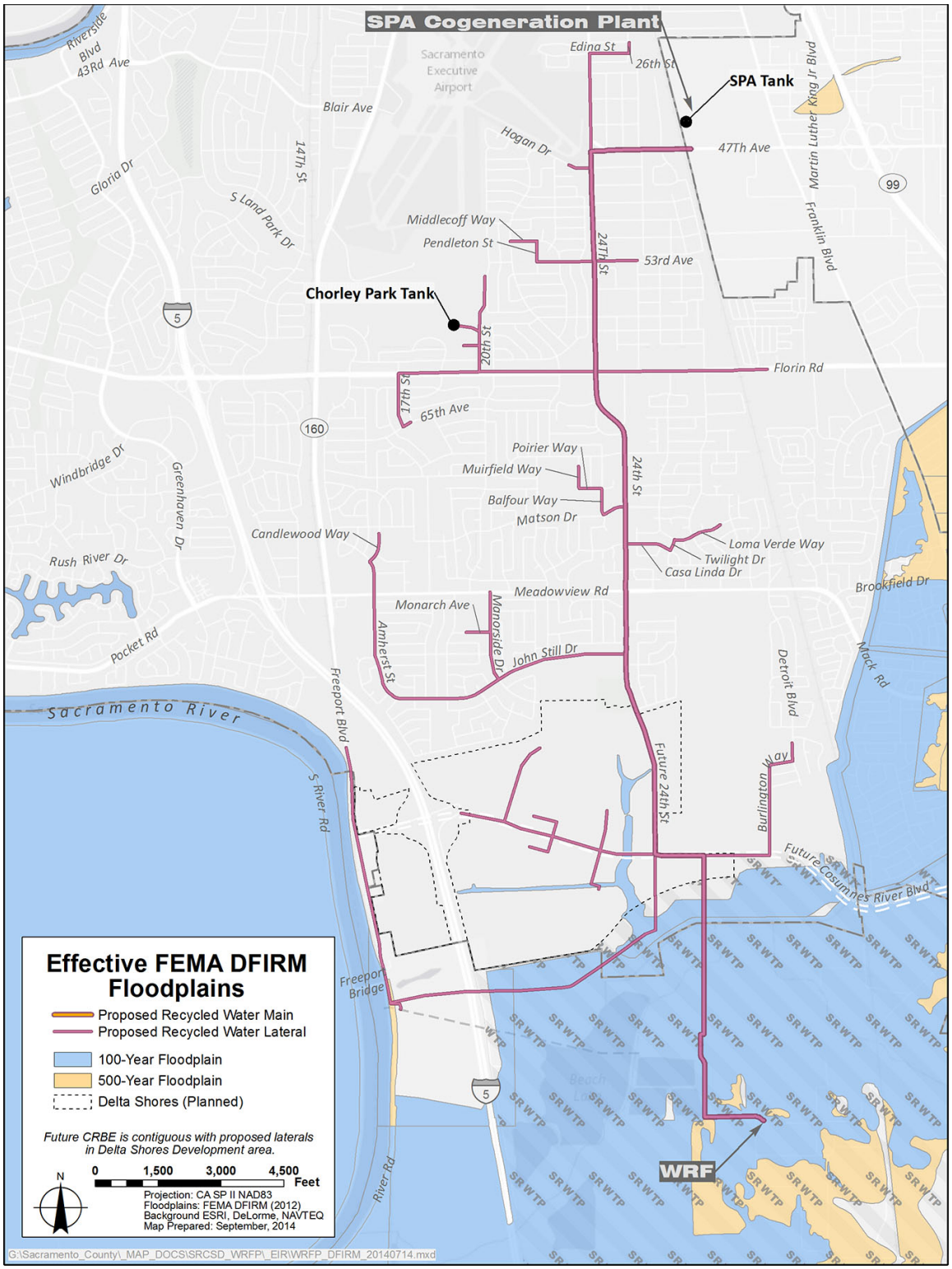
Comment 4-5: The comment is regarding Project compliance with the Coastal Zone Management Act. Section 6.1.3 "Coastal Zone Management Act of 1972, as amended," addresses compliance with the Coastal Zone Management Act. No changes were made to the Draft EIR.

Comment 4-6: The comment is regarding protection of wetlands. An "Approved Wetland Delineation" was submitted to USACE under the WRDA agreement with Sacramento County Agencies on June 25, 2014 for their review and concurrence. USACE requested additional information on August 7, 2014. Regional San is in the process of gathering and providing this additional information to USACE. No changes were made to the Draft EIR.

Comment 4-7: The comment is regarding Project compliance with the Farmland Protection Policy Act. Section 3.3 "Agricultural Resources," of the Draft EIR identifies the status of farmland (Prime, Unique, or Local and Statewide), if applicable, and states that the project will not result in the conversion of farmland. Also, see Section 6.1.6 "Farmland Protection Policy Act of 1981," of the Draft EIR for further information on compliance with the Farmland Protection Policy Act. No changes were made to the Draft EIR.

Comment 4-8: The comment is regarding Project compliance the Migratory Bird Treaty Act (MBTA). Section 3.5 "Biological Resources," of the Draft EIR addresses compliance with the MBTA. Also, see Section 6.1.10 "Migratory Bird Treaty Act," for further information on compliance with the MBTA. No changes were made to the Draft EIR.

Comment 4-9: The comment is regarding Project compliance with Flood Plain Management Act. A copy of the Federal Emergency Management Agency (FEMA) flood zone map covering the Project area appears below. No changes were made to the Draft EIR.



Comment 4-10: The comment is regarding Project compliance with the Wild and Scenic Rivers Act. There are no Wild and Scenic Rivers in the Project area, therefore

Construction or operation of the Project will not impact any rivers protected by the National Wild and Scenic Rivers Act. No changes were made to the Draft EIR.

Comment 4-11: The comment is to quantify the Project's operational air emissions in Section 3.4 "Air Quality." As discussed in Section 3.4 "Air Quality," of the Draft EIR, Impact 3.4-2, operation of the Project would not result in any additional employees and maintenance of the recycled water pipelines would result in minimal vehicle trips, estimated at once or twice a year. Therefore, only a nominal increase in operational mobile-source emissions would occur with implementation of the proposed Project. In addition, the Project would include up to four new electric pumps. Because the pumps would be electric-powered, no stationary-source emissions would occur at the Project site. Criteria air pollutant emissions that would occur to power the pumps would occur elsewhere in the air basin at a power generation facility would be very minimal due to the low electrical demand to operate the pumps. Any electrical generation facilities with stationary-source emissions would be subject to air regulations, permitting requirements, and emissions controls.

Because the Sacramento Metropolitan Air Quality Management District(SMAQMD) permitting process would not allow emissions beyond levels that would interfere with attainment of the California Ambient Air Quality Standards (CAAQS) or National Ambient Air Quality Standards (NAAQS), the new pumps for the recycled water pipelines would not violate an air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. No quantification of operational mobile or stationary source emissions was necessary to support the Draft EIR Impact 3.4-2 conclusion.

However, quantification of potential greenhouse gas emissions is provided Section 3.8 "Climate Change" and Appendix C "Air Quality and GHG Modeling," of the Draft EIR. Direct emissions from the operation of additional pumps for the proposed recycled water alignment were quantified using utility specific emission factors for the Sacramento Municipal Utility District obtained from California Emissions Estimator Model (CalEEMod). The operational greenhouse gases (GHG) emissions from the Project would consist of emissions from electricity consumption to run four additional electric pumps for recycled water. As stated above, operation and maintenance of the new pipeline alignment would not require any new employees and minimal vehicle trips (e.g., less than two per year) to monitor the alignment. Therefore, Project operation would generate a negligible increase in mobile-source emissions. As presented in Table 3.8-1in Section 3.8 "Climate Change," of the Draft EIR, the total net increase in operational GHG emissions from increased pumping would be 118 CO2e (metric tons (MT)). As discussed in Impact 3.8-1, even in a worst-case scenario of overlapping construction and operational emissions occurring in a single year, which would result in an increase of 664 MT CO2e/year, the incremental increase in GHG emissions associated with the proposed Project would not exceed the 10,000 MT CO2e/year threshold. Therefore, the generation of GHGs due to the Project would be less than significant. See Table 3.8-1 in Section 3.8 "Climate Change," of the Draft EIR and Appendix C "Air Quality and GHG Modeling," for detailed calculations.

No changes were made to the Draft EIR.

Comment 4-12: The comment is stating that the Cultural Resources Records search needs to be 0.5 miles beyond APE. In response to the State Water Board's comment, the cultural resources record search by the North Central Information Center was expanded and re-conducted to extend a 0.5-mile around the Project's APE (rather than 0.25-mile). The Section 106 compliance report was revised to reflect the expanded record search. In addition, Section 3.6 "Cultural Resources," of the Draft EIR has been revised to reflect the 0.5-mile record search. The expanded records search did not alter any of the potential cultural resource impacts of the Project, as presented in the Section 106 report and Draft EIR Impacts 3.6-1 through 3.6-4.

Comment 4-13: The comment states that Mitigation Measure 3.6-4 does not mitigate Impact 3.6-4 to a less than significant level. As stated in Chapter 3.6 "Cultural Resources" no documented paleontological resources have been identified within the Project alignment. Text has been changed in Impact 3.6-4 and Mitigation Measure 3.6-4 in consideration of the comment.

Comment 4-14: The comment is regarding the fact that hydrocarbon-impacted soils may be located at the Sacramento Regional Wastewater Treatment Plant (SRWTP). Regional San reviewed all existing geotechnical information as part of the preliminary pipeline design for the Project. Regional San is also taking soil samples as part of due diligence on the final pipeline design for the Project. This information will be compiled in a Geotechnical Data Report (GDR). Regional San is also completing a Phase 1 Environmental Site Assessment for the final pipeline design for the project. No changes were made to the Draft EIR.

Comment 4-15: The comment is regarding potential placement of the proposed Chorley Park recycled water storage tank within a 100-year flood hazard area. See the previously referenced FEMA flood zone map covering the Project area. The map shows the location of the proposed Chorley Park recycled water storage tank in relationship to the 100-year flood hazard zone. The tank is not located within a 100-year flood hazard area. No changes were made to the Draft EIR.

Comment 4-16: The comment is asking Regional San to provide the State Water Board with documents and public meetings related to the CEQA process. All documents will be posted on Regional San's website located at: http://www.regionalsan.com/ for downloading and viewing. No changes were made to the Draft EIR.

This page left blank intentionally.

3.0 Revisions to the Draft EIR

3.1 Introduction

The following revisions are made to the Draft EIR and incorporated as part of the Response to Comment Document as part of the Final EIR. Where revisions to the Draft EIR were made, new text is double underlined and deleted text is ~~struck through~~.

The revisions in this chapter clarify, amplify or make insignificant modifications to the Draft EIR. They do not consist of significant new information showing that a new significant impact would result from the project or from a new mitigation measure, that there would be a substantial increase in the severity of an environmental impact, or that a feasible project alternative or mitigation measure that is considerably different from others previously analyzed would clearly lessen the significant environmental impacts of the project. Accordingly, the revisions in this chapter do not constitute "significant new information" and it is therefore not necessary for the Lead Agency to recirculate the EIR for public comment prior to certification of the Final EIR (CEQA *Guidelines* 15088.5).

Section 3.2 "Changes to the Draft EIR in Response to Comments," below, identifies changes made to the EIR in response to comments on the Draft EIR. Please refer to Chapter 2 "Comments and Responses," for comments and responses on the Draft EIR. Section 3.3 "Staff-Initiated Changes to the Draft EIR," identifies staff-initiated changes made to the Draft EIR.

3.2 Changes to the Draft EIR in Response to Comments

The text changes in this section were initiated by comments on the Draft EIR.

The text in Section 1.1.2 "Title 22, Chapter 3 Regulations of the Draft EIR" is amended as follows:

"The use of water recycled from domestic sewage is regulated by the California Regional Water Quality Control Board (Regional Water Board). California Water Code Section 13551 establishes a State policy to encourage the use of recycled water. Permission to use recycled water is based on the ability to adequately treat domestic wastewater to the point that the recycled water (effluent) meets the requirements of existing Title 22, Chapter 3 Regulations of the California Administrative Code. Title 22, "Disinfected Tertiary Recycled Water," was promulgated by the California Department of Public Health Services (CDPH) to ensure proper health protection and specify the level of treatment appropriate for the intended applications (California Department of Public Health, 2014). ~~Locally, Sacramento County's Environmental Management Division and Department of Health and Human Services ensure high quality treatment of recycled water in Sacramento County."~~

[Chapter 2 "Comments and Responses," Comment 3-1]

Information on the effects determination for federally listed species from the operation of the project was added to Section 3. "Biological Resources" as follows:

"Effects Determination for Federally listed Species from Operation of the Project

The existing WRF is rated and permitted to produce up to 5 mgd of recycled water. The Project's recycled water main will initially convey 1 mgd of water produced at the WRF to serve the SPA Cogeneration Plant on a year-round basis, but will be sized to convey a maximum of 4.6 mgd to serve additional future users via recycled water laterals, storage tanks, and booster pump stations. This 4.6-mgd of recycled water is currently released to the Sacramento River through the SRWTP outfall. Therefore, operation of the proposed Project may have hydrologic effects on the Sacramento River by slightly reducing flows through the SRWTP outfall. An analysis of Sacramento River flows at Freeport, with a period of record of October 1, 1949 to January 31, 2013, showed that during that period, the maximum flow was 115,000 cfs (during the 1986 flood), and a minimum of 3,970 cfs (during the drought of 1977) (USGS 2013). Using a daily timestep, the 90 percent exceedence flow is 9,180 cfs. The 90 percent exceedence flow is the low flow rate that is typically used in the design of water intakes and fish screens. The lowest monthly 90 percent exceedence is 7,500 cfs, and occurs in October.

In summary, proposed Project would have a minimal effect on Sacramento River flows. At full operation of the proposed Project, up to 4.6 mgd (8.5 cfs) would be removed from the Sacramento River. At the lowest Sacramento River flow on record at Freeport, this would result in a reduction of in total flows of 0.2 percent, or a reduction of 0.1 percent during the 90 percent exceedence flow for October. Operation of the project is expected to have **no effect** on federally-listed aquatic species."

[Chapter 2 "Comments and Responses," Comment 4-2]

The text in Section 3.5.4 "Environmental Impacts and Recommended Mitigation Measures" is deleted as follows:

~~"**Issues or Impacts Not Discussed Further** The proposed Project does not involve direct impacts to Morrison Creek, Laguna Creek, or other riparian or wetland areas, therefore no wetland permitting would be required. This issue is not discussed further in this Draft EIR."~~

[Chapter 2 "Comments and Responses," Comment 2-2, 2-3]

An additional impact statement and recommended mitigation measures in Section 3.5.4 "Environmental Impacts and Recommended Mitigation Measures" is added as follows:

"Impact 3.5-8: Construction-related effects on Sensitive Natural Communities and Habitats, including Waters of the United States or Waters of the State.

The proposed Project is not anticipated to have direct impacts to Morrison Creek, Laguna Creek, or other riparian or wetland areas. However, during construction activities potential for effects on sensitive natural communities and habitats, including waters of

the United States or waters of the State may not be entirely avoided. This impact will be potentially significant.

Mitigation Measure 3.5-8: Delineate Waters of the United States and Obtain Authorizations for Fill and Required Permits

Before the Project is implemented and if the Project so warrants, waters of the United States will be delineated according to methods established in the USACE wetlands delineation manual and Arid West Supplement (Environmental Laboratory 1987, 2008). The delineation will map and quantify the acreage of wetland habitats in the area, and will be submitted to USACE for verification.

If wetlands are found within the proposed construction site or any other area to be disturbed, a wetland delineation report will be prepared and submitted to USACE.

If applicable, Regional San will replace, restore, or enhance the acreage of all wetlands, other waters of the United States, and waters of the State that cannot be avoided and will be removed and/or degraded. Thus, the project will achieve "no net loss" of wetland functions and values, in accordance with the requirements of USACE and the Central Valley Regional Water Board. Wetland habitat will be restored, enhanced, and/or replaced at an acreage and location agreed upon by the project proponent, USACE, and the Central Valley Regional Water Board, as appropriate. The acreage, location, and methods will be determined during the Section 401 and Section 404 permitting processes, and will be based on a USACE-verified wetland delineation. Also, if USACE determines that non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the Project area, Regional San will obtain a Waste Discharge Requirement to be issued by the Central Valley Regional Water Board.

Implementation of these mitigation measures would reduce impacts resulting from impacts to sensitive natural communities and habitats, including waters of the United States or waters of the State to less than significant."

[Chapter 2 "Comments and Responses," Comment 2-2, 2-3]

The text in Section 3.6 "Cultural Resources" is amended as follows:

"**Records Search** Efforts to identify cultural resources within the Project alignment consisted of a record search by the North Central Information Center (NCIC) at California State University, Sacramento. The records search revealed ~~46~~ 52 cultural resources investigations have been completed in, adjacent to, or within ~~0.25~~ 0.5 mile of the Project alignment (Table 3.6-1). All or portions of 20 of these previous studies fall within the current Project alignment. An additional ~~seven~~ eight studies were previously conducted adjacent to the Project alignment.

Table 3.6-1. Previous Cultural Resources Inventories Within ~~0.25~~ 0.5 Mile of Project Alignment

NCIC Report No.	Year of Study	Type of Study	Project	Report Authored By	Within Project Alignment
86	1978	Survey and Evaluation	Freeport Shores, Delta Shores	Russo, Marianne	Yes
86	1982	Survey	Delta Shores	Chavez, David	Yes
88	1974	Survey	Morrison Stream Basin	Johnson, Jerald J.	Yes
184	1978	Survey	SSMP EIR	Russo, Marianne	Yes
306	1979	Survey	Proposed Mack Meadowview Road Bridge and Intersection Localities	Rondeau, Michael F.	No
421	1979	Survey	Klotz Property	Peak & Associates	Yes
514	1980	Survey	SMUD Rancho Seco Transmission Line	Peak & Associates	No
1087	1998	Survey	SRWTP Dewatering Facility	Norton, W.L.	No
1895	1992	Survey	Carson Ice-Gen Project	Ebasco Environmental	No
1904	1993	Survey	SMUD Gas Pipeline	Woodward-Clyde Consultants	Yes
1912	1998	Survey	Pacific Bell Site	Derr, Eleanor	Adjacent
3346	2000	Survey	SPA Cogeneration Pipeline	Hatoff, Brian	No
3368	1995	Monitoring	SPA Cogeneration Pipeline	Melton, Laura	No
3489	1993	Survey	SMUD Gas Pipeline	Waechter, Sharon	Yes
3531	1994	Survey	SRWTP Master Plan	Maniery et al.	Yes
3571	1992	Survey	Upper Beach Lake Restoration	Warner, Laurie	Yes
3787	1996	Survey	South Sacramento Corridor	Brown, Jody	Adjacent
3809	1995	Survey	SRWTP Levee Improvement	Maniery and Baker	Yes
3847	1990	Survey	I-5/Laguna Blvd Interchange	Chavez, David	Yes
3849	1987	Evaluation	Riverbend/I-5 Interchange	Chavez, David	Yes
3850	1982	Survey	SRWTP Buffer Zone	Decater, Ernest	Yes
3854	1989	Survey	Sacramento River Flood Control	Weaver, Richard	No
3861	1992	Survey	Freeport Transit Center	McGowan, Dana	No
3862	1996	Survey	Sump 28 Sedimentation Basin	Shapiro, William	No
4206	1990	Survey and Evaluation	Sacramento Urban Area Flood Control	Bouey, Paul	Yes

Table 3.6-1. Previous Cultural Resources Inventories Within ~~0.25~~ 0.5 Mile of Project Alignment (contd.)

NCIC Report No.	Year of Study	Type of Study	Project	Report Authored By	Within Project Alignment
4417	1993	Record Search	Franklin Boulevard Redevelopment Plan EIR	Derr, Eleanor	No
4418	2001	Survey	Fifteen SureWest Tower Sites	Peak & Associates	No
n/a	2002	Survey and Evaluation	I-5/Cosumnes River Boulevard Interchange	Jones & Stokes	Yes
5813	2004	Survey	Meadowview Station	Coleman, Jason	Yes
6112	2003	Evaluation	South Sacramento Corridor	JRP Historical Consulting	Yes
6122	2004	SHPO Review	Tetra Tech Wireless	Billat, Scott	No
6675	2004	Evaluation	Caltrans Bridge Inventory Update	JRP Historical Consulting	Adjacent
7018	2005	Determination of Effects	Freeport Bridge Project	Roland, Carol	Adjacent
7833	2006	Survey	Sacramento Southern Freeport Railroad	HRA	No
7963	2004	Survey and Evaluation	Freeport Shores Trail	Hilton, Steven	Adjacent
8565	2007	Survey and Evaluation	Fruitridge Vista Water System	Peak, Melinda	No
8661	2006	Survey	Sacramento River Bank	Bell, Daniel	No
8734	2007	Survey	SMUD Gas Pipeline	Sikes, Nancy	Adjacent
8768	2007	Survey and Evaluation	Delta Shores	Guerrero, Marcos	Yes
9135	2007	Survey	SMUD Freeport Water 69kV Line	Shapiro, William	No
9313	2008	Survey	Central Sewer Truck Rehabilitation Project	SWCA Environmental Consultants	No
9326	2008	Inventory	Caltrans D3 Rural Highways	Leach-Palm, Laura	Yes
9423	2008	Literature Review	Urban Levee	Grant, Joanne	No
9518	2008	Survey	Survey Expanded Roadside Vegetated Treatment Site (ERVTS) Pilot Study	EDAW, Inc.	Adjacent
9989	2006 & 2008	Survey and Evaluation	Freeport Regional Water	Roark, Gabriel	Yes
10443	2010	Survey	Clearwire Mobile Site	Losee, Carolyn	No
10450	2010	Survey	Levee Erosion Sites	Guerrero, Marcos	No
10608	2010	Survey	Cabrillo Park Wireless	Billat, Lorna	No
10676	2010	Survey and Testing	Chorley Park Redevelopment	Dice, Michael	Adjacent
10826	2011	Survey	Levee Erosion Repair	Guerrero et al.	No
10832	2011	Survey	T-Mobile West Cabrillo Park	Cohen, David	No
10874	2010	Survey	Urban Levee	URS Corporation	No

The records search by the NCIC indicates a total of ~~24~~ 25 cultural resources have been previously recorded within the Project alignment or within a ~~¼~~ 0.5 mile (Table 3.6-2). ~~Seventeen~~ Eighteen are historic-era resources and seven are prehistoric resources. Nine of the historic-era resources are linear built resources (railroads, levees, canal, bridge, water conveyance systems), three are associated with farms or ranches, two are rows of Victory trees, one is a government building complex, one is a park, and one is debris scatter. The prehistoric resources include three habitation sites, one scatter, and three isolated occurrences.

Table 3.6-2. Cultural Resources Previously Recorded in or Within ~~¼~~ 0.5 Mile of the Project Alignment

Primary #	Trinomial	Period	Year Recorded	Description	Within Project Alignment
P-34-0011	n/a	Prehistoric	1978	Projectile point fragment	No
P-34-0027-H	n/a	Historic	1995	Isolated steel tank	No
P-34-0071	CA-SAC-44	Prehistoric	1934, multiple, 1990	Habitation site, burials; no longer exists	No
P-34-0073	CA-SAC-46	Prehistoric	1934, multiple, 1990	Habitation site; no longer exists	No
P-34-0110	CA-SAC-83	Prehistoric	1934, multiple, 1994	Habitation site, human remains	No
P-34-0229	CA-SAC-202	Prehistoric	1955, 1974, 1978	Scatter of baked clay objects and clamshell beads; no longer exists	No
P-34-0491	CA-SAC-464H	Historic	1993, multiple, 2007	Western Pacific Railroad	Yes
P-34-0639	n/a	Historic	2001	Victory trees lining Freeport Blvd., planted ca. 1926, recorded between Meadowview Rd. and Stonecrest Ave.	Adjacent
P-34-0832	CA-SAC-641H	Historic	1982	Residence, farm/ranch outbuildings	No
P-34-0833	CA-SAC-642H	Historic	1982	Victorian residence, ca. 1906, farm/ranch outbuildings	Adjacent
P-34-1363	n/a	Historic	2002, 2005	Morrison Creek Levee, ca. 1961	Yes
P-34-1394	CA-SAC-846H	Historic	2005	Water conveyance system	No
P-34-1497	CA-SAC-1092H	Historic	2006, 2007, 2008	Southern Pacific Railroad, branch line	No
P-34-1580	CA-SAC-954H	Historic	2006	Sacramento Southern Freeport Railroad	No
P-34-1607	n/a	Prehistoric	2002	Isolated scatter of three basalt flakes	No
P-34-1706	CA-SAC-1012H	Historic	2006, 2007	Dairy complex, ca. 1910	Adjacent
P-34-1707	n/a	Prehistoric	2006	Isolated lithic flake	No
P-34-1708	n/a	Historic	2007	Debris scatter	No
P-34-2104	n/a	Historic	2007	Row of trees (oaks, pecans, unidentified) lining Freeport Blvd. (south of Freeport Bridge)	Adjacent
P-34-2143	n/a	Historic	2008	Sacramento River levees	No

Table 3.6-2. Cultural Resources Previously Recorded in or Within ~~¼~~ 0.5 Mile of the Project Alignment (contd.)

Primary #	Trinomial	Period	Year Recorded	Description	Within Project Alignment
P-34-2469	n/a	Historic	1984, 2003, 2004	Freeport Bridge (24C0001) built in 1929	No
P-34-3867	n/a	Historic	2001	Water conveyance system	Yes
P-34-3871	n/a	Historic	2005	Sacramento Drainage Canal, 1861-1915	No
P-34-4265	n/a	Historic	2010	Chorley Park, 1960-1973	Adjacent
P-34-4475	n/a	Historic	2011	City of Sacramento Corporation Yard buildings, structures	No

"**Archaeological Sensitivity** Review of prior studies, site records, historic maps, survey results, and disturbance history indicates the Project alignment has a low potential for the discovery of subsurface archaeological material, features, or deposits during Project implementation. Alluvial fan and floodplain deposits buried many prehistoric sites, if present, in this area, particularly those older than 3,000 years (Meyer and Rosenthal 2008; Rosenthal et al. 2007). Additionally, the environment in the Project vicinity has been greatly altered over the past 150 years. The southern Sacramento Valley and Delta region has a 150-year history of disturbance by agricultural activities. Agricultural practices typically re-contour the land and then mix at least the upper 2 feet of soil, typically obscuring any surface evidence of archaeological material. Since the mid-to-late 1800s and early 1900s, the Project vicinity has also been substantially modified by construction of roadways, railroad grades, and levees. The creeks near the SRWTP were initially channelized at least 60 years ago, and the area north of the planned Delta Shores community has been altered by more than 50 years of residential and commercial development.

As one outcome of the natural deposition processes and human alteration of the landscape, no prehistoric or historic archaeological sites and only one historic-era ditch (P-34-3867) were found in the Project alignment by recent studies that included the planned 800-acre Delta Shores development (Guerrero 2007) and the Cosumnes River Boulevard Extension and I-5 Interchange Project (Chavez 1987; Jones & Stokes 2002). Only four cultural resources were recorded within a ~~0.25~~ 0.5 mile radius but outside the current Project alignment by these surveys: a dairy building complex (P-34-1706), two isolated flaked stone (P-34-1607 and P-34-1707), and a historic-era debris scatter (P-34-1708). The dairy complex fronting Freeport Boulevard (SR 160) is adjacent to but outside the current Project. In addition, no archaeological sites were identified in the current Project alignment during survey of the Morrison-Laguna-Unionhouse Creek drainage system (Johnson 1974). That drainage system converges near the SRWTP and empties into the Sacramento River."

[Chapter 2 "Comments and Responses," Comment 4-3, 4-12]

The text in Impact 3.6-4: "Ground disturbance could affect undocumented paleontological resources" is amended as follows:

"No documented paleontological resources have been identified within the Project alignment. However, paleontological resources are known in the Project vicinity, and the Riverbank Formation, which underlies the majority of the Project alignment, is considered to have a high sensitivity for the discovery of Pleistocene-age vertebrate fossils. Project-related construction activities are not likely to produce significant vertebrate fossil remains due to prior disturbance by roadways and agricultural activities and to the relatively shallow depth of the majority of planned ground-disturbing activities (open cut construction in roadways). ~~Although deep HDD is planned to cross 30 feet below the Morrison/Laguna Creek levees and may impact fossiliferous sediments, mitigation for trenchless drilling using HDD or pipe jacking methods is infeasible. HDD simultaneously drills and exudes destroyed sediments at the entry and exit locations. With pipe jacking (also known as pipe ramming), various methods (e.g., water jetting, compressed air) are used to remove the spoils after the pipe is in place on shorter installations such as planned for this Project at the railroad crossings~~. Due to the known presence of paleontological resources in the region, there is a potential that Project construction activities could expose and/or impact previously undocumented important paleontological resources. This impact is **potentially significant**."

The text in Mitigation Measure 3.6: "Implement inadvertent discovery measures for the protection of paleontological resources" is added as follows:

"Prior to construction, Regional San shall implement soil sampling at trenchless drilling locations to determine the depth of potential paleontological resources. If no paleontological resources are identified, the trenchless drilling may proceed. If fossils or other paleontological resources are encountered during the sampling or during construction, all work shall be halted within a 50-foot radius of the find and a qualified paleontologist shall be contacted to examine the find and evaluate its significance. If the find is deemed to have significant scientific value, the paleontologist and Regional San shall formulate a plan to either avoid impacts or to continue construction without disturbing the integrity of the find (e.g., by carefully excavating the material containing the resources under the direction of the paleontologist followed by routine conservation, laboratory preparation, and curation). Recommendations determined by Regional San to be necessary and feasible shall be implemented before construction activities can resume at the site where the paleontological resources were discovered."

[Chapter 2, "Comment and Responses," Comment 4-13]

The text in Section 3.9.4 "Environmental Impacts and Recommended Mitigation Measures" is added as follows:

"If hazardous materials are stored in reportable quantity and/or hazardous waste is generated at any laydown area along the pipeline, separate hazardous materials and/or hazardous waste permits may be required for each location. Permits are business and owner specific and may not be transferred to other owners or locations. Since the main

pipeline is anticipated to last 13 months the construction exemption outlined in Sacramento County Code 6.96.095 may not apply. Regional San will obtain all necessary permits as indicated in the Sacramento County Code, if applicable.

For permanent structures, if hazardous materials are stored in reportable quantity and/or hazardous waste is generated at any appurtenant facilities along the pipeline, a separate hazardous materials and/or hazardous waste permit may be required for each location. Permits are business and owner specific and may not be transferred to other owners or locations. Regional San will obtain all necessary permits as indicated in the Sacramento County Code, if applicable."

[Chapter 2 "Comments and Responses," Comment 3-3]

The text in Section 3.10.4 "Environmental Impacts and Recommended Mitigation Measures" is amended as follows:

"Construction Site Dewatering and Pipeline Testing: Dewatering BMPs involve actions to prevent discharge of contaminants present in dewatering of groundwater during construction, discharges of water from testing of pipelines or other facilities, or the indirect erosion that may be caused by dewatering discharges. If dewatering is required during construction, Regional San will obtain the necessary NPDES permits in accordance with Central Valley Regional Water Board NPDES dewatering discharge requirements."

[Chapter 2 "Comments and Responses," Comment 2-4]

3.3 Staff-Initiated Changes to the Draft EIR

The text changes presented in this section are initiated by Lead Agency staff.

The text in Section 3.7.4 "Environmental Impacts and Recommended Mitigation Measures" is amended as follows. This edit provides a correction to the significance determination in the Draft EIR.

"Impact 3.7-1: Expose people or structures to seismic hazards.

The Project would be constructed in an area that may be subject to strong seismic ground shaking from active earthquake faults. Seismic ground shaking could cause structural failure of the proposed recycled water main, laterals, and storage tanks. This impact is ~~**potentially significant**~~ **less than significant."**

Table ES-1. Impacts and Recommended Mitigation Measures (Portions Revised)

Impact	Description	Significance	Proposed Mitigation	Significance After Mitigation
Biological Resources				
Impact 3.5-8: Construction-related effects on Sensitive Natural Communities and Habitats, including Waters of the United States or Waters of the State.	The proposed Project is not anticipated to have direct impacts to Morrison Creek, Laguna Creek, or other riparian or wetland areas. However, during construction activities potential for effects on sensitive natural communities and habitats, including waters of the United States or waters of the State may not be entirely avoided.	PS	Mitigation Measure 3.5-8: Delineate Waters of the United States and Obtain Authorizations for Fill and Required Permits	LTS
Geology and Soils				
Impact 3.7-1: Expose people or structures to seismic hazards	The Project would be constructed in an area that may be subject to strong seismic ground shaking from active earthquake faults. Seismic ground shaking could cause structural failure of the proposed recycled water main, laterals, and storage tanks.	~~PS~~ LTS	N/A	LTS

This page left blank intentionally.

Final Environmental Impact Report

Sacramento Regional County Sanitation District/Sacramento Power Authority/City of Sacramento Water Recycling Pipeline Project

Appendix A – Mitigation Monitoring and Reporting Program

State Clearinghouse Number: 2013122046
Date: November 12, 2014

This page left blank intentionally.

Mitigation Monitoring and Reporting Program

This document is the Mitigation Monitoring and Reporting Program (MMRP) for Sacramento Regional County Sanitation District (Regional San or SRCSD) / Sacramento Power Authority (SPA)/ City of Sacramento (City) Water Recycling Pipeline Project (Project) Final Environmental Impact Report (Final EIR). It is prepared for adoption by Regional San Board of Director's, pursuant to Section 15097 of the California Environmental Quality Act (CEQA) Guidelines. Section 15097 states that an MMRP must be adopted by the lead agency "when a public agency has made the findings required under paragraph (1) of subdivision (a) of Section 15091 (of the CEQA Guidelines) relative to an EIR or adopted a mitigated negative declaration in conjunction with approving a project. In order to ensure that the mitigation measures and project revisions identified in the EIR or negative declaration are implemented, the public agency shall adopt a program for monitoring or reporting on the revisions which it has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects."

The MMRP has been prepared as a matrix containing the following elements:

- Measures that would mitigate significant impacts on the environment are recorded with the action and the procedure necessary to ensure compliance.

- A procedure of compliance and verification has been outlined for each measure. This procedure designates who will take action, what action will be taken and when, and to whom and when compliance will be reported.

- The MMRP has been designed to provide focused, yet flexible guidelines. As monitoring progresses, changes to compliance procedures may be necessary based upon recommendations by those responsible for the program.

The MMRP will be in place through all phases of the project. Regional San shall coordinate enforcement of the MMRP and oversee it to ensure that proper action is taken on each mitigation measure.

Below is the Mitigation Monitoring or Reporting Program for the Project (Table 1-1).

This page left blank intentionally.

Table 1-1. Mitigation, Monitoring and Reporting Program

Adopted Mitigation Measure	Mitigation Description	Implementation Timing	Responsible Party	Verification of Compliance		
				Signature	Date	Remarks
Aesthetics						
Mitigation Measure 3.2-2a. Avoid damage or removal of oak trees in Chorley Park.	The alignment of the recycled water laterals through Chorley Park and onto Bing Maloney GC shall be determined with the input of a qualified arborist, and shall avoid the removal of mature oak trees (native *Quercus* species 36 inch circumference or greater) to the greatest extent possible. Any mature oak trees that must be removed for project construction shall be replaced in-kind on a one-to-one basis within Chorley Park or the Bing Maloney GC. New plantings shall be at least 15-gallon size planters; shall be placed to visually screen the new tank from developed recreation areas in Chorley Park; and shall be monitored for five years to ensure survival and growth of the tree. If there is mortality of new oak trees, they shall be replaced again and monitored for five years. To avoid damage to existing mature oak trees adjacent to the alignment in the Chorley Park and Bing Maloney GC, the driplines of mature oak trees shall be identified by a qualified arborist and fenced with construction fencing prior to the start of construction. Grading, trenching, soil compaction, or storage of construction equipment shall not be allowed within the fenced dripline areas. Regional San shall have a qualified arborist monitor the mature oak trees that would be fenced for the lateral alignment in Chorley Park and Bing Maloney Golf Corse for five years to identify any tree mortality. If any of the mature oak trees die due to project-related construction disturbance, they shall be replaced in-kind on a one-to-one basis within Chorley Park or Bing Maloney GC. New plantings shall be at least 15-gallon size planters; shall be placed to screen the new tank and pump; and shall be monitored for five years to ensure survival and growth of the tree. If there is mortality of new oak trees, they shall be replaced again and monitored for five years.	Prior to the issuance of building permits	Regional San			
Mitigation Measure 3.2-2b. Screen views of the water tank from developed recreation areas in Chorley Park.	The water tank, underground pump, and access road shall be sited to minimize visibility of the tank and road from park paths, picnic areas and playing fields. The access road shall be routed to minimize fragmentation of the park's open space areas. The exterior of the storage tank shall be painted or treated such that the color minimizes visual intrusion and contrast by blending with the landscape. Non-glare paint or treatment shall be used. Regional San shall prepare and implement a landscape plan for the storage tank at Chorley Park that is consistent with the Chorley Park Master Plan and that addresses, at a minimum: • vegetative screening that provides substantial (over 50 percent) screening of the storage tank at five years • a list of plants to be used and times to maturity • plant materials that are compatible with the existing park setting • plan review by the City of Sacramento Parks and Recreation Department • monitoring and replacement of unsuccessful plantings for five years following installation	Prior to the issuance of building permits	Regional San			

This page left blank intentionally.

Table 1-1. Mitigation, Monitoring and Reporting Program (contd.)

Adopted Mitigation Measure	Mitigation Description	Implementation Timing	Responsible Party	Verification of Compliance		
				Signature	Date	Remarks
Air Quality						
Mitigation Measure 3.4-1: Implement construction emission control practices.	The following fugitive dust control measures during Project construction shall be implemented, as required by SMAQMD's Rule 403: • Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, laydown areas, and access roads. • Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the construction site. Any haul trucks that would be traveling along freeways or major roadways would be covered. • Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited. • Limit vehicle speeds on unpaved roads to 15 miles per hour (mph). • All roadways, driveways, sidewalks, parking lots to be paved would be completed as soon as possible. In addition, building pads would be laid as soon as possible after grading unless seeding or soil binders are used. In addition, California regulations limit idling from both on-road and off-road diesel powered equipment. In compliance with such regulations, Regional San shall implement the following additional measures to limit exhaust emissions during construction: • Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [required by CCR, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site. • Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determine to be running in proper condition before it is operated.	On an on-going basis throughout the construction of the Project	Regional San			

This page left blank intentionally.

Table 1-1. Mitigation, Monitoring and Reporting Program (contd.)

Adopted Mitigation Measure	Mitigation Description	Implementation Timing	Responsible Party	Verification of Compliance		
				Signature	Date	Remarks
Biological Resources						
Mitigation Measure 3.5-1: Special-status birds, including those protected under the MBTA	Implementation of Mitigation Measure 3.5-1(a) would require surveys for protected bird species to confirm the presence of active nests during the appropriate nesting season. If construction activities cannot be avoided during the nesting season, then implementation of Mitigation Measure 3.5-1(b) through (d) ensures that active nests are protected by instituting appropriate buffer zones and avoiding or minimizing loss or take of this species. a. The project applicant or developer(s) shall have a qualified biologist conduct nest surveys within 30 days prior to any demolition/construction or ground disturbing activities that are within 500 feet of potential nest trees. A pre-construction survey shall be submitted to CDFW that includes, at a minimum: (1) a description of the methodology including dates of field visits, the names of survey personnel with resumes, and a list of references cited and persons contacted; and (2) a map showing the location(s) of raptor and migratory bird nests observed on the Project alignment. If no active nests of MBTA, CDFW or USFWS covered species are identified then no further mitigation is required. b. Should active nests of protected bird species be identified in the survey conducted in accordance with Mitigation Measure 3.5-2(a), the applicant, or developer(s), in consultation with the CDFW, shall delay construction in the vicinity of active nest sites during the breeding season (March 1 through August 1) while the nest is occupied with adults and/or young. A qualified biologist shall monitor any occupied nest to determine when the nest is no longer used. If the construction cannot be delayed, avoidance shall include the establishment of a non- disturbance buffer zone around the nest site. The size of the buffer zone shall be determined in consultation with the CDFW, but will be a minimum of 100 feet. The buffer zone shall be delineated with highly visible temporary construction fencing. c. No intensive disturbance (e.g., heavy equipment operation associated with construction, use of cranes or draglines, new rock crushing activities) or other Project-related activities that could cause nest abandonment or forced fledging, shall be initiated within the established buffer zone of an active nest between March 1 and August 1. d. If demolition/construction activities are unavoidable within the buffer zone, the project applicant shall retain a qualified biologist to monitor the nest site to determine if construction activities are disturbing the adult or young birds. The monitor shall have the authority to halt construction activities that are causing agitation to the birds that could result in take. If abandonment occurs, the biologist shall consult with CDFW or USFWS for the appropriate salvage measures. This could include taking any nestlings to a local wildlife rehabilitation center.	Prior and/or during construction	Regional San			

This page left blank intentionally.

Table 1-1. Mitigation, Monitoring and Reporting Program (contd.)

Adopted Mitigation Measure	Mitigation Description	Implementation Timing	Responsible Party	Verification of Compliance		
				Signature	Date	Remarks
Mitigation Measure 3.5-2: Swainson's hawk (nesting)	Implementation of Mitigation Measure 3.5-2(a) would require surveys for nesting Swainson's hawks to confirm the presence of active nests during the appropriate nesting season. If construction activities cannot be avoided during the nesting season, then implementation of Mitigation Measure 3.5-2(b) ensures that active nests are protected and the potential for nest abandonment is minimized by instituting appropriate buffer zones and avoiding or minimizing disturbance to any nesting birds. Before any demolition/construction activities that occur between March 1 and September 15 the applicant or developer(s) shall have a qualified biologist conduct surveys for nesting migratory birds on the Project alignment and within a quarter mile of demolition/construction activities. Surveys shall be conducted no more than 30 days prior to the start of any demolition or construction activities. If no active nests are identified on or within a quarter mile of construction activities, a letter report summarizing the survey results shall be sent to the City of Sacramento and CDFW and no further mitigation is required. a. If active nests are found, measures that will avoid impacts to nesting migratory birds, including measures consistent with the CDFW Staff Report Regarding Mitigation for Impacts to Swainson's Hawks in the Central Valley of California shall be implemented as follows: • Nest trees shall not be removed unless there is no feasible way of avoiding their removal. • If there is no feasible alternative to removing a nest tree, a Management Authorization (including conditions to offset the loss of the nest tree) shall be obtained from CDFW with the tree removal period (generally between October 1 and February 1) to be specified in the Management Authorization. • No intensive disturbances (e.g., heavy equipment operation associated with construction, use of cranes or draglines, new rock crushing activities) or other project-related activities that could cause nest abandonment or forced fledging, shall be initiated within 1,320 feet (¼ mile) or less, as determined by CDFW, (buffer zone as defined in the CDFW Staff Report) of an active Swainson's hawk nest or 500 feet for other nesting migratory birds, between March 1 and September 15 or until August 15 if a Management Authorization or Biological Opinion is obtained from CDFW for the project. The buffer zone may be reduced in consultation with CDFW. • If demolition/construction activities are unavoidable and are allowed by CDFW within the buffer zone, the project applicant or developer(s) shall retain a qualified biologist to monitor the nest to determine if abandonment occurs. If the nest is abandoned and the nestlings are still alive, the project proponent shall retain the services of a qualified biologist to reintroduce the nestling(s) (recovery and hacking). Prior to implementing, any hacking plan shall be reviewed and approved by the Environmental Services Division and Wildlife Management Division of the CDFW. The CDFW may allow reduction of the recommended buffers, if a qualified biologist is retained for on-site nest observations.	Prior and/or during construction	Regional San			

This page left blank intentionally.

Table 1-1. Mitigation, Monitoring and Reporting Program (contd.)

Adopted Mitigation Measure	Mitigation Description	Implementation Timing	Responsible Party	Verification of Compliance		
				Signature	Date	Remarks
Mitigation Measure 3.5-3: burrowing owl (nesting)	Prior to the issuance of grading permits, the project applicant shall retain a qualified biologist to conduct a pre-construction burrowing owl survey. *If no suitable burrows are found, no further mitigation is required*. If suitable burrows are found, but no owls are found, all burrows shall be hand-excavated and collapsed prior to project construction. If nesting owls are found, no disturbance shall be allowed within 160-feet of the active nest burrow between February 1 and August 31. Outside the nesting season, and/or upon confirmation by the qualified biologist, and in consultation with CDFW, that all young have fledged and left an active nest, burrowing owls present in the burrow shall be excluded from the burrow(s) by a qualified biologist through a passive relocation as outlined in the California Burrowing Owl Consortium's April 1993 Burrowing Owl Survey Protocol and Mitigation Guidelines (California Burrowing Owl Consortium 1993) and 2012 Staff Report on Burrowing Owl Mitigation (CDFG 2012). Once the burrows have been cleared, they must be hand-excavated and collapsed prior to project construction. To offset the loss of foraging and burrow habitat along the Project alignment, mitigation will be implemented as directed in CDFG (2012), which states that, "permanent habitat loss necessitates replacement with an equivalent or greater habitat area for breeding, foraging, wintering, dispersal, presence of burrows, burrow surrogates, presence of fossorial mammal dens, well drained soils, and abundant and available prey within close proximity to the burrow." The project proponent shall provide funding for long-term management and monitoring of the protected lands. The monitoring plan shall include success criteria, remedial measures, and an annual report to the Department. This mitigation could overlap with mitigation requirements for Swainson's hawk foraging habitat as deemed appropriate by CDFW. If destruction of occupied burrows is unavoidable, the project applicant shall coordinate with CDFW to identify existing suitable burrows located on the protected lands site to be enhanced (enlarged or cleared of debris) or new burrows created (by installing artificial burrows) at a ratio of 2:1.	Prior to construction	Regional San			

This page left blank intentionally.

Table 1-1. Mitigation, Monitoring and Reporting Program (contd.)

Adopted Mitigation Measure	Mitigation Description	Implementation Timing	Responsible Party	Verification of Compliance		
				Signature	Date	Remarks
Mitigation Measure 3.5-4: Giant Garter Snake upland habitat	If impacts within 200 feet of GGS aquatic habitat are not expected; however, if any work were to occur in this area, consultation with USFWS will be carried out to determine if any take will occur. a. Pre-construction Surveys. At most 24-hours prior to the commencement of construction activities, the environmentally sensitive area, i.e. areas within 200 feet of aquatic GGS habitat, shall be surveyed for GGS by a USFWS-approved biologist. The biologist will provide the USFWS with a written report that adequately documents the monitoring efforts within 24-hours of commencement of construction activities. The project area shall be re-inspected by the monitoring biologist whenever a lapse in construction activity of two weeks or greater has occurred. b. Timing of Construction. Construction activity in GGS upland habitat will occur during the snake's active period between May 1 and October 1. During the active period, direct mortality is lessened, because snakes are expected to actively move and avoid danger. If it appears that construction activity may go beyond October 1, the project proponents shall contact the USFWS as soon as possible, but not later than September 15 of the year in question, to determine if additional measures are necessary to minimize take. Construction activities within 200 feet from the banks of snake aquatic habitat will be avoided during the snake's inactive season. If this is not feasible, the Project Proponent must consult with USFWS to determine measures to avoid impacts to giant garter snake. c. Monitoring During Construction. A USFWS-approved biologist shall inspect construction-related activities at the ESA to ensure that no unauthorized take of federally listed species or destruction of their habitat occurs. The biologist shall be available for monitoring throughout all phases of construction that may result in adverse effects to the giant garter snake. This includes installation of exclusion fence in GGS upland habitat. Furthermore, the biologist shall have the authority through communication with the resident engineer to stop construction activities in the immediate area if a GGS is encountered during construction until appropriate corrective measures have been completed or until the snake is determined to be unharmed. Snakes encountered during construction activities shall be allowed to move away from the area on their own volition. The biologist shall notify the USFWS immediately if any listed species are found on-site, and will submit a report, including date(s), location(s), habitat description, and any corrective measures taken to protect the species found. The biologist shall be required to report any take of listed species to the USFWS immediately by telephone at 916/ 414-6600 and by electronic mail or written letter addressed to the Chief, Endangered Species Division, within three (3) working days of the incident. The Service does not authorize any handling or moving of a giant garter snake by other than a USFWS-approved biologist. d. Worker Awareness Training. A Worker Environmental Awareness Training Program for construction personnel shall be conducted by the USFWS-approved biologist for all construction workers, including contractors, prior to the commencement of construction activities. The program shall provide workers with information on their responsibilities with regard to the snake, an overview of the life-history of this species, information on take prohibitions, protections afforded this animal under the Act, and an explanation of the relevant terms and conditions of this biological opinion. Written documentation of the training must be submitted to the Sacramento Fish and Wildlife Office within 30 days of the completion of training. As needed, training shall be conducted in Spanish for Spanish language speakers. e. Install Snake Exclusion Fencing. Prior to the commencement of construction activities, high visibility fencing will be erected around the habitats of federally listed species to identify and protect these designated ESAs from encroachment of personnel and equipment. These areas will be avoided by all construction personnel. The fencing shall be inspected by the Contractor before the start of each work day and maintained by the Contractor until completion of the project. The fencing may be removed only when the construction of the project is completed. Fencing will be established in upland immediately adjacent to aquatic snake habitat and extending up to 200 feet from construction activities. Silt fencing, if properly installed, may serve as suitable snake exclusion fencing. f. Provide Adequate Signage. Signs will be posted by the Contractor every 50 feet along the edge of the ESAs, with the following information: "This area is habitat of federally-threatened and/or endangered species, and must not be disturbed. These species are protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment." The signs should be clearly readable from a distance of 20 feet, and must be maintained by the Contractor for the duration of construction. g. Properly Dispose of Garbage. To eliminate an attraction to predators of the snake, all food-related trash items, such as wrappers, cans, bottles, and food scraps, must be disposed of in closed containers and removed at the end of each work day from the entire project site. h. Minimize Impacts. The Contractor shall minimize the potential for harm, harassment, and direct mortality of the snake resulting from project-related activities by implementation of the project. The Contractor shall ensure that the temporary loss of giant garter snake habitat is confined to the proposed project site.	Prior and/or during construction	Regional San			

This page left blank intentionally.

Table 1-1. Mitigation, Monitoring and Reporting Program (contd.)

Adopted Mitigation Measure	Mitigation Description	Implementation Timing	Responsible Party	Verification of Compliance		
				Signature	Date	Remarks
Mitigation Measure 3.5-5: Elderberry shrub impacts	If impacts to this shrub cannot be avoided by at least 20 feet, consultation with USFWS will be carried out to determine if any take will occur. The shrub will not be removed or transplanted until authorized by USFWS. If USFWS determines that mitigation is required, compensation will be implemented as outlined in the Conservation Guidelines for Valley Elderberry Longhorn Beetle (USFWS 1999).	Prior to construction	Regional San			
Mitigation Measure 3.5-6: Perennial grassland	Although non-native weed species have encroached on this area, many stands of the restored native vegetation remain. Therefore, any ground disturbed in this area would be required to be restored to original grade and revegetated per the original specifications of the restoration project(s).	Post construction	Regional San			
Mitigation Measure 3.5-7: Tree removal	Where damage and removal of trees subject to County and City regulations cannot be avoided, mitigation measures will be implemented in accordance with the Sacramento County 2030 General Plan and the City of Sacramento Tree Preservation Ordinance. For projects in the unincorporated County, native tree impacts would be mitigated as outlined in General Plan policies CO-138, CO-139, and CO-140. Impacts to woodland habitat, such as a riparian or native oak, are mitigated on an acreage basis, as described in CO-140. Individual native tree impacts outside of the habitat areas are mitigated based on the tree's dbh per CO-139. Non-native tree impacts are mitigated using a canopy measurement based on 15-year shade cover values (CO-145), or, if onsite mitigation is not possible, by contributing to the Greenprint fund (CO-146). Trees removed within the City of Sacramento would be mitigated according to the City of Sacramento Tree Preservation Ordinance, which specifies replacement planting of trees of at least 24 inch box size for impacts to trees greater than six inches in diameter, or replacement trees of a minimum of 15 gallon can size for impacts to trees less than six inches in diameter.	Prior to construction	Regional San			
Mitigation Measure 3.5-8: Delineate Waters of the United States and Obtain Authorizations for Fill and Required Permits	Before the Project is implemented and if the Project so warrants, waters of the United States will be delineated according to methods established in the USACE wetlands delineation manual and Arid West Supplement (Environmental Laboratory 1987, 2008). The delineation will map and quantify the acreage of wetland habitats in the area, and will be submitted to USACE for verification. If wetlands are found within the proposed construction site or any other area to be disturbed, a wetland delineation report will be prepared and submitted to USACE. If applicable, Regional San will replace, restore, or enhance the acreage of all wetlands, other waters of the United States, and waters of the State that cannot be avoided and will be removed and/or degraded. Thus, the project will achieve “no net loss” of wetland functions and values, in accordance with the requirements of USACE and the Central Valley Regional Water Board. Wetland habitat will be restored, enhanced, and/or replaced at an acreage and location agreed upon by the project proponent, USACE, and the Central Valley Regional Water Board, as appropriate. The acreage, location, and methods will be determined during the Section 401 and Section 404 permitting processes, and will be based on a USACE-verified wetland delineation. Also, if USACE determines that non-jurisdictional waters of the State (i.e., “non-federal” waters of the State) are present in the Project area, Regional San will obtain a Waste Discharge Requirement to be issued by the Central Valley Regional Water Board.	Prior to construction	Regional San			
Cultural Resources						
Mitigation Measure 3.6-2: Implement inadvertent discovery measures for the protection of cultural resources	If cultural resources are discovered during Project-related construction activities, all ground disturbance within a minimum of 50 feet of the find shall be halted until a qualified professional archaeologist can evaluate the discovery. The archaeologist shall examine the resources, assess their significance, and recommend appropriate procedures to either further investigate or mitigate adverse impacts (e.g., adverse effect on a significant historical resource). If the find is determined to be a significant historical resource and the archaeological resource cannot be avoided, then applicable mitigation measures for significant resources shall be completed (e.g., preservation in place, data recovery program pursuant to PRC §21083.2[i]). During evaluation or mitigative treatment, ground disturbance and construction work could continue on other parts of the Project alignment.	During construction	Regional San			
Mitigation Measure 3.6-3: Implement inadvertent discovery measures for the protection of human remains	If human remains are discovered during Project ground-disturbing activities, all work within a minimum of 50 feet of the discovery site shall halt immediately. Regional San shall notify the County Coroner, as stipulated in Section 7050.5 of the California Health and Safety Code. The Coroner shall determine whether the remains are Native American and, if so, shall contact the Native American Heritage Commission by telephone within 24 hours. The Commission shall follow the stipulations in Section 5097.98 of the California Public Resources Code, including determination of a most likely descendent. If the Commission is unable to identify a descendant, the descendant is unable to make a recommendation, or the landowner rejects the recommendation, the Commission shall mediate any dispute between the parties. Where such mediation fails to provide measures acceptable to the landowner, the landowner shall reinter the human remains and associated funerary items with appropriate dignity on the property, in a location not subject to further subsurface disturbance.	During construction	Regional San			

This page left blank intentionally.

Table 1-1. Mitigation, Monitoring and Reporting Program (contd.)

Adopted Mitigation Measure	Mitigation Description	Implementation Timing	Responsible Party	Verification of Compliance		
				Signature	Date	Remarks
Mitigation Measure 3.6-4: Implement inadvertent discovery measures for the protection of paleontological resources	Prior to construction, Regional San shall implement soil sampling at trenchless drilling locations to determine the depth of potential paleontological resources. If no paleontological resources are identified, the trenchless drilling may proceed. If fossils or other paleontological resources are encountered during the sampling or during construction, all work shall be halted within a 50-foot radius of the find and a qualified paleontologist shall be contacted to examine the find and evaluate its significance. If the find is deemed to have significant scientific value, the paleontologist and Regional San shall formulate a plan to either avoid impacts or to continue construction without disturbing the integrity of the find (e.g., by carefully excavating the material containing the resources under the direction of the paleontologist followed by routine conservation, laboratory preparation, and curation). Recommendations determined by Regional San to be necessary and feasible shall be implemented before construction activities can resume at the site where the paleontological resources were discovered.	During construction	Regional San			
Hazards and Hazardous Materials						
Mitigation Measure 3.9-1: Remediate contaminated soils discovered during construction	Known contaminated soils and/or hazardous material areas will be avoided during construction. However, if during construction of the Project alignment, currently unknown contaminated soils or hazardous materials are discovered, construction within the area shall be halted, the extent and type of contamination shall be characterized, and a clean-up plan shall be prepared and executed. The plan shall require remediation of contaminated soils. The plan shall be subject to the review and approval of DTSC, the Regional Water Board, or other agencies, as appropriate. Remediation can include in-situ treatment, disposal at an approved landfill, or other disposal methods, as approved. Construction can proceed within the subject area upon approval of and in accordance with the plan.	During construction	Regional San			

This page left blank intentionally.

Table 1-1. Mitigation, Monitoring and Reporting Program (contd.)

Adopted Mitigation Measure	Mitigation Description	Implementation Timing	Responsible Party	Verification of Compliance		
				Signature	Date	Remarks
Hydrology and Water Quality						
Mitigation Measure 3.10-2: Implement construction erosion control and water quality BMPs	Regional San, or its designated general contractor, will prepare a Water Pollution Control Plan (WPCP) for all construction activities related to the proposed Project. In addition, since the total area of land disturbance for the proposed Project would exceed one acre, Regional San or its designated general contractor will file a Notice of Intent and Permit Registration Documents for authorization of project construction activities under State Water Board's NPDES Construction General Permit (Order No. 2009-0009-DWQ/NPDES Permit No. CAS000002, and all amendments). A SWPPP would also be required for conformance with the Construction General Permit. The WPCP and SWPPP prepared for the Project will describe the BMPs that Regional San and its contractors will use to avoid and minimize potential adverse construction-related water quality effects. Construction designs, drawings, and contracts for construction activities will refer to and accommodate the requirements of the WPCP and, for applicable activities, the SWPPP and other requirements of the Construction General Permit. The WPCP and SWPPP will be required in the contract specifications. All water quality, erosion, and sediment control measures included in the WPCP/SWPPP will be implemented as specified. The WPCP/SWPPP also will identify responsibilities of construction contractors for implementation and inspection of BMPs, and training elements for the personnel responsible for installation and maintenance of the BMPs. Plan measures may include, as relevant, but not be limited to, the following general categories of BMPs that have proven successful at reducing adverse water quality effects: • **Waste Management and Spill Prevention and Response**: Waste management BMPs are designed to minimize exposure of waste materials at all construction sites and staging areas such as waste collection and disposal practices, containment and protection of wastes from wind and rain, and equipment cleaning measures. Spill prevention and response BMPs involve planning, equipment, and training for personnel for emergency event response. • **Erosion and Sedimentation Control**: Erosion control BMPs are designed to prevent erosion processes or events including scheduling work to avoid rain events, stabilizing exposed soils; minimize offsite sediment runoff; remove sediment from onsite runoff before it leaves the site; and slow runoff rates across construction sites. Identification of appropriate temporary and long-term seeding, mulching, and other erosion control measures as necessary. Sedimentation BMPs are designed to minimize offsite sediment runoff once erosion has occurred involving drainage controls, perimeter controls, detention/sedimentation basins, or other containment features. Regional San has committed to construction of a silt fence between the ESBs and Laguna Creek, and will develop other BMPs for erosion control as specified above. • **Good Housekeeping and Non-Stormwater Discharge Management**: Good housekeeping BMPs are designed to reduce exposure of construction sites and materials storage to stormwater runoff including truck tire tracking control facilities; equipment washing; litter and construction debris; and designated refueling and equipment inspection/maintenance practices. Non-stormwater discharge management BMPs involve runoff measures for contaminants not directly associated with rain or wind including vehicle washing and street cleaning operations. • **Construction Site Dewatering and Pipeline Testing**: Dewatering BMPs involve actions to prevent discharge of contaminants present in dewatering of groundwater during construction, discharges of water from testing of pipelines or other facilities, or the indirect erosion that may be caused by dewatering discharges. If dewatering is required during construction, Regional San will obtain the necessary NPDES permits in accordance with Central Valley Regional Water Board NPDES dewatering discharge requirements. • **BMP Inspection and Monitoring**: Identification of clear objectives for evaluating compliance with WPCP and/or SWPPP provisions, and specific BMP inspection and monitoring procedures, environmental awareness training, contractor and agency roles and responsibilities, reporting procedures, and communication protocols.	Prior and/or during construction	Regional San			

This page left blank intentionally.

Table 1-1. Mitigation, Monitoring and Reporting Program (contd.)

Adopted Mitigation Measure	Mitigation Description	Implementation Timing	Responsible Party	Verification of Compliance		
				Signature	Date	Remarks
Noise						
Mitigation Measure 3.11-1: Construction traffic	Regional San shall comply with the following measures to reduce ambient noise levels during nighttime construction: • Limit deliveries to the Project alignment for nighttime construction to the hours of 7:00 a.m. and 6:00 p.m. on Monday through Saturday and the hours of 9:00 a.m. and 6:00 p.m. on Sunday. Materials shall be stored temporarily in close proximity to the nighttime construction location such that the use of trucks to transport materials to and from the active construction area is not required at night. Delivered materials shall be fenced and/or secured during the day. • Use temporary noise barriers during nighttime construction to prevent line-of-sight between construction equipment and nearby residences. Barriers shall consist of movable noise curtains (e.g. noise-insulating blankets secured to temporary/movable fencing). The construction contractor shall inspect the barriers daily and prior to operation of equipment to insure that no gaps or tears are present that would otherwise diminish the effectiveness of the barriers. Should the use of barriers be considered infeasible at a particular location due to space or equipment considerations, the construction contractor shall provide advanced notice of the intended nighttime construction schedule one week prior to the initiation of nighttime construction and within 2,000 feet of that location.	During construction	Regional San			
Traffic and Transportation						
Mitigation Measure 3.13-1: Implement construction traffic management plan	Before issuance of a permit and beginning construction, Regional San shall prepare a detailed construction traffic management plan (TMP) that will be subject to review and approval by the City of Sacramento Department of Public Works, Transportation Division, City of Elk Grove Department of Public Works, and other affected agencies. The TMP shall provide for maintenance of acceptable operating conditions on local roadways and transit routes. At a minimum, the TMP shall include: • the time, and day of street closures; • description of material delivery routes, number of truck trips, and specification of construction vehicle travel hour limits; • locations of laydown (staging) areas with a limitation on the number of trucks that can be waiting; • driveway access plan so that safe vehicular, pedestrian, and bicycle movements are maintained (e.g., steel plates, minimum distances of open trenches, and private vehicle pick up and drop off areas); • maintenance of safe and efficient access routes for emergency vehicles; • maintenance of safe and efficient access routes for transit services; • manual traffic control when necessary; • proper advance warning and posted signage concerning street closures; • procedures for construction area evacuation in the case of an emergency declared by county or other local authorities; • alternate access routes via detours to maintain continual circulation for local travelers in and around construction zones, including bicycle riders and pedestrians, where applicable; • submittal of the construction TMP to local emergency response agencies and notification to such agencies shall at least 14 days prior to the commencement of construction that would partially or fully obstruct roadways; and • posting of contact information in case of emergency or complaint. If necessary to minimize unexpected operational impacts or delays experienced during real-time construction, Regional San will also be responsible for modifying the TMP to address such effects.	During construction	Regional San			
Mitigation Measure 3.13-2: Maintain Emergency Access During Construction	Regional San shall implement Mitigation Measure 3.16-1, which involves development and implementation of a site-specific construction Traffic Management Plan (TMP) that addresses the specific steps to be taken before, during, and after construction to minimize traffic impacts. The TMP will be subject to review and approval by the City of Sacramento Department of Public Works, Transportation Division, City of Elk Grove Department of Public Works, and other affected agencies, including emergency response agencies (such as the Sacramento and Elk Grove Fire and Police Departments). As required by the TMP, these agencies shall be notified at least 14 days prior to the commencement of construction that would partially or fully obstruct roadways.	During construction	Regional San			
Mitigation Measure 3.13-2: Maintain pedestrian and bicyclist safety during construction	Regional San shall implement Mitigation Measure 3.16-1, which involves development and implementation of a site-specific construction TMP that addresses the specific steps to be taken before, during, and after construction to minimize traffic impacts. The TMP will address provision of roadway access for transit services, safe pedestrian access, and identify alternative bicycle routes around construction zones to maintain safe bicycle access.	During construction	Regional San			

Key:
GGS = Giant garter snake
MBTA = Migratory Bird Treaty Act
SMAQMD = Sacramento Metropolitan Air Quality Management District
SPA = Sacramento Power Authority
SRWTP = Sacramento Regional Wastewater Treatment Plant
SWPPP = Stormwater Pollution Prevention Plan
TMP= Traffic Management Plan
VELB = Valley elderberry longhorn beetle

This page left blank intentionally.

REGIONALSAN
TAKING THE WASTE OUT OF WATER
Sacramento Regional County Sanitation District

Main Office
10060 Goethe Road
Sacramento, CA 95827-3553
Tel: 916.876.6000
Fax: 916.876.6160

Treatment Plant
8521 Laguna Station Road
Elk Grove, CA 95758-9550
Tel: 916.875.9000
Fax: 916.875.9068

Board of Directors
Representing:
County of Sacramento
County of Yolo
City of Citrus Heights
City of Elk Grove
City of Folsom
City of Rancho Cordova
City of Sacramento
City of West Sacramento

Prabhakar Somavarapu
District Engineer

Ruben Robles
Director of Operations

Christoph Dobson
Director of Policy & Planning

Karen Stoyanowski
Director of Internal Services

Joseph Maestretti
Chief Financial Officer

Claudia Goss
Public Affairs Manager

www.srcsd.com

Printed on Recycled Paper

APPROVED
BOARD OF DIRECTORS
SR 2754
NOV 12 2014
By _____
Clerk of the Board

3

DATE: November 12, 2014

TO: Honorable Board of Directors
Sacramento Regional County Sanitation District

FROM: Sacramento Regional County Sanitation District

SUBJECT: **Certification of Environmental Documentation and Approval of the Sacramento Regional County Sanitation District / Sacramento Power Authority / City of Sacramento Water Recycling Pipeline Project (Control No. 2013122046)**

RECOMMENDATION:

It is recommended that your Board consider the Final Environmental Impact Report (FEIR) for the Sacramento Regional County Sanitation District / Sacramento Power Authority / City of Sacramento Water Recycling Pipeline Project (SPA Project) and adopt the attached Resolution that:

1) Certifies the environmental document as adequate and complete;
2) Approves the SPA Project;
3) Adopts Finding of Facts and Statement of Overriding Considerations; and
4) Adopts the Mitigation Monitoring and Reporting Program.

BACKGROUND:

The SPA Project includes phased construction of a transmission pipeline that will provide recycled water to the southern portions of the City of Sacramento. The initial phase includes a pipeline that will convey recycled water from the existing Sacramento Regional Wastewater Treatment Plant Water Reclamation Facility to the Sacramento Power Authority Cogeneration Facility for use at its cooling towers. The Facility is located near the northwest intersection of Franklin Boulevard and 47th Avenue, as shown in Attachment A. This pipeline is being sized to serve other nearby recycled water users in the future such as, parks, school grounds, golf courses, etc. The additional recycled water needed to supply these nearby uses will be available in 2023, when the EchoWater Project is complete and producing high quality recycled water.

On July 16, 2014, Sacramento Regional County Sanitation District (Regional San) released the Draft Environmental Impact Report (DEIR) for the SPA Project for public review. The public review and comment period for the DEIR ended on August 29, 2014. A public meeting was held on July 30, 2014, at the City of Sacramento Council chambers.

A FEIR with responses to all the comments received has been prepared and is available for final review.

DISCUSSION:

The SPA project will increase the opportunities to utilize Regional San's high quality recycled water and will provide the following regional benefits:

- Provide an alternative water supply;
- Increase the region's recycled water supply portfolio;
- Reduce water demands on potable groundwater and surface waters; and
- Reduce the amount of effluent discharged to the Sacramento River.

CEQA-PLUS
The SPA Project may receive funding with a loan or grant from the State Water Resources Control Board's Clean Water State Revolving Fund Loan Program, which is partially funded by the United States Environmental Protection Agency (USEPA). USEPA has allowed a modified California Environmental Quality Act (CEQA) document, called CEQA-PLUS, to be the compliance base for projects in lieu of preparing a separate National Environmental Policy Act (NEPA) document. The CEQA-PLUS adds the following requirements with the CEQA review:

- General Conformity Rule for the Clean Air Act;
- Endangered Species Act; and
- National Historic Preservation Act.

DEIR and FEIR
The FEIR identifies project-related impacts in categories, such as; aesthetics, air quality, biological resources, cultural resources, geology and soils, hazardous materials, hydrology, noise, water quality, and traffic controls. With the exception of construction noise, each of these singular project-level impacts can be reduced to a less-than-significant level through the adoption of mitigation measures recommended in the FEIR. Impacts associated with noise during construction were found to be significant and unavoidable. Although impacts associated with air quality and traffic control during construction can be reduced to a less-than-significant level, these incremental impacts contribute to cumulatively considerable impacts that are significant and unavoidable.

Regional San received four comment letters from state, regional, and local agencies on the DEIR. No written comments were received from organizations or the general public, nor were any oral or written comments received during the public meeting. The comments received are recorded and addressed in the Comments and Responses section of the FEIR. The DEIR and FEIR are included in the attached CD, and hard copies are available upon request. In addition, two hard copies will be available for review at the Board meeting.

PUBLIC OUTREACH:

During the preparation of the DEIR, various coordination efforts for the SPA Project were held with the City of Sacramento, County of Sacramento, Sacramento Power Authority, and state and federal agencies. These efforts also included a CEQA Scoping Meeting and a DEIR public meeting held on January 8, 2014 and July 30, 2014, respectively.

Notifications of the Scoping Meeting and public meeting dates and times were provided to the commenting entities in accordance with CEQA requirements. Outreach efforts will continue through the final design and construction phases of the SPA Project.

CONCLUSION:

It is recommended that your Board certify the FEIR for the SPA Project as adequate and complete, approve the project, adopt the Findings of Fact and Statement of Overriding Considerations, and adopt the Mitigation Monitoring and Reporting Program.

Respectfully submitted,

Christoph Dobson
Director of Policy and Planning

APPROVED:

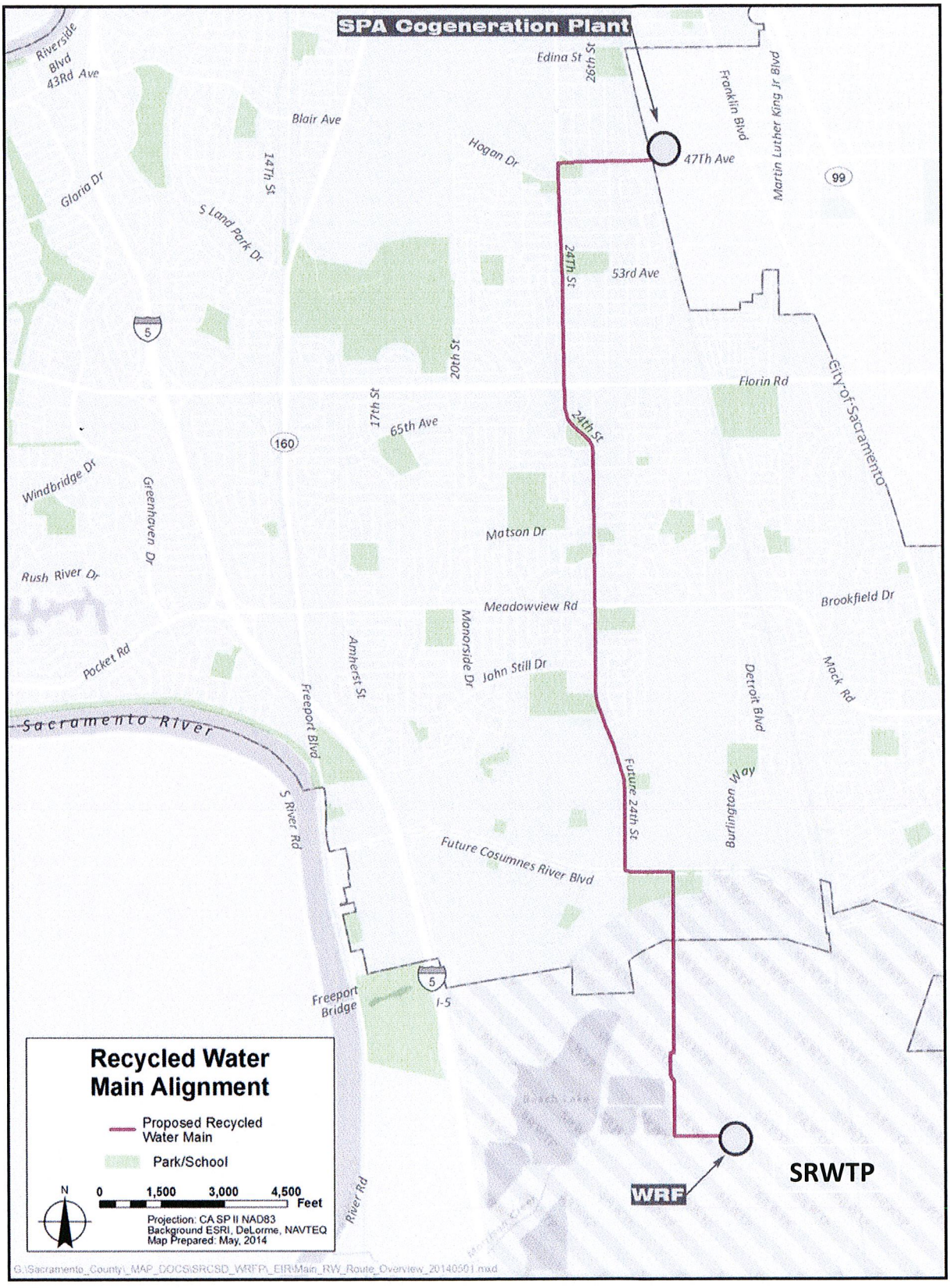
Prabhakar Somavarapu
District Engineer

Attachments: A. Vicinity Map
B. Resolution
C. Statement of Findings and Overriding Considerations
D. Mitigation Monitoring and Reporting Program

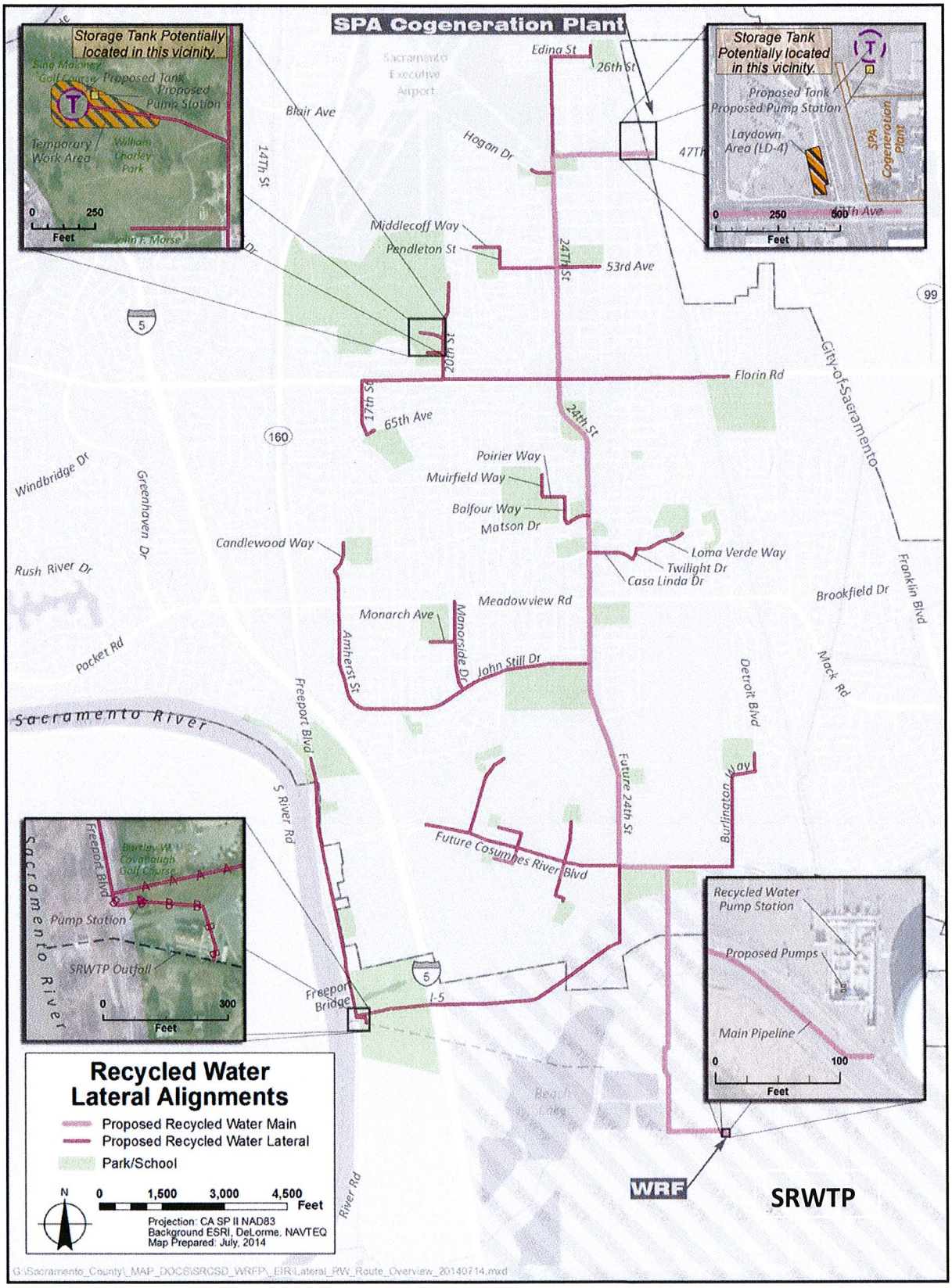
On enclosed CD:
Draft Environmental Impact Report
Final Environmental Impact Report

Contact for additional information:
Christoph Dobson, Director of Policy and Planning, 876-6042

Vicinity Map. S.P.A. Project F.E.I.R. – Phase 1 Project



Vicinity Map. S.P.A. Project F.E.I.R. – Phase 1 Project and Future Expansion Laterals



SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT

RESOLUTION NO. SR-2754

RESOLUTION FOR

PROJECT APPROVAL AND ENVIRONMENTAL DOCUMENTATION FOR THE SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT/SACRAMENTO POWER AUTHORITY/CITY OF SACRAMENTO WATER RECYCLING PIPELINE PROJECT, CONTROL NO. 2013122046

WHEREAS, On July 16, 2014 the Sacramento Regional County Sanitation District (Regional San) serving as the California Environmental Quality Act (CEQA) Lead Agency released for public review a Draft Environmental Impact Report (DEIR) for the Sacramento Regional County Sanitation District/Sacramento Power Authority (SPA)/City of Sacramento Water Recycling Pipeline Project (SPA Project); and

WHEREAS, Regional San provided adequate time for public review and comment, held a public meeting on the matter, and subsequently prepared a Final Environmental Impact Report (FEIR); and

WHEREAS, Regional San is now seeking approval for certification of the Final Environmental Impact Report, approval of the SPA Project, approval of the Statement of Findings and Overriding Consideration, and adoption of the Mitigation Monitoring and Reporting Program.

NOW, THEREFORE, BE IT RESOLVED AND ORDERED that the Board of Directors of the SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT, a county sanitation district pursuant to and operating under the authority of the County Sanitation District Act, commencing at Health and Safety Code section 4700, hereby:

1. Certifies the Final Environmental Impact Report (FEIR) as adequate and complete; and

2. Approves the SPA Project; and

3. Approves the Statement of Findings Overriding Considerations; and

4. Adopts the Mitigation Monitoring and Reporting Program.

ON A MOTION by Director **Nottoli**, and seconded by Director **Bruin**s, the foregoing resolution was passed and adopted by the Board of Directors of the Sacramento Regional County Sanitation District, State of California, this 12th day of November, 2014, by the following vote, to wit:

AYES:	Directors,	Bruins, Cooper, Fong, MacGlashan, Nottoli, Peters, Serna, Yee, Skoglund, Villegas, Cohn, Kristoff, Morin
NOES:	Directors,	None
ABSENT:	Directors,	Hansen, Hume, McCarty, Warren
ABSTAIN:	Directors,	None

Don Nottoli

Chair of the Board of Directors
Sacramento Regional County Sanitation District,
a county sanitation district pursuant to and operating under the authority of the County Sanitation District Act, commencing at Health and Safety Code section 4700

(SEAL)

ATTEST: Cyndi Lee

Clerk of the Board of Supervisors of Sacramento County, California, and ex-officio Secretary of the Board of Directors of the Sacramento Regional County Sanitation District

in accordance with Section 25103 of the Government Code of the State of California a copy of the document has been delivered to the Chairman on 11-12-14

By Rena White
Deputy Clerk, Board of Directors

FILED
BOARD OF DIRECTORS
NOV 12 2014

BY Cyndi Lee
CLERK OF THE BOARD

REGIONALSAN
TAKING THE WASTE OUT OF WATER
Sacramento Regional County Sanitation District

Main Office
10060 Goethe Road
Sacramento, CA 95827-3553
Tel: 916.876.6000
Fax: 916.876.6160

Treatment Plant
8521 Laguna Station Road
Elk Grove, CA 95758-9550
Tel: 916.875.9000
Fax: 916.875.9068

Board of Directors
Representing:
County of Sacramento
County of Yolo
City of Citrus Heights
City of Elk Grove
City of Folsom
City of Rancho Cordova
City of Sacramento
City of West Sacramento

Prabhakar Somavarapu
District Engineer

Ruben Robles
Director of Operations

Christoph Dobson
Director of Policy & Planning

Karen Stoyanowski
Director of Internal Services

Joseph Maestretti
Chief Financial Officer

Claudia Goss
Public Affairs Manager

www.srcsd.com

Printed on Recycled Paper

APPROVED
BOARD OF DIRECTORS
SR 2754
NOV 12 2014
By _____
Clerk of the Board

3

DATE: November 12, 2014

TO: Honorable Board of Directors
Sacramento Regional County Sanitation District

FROM: Sacramento Regional County Sanitation District

SUBJECT: **Certification of Environmental Documentation and Approval of the Sacramento Regional County Sanitation District / Sacramento Power Authority / City of Sacramento Water Recycling Pipeline Project (Control No. 2013122046)**

RECOMMENDATION:

It is recommended that your Board consider the Final Environmental Impact Report (FEIR) for the Sacramento Regional County Sanitation District / Sacramento Power Authority / City of Sacramento Water Recycling Pipeline Project (SPA Project) and adopt the attached Resolution that:

1) Certifies the environmental document as adequate and complete;
2) Approves the SPA Project;
3) Adopts Finding of Facts and Statement of Overriding Considerations; and
4) Adopts the Mitigation Monitoring and Reporting Program.

BACKGROUND:

The SPA Project includes phased construction of a transmission pipeline that will provide recycled water to the southern portions of the City of Sacramento. The initial phase includes a pipeline that will convey recycled water from the existing Sacramento Regional Wastewater Treatment Plant Water Reclamation Facility to the Sacramento Power Authority Cogeneration Facility for use at its cooling towers. The Facility is located near the northwest intersection of Franklin Boulevard and 47th Avenue, as shown in Attachment A. This pipeline is being sized to serve other nearby recycled water users in the future such as, parks, school grounds, golf courses, etc. The additional recycled water needed to supply these nearby uses will be available in 2023, when the EchoWater Project is complete and producing high quality recycled water.

On July 16, 2014, Sacramento Regional County Sanitation District (Regional San) released the Draft Environmental Impact Report (DEIR) for the SPA Project for public review. The public review and comment period for the DEIR ended on August 29, 2014. A public meeting was held on July 30, 2014, at the City of Sacramento Council chambers.

A FEIR with responses to all the comments received has been prepared and is available for final review.

DISCUSSION:

The SPA project will increase the opportunities to utilize Regional San's high quality recycled water and will provide the following regional benefits:

- Provide an alternative water supply;
- Increase the region's recycled water supply portfolio;
- Reduce water demands on potable groundwater and surface waters; and
- Reduce the amount of effluent discharged to the Sacramento River.

CEQA-PLUS
The SPA Project may receive funding with a loan or grant from the State Water Resources Control Board's Clean Water State Revolving Fund Loan Program, which is partially funded by the United States Environmental Protection Agency (USEPA). USEPA has allowed a modified California Environmental Quality Act (CEQA) document, called CEQA-PLUS, to be the compliance base for projects in lieu of preparing a separate National Environmental Policy Act (NEPA) document. The CEQA-PLUS adds the following requirements with the CEQA review:

- General Conformity Rule for the Clean Air Act;
- Endangered Species Act; and
- National Historic Preservation Act.

DEIR and FEIR
The FEIR identifies project-related impacts in categories, such as; aesthetics, air quality, biological resources, cultural resources, geology and soils, hazardous materials, hydrology, noise, water quality, and traffic controls. With the exception of construction noise, each of these singular project-level impacts can be reduced to a less-than-significant level through the adoption of mitigation measures recommended in the FEIR. Impacts associated with noise during construction were found to be significant and unavoidable. Although impacts associated with air quality and traffic control during construction can be reduced to a less-than-significant level, these incremental impacts contribute to cumulatively considerable impacts that are significant and unavoidable.

Regional San received four comment letters from state, regional, and local agencies on the DEIR. No written comments were received from organizations or the general public, nor were any oral or written comments received during the public meeting. The comments received are recorded and addressed in the Comments and Responses section of the FEIR. The DEIR and FEIR are included in the attached CD, and hard copies are available upon request. In addition, two hard copies will be available for review at the Board meeting.

PUBLIC OUTREACH:

During the preparation of the DEIR, various coordination efforts for the SPA Project were held with the City of Sacramento, County of Sacramento, Sacramento Power Authority, and state and federal agencies. These efforts also included a CEQA Scoping Meeting and a DEIR public meeting held on January 8, 2014 and July 30, 2014, respectively.

Notifications of the Scoping Meeting and public meeting dates and times were provided to the commenting entities in accordance with CEQA requirements. Outreach efforts will continue through the final design and construction phases of the SPA Project.

CONCLUSION:

It is recommended that your Board certify the FEIR for the SPA Project as adequate and complete, approve the project, adopt the Findings of Fact and Statement of Overriding Considerations, and adopt the Mitigation Monitoring and Reporting Program.

Respectfully submitted,

Christoph Dobson
Director of Policy and Planning

APPROVED:

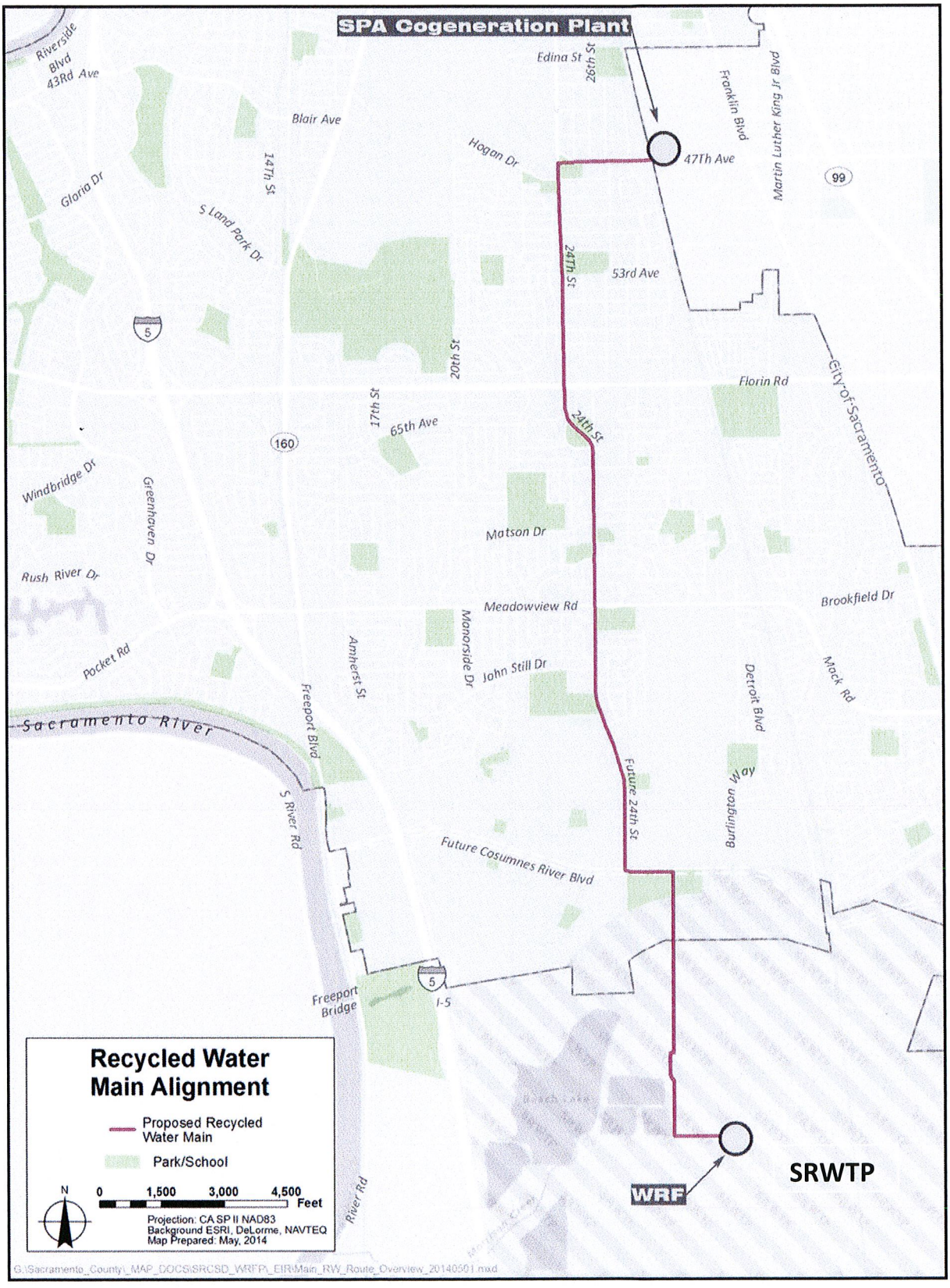
Prabhakar Somavarapu
District Engineer

Attachments: A. Vicinity Map
B. Resolution
C. Statement of Findings and Overriding Considerations
D. Mitigation Monitoring and Reporting Program

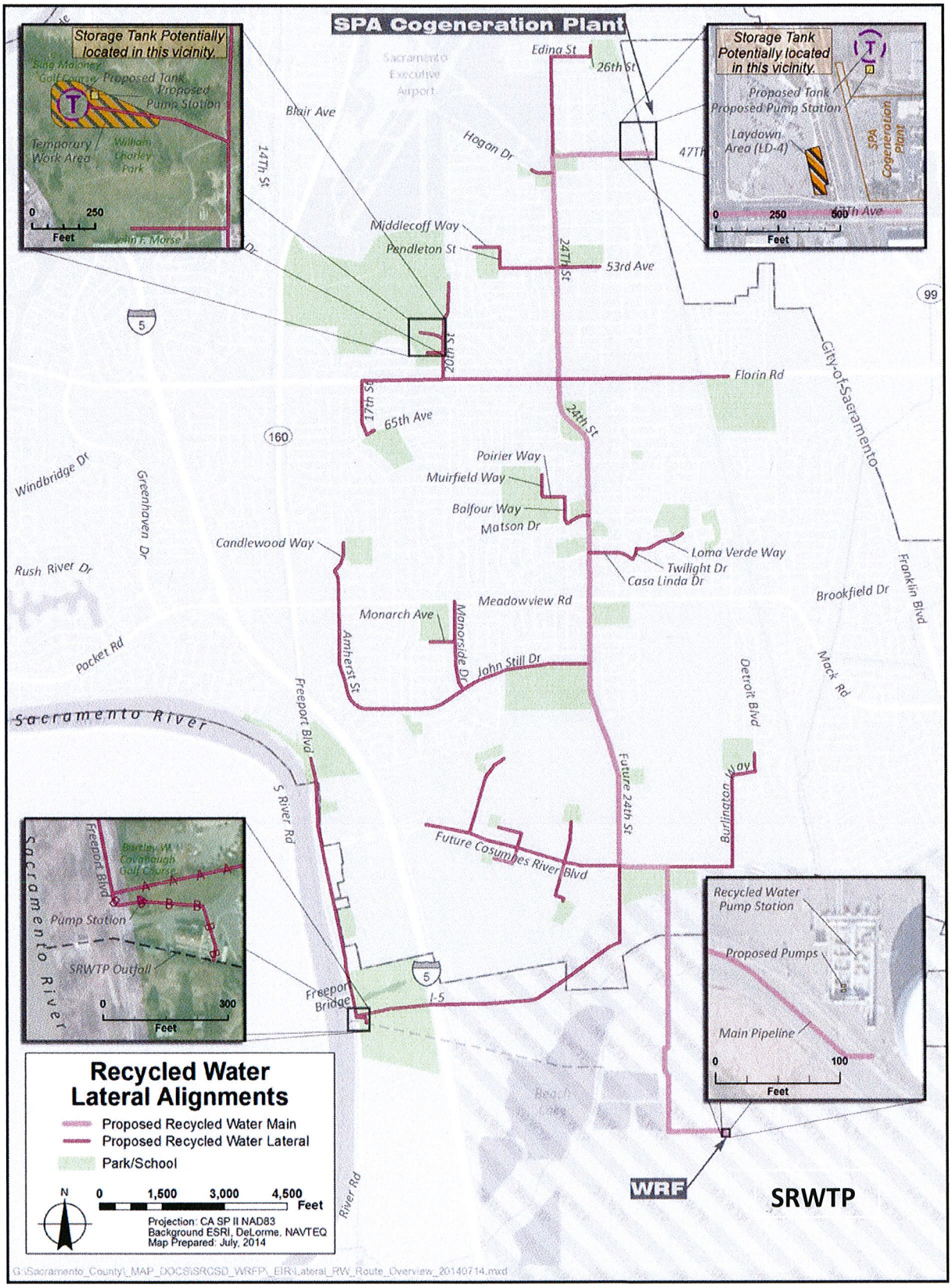
On enclosed CD:
Draft Environmental Impact Report
Final Environmental Impact Report

Contact for additional information:
Christoph Dobson, Director of Policy and Planning, 876-6042

Vicinity Map. S.P.A. Project F.E.I.R. – Phase 1 Project



Vicinity Map. S.P.A. Project F.E.I.R. – Phase 1 Project and Future Expansion Laterals



SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT

RESOLUTION NO. SR-2754

RESOLUTION FOR

PROJECT APPROVAL AND ENVIRONMENTAL DOCUMENTATION FOR THE SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT/SACRAMENTO POWER AUTHORITY/CITY OF SACRAMENTO WATER RECYCLING PIPELINE PROJECT, CONTROL NO. 2013122046

WHEREAS, On July 16, 2014 the Sacramento Regional County Sanitation District (Regional San) serving as the California Environmental Quality Act (CEQA) Lead Agency released for public review a Draft Environmental Impact Report (DEIR) for the Sacramento Regional County Sanitation District/Sacramento Power Authority (SPA)/City of Sacramento Water Recycling Pipeline Project (SPA Project); and

WHEREAS, Regional San provided adequate time for public review and comment, held a public meeting on the matter, and subsequently prepared a Final Environmental Impact Report (FEIR); and

WHEREAS, Regional San is now seeking approval for certification of the Final Environmental Impact Report, approval of the SPA Project, approval of the Statement of Findings and Overriding Consideration, and adoption of the Mitigation Monitoring and Reporting Program.

NOW, THEREFORE, BE IT RESOLVED AND ORDERED that the Board of Directors of the SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT, a county sanitation district pursuant to and operating under the authority of the County Sanitation District Act, commencing at Health and Safety Code section 4700, hereby:

1. Certifies the Final Environmental Impact Report (FEIR) as adequate and complete; and

2. Approves the SPA Project; and

3. Approves the Statement of Findings Overriding Considerations; and

4. Adopts the Mitigation Monitoring and Reporting Program.

ON A MOTION by Director **Nottoli**, and seconded by Director **Bruin**s, the foregoing resolution was passed and adopted by the Board of Directors of the Sacramento Regional County Sanitation District, State of California, this 12th day of November, 2014, by the following vote, to wit:

AYES:	Directors,	Bruins, Cooper, Fong, MacGlashan, Nottoli, Peters, Serna, Yee, Skoglund, Villegas, Cohn, Kristoff, Morin
NOES:	Directors,	None
ABSENT:	Directors,	Hansen, Hume, McCarty, Warren
ABSTAIN:	Directors,	None

Don Nottoli

Chair of the Board of Directors
Sacramento Regional County Sanitation District,
a county sanitation district pursuant to and operating under the authority of the County Sanitation District Act, commencing at Health and Safety Code section 4700

(SEAL)

ATTEST: Cyndi Lee

Clerk of the Board of Supervisors of Sacramento County, California, and ex-officio Secretary of the Board of Directors of the Sacramento Regional County Sanitation District

in accordance with Section 25103 of the Government Code of the State of California a copy of the document has been delivered to the Chairman on 11-12-14

By Rena White
Deputy Clerk, Board of Directors

FILED
BOARD OF DIRECTORS
NOV 12 2014

BY Cyndi Lee
CLERK OF THE BOARD

Attachment C

Statement of Findings and Overriding Consideration for the Sacramento Regional County Sanitation District / Sacramento Power Authority / City of Sacramento Water Recycling Pipeline Project

State Clearinghouse Number **2013122046**

Contact:

José Ramírez
Tel: (916) 876-6059
Fax: (916) 875-9496
ramirezj@sacsewer.com

October 2014

This page intentionally left blank

Contents

1 STATEMENT OF FINDINGS 1
1.1 INTRODUCTION 1
1.2 Project Background 2
1.3 Final EIR Record 2
1.4 Findings of Fact 2
1.4.1 Description of the Project 2
1.4.2 Alternatives 3
1.4.3 Absence of Significant New Information 5
1.4.4 Effects Found Not To Be Significant 6
1.4.5 Significant Effects of the Project 15
1.5 MITIGATION MONITORING REPORTING PROGRAM 35
2 STATEMENT OF OVERRIDING CONSIDERATIONS 36
2.1 Significant Unavoidable Adverse Impacts 36
2.1.1 Noise 36
2.1.2 Air Quality 37
2.1.3 Traffic and Transportation 37
2.2 Overriding Considerations 37

ACRONYMS AND ABBREVIATIONS

Please see the Draft EIR for Acronyms and Abbreviations

1 STATEMENT OF FINDINGS

1.1 INTRODUCTION

The proposed Sacramento Regional County Sanitation District (Regional San or SRCSD) / Sacramento Power Authority (SPA)/ City of Sacramento Water Recycling Pipeline Project (Project) would convey recycled water from Regional San's Water Recycling Facility (WRF) and the future advanced wastewater treatment plant (aka EchoWater) located at the Sacramento Regional Wastewater Treatment Plan (SRWTP) to SPA's Campbell Cogeneration Plant (SPA Cogen Plant) and other potential customers. Regional San is the lead agency for compliance with the California Environmental Quality Act (CEQA). Regional San prepared an environmental impact report (EIR), under the requirements of CEQA, to evaluate the environmental impacts of the Project. The environmental analysis contained in the EIR provides a thorough evaluation of significant and potentially significant effects on the environment that would occur as a result of implementing the Project. The EIR also thoroughly evaluates alternatives to the Project that are capable of reducing or avoiding environmental impacts while still attaining most of the Project objectives.

When approving a project, CEQA and the State CEQA Guidelines provide that:

> *No public agency shall approve or carry out a project for which an environmental impact report has been certified which identifies one or more significant effects on the environment that would occur if the project is approved or carried out unless both of the following occur:*
>
> a. *The public agency makes one or more of the following findings with respect to each significant effect:*
>
> 1. *Changes or alterations have been required in, or incorporated into, the project which mitigate or avoid the significant effects on the environment.*
>
> 2. *Those changes or alterations are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency.*
>
> 3. *Specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental impact report.*
>
> b. *With respect to significant effects which were subject to a finding under paragraph (3) of subdivision (a), the public agency finds that specific overriding economic, legal, social, technological, or other benefits of the project outweigh the significant effects on the environment. [Public Resources Code Section 21081]*

Because the EIR identified significant effects that would occur as a result of the Project and in accordance with the provisions of the State CEQA Guidelines, Regional San hereby adopts these findings as part of the approval of the proposed Project.

1.2 PROJECT BACKGROUND

Regional San is a special district that provides wastewater conveyance and treatment services throughout most of the urbanized areas of Sacramento County (County), including the cities of Folsom, Citrus Heights, Rancho Cordova, Sacramento, West Sacramento, and Elk Grove; the communities of Courtland and Walnut Grove; and urbanized portions of unincorporated the County.

Within the next decade, Regional San's SRWTP will be improved to produce tertiary effluent meeting Title 22 tertiary recycled water or equivalent effluent standards through Regional San's EchoWater Project.

The SRWTP currently houses Regional San's WRF, which consists of a tertiary treatment plant, pump station, and storage reservoir. The WRF was originally designed to produce up to 5 million gallons per day (mgd) of tertiary effluent, but is permitted up to 10 mgd (State Water Resources Control Board, 1996)[1].

1.3 FINAL EIR RECORD

Regional San has reviewed the Final EIR (FEIR) for the proposed Project, consisting of the Draft EIR (DEIR), Responses to Comments on the DEIR, changes since the publication of the DEIR, corrections and revisions to the DEIR, and the Mitigation Monitoring and Reporting Program (MMRP). Regional San has also considered the public record for the Project. In addition to this Statement of Findings, the public record for the proposed Project includes the following elements (full lists of references are provided in Chapter 8 of the DEIR):

- Notice of Preparation (December 19, 2013)
- Scoping meeting (January 8, 2014)
- Public DEIR including Technical Appendices (July 16, 2014)
- FEIR (October 31, 2014)
- All references used in the DEIR and FEIR
- Correspondence pertaining to the DEIR
- Public hearings (January 8, 2014, July 29, 2014)
- All written and verbal material presented or received at the Public Hearings

1.4 FINDINGS OF FACT

1.4.1 Description of the Project

Project Objectives

The Project alignment contains recycled water main, laterals, lateral structures, and equipment lay-down areas. The Project's recycled water main would initially convey 1 mgd to serve the SPA Cogen Plant on a year-round basis but would be sized to convey a maximum of 4.6 mgd to serve additional future users with recycled water laterals and lateral structures within the study area. This additional capacity would be available after the completion of the EchoWater Project.

The objectives of the Project are to:

- maximize the beneficial uses of Regional San's recycled water supplies from its treatment facilities located at the SWRTP, while minimizing total construction costs;

[1] See the Draft EIR, Section 8.0, for references

- provide recycled water to customers for allowable uses to offset existing potable water usage; and
- reduce groundwater pumping of potential customers in the Project Area.

Project Features

The Permit Compliance Alternative, as described in Chapter 3 of the FEIR, is the Project. The Project includes the following elements:

- Recycled Water Main Alignment
- Recycled Water Lateral Alignments
- Lateral Structures
- WRF Booster Pump Station
- Storage Tank

In addition to these proposed facilities, temporary contractor staging and laydown areas will be needed to support the Project.

The permitted capacity of the WRF will not change from the permitted capacity of 10 mgd, which has been in effect since 1997. During construction, approximately 30 construction workers would be temporarily employed. The proposed Project would not require any additional permanent SRWTP or SPA employees.

1.4.2 Alternatives

In accordance with the Section 15126.6 of the State CEQA Guidelines, a range of reasonable alternatives to the Project that could feasibly attain the basic Project objectives but would avoid or substantially lessen any of the significant effects of the Project was addressed in the EIR. The EIR considered the following eight alternatives to the Project: No Project, Reduced Project, Bufferlands Route, Franklin Boulevard Route, Railroad Route, Franklin Boulevard to 24th Street Route, Plant Facilities Route, and Plant Facilities Route II (evaluated as the proposed Project in the DEIR).

In addition to the proposed Project, three alternatives were carried forward for analysis: the No-project Alternative, the Reduced Project Alternative, and the Bufferlands Route Alternative.

Alternative 1: No Project

According to Section 15126.6(e) of CEQA Guidelines, discuss of the No-project Alternative must include a description of existing conditions and reasonably-foreseeable future conditions that would exist if the proposed Project was not approved. Under the No-project Alternative, Regional San would not approve or implement the Project.

Under the No-project Alternative, the SPA Cogen Plant, and/or parks, schools, and golf courses (GC) in south Sacramento would continue to use potable water supplied by the City of Sacramento (City) for irrigation and industrial water demands. The Bartley Cavanaugh GC would continue to use groundwater for irrigation demands. The City would continue to use groundwater to narrow the gap between normal water supply reliability and single and multiple dry water years. The City has been generally able to meet water demands; however, in dry years (as in 2014) the water supply portfolio may require groundwater extraction greater than the long-term average use rate of the basin, resulting in a significant impact not identified with implementation of the proposed Project.
Regional San would construct treatment facilities to meet the requirements of the 2010 National Pollutant

Discharge Elimination System (NPDES) Permit (Title 22 disinfected tertiary equivalent) and would discharge the 4.2-mgd of recycled water to the Sacramento River and Regional San's recycled water would not be beneficially used in the region. Other recycled water projects to serve customers in the City of Elk Grove and south Sacramento County may still be constructed, and existing customers in the Phase 1 Demonstration Project would continue to be served. None of the environmental impacts identified in Chapter 3.0 "Environmental Setting, Environmental Impacts and Mitigation Measures" would occur.

There are no anticipated benefits with the discharge of 4.2-mgd into the Sacramento River. The 4.2-mgd would be a very minor amount (less than .02 percent) of discharge currently being released from the SRWTP outfall into the Sacramento River. Therefore, the additional 4.2-mgd is not anticipated to benefit aquatic species and/or habitat in the Sacramento River over what is currently being released into the Sacramento River by Regional San.

Implementation of the No-project Alternative would not meet any of the proposed project objectives. There would be no increase in the use of recycled water beyond current levels; therefore, there would be no offset of potable water use and no sustainability of water supply. Finally, this alternative would not facilitate goals related to recycled water set forth in Regional San's Water Asset Management Vision and other State/regional water recycling regulations and initiatives.

Alternative 2: Reduced Project

In accordance with CEQA Guidelines, a Reduced Project Alternative is considered in the EIR to determine if such an alternative could avoid or substantially lessen the significant effects of the Project while accomplishing the most basic objectives of the Project. Identical to the proposed Project, this alternative would include the same recycled water main and recycled water laterals along 24th Street. However, the recycled water main would tie-into the existing WRF pipeline and would continue east along Sims Road, then tie-into the abandoned Pacific Gas and Electric (PG&E) 16" steel pipeline. The recycled water main would be within the PG&E 16" steel pipeline and travel north along the railroad from Sims road to Cosumnes River Boulevard. At this point the recycled water main would exit the PG&E pipeline and travel west on Cosumnes River Boulevard to 24th Street.

Implementation of the Reduced Project Alternative would result in potentially less environmental impacts than the proposed Project as this alternative utilizes the steel pipeline obtained from PG&E from Sims Road to Cosumnes River Boulevard and therefore would require less construction. However, the PG&E pipeline was constructed in 1930 and the integrity of the entire pipeline is unknown unless Regional San unearths, accesses, and completes CCTV of the pipeline. Also, operations and maintenance of the recycled water main within the PG&E pipeline would be difficult because it is adjacent to a UPRR easement, a PG&E easement (gas), and a Sacramento Municipal Utilities District (SMUD) easement (gas). In addition, the pipeline would not be available until 2015 pushing the construction timeframe back 12-24 months, which would potentially conflict with Regional San's ability to utilize the WaterSMART grant money. This is due to the fact that the WaterSMART grant requires construction of the entire Project by 2016 for the funds to be utilized by Regional San. The timeframe and location of the Reduced Project Alternative may put the Project in conflict with EchoWater Project improvements in the same area and time. Exiting the existing 16" steel PG&E pipeline could be complicated because record drawings appear to place it underneath the north levee of Morrison Creek. Open cut construction of the levee, in order to connect the new SPA pipeline to the old PG&E pipeline, would incur additional time, cost, and risk for Regional San.

The Reduced Project Alternative has the ability to meet the basic needs of the Project objectives albeit with a slightly reduced hydraulic capacity for future customers. However, the integrity of the PG&E pipeline and potential for a substantially more amount of construction work, including levee rebuilding and certification, represent too much residual risk for Regional San to invest in this alternative for long term recycled water supply and operation.

Alternative 3: Bufferlands Route

This alternative would have the same alignment as the proposed Project along 24th Street and included the same recycled water laterals and lateral structures (i.e. booster pump station and storage tank), but included a different alignment of the pipeline exiting the SRWTP. This alternative would connect to the WRF at the SRWTP and the recycled water main continued west along Laguna Station Road. The recycled water main would then exit the plant to the northwest through the Bufferlands and then north to the Cosumnes River Boulevard Extension.

Implementation of the Bufferlands Route Alternative would result in more environmental impacts than the proposed Project as this alternative would include construction through wetlands, native oak trees, a large mitigation area of native trees and grasses, and special status species habitat. Horizontal directional drill (HDD) construction was considered in order to avoid environmental impacts and impacts to the Morrison Creek Levee, but two segments of HDD with a central HDD shaft would be required in wetlands and could not be avoided. Also, this alternative would provide less accessibility for operations and maintenance.

The Bufferlands Route Alternative has the ability to meet some of the project objectives; however, this alternative would impact wetlands and has the potential to impact special status species or habitat. The mitigation required would increase the construction costs associated with this alternative. Therefore, this alternative would not meet the project objective “Maximize the beneficial uses of Regional San’s recycled water supplies from its treatment facilities located at the SWRTP, while minimizing total construction costs.” This alternative was rejected from further consideration.

Conclusions Regarding the Alternatives

Based on the foregoing analysis and pursuant to CEQA Guidelines Section 15126.6, Regional San has considered a range of reasonable alternatives to the proposed Project, which could feasibly attain most of the basic project objectives but would avoid or substantially lessen certain significant effects of the Project. Regional San has evaluated the comparative merits of the various alternatives and identified and analyzed potentially environmentally superior alternatives. Based on this analysis and substantial evidence in the record, Regional San finds and determines that none of the alternatives is feasible within the meaning of CEQA and therefore rejects each alternative in favor of the proposed Project.

1.4.3 Absence of Significant New Information

CEQA Guidelines Section 15088.5 requires a lead agency to recirculate an EIR for further review and comment when significant new information is added to the EIR after public notice is given of the availability of the DEIR but before certification of the FEIR. New information added to an EIR is not “significant” unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the Project or a feasible way to mitigate or avoid such an effect that the Project

proponent declines to implement. The CEQA Guidelines provide the following examples of significant new information under this standard:

- A new significant environmental impact would result from the Project or from a new mitigation measure proposed to be implemented.
- A substantial increase in the severity of an environmental impact would result unless mitigations are adopted that reduce the impact to a level of insignificance.
- A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the Project, but the project's proponents decline to adopt it.
- A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the Project, but the project's proponents decline to adopt it.

The FEIR incorporates information obtained by Regional San since the release of the DEIR. This information includes comments submitted on the DEIR, responses to those comments, and additional information developed since the release of the DEIR as set forth in the FEIR and appendices thereto. For example, the cultural resources inventory was expanded from 0.25 miles to 0.5 miles, adding 6 more items. None were within the Project alignment.

In summary, the new information included in response to the comments and other chapters submitted in the FEIR do not reflect "significant new information" requiring the need for recirculation of the EIR. The comments, responses, and information updated in response to comments and minor project modifications.

1.4.4 Effects Found Not To Be Significant

Effects of the Project found to be less than significant, and which require no mitigation, are identified in the bulleted list below. The impact title and number follow the impact titling and number conventions used in the EIR. Regional San has reviewed the record and agrees with the conclusion that the following impacts would not be substantially changed by the Project, and therefore no additional findings are needed.

- **1.6.1: Forestry Resources**: The Project alignment would be surrounded by the existing SRWTP (designated for Public/Utilities land uses in the County General Plan) and existing or planned residential development, industrial development, and the Sacramento River. There are no lands along the proposed alignment that are zoned for forest land or timberlands, the alignment would not be forested, and a portion of the alignment would be surrounded by open space grassland habitat and agricultural land uses (the Bufferlands area of the Regional San property), No impacts to forest lands would occur.
- **1.6.1: Land Use and Planning**: The proposed installation and operation of a recycled water main and future lateral connections would not involve changes to existing land uses along the Project alignment and the Project would not conflict with County General Plan or City General Plan policies. The proposed Project would support and be consistent with State and regional recycled water regulations and initiatives including the following, as described in Section 1.1, "Setting" in the DEIR; California Senate Bill X7 and the resulting 20 by 2020 Plan; State Water Board's 2009 Recycled Water Policy; California

Water Code, Chapter 7, Article 7 (encourages the increased use of recycled water); the Water Forum Agreement; and the 2013 Sacramento Integrated Regional Water Management Plan. No significant land use or planning effects would occur.

- **1.6.1: Mineral Resources**: According to the County General Plan Conservation Element, no significant mineral deposits have been identified along the Project alignment. Additionally, the Project would not be located within an Aggregate Resource Area as identified by the County General Plan Land Use Diagram (Sacramento County 2011). No impacts to mineral resources would occur.

- **1.6.1: Population, Employment, and Housing**: In 2012, the estimated population in The County was 1,450,121 and the estimated population in the City was 475,516 (U.S. Census Bureau 2014a, b). There are no residences within the SRWTP property or SPA Cogen Plant site, within the recycled water main alignment or the future lateral alignments, or at Chorley Park (a potential location for a storage tank and pump station). All proposed recycled water pipelines and support facilities would be located within public rights-of-way (under roadways) or on public land. Lands immediately adjacent to the recycled water main alignment and future lateral alignments include existing residential subdivisions in the City, such as Meadowview and Golf Course Terrace, and the future Delta Shores residential development. Construction and operation of the recycled water main, laterals, or lateral structures would not require the removal of any existing homes or displace businesses or people, nor would the Project result in the construction of any housing.

  The proposed Project would not require any additional permanent SRWTP or SPA employees to operate the recycled water pipelines. Approximately 30 construction workers would be temporarily employed during construction of the recycled water main from the SRWTP to the SPA Cogen Plant, which would take approximately 300 days, and during construction of future lateral connections and associated storage tank and pump station, which would take approximately 579 days. The employment duration of individual construction workers would vary according to construction phase and skill sets required for each project component.

  Unemployment in The County is approximately 9 percent of its 678,600-person workforce (as of August 2013), so an estimated 60,100 people remain unemployed (California Employment Development Department [EDD] 2013a). The construction workforce in the overall Metropolitan Statistical Area (Sacramento and surrounding counties) is substantial, totaling over 36,000 (also as of August 2013) (EDD 2013b). These data suggest that the region supports a robust construction workforce that also has the ability to grow in numbers while reducing local unemployment. As a result, it is not anticipated that substantial numbers of workers would relocate to the area, creating a demand for housing.

  No direct or indirect impacts to population, employment, or housing would occur due to the proposed recycled water pipeline.

- **1.6.1: Public Non-Emergency Services**: The proposed Project would not involve construction of housing or any increase in permanent personnel at the SRWTP or SPA Cogen Plant. In addition, based on existing workforce and unemployment rates in the Sacramento region, it is assumed that the need for temporary construction workers would be served by existing local residents. Therefore, the Project would not generate any increase in demand for schools, parks, or other public services or facilities.

Operation of the recycled water pipelines, which would be located beneath roadways or publicly owned land, would not result in a change to any land uses in the Project alignment and would not increase demand for public services. Regarding wildland fire hazards, the SRWTP, SPA Cogen Plant, main pipeline alignment, and future lateral connections are not located in a designated wildland fire area or a high fire hazard severity zone, and as such, the Project would not expose people or structures to a significant risk involving wildland fires. The Project would not result in adverse impacts on public non-emergency services.

Potential impacts to emergency services are discussed in Section 3.16, "Transportation and Traffic" in the DEIR.

- **1.6.1: Utilities and Energy Use**: Installation and operation of the proposed recycled water pipelines would not involve development of new residential, commercial, or industrial areas that would result in a substantial increase in the demand for utility services or facilities. Construction and operation of the recycled water pipeline would not involve an increase in wastewater treatment capacity at the SRWTP, but would result in the conservation of potable water by replacing the use of potable water at the SPA Cogen Plant with recycled water. The Project would increase the availability of recycled water, and as a consequence, decrease demand for potable water for the SPA Cogen Plant and for landscape irrigation at parks and schools. The availability of additional potable water as a result of the Project and the potential for such water to serve growth in the region is discussed in Section 5.0 "Other CEQA Requirements" in the DEIR.

  Because the Project would not involve demolition that would result in substantial construction waste, nor result in development of land uses that would generate substantial amounts of municipal solid waste, it would not have an adverse effect on landfill capacity and would not conflict with Federal, State or local statutes and regulations related to solid waste. The Project would require installation of additional pumps that would consume electrical energy; however, usage would not be substantial, would be readily accommodated without the need for additional electrical generation or transmission facilities, and would offset energy used to secure potable water, which is currently used at the plant.

  Installation of the proposed recycled water main and future lateral connections within existing roadways would involve implementation of standard coordination procedures with utility providers that have existing underground and overhead infrastructure (water, sewer, natural gas, and electrical). As such, Regional San would ensure that utility services are not disturbed by Project construction activities.

  No additional demand for utilities and services would result from the Project and coordination with utility providers would occur to avoid disruption of services. No impacts to utilities would occur.

- **3.2.3: Scenic Vistas**: A scenic vista is generally considered a view of an area that has remarkable scenery or a natural feature or cultural resource that is indigenous to the area. The recycled water main and lateral alignments and surrounding areas do not contain any scenic vistas. The Project would not have a substantial adverse effect on a scenic vista.

- **3.2.3: Visual Resource Policies**: The Project would be consistent with the policies and guidelines outlined in the Bufferlands Master Plan, including the aesthetic resource management policies. For example, proposed WRF modifications would be sited within the facility core, and no large areas of trees

would need to be removed. No permanent above-ground structures would be placed within the Bufferlands. Therefore, the Project would not conflict with policies that would protect aesthetic and open space resources identified in the Bufferlands Master Plan. The Project would not conflict with plans, policies, or regulations that have been adopted for the protection or enhancement of aesthetic or visual resources by the City or County of Sacramento.

- **3.2.3: Operational (Long Term) Visual Impacts**: The proposed recycled water main and laterals would be placed underground and therefore not visible after construction. The new pumps at the existing Regional San facilities east of SR 160 (for the Freeport lateral) and at Chorely Park or the SPA Cogen Plant would be placed underground and would result in a visible manhole and control box, which would have limited visibility. Furthermore, the pipeline connections to the WRF and SPA Cogen Plant and additional pumps at the WRF would not change the visual character of these facilities. With the exception of a possible water storage tank at Chorley Park, there would be no impacts to visual resources associated with the operational phase of the Project. Therefore, impacts associated with operations and maintenance are only addressed with respect to changes to visual character and quality in Chorley Park and the Bing Maloney GC.

- **3.2-1: Impacts to Scenic Corridors or Highways**: SR 160 is a designated State scenic highway. The Freeport lateral line (option A) would cross under I-5, and either option A or B would be placed in the SR 160 right-of-way. Construction activities required for installing the Freeport lateral would be visible for travelers on SR 160 and I-5. However, once completed, the facilities would be underground and would have no long-term effect on visual resources. Thus, the views of the Project alignment from designated State scenic highway or county-designated scenic corridor would not substantially change from existing conditions, and substantial adverse change to scenic views would not occur. This impact would be less than significant.

- **3.2-3: Lighting Impacts**: Neither construction nor operation of the Project would result in substantial changes to light and glare conditions; nighttime construction may take place at two intersections to avoid high volume traffic periods. Operational lighting at the WRF would remain similar to existing lighting. Lighting on the WRF may be visible from the residential area along Dwight Road, but due to distance, (1 mile) lighting would be substantially diffused such that it would not be intrusive. Therefore, the Project's lighting impacts would be less than significant.

- **3.3.3: Williamson Act**: The Project will not result in the permanent conversion of any Farmland to non-agricultural uses, because impacts associated with construction of the water recycled main and laterals will be temporary in nature. In addition, there are no Williamson Act contracts along the Project alignment.

- **3.3-1: Impacts to Agricultural Resources or Operations**: All areas temporarily disturbed by construction would be restored upon completion of construction, and all pipelines would be underground. Operation of the proposed Project would have no effect on continued agricultural use of affected areas. Additionally, Regional San will coordinate with agricultural leaseholders and modify construction timing to ensure that the proposed alignment would be constructed while fields are fallowed. Therefore, temporary impacts to the area would be less than significant.

- **3.4.4: Carbon Monoxide Concentrations**: The Project area is in attainment for National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) for carbon monoxide (CO), and has not experienced a violation of CO standards for many years. Operation of the Project would not result in an increase in vehicle trips on the local roadway network, as maintenance would result in minimal (one or two) vehicle trips each year. During construction, workforce and truck trips could generate an estimated 124 trips during peak phases of the Project's construction. The Sacramento Metropolitan Air Quality Management District (SMAQMD) provides screening levels to determine project-level significance with regards to CO concentrations. Neither construction nor operation of the Project would contribute traffic congestion to an affected intersection that exceeds the recommended level of 31,600 vehicles per hour (SMAQMD 2013b). Therefore, Project-generated traffic would not result in a contribution to a violation of an air quality standard for CO or contribute to nonattainment conditions.

- **3.4-2: Long-term operational emissions of ROG, NO_X, PM_{10} and $PM_{2.5}$**: Implementation of the Project would not result in long-term operational emissions of reactive organic gasses (ROG), nitrogen oxides (NO_X), particulate matter < 10 µm (PM_{10}), or particulate matter < 2.5 µm ($PM_{2.5}$) that exceed SMAQMD's thresholds of significance (65 lb/day for ROG and 65 lb/day for NO_X) or substantially contribute to an exceedance of the NAAQS or CAAQS. This impact would be less than significant.

- **3.4-3: Exposure of sensitive receptors to TACs**: Short-term construction activities would result in emissions of diesel PM within 50 feet of sensitive receptors. However, construction activities would vary over the construction period, with peak emissions at any one location occurring for approximately 4 days. Operation of the Project would not result in any additional sources of toxic air contaminants (TAC). Thus, levels of TACs from Project-related construction would not result in a substantial increase in health risk exposure at offsite sensitive receptors, increases in cancer risk that are greater than 10 in one million, or a hazard index greater than one. This impact would be less than significant.

- **3.4-4: Exposure of sensitive receptors to offensive odors**: Construction of the proposed recycled water pipelines, storage tank, and pumps would involve the use of heavy equipment that would generate exhaust pollutants and may create short-term odors. However, any construction-related odors would be temporary and limited to the immediate vicinity of the equipment. The pumping and use of recycled water, treated to Title 22 tertiary recycled water or equivalent effluent standards (fully-oxidized water for reclamation purposes, so no odor-generating compounds remain the water), would not create objectionable odors affecting a substantial number of people. This impact would be less than significant.

- **3.6-1: Damage to or destruction of documented significant cultural resources**: No evaluated or documented significant cultural resources have been identified within the Project alignment. Two locally significant cultural resources have been identified immediately adjacent to the Project alignment, and will be avoided during Project-related ground disturbance, maintenance, and operations. Therefore, the impact of the proposed Project to resources listed in the National, California, or Sacramento Registers of Historic Places or eligible resources or unique archaeological sites would be less than significant

- **3.7.4 Septic Tanks**: The proposed Project does not involve the construction or use of septic tanks or other alternative waste disposal systems, therefore there are no risks associated with the Project regarding construction in soils that cannot support use of these facilities and no impact would occur.

- **3.7-1: Expose people or structures to seismic hazards**: The Project would be constructed in an area that may be subject to strong seismic ground shaking from active earthquake faults. Seismic ground shaking could cause structural failure of the proposed recycled water main, laterals, and storage tanks. This impact would be less than significant.

- **3.7-2: Expose people or structures to risks associated with expansive soils**: As shown in Figure 3.7-2 and Table 3.7-1 in the DEIR, the Project alignment is underlain by multiple soil types with high shrink-swell potential (NRCS 1993). The shrinking and swelling of expansive soils as a result of moisture changes can damage building foundations, underground utilities, and other subsurface facilities if these facilities are not designed and constructed to resist the changing soil conditions. All recycled water main and laterals, and lateral structures (storage tank and booster pump stations), would be designed, engineered, and constructed in conformance with standard engineering practices and CBC requirements to minimize potential damage from expansive soils to the Project alignment and facilities. This impact would be less than significant.

- **3.7-3: Soil Erosion**: Soils along the Project alignment have a low erosion potential (erodibility) and, therefore, would not likely be subject to substantial increases in wind and/or water erosion. However, standard construction practices, such as compliance with best management practices (BMP) included within a Storm Water Pollution Prevention Plan (SWPPP) (as described in Section 3.10, "Hydrology and Water Quality" in the DEIR), would minimize wind and/or water erosion. Therefore, this impact would be less than significant.

- **3.7-4: Expose people or structures to risks associated with unstable soils**: Deep trench backfills (i.e. deeper than about 10 feet) may undergo some settlement following construction even with proper construction techniques. This condition is especially prevalent when newly place backfill materials become saturated. However, the proposed Project would backfill only trenches 8 feet or less in depth. These backfilled trenches would have minimal potential for post-construction settling. Construction of portions of the proposed Project that occur at greater depths will be with trenchless methods, HDD, or pipe jacking, which would occur at depth of approximately 30-40 feet. Subsidence is not expected to affect construction activities at this depth. The topography and soils along the Project alignment are not prone to on- or offsite landslides, lateral spreading, liquefaction, or collapse, and the Project would not change this condition. This impact would be less than significant.

- **3.8-1: Generation of greenhouse gas emissions**: The Project would result in greenhouse gas (GHG) emissions from construction activities including exhaust from worker commute trips, materials delivery, and the use of heavy-duty construction equipment. In addition, new pumps and increased usage of pumps for the recycled water alignment would result in operational emissions of GHGs associated with electricity consumption. Construction-generated GHG emissions would result in a temporary increase of 1,638 million tonnes (MT) of equivalent carbon dioxide (CO_2e) and operation of the pumps for the new recycled water alignment would result in a long-term increase of approximately 118 MT CO_2e/year. Because the combined construction-related and operation-related increase in GHG emissions would not exceed 10,000 MT CO_2e/year, the impact would be less than significant.

- **3.8-2: Impacts of climate change on the Project**: Climate change is expected to result in a variety of effects in the Project area including changes to timing and intensity of precipitation events resulting in

increased flood risk and impacts associated with increased storm water runoff. Climate change could also result in increased temperatures, leading to increased wildland fire and elevated sea levels. However, the Project is not located in an area prone to wildland fire and is located far enough away from the California coast and San Francisco Bay and at a high enough elevation above sea level such that projected sea level rise would not affect the Project location; therefore, this impact would be less than significant.

- **3.9.4: Hazardous Materials**: Construction activities would involve the use of hazardous materials such as fuels, lubricants, paints, solvents, gasoline, asphalt, and oil. The use and storage of these materials could potentially expose and adversely affect workers, the public, or the environment as a result of improper handling or use; accident; environmentally unsound disposal methods; or fire, explosion, or other emergencies, resulting in adverse health effects. All allowable uses would be subject to compliance with Federal, State, and local hazardous materials regulations, and would be monitored by the State (e.g., California Division of Occupational Safety and Health [Cal/OSHA] and Division of Toxic Substance Control [DTSC]), County, and the District. Therefore, it is anticipated that the routine use of these materials handled in accordance with these laws and regulations would not create any impacts to the public or the environment.

- **3.9.4: Schools**: Several of the proposed future laterals may offer recycled water connections to service school grounds. However, any connections to school irrigation systems and related construction would occur along existing road rights-of-way and would not occur on school grounds. Therefore, no impact related to schools would occur.

- **3.9.4: Airports**: The Borges-Clarksburg Airport, a small, unpaved (i.e., turf runway) private airstrip for primarily agricultural and limited recreational use, is located approximately 1.2 miles west of the existing Regional San property where recycled water main construction will commence from the existing WRF. The next closest airport is the Sacramento Executive Airport, which is located approximately 3.5 miles northwest of the Regional San property and approximately 2,000 feet away from the proposed recycled water laterals and above-ground storage tank to be constructed to service Chorley Park and Bing Maloney GC. The Project alignment is not located within any airport approach or departure safety zones, and no structures would be constructed that could result in a safety hazard. Therefore, no impact related to private airstrips or public airports would occur.

- **3.9.4: Asbestos & Lead**: The proposed Project will not involve demolition or tie-ins to existing building more than 50 years old on the Regional San property which may contain asbestos or lead-based paint, therefore no impacts related to release of these hazardous materials would occur.

- **3.9.4: Wildland Fires**: The proposed Project is located on Regional San property or previously developed City lands, therefore there are no wildland fire risks associated with the Project and no impact would occur.

- **3.9.4: Evacuation Routes**: The County Flood Emergency Evacuation Plan identifies evacuation areas and evacuation routes in the vicinity of the proposed alignment. These are located to the north of Morrison Creek, and along and to the west of I-5, and including I-5 (City and County of Sacramento 2005). The Project will not generate traffic (except during construction; see Section 3.13, “Traffic and

Transportation" in the DEIR), such that nearby evacuation routes would be affected. Project construction is not expected to interfere with evacuation plans, and no impact would occur.

- **3.10.4: Groundwate**r: During operation, the proposed Project will rely entirely on the existing WRF for supply and thus will not have any impacts to groundwater resources.

- **3.10.4: Stormwater**: Operation of the proposed Project will not have any effects to stormwater quality, as the WRF, recycled water main, laterals and lateral structures will act as a closed system, to convey recycled water to users and no discharges to surface waters will occur during Project operation.

- **3.10.4: NPDES and Reclamation Permits**: Operation of the proposed Project is not expected to require changes to Regional San's NPDES permit terms. However, because rated flows from the WRF were originally intended for delivery south to the Phase 2 recycled water area in Elk Grove, and a portion of the Phase 2 flow will go to the SPA Cogen Plant via the proposed Project, Regional San intends to file a change in point of use petition with the State Water Board along with release of the Public DEIR.

- **3.10.4: Flood Hazard Areas**: Construction and operation of the proposed Project will not result in construction of housing or other structures within a 100-year flood hazard area.

- **3.10.4: Inundation**: Inundation of the proposed Project alignment by seiche, tsunami, or mudflow is not a possibility due to the Project location in an inland, urbanized area.

- **3.10-1: Hydrology Impacts**: The existing WRF is rated and permitted to produce up to 5 mgd of recycled water. The Project's recycled water main will initially convey 1 mgd of water produced at the WRF to serve the SPA Cogen Plant on a year-round basis, but will be sized to convey a maximum of 4.6 mgd to serve additional future users via recycled water laterals, storage tanks, and booster pump stations. This 4.6-mgd of recycled water is currently released to the Sacramento River through the SRWTP outfall. Therefore, operation of the proposed Project may have hydrologic effects on the Sacramento River by slightly reducing flows through the SRWTP outfall. An analysis of Sacramento River flows at Freeport, with a period of record of October 1, 1949 to January 31, 2013, showed that during that period, the maximum flow was 115,000 cfs (during the 1986 flood), and a minimum of 3,970 cfs (during the drought of 1977) (USGS 2013). Using a daily timestep, the 90 percent exceedence flow is 9,180 cfs. The 90 percent exceedence flow is the low flow rate that is typically used in the design of water intakes and fish screens. The lowest monthly 90 percent exceedence is 7,500 cfs, and occurs in October. This impact would be less than significant.

- **3.10-3: Flood Management Impacts**: Construction of the proposed Project will require tunneling under levees via the HDD method. Tunneling under levees will be required between Laydown Areas 1 and 2, where the recycled water main will pass under the SRWTP emergency storage basin, Laguna and Morrison Creeks, and thus the north and south levees that contain the creeks. Additionally, Freeport Lateral Option A will require tunneling under levees via the pipe jacking method to cross under the levee adjacent to I-5. This impact would be less than significant.

- **3.10-4: Water Quality Impacts Due to Project Operation**: The use of recycled water in close proximity to surface water supplies and domestic groundwater wells during operation of the proposed Project may result in adverse water quality effects that could have health risks. Title 22 sets bacteriological water

quality standards based on the expected degree of public contact with recycled water. Disinfected tertiary treatment of recycled water is required for use involving direct public contact; this is the level of treatment provided by the WRF for conveyance by the proposed Project. This impact would be less than significant.

- **3.11.4 Vehicle Trips & Traffic Noise**: Project operation would not result in any new employees at the SRWTP or SPA Cogen Plant, resulting in no substantial new vehicle trips or traffic-related noise.

- **3.11.4 Airports**: The Project alignment is located within two miles of an active private airstrip and a public use airport. The Borges-Clarksburg Airport, a small, unpaved (i.e., turf runway) private airstrip for primarily agricultural and limited recreational use, is located approximately 1.2 miles west of the SRWTP, immediately west of the Sacramento River. The Sacramento Executive Airport is the closest public airport and is located adjacent to the alignment of the recycled water main, as it extends north along 24th Street. Because the proposed Project would not involve the construction of facilities that would introduce new sensitive receptors or result in the development of new structures that would potentially alter flight patterns associated with either of the two airfields, the Project would not result in noise impacts related to the exposure of people residing or working in the Project area to excessive aircraft-related noise levels.

- **3.11-2: Ground vibration impacts**: Construction- and operational-related Project activities would not result in vibration levels at the nearest sensitive land use that exceed the Caltrans recommended level of 0.2 in/sec peak particle velocity (PPV) with respect to the prevention of structural damage for normal buildings or the Federal Transit Administration (FTA) maximum acceptable level of 80 vibration decibels (VdB) with respect to human response for residential uses (i.e., annoyance). Implementation of the Project would not result in the exposure of existing sensitive receptors to excessive ground vibration or noise levels. This impact would be less than significant.

- **3.11-3: Operational stationary source noise impacts**: Proposed lateral structures would include booster pump stations, which would be new stationary noise sources. Project-generated stationary source noise levels would not exceed applicable noise standards and, therefore, would not result in a substantial increase in ambient noise levels at nearby existing noise-sensitive receptors. This impact would be less than significant.

- **3.12.3: Recreational Resource Plans**: The Project would not conflict with plans, policies, or regulations that have been adopted for the protection or enhancement of recreational resources by the City.

- **3.12.3: Use of Recreational Facilities**: The Project would provide a continuing reliable supply of water for irrigation at recreational sites (Chorley Park and Bartley Cavanaugh GC). However, these facilities have access to water other than recycled water and would continue irrigation these recreational sites regardless if the Project was implemented. Therefore, providing recycled water would not increase recreational use at these facilities. Nor does the Project include the construction or expansion of recreational facilities.

  All surface areas that would be disturbed during construction of the recycled water main and laterals would be restored to preconstruction conditions upon completion of construction. The pipeline would be underground and would have no effect on visitor use or operations at Chorley Park or the GC. There

would be no impacts to recreational resources associated with the operation and maintenance of the Project.

- **3.12-1: Substantial temporary restrictions to parks or GCs**: Construction of a storage tank and booster pump station at Chorley Park, and construction of recycled water laterals on Bartley Cavanaugh GC and Bing Maloney GC, could require temporary restrictions on use of these recreational areas. This impact would be minor and temporary, and therefore would be less than significant.

- **3.12-2: Permanent displacement of existing recreational facilities or substantial permanent decrease in access to existing recreational facilities or opportunities**: The Project includes two alternative locations for a storage tank and booster pump station: at Chorley Park, or at the SPA Cogen Plant on 47th Avenue. The Project would not result in the permanent displacement of any existing recreational facilities or opportunities at either location. Therefore, this impact would be less than significant.

- **3.13.4: Project Operations**: Operation of the Project would not result in any new employees at the SRWTP or the SPA Cogen Plant; therefore, no new employee vehicle trips would result from Project operation. Maintenance of the Project alignment would result in minimal vehicle trips, estimated at once or twice a year, which would not substantially affect traffic conditions on area roadways. Furthermore, the Project would not involve any changes to a design feature of a roadway.

- **3.13.4: Airport Operations**: Although the Project alignment is within two miles of the Sacramento Executive Airport, the temporary construction activities and the operation of the proposed Project would not result in a change in air traffic patterns or a change in safety risks.

- **3.13.4: Parking**: During construction of the Project, construction equipment and workers' vehicles would be parked at identified laydown (staging) areas (Exhibit 3.16-2). These areas have ample space for the small number of vehicles and equipment anticipated for each phase of construction. Moreover, the neighboring properties would be notified of the location and duration of construction. The Project would have no long-term effects on parking, since maintenance vehicle visits would be infrequent. Impacts on parking capacity would be less than significant.

- **3.14-1: Disproportionate Effects on Minority and Low Income Populations**: The proposed recycled water pipeline would be constructed across several census tracts that include minority and low-income populations. The effects of construction would be short term and would not result in a substantial adverse effect on the population within the study area. This impact would be less than significant.

1.4.5 Significant Effects of the Project

Pursuant to Public Resources Code (PRC) Section 21081, for each significant effect identified in the EIR, Regional San must make one or more of the findings stated in Section 1.1 in the DEIR. After reviewing the public record, as composed of the aforementioned elements, Regional San hereby makes the following findings regarding the significant effects of the proposed Project, pursuant to PRC Section 21081 and Section 15091 of the State CEQA Guidelines.

Aesthetics (DEIR Section 3.2)

Significant Effect: 3.2-2: Impacts to Visual Character or Quality

The quality of views of the Project alignment would be temporarily degraded by the presence of equipment, vehicles, pipes, and materials stored at laydown areas during construction. However, placement of the pipe within roadways would not result in removal of large trees. For the most part, impacts to scenic resources would be minor and temporary; the open cut trench would be filled and pavement and park vegetation would be restored following construction. Long-term impacts to visual resources at Chorley Park are possible due to the installation of a water tank and access road in a naturalized area as well as the potential removal or damage to oak trees as a result of the extension of a lateral line to the Bing Maloney GC. This impact would be potentially significant.

Finding

Changes or alterations have been required in, or incorporated into, the Project that mitigate or avoid the significant effects on the environment.

Facts in Support of Finding

Regional San has adopted the following mitigation measure to reduce to less than significant levels the project's impacts.

Mitigation Measure 3.2-2a. Avoid damage or removal of oak trees in Chorley Park.

The alignment of the recycled water laterals through Chorley Park and onto Bing Maloney GC shall be determined with the input of a qualified arborist, and shall avoid the removal of mature oak trees (native Quercus species 36 inch circumference or greater) to the greatest extent possible. Any mature oak trees that must be removed for Project construction shall be replaced in-kind on a one-to-one basis within Chorley Park or the Bing Maloney GC. New plantings shall be at least 15-gallon size planters; shall be placed to visually screen the new tank from developed recreation areas in Chorley Park; and shall be monitored for five years to ensure survival and growth of the tree. If there is mortality of new oak trees, they shall be replaced again and monitored for five years.

To avoid damage to existing mature oak trees adjacent to the alignment in the Chorley Park and Bing Maloney GC, the driplines of mature oak trees shall be identified by a qualified arborist and fenced with construction fencing prior to the start of construction. Grading, trenching, soil compaction, or storage of construction equipment shall not be allowed within the fenced dripline areas. Regional San shall have a qualified arborist monitor the mature oak trees that would be fenced for the lateral alignment in Chorley Park and Bing Maloney GC for five years to identify any tree mortality. If any of the mature oak trees die due to Project-related construction disturbance, they shall be replaced in-kind on a one-to-one basis within Chorley Park or Bing Maloney GC. New plantings shall be at least 15-gallon size planters; shall be placed to screen the new tank and pump; and shall be monitored for five years to ensure survival and growth of the tree. If there is mortality of new oak trees, they shall be replaced again and monitored for five years.

Mitigation Measure 3.2-2b. Screen views of the water tank from developed recreation areas in Chorley Park

The water tank, underground pump, and access road shall be sited to minimize visibility of the tank and road from park paths, picnic areas and playing fields. The access road shall be routed to minimize fragmentation of the park's open space areas.

The exterior of the storage tank shall be painted or treated such that the color minimizes visual intrusion and contrast by blending with the landscape. Non-glare paint or treatment shall be used.

Regional San shall prepare and implement a landscape plan for the storage tank at Chorley Park that is consistent with the Chorley Park Master Plan and that addresses, at a minimum:

- vegetative screening that provides substantial (over 50 percent) screening of the storage tank at five years
- a list of plants to be used and times to maturity
- plant materials that are compatible with the existing park setting
- plan review by the City Parks and Recreation Department
- monitoring and replacement of unsuccessful plantings for five years following installation

Conclusion

With the implementation of Mitigation Measures 3.2-2a and 3.2-2b, the Project's impacts on visual resources would be mitigated through avoidance of removal and damage to mature oak trees, and through establishment of landscaping to screen views of the new facilities. This impact would be reduced to less than significant.

Air Quality (DEIR Section 3.4)

Significant Effect: 3.4-1: Short-term construction emissions of criteria air pollutants and precursors (NO_X, ROG, PM_{10}, and $PM_{2.5}$).

Construction-related activities would result in Project-generated emissions of ROG, NO_X, PM_{10} and $PM_{2.5}$ (a subset of PM_{10}) from site preparation (e.g., excavation, clearing), trenching, off-road equipment, material and equipment delivery trips, worker commute trips, and other miscellaneous activities. The maximum construction day for either the main pipeline or the future laterals would not exceed SMAQMD's NO_X threshold of 85 lb/day. However, fugitive dust related to construction activities could contribute to the existing nonattainment status of the Sacramento Valley Air Basin (SVAB) with respect to PM_{10} and $PM_{2.5}$. This impact would be potentially significant.

Finding

Changes or alterations have been required in, or incorporated into, the Project that mitigate or avoid the significant effects on the environment.

Facts in Support of Finding

Regional San has adopted the following mitigation measure to reduce to less than significant levels the Project's impacts.

Mitigation Measure 3.4-1: Implement construction emission control practices

Regional San shall implement the following fugitive dust control measures during Project construction, as required by SMAQMD's Rule 403:

- Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, lay down areas, and access roads.
- Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the construction site. Any haul trucks that would be traveling along freeways or major roadways would be covered.
- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.
- Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).
- All roadways, driveways, sidewalks, parking lots to be paved would be completed as soon as possible. In addition, building pads would be laid as soon as possible after grading unless seeding or soil binders are used.

In addition, California regulations limit idling from both on-road and off-road diesel powered equipment. In compliance with such regulations, Regional San shall implement the following additional measures to limit exhaust emissions during construction:

- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [required by CCR, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.
- Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determine to be running in proper condition before it is operated.

Conclusion

Implementation of Mitigation Measure 3.4-1 would reduce fugitive dust and exhaust emissions associated with Project construction; thus, the Project would not result in a considerable contribution to the existing nonattainment status of the SVAB for PM_{10} and $PM_{2.5}$. This impact would be less than significant.

Biological Resources (DEIR Section 3.5)

Significant Effect: 3.5-1: Construction of the Project could result in temporary disturbance of nesting habitat for special-status birds, including those protected under the MBTA

Trees and grasslands along and near the proposed Project alignment could provide nesting habitat for a number of special-status avian species known to nest in the area, including great egret, great blue heron, American bittern, northern harrier, white-tailed kite, least bittern, loggerhead shrike, song sparrow, double-crested cormorant and other bird species, including those protected by the Migratory Bird Treaty Act of 1918 (MBTA). These impacts are potentially significant.

Finding

Changes or alterations have been required in, or incorporated into, the Project that mitigate or avoid the significant effects on the environment.

Facts in Support of Finding

Regional San has adopted the following mitigation measure to reduce to less than significant levels the Project's impacts.

Mitigation Measure 3.5-1: Special-status birds, including those protected under the MBTA

Implementation of Mitigation Measure 3.5-1(a) would require surveys for protected bird species to confirm the presence of active nests during the appropriate nesting season. If construction activities cannot be avoided during the nesting season, then implementation of Mitigation Measure 3.5-1(b) through (d) ensures that active nests are protected by instituting appropriate buffer zones and avoiding or minimizing loss or take of this species.

a. The project applicant or developer(s) shall have a qualified biologist conduct nest surveys within 30 days prior to any demolition/construction or ground disturbing activities that are within 500 feet of potential nest trees. A pre-construction survey shall be submitted to the California Department of Fish and Wildlife (CDFW) that includes, at a minimum: (1) a description of the methodology including dates of field visits, the names of survey personnel with resumes, and a list of references cited and persons contacted; and (2) a map showing the location(s) of raptor and migratory bird nests observed on the Project alignment. If no active nests of MBTA, CDFW or United States Fish and Wildlife Service (USFWS) covered species are identified then no further mitigation would be required.

a. Should active nests of protected bird species be identified in the survey conducted in accordance with Mitigation Measure 3.5-1(a), the applicant, or developer(s), in consultation with the CDFW, shall delay construction in the vicinity of active nest sites during the breeding season (March 1 through August 1) while the nest is occupied with adults and/or young. A qualified biologist shall monitor any occupied nest to determine when the nest is no longer used. If the construction cannot be delayed, avoidance shall include the establishment of a non-disturbance buffer zone around the nest site. The size of the buffer zone shall be determined in consultation with the CDFW, but will be a minimum of 100 feet. The buffer zone shall be delineated with highly visible temporary construction fencing.

a. No intensive disturbance (e.g., heavy equipment operation associated with construction, use of cranes or draglines, new rock crushing activities) or other Project-related activities that could cause nest abandonment or forced fledging, shall be initiated within the established buffer zone of an active nest between March 1 and August 1.

a. If demolition/construction activities are unavoidable within the buffer zone, the project applicant shall retain a qualified biologist to monitor the nest site to determine if construction activities are disturbing the adult or young birds. The monitor shall have the authority to halt construction activities that are causing agitation to the birds that could result in take. If abandonment occurs, the biologist shall consult with CDFW or USFWS for the appropriate salvage measures. This could include taking any nestlings to a local wildlife rehabilitation center.

Conclusion

Implementation of Mitigation Measures 3.5-1(a) through (d) would reduce the potential disturbance of nesting avian species to less than significant.

Significant Effect: 3.5-2: Construction of the proposed Project could result in the disturbance of nesting habitat for Swainson's hawks

Potential nesting trees are found along the proposed alignment at the SRWTP and in the northeast portion of the Bufferlands and Delta Shores area north of the SRWTP. Construction activities associated with the proposed Project could disturb nesting birds possibly resulting in nest abandonment, forced fledging and/or mortality. Some examples of Project-related activities that could cause nest abandonment or forced fledging are: demolition, large mobile construction equipment such as large bulldozers, and earth movers working directly under the nest trees for a significant amount of time and people trying to climb the nest tree. This impact would be considered potentially significant.

Finding

Changes or alterations have been required in, or incorporated into, the Project that mitigate or avoid the significant effects on the environment.

Facts in Support of Finding

Regional San has adopted the following mitigation measure to reduce to less than significant levels the Project's impacts.

Mitigation Measure 3.5-2: Swainson's hawk (nesting)

Implementation of Mitigation Measure 3.5-2(a) would require surveys for nesting Swainson's hawks to confirm the presence of active nests during the appropriate nesting season. If construction activities cannot be avoided during the nesting season, then implementation of Mitigation Measure 3.5-2(b) ensures that active nests are protected and the potential for nest abandonment is minimized by instituting appropriate buffer zones and avoiding or minimizing disturbance to any nesting birds reducing the impact to less than significant.

a. Before any demolition/construction activities that occur between March 1 and September 15 the applicant or developer(s) shall have a qualified biologist conduct surveys for nesting migratory birds on the Project alignment and within a quarter mile of demolition/construction activities. Surveys shall be conducted no more than 30 days prior to the start of any demolition or construction activities. If no active nests are identified on or within a quarter mile of construction activities, a letter report summarizing the survey results shall be sent to the City and CDFW and no further mitigation would be required.

a. If active nests are found, measures that will avoid impacts to nesting migratory birds, including measures consistent with the CDFW Staff Report Regarding Mitigation for Impacts to Swainson's Hawks in the Central Valley of California shall be implemented as follows:

   > Nest trees shall not be removed unless there is no feasible way of avoiding their removal.

   > If there is no feasible alternative to removing a nest tree, a Management Authorization (including conditions to offset the loss of the nest tree) shall be obtained from CDFW with the tree removal

period (generally between October 1 and February 1) to be specified in the Management Authorization.

> No intensive disturbances (e.g., heavy equipment operation associated with construction, use of cranes or draglines, new rock crushing activities) or other Project-related activities that could cause nest abandonment or forced fledging, shall be initiated within 1,320 feet (¼ mile) or less, as determined by CDFW, (buffer zone as defined in the CDFW Staff Report) of an active Swainson's hawk nest or 500 feet for other nesting migratory birds, between March 1 and September 15 or until August 15 if a Management Authorization or Biological Opinion is obtained from CDFW for the Project. The buffer zone may be reduced in consultation with CDFW.

> If demolition/construction activities are unavoidable and are allowed by CDFW within the buffer zone, the project applicant or developer(s) shall retain a qualified biologist to monitor the nest to determine if abandonment occurs. If the nest is abandoned and the nestlings are still alive, the project proponent shall retain the services of a qualified biologist to reintroduce the nestling(s) (recovery and hacking). Prior to implementing, any hacking plan shall be reviewed and approved by the Environmental Services Division and Wildlife Management Division of the CDFW. The CDFW may allow reduction of the recommended buffers, if a qualified biologist is retained for on-site nest observations.

Conclusion

Implementation of Mitigation Measure 3.5-2(b) ensures that active nests are protected and the potential for nest abandonment is minimized by instituting appropriate buffer zones and avoiding or minimizing disturbance to any nesting birds reducing the impact to less than significant.

Significant Effect: 3.5-3: Construction of the proposed Project could result in the loss of active burrowing owl nest burrows

The California Natural Diversity Database (CNDDB) shows four recorded occurrences of burrowing owls along the Project alignment. Burrowing owls are a State and Federal species of concern and; therefore, protected under Section 3503 of the CDFW Code and the MBTA. Ground squirrel burrows present in the irrigation ditches along the proposed alignment in agricultural areas north of the SRWTP are considered potential nesting habitat for burrowing owls. The loss of occupied ("[a] site should be assumed occupied if at least one burrowing owl has been observed occupying a burrow there within the last three years") burrowing owl nest or its occupants would be considered potentially significant.

Finding

Changes or alterations have been required in, or incorporated into, the Project that mitigate or avoid the significant effects on the environment.

Facts in Support of Finding

Regional San has adopted the following mitigation measure to reduce the Project's impacts to less than significant levels.

Mitigation Measure 3.5-3: burrowing owl (nesting)

Once implemented, Mitigation Measure 3.5-3(a) through (c) below would reduce impact to less than significant through the avoidance of any active burrowing owl nests, the safe exclusion of burrowing owls from any burrows to be destroyed prior to construction of the proposed Project, and the purchase of additional burrowing habitat, if necessary.

a. Prior to the issuance of grading permits, the project applicant shall retain a qualified biologist to conduct a pre-construction burrowing owl survey. If no suitable burrows are found, no further mitigation would be required. If suitable burrows are found, but no owls are found, all burrows shall be hand-excavated and collapsed prior to Project construction. If nesting owls are found, no disturbance shall be allowed within 160-feet of the active nest burrow between February 1 and August 31. Outside the nesting season, and/or upon confirmation by the qualified biologist, and in consultation with CDFW, that all young have fledged and left an active nest, burrowing owls present in the burrow shall be excluded from the burrow(s) by a qualified biologist through a passive relocation as outlined in the California Burrowing Owl Consortium's April 1993 Burrowing Owl Survey Protocol and Mitigation Guidelines (California Burrowing Owl Consortium 1993) and 2012 Staff Report on Burrowing Owl Mitigation (CDFG 2012). Once the burrows have been cleared, they must be hand-excavated and collapsed prior to Project construction.

a. To offset the loss of foraging and burrow habitat along the Project alignment, mitigation will be implemented as directed in CDFG 2012, which states that, "permanent habitat loss necessitates replacement with an equivalent or greater habitat area for breeding, foraging, wintering, dispersal, presence of burrows, burrow surrogates, presence of fossorial mammal dens, well drained soils, and abundant and available prey within close proximity to the burrow." The project proponent shall provide funding for long-term management and monitoring of the protected lands. The monitoring plan shall include success criteria, remedial measures, and an annual report to the Department. This mitigation could overlap with mitigation requirements for Swainson's hawk foraging habitat as deemed appropriate by CDFW.

a. If destruction of occupied burrows is unavoidable, the project applicant shall coordinate with CDFW to identify existing suitable burrows located on the protected lands site to be enhanced (enlarged or cleared of debris) or new burrows created (by installing artificial burrows) at a ratio of 2:1.

Conclusion

Once implemented, Mitigation Measure 3.5-3(a) through (c) above would reduce the impact to less than significant.

Significant Effect: 3.5-4: Construction impacts to Giant Garter Snake upland habitat from Freeport Lateral Option A

Morrison Creek, Laguna Creek, and other aquatic features within the Bufferlands are considered suitable habitat for Giant Garter Snakes (GGS). Construction of the main line will include tunneling under these areas, and no above-ground work will occur within 200 feet of suitable habitat. Laydown Area 6, associated with construction of the Freeport Lateral Option A, occurs near, but greater than 200 feet from, a wetland that is connected to Morrison Creek. Because of the proximity to GGS upland habitat, this would be a potentially significant impact.

Finding

Changes or alterations have been required in, or incorporated into, the Project that mitigate or avoid the significant effects on the environment.

Facts in Support of Finding

Regional San has adopted the following mitigation measure to reduce the Project's impacts to less than significant levels.

Mitigation Measure 3.5-4: GGS upland habitat

If impacts within 200 feet of GGS aquatic habitat are not expected; however, if any work were to occur in this area, consultation with USFWS will be carried out to determine if any take will occur. The following mitigation measures would be implemented, which would reduce impacts to GGS to less than significant.

a. Pre-construction Surveys. At most 24-hours prior to the commencement of construction activities, the environmentally sensitive area (ESA), i.e. areas within 200 feet of aquatic GGS habitat, shall be surveyed for GGS by a USFWS-approved biologist. The biologist will provide the USFWS with a written report that adequately documents the monitoring efforts within 24-hours of commencement of construction activities. The Project area shall be re-inspected by the monitoring biologist whenever a lapse in construction activity of two weeks or greater has occurred.

a. Timing of Construction. Construction activity in GGS upland habitat will occur during the GGS active period between May 1 and October 1. During the active period, direct mortality is lessened, because GGS are expected to actively move and avoid danger. If it appears that construction activity may go beyond October 1, the project proponents shall contact the USFWS as soon as possible, but not later than September 15 of the year in question, to determine if additional measures are necessary to minimize take. Construction activities within 200 feet from the banks of GGS aquatic habitat will be avoided during the GGS inactive season. If this is not feasible, the Project Proponent must consult with USFWS to determine measures to avoid impacts to GGS.

a. Monitoring During Construction. A USFWS-approved biologist shall inspect construction-related activities at the ESAs to ensure that no unauthorized take of federally listed species or destruction of their habitat occurs. The biologist shall be available for monitoring throughout all phases of construction that may result in adverse effects to the GGS. This includes installation of exclusion fence in GGS upland habitat. Furthermore, the biologist shall have the authority through communication with the resident engineer to stop construction activities in the immediate area if a GGS is encountered during construction until appropriate corrective measures have been completed or until the snake is determined to be unharmed. Snakes encountered during construction activities shall be allowed to move away from the area on their own volition. The biologist shall notify the USFWS immediately if any listed species are found on-site, and will submit a report, including date(s), location(s), habitat description, and any corrective measures taken to protect the species found. The biologist shall be required to report any take of listed species to the USFWS immediately by telephone at (916) 414-6600 and by electronic mail or written letter addressed to the Chief, Endangered Species Division, within three working days of the incident. The Service does not authorize any handling or moving of a GGS by other than a USFWS-approved biologist.

a. Worker Awareness Training. A Worker Environmental Awareness Training Program for construction personnel shall be conducted by the USFWS-approved biologist for all construction workers, including contractors, prior to the commencement of construction activities. The program shall provide workers with information on their responsibilities with regard to the GGS, an overview of the life-history of this species, information on take prohibitions, protections afforded this animal under the Act, and an explanation of the relevant terms and conditions of this biological opinion. Written documentation of the training must be submitted to the Sacramento Fish and Wildlife Office within 30 days of the completion of training. As needed, training shall be conducted in Spanish for Spanish language speakers.

a. Install Snake Exclusion Fencing. Prior to the commencement of construction activities, high visibility fencing will be erected around the habitats of federally listed species to identify and protect these designated ESAs from encroachment of personnel and equipment. These areas will be avoided by all construction personnel. The fencing shall be inspected by the Contractor before the start of each work day and maintained by the Contractor until completion of the Project. The fencing may be removed only when the construction of the Project is completed. Fencing will be established in upland immediately adjacent to aquatic GGS habitat and extending up to 200 feet from construction activities. Silt fencing, if properly installed, may serve as suitable snake exclusion fencing.

a. Provide Adequate Signage. Signs will be posted by the Contractor every 50 feet along the edge of the ESAs, with the following information: “This area is habitat of federally-threatened and/or endangered species, and must not be disturbed. These species are protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment.” The signs should be clearly readable from a distance of 20 feet, and must be maintained by the Contractor for the duration of construction.

a. Properly Dispose of Garbage. To eliminate an attraction to predators of the GGS, all food-related trash items, such as wrappers, cans, bottles, and food scraps, must be disposed of in closed containers and removed at the end of each workday from the entire Project site.

b. Minimize Impacts. The Contractor shall minimize the potential for harm, harassment, and direct mortality of the GGS resulting from Project-related activities by implementation of the Project. The Contractor shall ensure that the temporary loss of GGS habitat is confined to the proposed Project site.

Conclusion

The mitigation measures would reduce impacts to GGS to less than significant.

Significant Effect: 3.5-5: Impacts to elderberry shrub from construction of Freeport Lateral Option A

No elderberry shrubs would be affected by construction of the main line. Construction of the Freeport Lateral Option A occurs near, but greater than 20 feet from, one small, multi-stemmed shrub, as described in Section 3.5.2 in the DEIR. This shrub has two stems over 1 inch in diameter, with no evidence of exit holes. However, it has potential to support valley elderberry longhorn beetle (VELB). Removal, damage, or construction activities less than 20 feet from elderberry shrubs would result in potentially significant impacts.

Finding

Changes or alterations have been required in, or incorporated into, the Project that mitigate or avoid the significant effects on the environment.

Facts in Support of Finding

Regional San has adopted the following mitigation measure to reduce the Project's impacts to less than significant levels.

Mitigation Measure 3.5-5: Elderberry shrub impacts

If impacts to this shrub cannot be avoided by at least 20 feet, consultation with USFWS will be carried out to determine if any take will occur. The shrub will not be removed or transplanted until authorized by USFWS. If USFWS determines that mitigation is required, compensation will be implemented as outlined in the Conservation Guidelines for Valley Elderberry Longhorn Beetle (USFWS 1999).

Conclusion

Implementation of this mitigation measure would reduce impacts to less than significant.

Significant Effect: 3.5-6: Construction of the proposed Project could result in the disturbance of native perennial grassland.

A portion of the SRWTP, located west of Morrison Creek and east of the North Beach Lake Levee was restored to perennial native grassland as part of a restoration project in 2004 (see description of perennial native grassland under Terrestrial Environment in Section 3.5.2 in the DEIR). This project was completed under a cost-share agreement with United States Army Corp of Engineers (USACE) as part of the South Sacramento County Streams Project. This area may be disturbed by open-cut construction and Laydown Area 6 if the Freeport Lateral Option A were constructed. This impact would be potentially significant.

Finding

Changes or alterations have been required in, or incorporated into, the Project that mitigate or avoid the significant effects on the environment.

Facts in Support of Finding

Regional San has adopted the following mitigation measure to reduce the Project's impacts to less than significant levels.

Mitigation Measure 3.5-6: Perennial grassland

Although non-native weed species have encroached on this area, many stands of the restored native vegetation remain. Therefore, any ground disturbed in this area would be required to be restored to original grade and revegetated per the original specifications of the restoration project(s).

Conclusion

Implementation of this mitigation measure would reduce impacts to less than significant.

Significant Effect: 3.5-7: Construction of the proposed Project could result in the loss of native oak, heritage oak, or street/public trees.

Trees protected by the County and City General Plans may be removed or damaged during construction of the proposed Project. This impact would be potentially significant.

Finding

Changes or alterations have been required in, or incorporated into, the Project that mitigate or avoid the significant effects on the environment.

Facts in Support of Finding

Regional San has adopted the following mitigation measure to reduce the Project's impacts to less than significant levels.

Mitigation Measure 3.5-7: Tree removal

Where damage and removal of trees subject to County and City regulations cannot be avoided, mitigation measures will be implemented in accordance with the County 2030 General Plan and the City Tree Preservation Ordinance. For projects in the unincorporated County, native tree impacts would be mitigated as outlined in General Plan policies CO-138, CO-139, and CO-140. Impacts to woodland habitat, such as a riparian or native oak, are mitigated on an acreage basis, as described in CO-140. Individual native tree impacts outside of the habitat areas are mitigated based on the tree's dbh per CO-139. Non-native tree impacts are mitigated using a canopy measurement based on 15-year shade cover values (CO-145), or, if onsite mitigation is not possible, by contributing to the Greenprint fund (CO-146).

Trees removed within the City would be mitigated according to the City Tree Preservation Ordinance, which specifies replacement planting of trees of at least 24 inch box size for impacts to trees greater than six inches in diameter, or replacement trees of f a minimum of 15 gallon can size for impacts to trees less than six inches in diameter.

Conclusion

Implementation of this mitigation measure would reduce impacts to less than significant.

Significant Effect: 3.5-8 Construction-related effects on Sensitive Natural Communities and Habitats, including Waters of the United States or Waters of the State

The proposed Project is not anticipated to have direct impacts to Morrison Creek, Laguna Creek, or other riparian or wetland areas. However, during construction activities potential for effects on sensitive natural communities and habitats, including waters of the United States or waters of the State may not be entirely avoided. This impact would be potentially significant.

Finding

Changes or alterations have been required in, or incorporated into, the Project that mitigate or avoid the significant effects on the environment.

Facts in Support of Finding

Regional San has adopted the following mitigation measure to reduce the Project's impacts to less than significant levels.

Mitigation Measure 3.5-8: Delineate Waters of the United States and Obtain Authorizations for Fill and Required Permits

Before the Project is implemented and if the Project so warrants, waters of the United States will be delineated according to methods established in the USACE wetlands delineation manual and Arid West Supplement (Environmental Laboratory 1987, 2008). The delineation will map and quantify the acreage of wetland habitats in the area, and will be submitted to USACE for verification.

If wetlands are fund within the proposed construction site or any other area to be disturbed, a wetland delineation report will be prepared and submitted to USACE.

If applicable, Regional San will replace, restore, or enhance the acreage of all wetlands, other waters of the United States, and waters of the State that cannot be avoided and will be removed and/or degraded. Thus, the Project will achieve "no net loss" of wetland functions and values, in accordance with the requirements of USACE and the Central Valley Regional Water Board. Wetland habitat will be restored, enhanced, and/or replaced at an acreage and location agreed upon by the project proponent, USACE, and the Central Valley Regional Water Board, as appropriate. The acreage, location, and methods will be determined during the Section 401 and Section 404 permitting processes, and will be based on USACE-verified wetland delineation. Also, if USACE determines that non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the Project area, Regional San will obtain a Waste Discharge Requirement to be issued by the Central Valley Regional Water Board.

Conclusion

Implementation of this mitigation measure would reduce impacts to less than significant.

Cultural Resources (DEIR Section 3.6)

Significant Effect: 3.6-2: Damage to or destruction of previously undiscovered cultural resources

Subsurface disturbances could potentially destroy or damage as-yet undiscovered prehistoric or historic cultural resources. Newly discovered cultural resources could be eligible for listing in the National Register of Historic Places (NRHP), California Register of Historic Resources (CRHR), or City Register or are unique archaeological resources and could be adversely affected during Project construction. This impact would be potentially significant.

Finding

Changes or alterations have been required in, or incorporated into, the Project that mitigate or avoid the significant effects on the environment.

Facts in Support of Finding

Regional San has adopted the following mitigation measure to reduce the Project's impacts to less than significant levels.

Mitigation Measure 3.6-2: Implement inadvertent discovery measures for the protection of cultural resources

If cultural resources are discovered during Project-related construction activities, all ground disturbance within a minimum of 50 feet of the find shall be halted until a qualified professional archaeologist can evaluate the

discovery. The archaeologist shall examine the resources, assess their significance, and recommend appropriate procedures to either further investigate or mitigate adverse impacts (e.g., adverse effect on a significant historical resource). If the find is determined to be a significant historical resource and the archaeological resource cannot be avoided, then applicable mitigation measures for significant resources shall be completed (e.g., preservation in place, data recovery program pursuant to PRC §21083.2[i]). During evaluation or mitigative treatment, ground disturbance and construction work could continue on other parts of the Project alignment.

Conclusion

Implementation of this mitigation measure would reduce impacts to less than significant.

Significant Effect: 3.6-3: Ground disturbance could affect undocumented human remains.

Although there is a low potential for human remains to be discovered during ground disturbance for the Project, construction activities could potentially uncover or disturb unanticipated discoveries of human remains, including those interred outside of formal cemeteries. This impact would be a potentially significant.

Finding

Changes or alterations have been required in, or incorporated into, the Project that mitigate or avoid the significant effects on the environment.

Facts in Support of Finding

Regional San has adopted the following mitigation measure to reduce the Project's impacts to less than significant levels.

Mitigation Measure 3.6-3: Implement inadvertent discovery measures for the protection of human remains.

If human remains are discovered during Project ground-disturbing activities, all work within a minimum of 50 feet of the discovery site shall halt immediately. Regional San shall notify the County Coroner, as stipulated in Section 7050.5 of the California Health and Safety Code. The Coroner shall determine whether the remains are Native American and, if so, shall contact the Native American Heritage Commission by telephone within 24 hours. The Commission shall follow the stipulations in Section 5097.98 of the California Public Resources Code, including determination of a most likely descendent. If the Commission is unable to identify a descendant, the descendant is unable to make a recommendation, or the landowner rejects the recommendation, the Commission shall mediate any dispute between the parties. Where such mediation fails to provide measures acceptable to the landowner, the landowner shall reinter the human remains and associated funerary items with appropriate dignity on the property, in a location not subject to further subsurface disturbance.

Conclusion

Implementation of this mitigation measure would reduce impacts to less than significant.

Significant Effect: 3.6-4: Ground disturbance could affect undocumented paleontological resources.

Due to the known presence of paleontological resources in the region, construction activities in the Riverbank Formation geologic unit have the potential to disturb or destroy newly discovered paleontological resources. This impact would be potentially significant.

Finding

Changes or alterations have been required in, or incorporated into, the Project that mitigate or avoid the significant effects on the environment.

Facts in Support of Finding

Regional San has adopted the following mitigation measure to reduce the Project's impacts to less than significant levels.

Mitigation Measure 3.6-4: Implement inadvertent discovery measures for the protection of paleontological resources

Prior to construction, Regional San shall implement soil sampling at trenchless drilling locations to determine the depth of potential paleontological resources. If no paleontological resources are identified, the trenchless drilling may proceed. If fossils or other paleontological resources are encountered during the sampling or during construction, all work shall be halted within a 50-foot radius of the find and a qualified paleontologist shall be contacted to examine the find and evaluate its significance. If the find is deemed to have significant scientific value, the paleontologist and Regional San shall formulate a plan to either avoid impacts or to continue construction without disturbing the integrity of the find (e.g., by carefully excavating the material containing the resources under the direction of the paleontologist followed by routine conservation, laboratory preparation, and curation). Recommendations determined by Regional San to be necessary and feasible shall be implemented before construction activities can resume at the site where the paleontological resources were discovered.

Conclusion

Implementation of this mitigation measure would reduce impacts to less than significant.

Hazards and Hazardous Materials (DEIR Section 3.9)

Significant Effect: 3.9-1: Exposure of people and the environment to hazardous materials

Known contaminants along the Project alignment include USTs and hydrocarbon-contaminated soils. Although known contaminant sites will be avoided during construction, previously unknown subsurface contaminants may exist, and construction activities could potentially result in the disturbance of such contaminants. These actions could result in the exposure of Project construction workers or members of the public to hazardous materials. This impact would be potentially significant.

Finding

Changes or alterations have been required in, or incorporated into, the Project that mitigate or avoid the significant effects on the environment.

Facts in Support of Finding

Regional San has adopted the following mitigation measure to reduce the Project's impacts to less than significant levels.

Mitigation Measure 3.9-1: Remediate contaminated soils discovered during construction

Known contaminated soils and/or hazardous material areas will be avoided during construction. However, if during construction of the Project alignment, currently unknown contaminated soils or hazardous materials are discovered, construction within the area shall be halted, the extent and type of contamination shall be characterized, and a clean-up plan shall be prepared and executed. The plan shall require remediation of contaminated soils. The plan shall be subject to the review and approval of DTSC, the Regional Water Board, or other agencies, as appropriate. Remediation can include in-situ treatment, disposal at an approved landfill, or other disposal methods, as approved. Construction can proceed within the subject area upon approval of and in accordance with the plan.

If hazardous materials are stored in reportable quantity and/or hazardous waste is generated at any laydown area along the pipeline, separate hazardous materials and/or hazardous waste permits may be required for each location. Permits are business and owner specific and may not be transferred to other owners or locations. Since the main pipeline is anticipated to last 13 months, the construction exemption outlined in County Code 6.96.095 may not apply. Regional San will obtain all necessary permits as indicated in the County Code, if applicable.

For permanent structures, if hazardous materials are stored in reportable quantity and/or hazardous waste is generated at any appurtenant facilities along the pipeline, a separate hazardous materials and/or hazardous waste permit may be required for each location. Permits are business and owner specific and may not be transferred to other owners or locations. Regional San will obtain all necessary permits as indicated in the County Code, if applicable."

Conclusion

Implementation of this mitigation measure would reduce impacts to less than significant.

Hydrology and Water Quality (DEIR Section 3.10)

Significant Effect: 3.10-2: Construction-related stormwater quality impacts

Stormwater runoff from construction-related activities could cause temporary water quality degradation in nearby waterways within the Morrison Creek watershed and to the Sacramento River. Construction of the proposed Project would involve grading and excavation, trenching, backfilling, hauling, compaction, soil disposal activities, the use and on-site storage of chemicals (petroleum and other potentially polluting substances), and construction material delivery. Construction of storage tanks and booster pump stations may also involve paving, lighting, drainage, reinforced concrete/steel structures. These activities have the potential to cause or increase soil erosion and could accidentally discharge waste petroleum products or other construction-related substances containing metals that could enter waterways in runoff. This impact would be potentially significant.

Finding

Changes or alterations have been required in, or incorporated into, the Project that mitigate or avoid the significant effects on the environment.

Facts in Support of Finding

Regional San has adopted the following mitigation measure to reduce the Project's impacts to less than significant levels.

Mitigation Measure 3.10-2: Implement construction erosion control and water quality BMPs

Regional San, or its designated general contractor, will prepare a Water Pollution Control Plan (WPCP) for all construction activities related to the proposed Project. In addition, since the total area of land disturbance for the proposed Project would exceed one acre, Regional San or its designated general contractor will file a Notice of Intent and Permit Registration Documents for authorization of Project construction activities under State Water Board's NPDES Construction General Permit (Order No. 2009-0009-DWQ/NPDES Permit No. CAS000002, and all amendments). A SWPPP would also be required for conformance with the Construction General Permit.

The WPCP and SWPPP prepared for the Project will describe the BMPs that Regional San and its contractors will use to avoid and minimize potential adverse construction-related water quality effects. Construction designs, drawings, and contracts for construction activities will refer to and accommodate the requirements of the WPCP and, for applicable activities, the SWPPP and other requirements of the Construction General Permit. The WPCP and SWPPP will be required in the contract specifications. All water quality, erosion, and sediment control measures included in the WPCP/SWPPP will be implemented as specified. The WPCP/SWPPP also will identify responsibilities of construction contractors for implementation and inspection of BMPs, and training elements for the personnel responsible for installation and maintenance of the BMPs.

Plan measures may include, as relevant, but not be limited to, the following general categories of BMPs that have proven successful at reducing adverse water quality effects:

- Waste Management and Spill Prevention and Response: Waste management BMPs are designed to minimize exposure of waste materials at all construction sites and staging areas such as waste collection and disposal practices, containment and protection of wastes from wind and rain, and equipment cleaning measures. Spill prevention and response BMPs involve planning, equipment, and training for personnel for emergency event response.

- Erosion and Sedimentation Control: Erosion control BMPs are designed to prevent erosion processes or events including scheduling work to avoid rain events, stabilizing exposed soils; minimize offsite sediment runoff; remove sediment from onsite runoff before it leaves the site; and slow runoff rates across construction sites. Identification of appropriate temporary and long-term seeding, mulching, and other erosion control measures is necessary. Sedimentation BMPs are designed to minimize offsite sediment runoff once erosion has occurred involving drainage controls, perimeter controls, detention/sedimentation basins, or other containment features. Regional San has committed to construction of a silt fence between the ESBs and Laguna Creek, and will develop other BMPs for erosion control as specified above.

- Good Housekeeping and Non-Stormwater Discharge Management: Good housekeeping BMPs are designed to reduce exposure of construction sites and materials storage to stormwater runoff including truck tire tracking control facilities; equipment washing; litter and construction debris; and designated refueling and equipment inspection/maintenance practices. Non-stormwater discharge management BMPs involve runoff measures for contaminants not directly associated with rain or wind including vehicle washing and street cleaning operations.

- Construction Site Dewatering and Pipeline Testing: Dewatering BMPs involve actions to prevent discharge of contaminants present in dewatering of groundwater during construction, discharges of

water from testing of pipelines or other facilities, or the indirect erosion that may be caused by dewatering discharges.

- BMP Inspection and Monitoring: Identification of clear objectives for evaluating compliance with WPCP and/or SWPPP provisions, and specific BMP inspection and monitoring procedures, environmental awareness training, contractor and agency roles and responsibilities, reporting procedures, and communication protocols.

Conclusion

Implementation of this mitigation measure would reduce impacts to less than significant.

Noise (DEIR Section 3.11)

Significant Effect: 3.11-1: Short-term construction noise impacts.

Existing noise-sensitive receptors are located approximately 50 feet from the proposed Project alignment. Construction activities would take place primarily during the daytime hours with occasional nighttime work at the intersections of 24th Street and Florin Road and 24th Street and Meadowview Road. Construction-related activities could occur outside of the exempt daytime hours. Therefore, construction-related noise could exceed applicable nighttime standards. This impact would be significant.

Finding

Changes or alterations have been required in, or incorporated into, the Project that mitigate or avoid the significant effects on the environment.

Facts in Support of Finding

Regional San has adopted the following mitigation measure to reduce the Project's impacts to less than significant levels.

Mitigation Measure 3.11-1: Construction traffic

Regional San shall comply with the following measures to reduce ambient noise levels during nighttime construction:

- Limit deliveries to the Project alignment for nighttime construction to the hours of 7:00 a.m. and 6:00 p.m. on Monday through Saturday and the hours of 9:00 a.m. and 6:00 p.m. on Sunday. Materials shall be stored temporarily in close proximity to the nighttime construction location such that the use of trucks to transport materials to and from the active construction area is not required at night. Delivered materials shall be fenced and/or secured during the day.

- Use temporary noise barriers during nighttime construction to prevent line-of-sight between construction equipment and nearby residences. Barriers shall consist of movable noise curtains (e.g. noise-insulating blankets secured to temporary/movable fencing). The construction contractor shall inspect the barriers daily and prior to operation of equipment to insure that no gaps or tears are present that would otherwise diminish the effectiveness of the barriers. Should the use of barriers be considered infeasible at a particular location due to space or equipment considerations, the construction contractor

shall provide advanced notice of the intended nighttime construction schedule one week prior to the initiation of nighttime construction and within 2,000 feet of that location

Conclusion

Implementation of Mitigation Measure 3.11-1 would reduce ambient noise levels associated with nighttime construction. However, the use of temporary noise barriers at the two nighttime construction locations would conceivably reduce construction noise by 3-10 dB Leq, which would still exceed City exterior noise standards. Therefore, this impact would be significant and unavoidable.

Transportation and Traffic (DEIR Section 3.13)

Significant Effect: 3.13-1: Short-term increase in construction traffic on roadways

Construction-related activities would result in a short-term lane closures and increases in traffic on the roadway network, which could reduce the level of service on local roadways and highways. This impact would be potentially significant.

Finding

Changes or alterations have been required in, or incorporated into, the Project that mitigate or avoid the significant effects on the environment.

Facts in Support of Finding

Regional San has adopted the following mitigation measure to reduce the Project's impacts to less than significant levels.

Mitigation Measure 3.13-1: Implement construction traffic management plan

Before issuance of a permit and beginning construction, Regional San shall prepare a detailed construction traffic management plan (TMP) that will be subject to review and approval by the City Department of Public Works, Transportation Division, City of Elk Grove Department of Public Works, and other affected agencies. The TMP shall provide for maintenance of acceptable operating conditions on local roadways and transit routes. At a minimum, the TMP shall include:

- the time, and day of street closures;
- description of material delivery routes, number of truck trips, and specification of construction vehicle travel hour limits;
- locations of laydown (staging) areas with a limitation on the number of trucks that can be waiting;
- driveway access plan so that safe vehicular, pedestrian, and bicycle movements are maintained (e.g., steel plates, minimum distances of open trenches, and private vehicle pick up and drop off areas);
- maintenance of safe and efficient access routes for emergency vehicles;
- maintenance of safe and efficient access routes for transit services;
- manual traffic control when necessary;

- proper advance warning and posted signage concerning street closures;
- procedures for construction area evacuation in the case of an emergency declared by county or other local authorities;
- alternate access routes via detours to maintain continual circulation for local travelers in and around construction zones, including bicycle riders and pedestrians, where applicable;
- submittal of the construction TMP to local emergency response agencies and notification to such agencies shall at least 14 days prior to the commencement of construction that would partially or fully obstruct roadways; and
- posting of contact information in case of emergency or complaint.

If necessary to minimize unexpected operational impacts or delays experienced during real-time construction, Regional San will also be responsible for modifying the TMP to address such effects.

Conclusion

Implementation of this mitigation measure would reduce impacts to less than significant.

Significant Effect: 3.13-2: Emergency Access

Construction-related activities would result in short-term lane closures and increases in traffic on area roadways, which could impede emergency access. This impact would be potentially significant.

Finding

Changes or alterations have been required in, or incorporated into, the Project that mitigate or avoid the significant effects on the environment.

Facts in Support of Finding

Regional San has adopted the following mitigation measure to reduce the Project's impacts to less than significant levels.

Mitigation Measure 3.13-2: Maintain Emergency Access During Construction

Regional San shall implement Mitigation Measure 3.16-1, which involves development and implementation of a site-specific construction Traffic Management Plan (TMP) that addresses the specific steps to be taken before, during, and after construction to minimize traffic impacts. The TMP will be subject to review and approval by the City Department of Public Works, Transportation Division, City of Elk Grove Department of Public Works, and other affected agencies, including emergency response agencies (such as the Sacramento and Elk Grove Fire and Police Departments). As required by the TMP, these agencies shall be notified at least 14 days prior to the commencement of construction that would partially or fully obstruct roadways.

Conclusion

Implementation of this mitigation measure would reduce impacts to less than significant.

Significant Effect: 3.13-3: Short-term disruption to transit, pedestrian, and bicycle facilities

Construction-related activities would result in short-term lane closures and increases in traffic on area roadways, which could disrupt transit services or the safe use of pedestrian and bicycle facilities. This impact would be potentially significant.

Finding

Changes or alterations have been required in, or incorporated into, the Project that mitigate or avoid the significant effects on the environment.

Facts in Support of Finding

Regional San has adopted the following mitigation measure to reduce the Project's impacts to less than significant levels.

Mitigation Measure 3.13-3: Maintain pedestrian and bicyclist safety during construction

Regional San shall implement Mitigation Measure 3.16-1, which involves development and implementation of a site-specific construction TMP that addresses the specific steps to be taken before, during, and after construction to minimize traffic impacts. The TMP will address provision of roadway access for transit services, safe pedestrian access, and identify alternative bicycle routes around construction zones to maintain safe bicycle access.

Conclusion

Implementation of this mitigation measure would reduce impacts to less than significant.

1.5 MITIGATION MONITORING REPORTING PROGRAM

CEQA Section 21081.6 requires that when a public agency is making the findings required by Section 21081, the public agency shall adopt a reporting or monitoring program for the changes made to the Project or conditions of Project approval to mitigate or avoid significant effects on the environment. Because mitigation measures have been adopted to mitigate or avoid significant environmental effects of the Project, a MMRP has been prepared for the proposed Project and is adopted along with these findings. The MMRP is attached to the FEIR. Regional San will use the MMRP to track compliance with Project mitigation measures. The MMRP will remain available for public review during the compliance period.

2 STATEMENT OF OVERRIDING CONSIDERATIONS

CEQA requires all public agencies to balance the benefits of a proposed project against its unavoidable environmental effects in determining whether to approve the Project or not. Regional San proposes to approve the proposed Water Recycling Pipeline Project despite the significant unavoidable adverse impacts identified in the EIR.

The FEIR identifies and discusses unavoidable significant effects that will occur as a result of the proposed Project, in addition to addressing comments received on the DEIR. These impacts will result from construction activities related to installing the recycled water pipelines.

With the implementation of the Mitigation Monitoring Reporting Program adopted by Regional San, which includes changes to the Project to mitigate or avoid significant effects on the environment, most of the environmental impacts of the Project can be mitigated to less than significant levels. The FEIR and Findings of Fact for the Project determined that the Project is expected to result in significant unavoidable impacts related to Project- and cumulative-short-term nighttime construction noise, cumulative PM_{10} emissions, and cumulative traffic.

2.1 SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

2.1.1 Noise

Project Effects Related to Short-term Noise Increases Due to Nighttime Construction at two Intersections

Nighttime Project construction at the intersections of 24th Street/Meadowview Road and 24th Street/Florin Road would result in noise levels at the nearest residences that exceed the nighttime exterior noise standard of 50 dB Leq. The Project-level impact would be significant.

Regional San has adopted mitigation that will reduce the Project's significant ambient noise levels associated with nighttime construction; however, the mitigation would not be sufficient to reduce construction noise levels below the City exterior noise standards and the residual impact remains significant and unavoidable. This impact would be avoided by the No Project Alternative. As discussed in Section 1.4.2 in the DEIR, specific legal and other considerations make that alternative infeasible. The impact remains significant and unavoidable.

Cumulative Effects Related to Short-term Noise Increases Due to Nighttime Construction at two Intersections

Nighttime Project construction at the intersections of 24th Street/Meadowview Road and 24th Street/Florin Road, combined with the related cumulative projects, would result in noise levels at the nearest residences that exceed the nighttime exterior noise standard of 50 dB Leq. The contribution of the proposed Project would be considerable if other noise-generating activities were to occur at the same time. The impact would be cumulatively significant.

Regional San has adopted mitigation that will reduce the Project's significant cumulative ambient noise levels associated with nighttime construction; however, the mitigation would not be sufficient to reduce construction

noise levels below the City exterior noise standards and the residual cumulative impact remains significant and unavoidable. This impact would be avoided by the No Project Alternative. As discussed in Section 1.4.2 in the DEIR, specific legal and other considerations make that alternative infeasible. The impact remains significant and unavoidable.

2.1.2 Air Quality

Cumulative Effects to Air Quality Related to Short-Term PM_{10} Emissions.

The Project's construction emissions would not exceed the SMAQMD's thresholds for criteria air pollutants; however, given the level of development that would occur with the related projects, taken in total and combined with the nonattainment status of The County for PM_{10}, these cumulative projects would result in a cumulatively significant construction-related air quality impact. The EIR concludes that the Project's contribution, while not individually significant, would be cumulatively considerable.

Regional San has adopted mitigation that will substantially reduce the Project's significant cumulative impacts related to PM_{10} emissions; however, the residual cumulative impact remains significant and unavoidable. This impact would be avoided by the No Project Alternative. As discussed in Section 1.4.2 in the DEIR, specific legal and other considerations make that alternative infeasible. The impact remains significant and unavoidable.

2.1.3 Traffic and Transportation

Cumulative Effects Related to Short-term Increases in Construction Traffic on Roadways.

Project construction would result in a short-term increase in traffic on the roadway network. Regional San has adopted a mitigation measure included in the EIR that requires preparation and implementation of a traffic management plan. Although implementation of this mitigation measure would reduce construction-related traffic impacts, the feasibility of this measure cannot be determined at this time because development of a TMP requires coordination with several other agencies, and would require potentially infeasible reductions in traffic during times when mission-critical deliveries must be made. This impact would be avoided by the No Project Alternative. As discussed in Section 1.4.2 in the DEIR, specific legal and other considerations make that alternative infeasible. The impact remains significant and unavoidable.

2.2 OVERRIDING CONSIDERATIONS

After adoption of mitigation, the Project would still have significant and unavoidable impacts related to Project- and cumulative-short-term nighttime construction noise, cumulative PM_{10} emissions, and cumulative traffic. Mitigation for these effects has been adopted, and the extent of impact will be substantially reduced, but Regional San cannot assure that impacts will be avoided. California Code of Regulations (CCR) Section 15093 allows approval of a project, even when significant impacts remain, subject to the following guidance:

a. CEQA requires the decision-making agency to balance, as applicable, the economic, legal, social, technological, or other benefits, including region-wide or statewide environmental benefits, of a proposed project against its unavoidable environmental risks when determining whether to approve the Project. If the specific economic, legal, social, technological, or other benefits, including region-wide or statewide environmental benefits, of a proposed project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered "acceptable."

b. When the lead agency approves a project that will result in the occurrence of significant effects, which are identified in the FEIR but are not avoided or substantially lessened, the agency shall state in writing the specific reasons to support its action based on the FEIR and/or other information in the record. The statement of overriding considerations shall be supported by substantial evidence in the record. (CCR Section 15093)

Regional San has determined that despite the significant and likely unavoidable effects of the Project as it relates to nighttime construction noise, PM_{10} emissions, and traffic, the economic, legal, social, technological and environmental benefits of implementing the Project outweigh and override these unavoidable adverse effects. Regional San has determined that the benefits of the Project, when balanced against all adverse effects, cause those effects remaining after mitigation to be acceptable because of the following considerations:

- The Project will maximize the beneficial uses of Regional San's recycled water supplies from its treatment facilities located at the SWRTP, while minimizing total construction costs.
- The Project will provide recycled water to customers for allowable uses to offset existing potable water usage.
- The Project will reduce groundwater pumping of potential customers in the Project Area.

Each of these considerations is sufficient to approve the Project. For each of the reasons stated above, and all of them, the Project should be implemented notwithstanding the significant unavoidable adverse impacts identified in the EIR.

Print Form

Notice of Determination

Appendix D

To: Copied to:

☒ Office of Planning and Research

U.S. Mail: P.O. Box 3044, Sacramento, CA 95812-3044

Street Address: 1400 Tenth St., Rm 113, Sacramento, CA 95814

☒ County Clerk
County of: Sacramento
Address: PO BOX 839
Sacramento CA 95812-0839

From: Public Agency: Sacramento Regional County Sanitation District
Address: 10060 Goethe Road
Sacramento CA 95827
Contact: José Ramírez
Phone: 916 876-6059

Lead Agency (if different from above):
Address:
Contact:
Phone:

SUBJECT: Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

State Clearinghouse Number (if submitted to State Clearinghouse): 2013122046

Project Title: Sacramento Regional County Sanitation District/ Sacramento Power Authority/City of Sacramento Water Recycling Pipeline Project

Project Applicant: Sacramento Regional County Sanitation District

Project Location (include county): City and County of Sacramento

Project Description:
The Project would convey recycled water from Regional San's Water Reclamation Facility (WRF) and the future advanced wastewater treatment plant located at the SRWTP to SPA's Campbell Cogeneration Plant (SPA Cogeneration Plant) and other potential customers. The Project alignment contains recycled water main, laterals, lateral structures, and equipment lay-down areas. The Project's recycled water main would initially convey 1 mgd to serve the SPA Cogeneration Plant on a year-round basis but would be sized to convey a maximum of 4.6 mgd to serve additional future users with recycled water laterals and lateral structures within the study area.

This is to advise that the Sacramento Regional County Sanitation District (☒ Lead Agency or ☐ Responsible Agency) has approved the above described project on 11/12/2014 (date) and has made the following determinations regarding the above described project.

1. The project [☒ will ☐ will not] have a significant effect on the environment.
2. ☒ An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
   ☐ A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures [☒ were ☐ were not] made a condition of the approval of the project.
4. A mitigation reporting or monitoring plan [☒ was ☐ was not] adopted for this project.
5. A statement of Overriding Considerations [☒ was ☐ was not] adopted for this project.
6. Findings [☒ were ☐ were not] made pursuant to the provisions of CEQA.

This is to certify that the final EIR with comments and responses and record of project approval, or the negative Declaration, is available to the General Public at:
10060 Goethe Road, Sacramento CA 95827 and www.regionalsan.com

Signature (Public Agency): Christopher Dobson Title: Director of Policy + Planning

Date: 11-13-14 Date Received for filing at OPR:

ENDORSED
SACRAMENTO COUNTY
NOV 13 2014
DAVID VILLANUEVA, CLERK/RECORDER

RECEIVED
NOV 13 2014
STATE CLEARING HOUSE

Authority cited: Sections 21083, Public Resources Code.
Reference Section 21000-21174, Public Resources Code.

Revised 2011

REGIONALSAN
TAKING THE WASTE OUT OF WATER
Sacramento Regional County Sanitation District

APPROVED
BOARD OF DIRECTORS
SR 2761
APR 09 2015
By Cynthia Lee
Clerk of the Board

2

Main Office
10060 Goethe Road
Sacramento, CA 95827-3553
Tel: 916.876.6000
Fax: 916.876.6160

Treatment Plant
8521 Laguna Station Road
Elk Grove, CA 95758-9550
Tel: 916.875.9000
Fax: 916.875.9068

Board of Directors
Representing:
County of Sacramento
County of Yolo
City of Citrus Heights
City of Elk Grove
City of Folsom
City of Rancho Cordova
City of Sacramento
City of West Sacramento

Prabhakar Somavarapu
District Engineer

Ruben Robles
Director of Operations

Christoph Dobson
Director of Policy & Planning

Karen Stoyanowski
Director of Internal Services

Joseph Maestretti
Chief Financial Officer

Claudia Goss
Public Affairs Manager

www.srcsd.com

Printed on Recycled Paper

DATE: April 8, 2015

TO: Honorable Board of Directors
Sacramento Regional County Sanitation District

FROM: Sacramento Regional County Sanitation District

SUBJECT: **Approve the Filing of the Addendum to the Certified Environmental Impact Report for the Sacramento Power Authority Water Recycling Project, Control No. 2013122046**

RECOMMENDATION:

It is recommended that your Board consider the Addendum to the Certified Environmental Impact Report (EIR) for the Sacramento Regional County Sanitation District (Regional San) / Sacramento Power Authority / City of Sacramento Water Recycling Pipeline Project (SPA Project) and adopt the attached Resolution that:

1) Approves the minor modifications identified in the Addendum, which will not result in any new or additional significant environmental impacts beyond those described in the certified EIR; and

2) Approves filing the Addendum for the certified EIR.

BACKGROUND:

The SPA Project includes construction of a recycled water transmission and distribution pipelines that will convey recycled water from the Sacramento Regional Wastewater Treatment Plant (SRWTP) to the southern portions of the City of Sacramento. The first phase will build the transmission pipeline that will initially provide recycled water service to the SPA Cogeneration Plant located near the intersection on 47th Avenue and Franklin Boulevard. Future phases will build the distribution system to serve other recycled water users located in the vicinity of the transmission pipeline.

On July 16, 2014, the Draft Environmental Impact Report (DEIR) for the Project was released for public review. A public meeting was held on July 30, 2014, and the review and comment period for the DEIR ended on August 29, 2014. On November 12, 2014, your Board certified the final EIR for the SPA Project.

DISCUSSION:

The Nitrifying Sidestream Treatment (NST) Project, which is part of the EchoWater Project will collect "sidestreams" generated by solids handling processes that are high in ammonia. The NST facility will treat the ammonia in the sidestream flow and produce a nitrate-rich effluent that can be used for odor control. Nitrate compounds similar to the NST effluent are routinely injected into sewer systems as a means of odor control.

The NST effluent, or Side Stream Effluent (SSE), will be conveyed to various points in the interceptor system upstream of the SRWTP. One location requires a new SSE pipeline that runs immediately adjacent and parallel to the SPA Project transmission pipeline, under the SRWTP Emergency Storage Basins and under Morrison and Laguna creeks, to the Lower Northwest Interceptor sewer forcemains located north of the SRWTP. It is most efficient to include the SSE pipeline in the SPA project because it will allow the SSE pipeline to be completed more quickly, will reduce construction impacts and coordination with the EchoWater Project, and can be implemented more cost effectively than two individual projects.

PUBLIC OUTREACH:

The Addendum to the EIR can be viewed at Regional San's web page: http://www.regionalsan.com/sacramento-power-authority-cogen-project; and Sacramento County Planning and Environmental Review Division web page: http://www.per.saccounty.net.

CONCLUSION:

It is recommended that your Board approve the Addendum to the certified EIR for the SPA Project (Control No. 2013122046).

Respectfully submitted,

Ruben Robles
Director of Operations

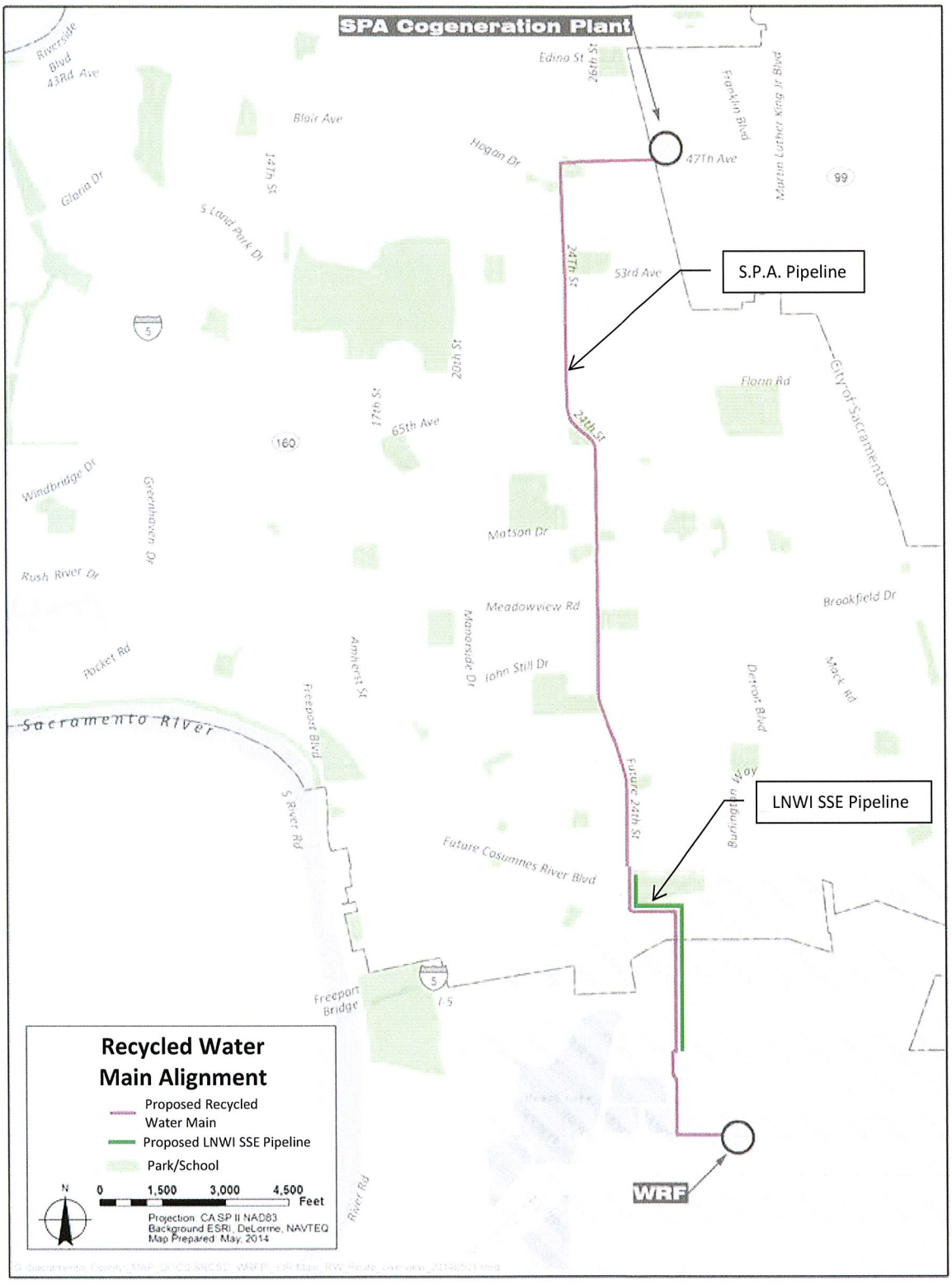
APPROVED:

Prabhakar Somavarapu
District Engineer

Attachments: A. Vicinity Map
B. SPA FEIR Addendum
C. Resolution

Contact for additional information: Ruben Robles, Director of Operations, 876-6119

Figure 1 - Vicinity Map for S.P.A. Project Phase 1 and LNWI SSE Pipeline



ATTACHMENT B

Addendum to the Final Environmental Impact Report

Sacramento Regional County Sanitation District/Sacramento Power Authority/City of Sacramento Water Recycling Pipeline Project

REGIONALSAN

TAKING THE WASTE OUT OF WATER

Sacramento Regional County Sanitation District

MWH

ASCENT ENVIRONMENTAL

State Clearinghouse Number: 2013122046

Date: March 11, 2014

PREPARED BY:
Sacramento Regional County Sanitation District
Regional San
10060 Goethe Road
Sacramento, CA 95827

WITH ASSISTANCE BY:

MWH Americas, Inc.

Ascent Environmental

Table of Contents

1.0 Introduction 1-1

2.0 Project History 2-1
2.1 Background 2-1
2.2 CEQA Approvals 2-1

3.0 Project Description 3-1
3.1 Overview 3-1
3.1.1 SSE Pipeline 3-1
3.1.2 Minor Modifications to Recycled Water Main near Delta Shores 3-2
3.2 Project Location 3-3
3.3 Construction Characteristics 3-9

4.0 Environmental Checklist for Supplemental Environmental Review 4-1
4.1 Explanation of Checklist Evaluation Categories 4-1
4.1.1 Where Impact was Analyzed 4-1
4.1.2 Do Proposed Changes Involve New Significant Impacts? 4-1
4.1.3 Any New Circumstances Involving New or Substantially More Severe Significant Impacts? 4-1
4.1.4 Any Substantially Important New Information Requiring New Analysis or Verification? 4-2
4.1.5 Mitigations Implemented or Address Impacts 4-2
4.2 Discussion and Mitigation Sections 4-2
4.2.1 Discussion 4-2
4.2.2 Mitigation Measures 4-3
4.2.3 Conclusions 4-3
4.2.4 Acronyms Used in Checklist Tables 4-3

5.0 List of Preparers and Persons Consulted 5-1

6.0 References 6-1

Tables

Table 3-1. Aesthetics 4-3
Table 3-2. Agriculture and Forestry Resources 4-5
Table 3-3. Air Quality 4-7
Table 3-4. Biological Resources 4-11
Table 3-5. Cultural Resources 4-17
Table 3-6. Geology and Soils 4-19
Table 3-7. Greenhouse Gas Emissions 4-22
Table 3-8. Hazards and Hazardous Materials 4-23
Table 3-9. Hydrology and Water Quality 4-27
Table 3-9. Hydrology and Water Quality (contd.) 4-28
Table 3-10. Land Use and Planning 4-30
Table 3-11. Mineral Resources 4-31
Table 3-12. Noise 4-32
Table 3-12. Noise (contd.) 4-33
Table 3-13. Population and Housing 4-35
Table 3-14. Public Services 4-36
Table 3-14. Public Services (contd.) 4-37
Table 3-15. Recreation 4-38
Table 3-16. Transportation and Traffic 4-39
Table 3-17. Utilities and Service Systems 4-41
Table 3-17. Utilities and Service Systems (contd.) 4-42
Table 3-18. Mandatory Findings of Significance 4-44

Appendix

Appendix A – Emissions Estimates for Additional Truck Trips from SSE Pipeline

List of Abbreviations and Acronyms

$\mu g/m^3$	Micrograms per cubic meter
BMPs	Best management practices
Board	Regional San Board of Directors
CAAQS	California Ambient Air Quality Standards
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
cfs	Cubic feet per second
City	City of Sacramento
CO	Carbon monoxide
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
dB	Decibels
dbh	Diameter at breast height
DLD's	Dedicated Land Disposal Sites
EIR	Environmental Impact Report
GHG	Greenhouse gases
gpm	Gallons per minute
H2S	Hydrogen sulfide gas
HDD	Horizontal directional drilling
IJS	Influent junction structure
LNWI	Lower Northwest Interceptor
LOS	Level of service
MBTA	Migratory Bird Treaty Act
N_2O	Nitrous oxide
NA	Not applicable
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NAL	Numerical action levels
NST	Nitrifying Sidestream Treatment
NO_2	Nitrogen dioxide
NOP	Notice of preparation
NO_x	Oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
O&M	Operations and maintenance
PM	Particulate matter

PM_{10}	Respirable particulate matter
$PM_{2.5}$	Fine particulate matter
PMO	EchoWater Program Management Office
ppm	Parts per million
PPV	Peak particle velocity
PRC	Public Resources Code
Project	Water Recycling Pipeline Project
Regional San	Sacramento Regional County Sanitation District
SHPO	State Historic Preservation Officer
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMUD	Sacramento Municipal Utilities District
SO_2	Sulfur dioxide
SPA Cogeneration Plant	SPA's Campbell Cogeneration Plant
SPA	Sacramento Power Authority
SPA Pipeline	recycled water main pipeline
SRCSD	Sacramento Regional County Sanitation District
SRF	State Revolving Funds
SRWTP	Sacramento Regional Wastewater Treatment Plant
SSB	Sludge Storage Basins
State Water Board	State Water Resources Control Board
SVAB	Sacramento Valley Air Basin
SWPPP	Stormwater Pollution Prevention Plan
TAC	Toxic Air Contaminants
TCLP	Toxicity characteristic leaching procedure
TMDL	Total maximum daily load
TPY	Tons per year
USFWS	U.S. Fish and Wildlife Service
VELB	Valley elderberry longhorn beetle
VOC	Volatile organic compounds
WRF	Water Reclamation Facility
WROS	Water Recycling Opportunities Study
WSMP	Water Supply Master Plan
X_2	the position at which 2 parts per thousand salinity occurs in the Delta estuary

This page left blank intentionally.

1.0 Introduction

This Addendum is being prepared to the Final Environmental Impact Report (EIR) for the Sacramento Regional County Sanitation District (Regional San or SRCSD) / Sacramento Power Authority (SPA)/ City of Sacramento (City) Water Recycling Pipeline Project (Project) (State Clearinghouse Number 2013122046). Regional San is the lead agency under the California Environmental Quality Act (CEQA) and Regional San's Board of Directors approved the Final EIR on November 12, 2014. The Notice of Determination was filed with the State Clearinghouse on November 13, 2014.

The Project, as described in the Final EIR, would convey recycled water from Regional San's Water Reclamation Facility (WRF) and the future advanced wastewater treatment plant located at the Sacramento Regional Wastewater Treatment Plant (SRWTP) to SPA's Cogeneration Plant and other potential customers. The Project alignment contains recycled water main, laterals, lateral structures, and equipment lay-down areas. The Project's recycled water main would initially convey 1-mgd to serve the SPA Cogeneration Plant on a year-round basis but would be sized to convey a maximum of 4.2-mgd to serve additional future users with recycled water laterals and lateral structures within the study area.

In December 2014, Regional San evaluated the option of incorporating a pipeline (called the Sidestream Effluent (SSE) pipeline) into the design and construction along a portion the recycled water main pipeline. The SSE pipeline extension is a component of Regional San's Advanced Wastewater Treatment Upgrade Project (also known as the EchoWater Project), and would connect from an existing pipeline and extend north, out of the Project Area, to the Lower Northwest Interceptor (LNWI). The SSE pipeline provides nitrified effluent injection into the sewer system and would be a means of odor control.

Regional San is preparing this addendum to address the minor addition of the SSE pipeline and slight changes in the Project alignment. An addendum is appropriate where a previously Draft EIR has been prepared and some changes or revisions to the project are proposed, or the circumstances surrounding the project have changed, but none of the changes or revisions would result in significant new or substantially more severe environmental impacts, consistent with CEQA Section 21166 and State CEQA Guidelines Sections 15162, 15163, 15164, and 15168.

Regional San has determined that the proposed slight modifications in the Project alignment and SSE pipeline integration (involving modifications to construction methods and disturbance area), differ sufficiently from the approved Final EIR to warrant preparation of an addendum to the Final EIR, but have determined that changes or revisions to the project description would not result in significant new or substantially more severe environmental impacts. Therefore, based Chapter 4 "Environmental Analysis," a supplemental EIR is not warranted.

This page left blank intentionally.

2.0 Project History

This section describes the background of the Project and current California Environmental Quality Act (CEQA) approvals for the Project.

2.1 Background

Regional San is a special district that provides wastewater conveyance and treatment services throughout most of the urbanized areas of Sacramento County, including the cities of Folsom, Citrus Heights, Rancho Cordova, Sacramento, West Sacramento, and Elk Grove; the communities of Courtland and Walnut Grove; and urbanized portions of unincorporated Sacramento County.

Within the next decade, the SRWTP will be improved to produce tertiary effluent meeting Title 22 tertiary recycled water or equivalent effluent standards through Regional San's EchoWater Project.

The SRWTP currently houses Regional San's WRF which consists of a tertiary treatment plant, pump station, and storage reservoir. The WRF was originally designed to produce up to 5 million gallons per day (mgd) of tertiary effluent, but is permitted up to 10 mgd (State Water Resources Control Board, 1996).

The Project would convey recycled water from Regional San's WRF and the future advanced wastewater treatment plant located at the SRWTP to SPA's Campbell Cogeneration Plant (SPA Cogeneration Plant) and other potential customers.

2.2 CEQA Approvals

On July 16, 2014, Regional San released for public review a Draft EIR for the Project. The public review and comment period for the Draft EIR began on July 16, 2014 and ended August 29, 2014. On July 16, 2014, the Draft EIR and Notice of Completion were provided to the State Clearinghouse for distribution to interested State agencies. In addition, a public notice was posted in the Sacramento Bee on July 16, 2014.The public meeting was held at Sacramento City Hall Council Chambers on July 30, 2014.

The Draft EIR for the Project, along with the Response to Comments on the Draft EIR Document, constituted the Final EIR for the Project. Regional San's Board of Directors approved the Final EIR on November 12, 2014 and the Notice of Determination was filed with the State Clearinghouse on November 13, 2014. The Draft and Final EIRs are incorporated by reference in this document.

This page left blank intentionally.

3.0 Project Description

This section describes an overview of the Project description modifications, the location where the modifications occur, a description of the construction characteristics and existing conditions. Also, this section describes the required discretionary actions for the Project by Regional San and other agencies.

3.1 Overview

This section describes the SSE pipeline and minor modifications to the recycled water main alignment near Delta Shores.

3.1.1 SSE Pipeline

As stated above, In December 2014, Regional San evaluated the option of incorporating the SSE pipeline into the design and construction along a portion the recycled water main pipeline (SPA pipeline).

The SSE pipeline is a component project from the EchoWater Project. Within the EchoWater Project are several new wastewater treatment processes to convert the treatment plant from secondary level treatment to tertiary level treatment. The new treatment processes are selected and designed to meet Regional Water Quality Control Board discharge permit requirements as specified in Order No. R5-2010-0114, National Pollutant Discharge Elimination System (NPDES) No.CA0077682 and subsequent amendments for the SRWTP.

One of the principal constituents for additional treatment under the permit is Ammonia. The treatment plant currently collects supernatant from their Sludge Storage Basins (SSB's) and leachate from their Lined Dedicated Land Disposal Sites (DLD's). The combined supernatant and leachate are high in ammonia. These are referred to as "sidestream" flows and are typically returned to the plant headworks for re-processing and treatment. The higher levels of ammonia were thought to potentially risk discharge permit violations at certain times of the year and the EchoWater Project team decided to include the construction of an additional sidestream treatment step to these effluents to convert the high ammonia content effluent to a nitrified (nitrate-rich) effluent. The Nitrifying Sidestream Treatment (NST) Project will provide a continuous production of a highly nitrified effluent and thus created an opportunity for Regional San in relation to its current program for chemical injection to influent flows for odor control. Nitrate compounds are routinely injected into sewer collection systems as a means of odor control.

Regional San plans to deliver the nitrate-rich effluent from the NST Project to various points in the sewer collection system upstream of the SRWTP to reduce its current use of chemicals and related costs for odor control treatment. EchoWater plans already include an on-site pipeline running north to convey nitrate-rich NST effluent to the future Primary Effluent Pump Station and to the City Interceptor on the SRWTP site. The

proposed SSE Pipeline will connect to this line and extend north to the LNWI sewer force main.

The EchoWater Progam Management Office (PMO) conducted a business case evaluation of the operating and capital costs of the existing odor control chemical injection system as well as new pipelines from the NST facility and found a significant long term savings in implementing the SSE pipeline for nitrified effluent injection into the Lower Northwest Interceptor (LNWI) Sacramento Force Main.

Regional San currently injects chlorine gas to the Influent Junction Structure (IJS), as well as liquid bioxide to the interceptors upstream, in order to minimize odors due to hydrogen sulfide (H2S) gas. Part of the EchoWater Project proposes to convert this chlorine gas to liquid sodium hypochlorite, which is a safer, but more expensive process. The NST effluent pipelines being proposed (including SSE Pipeline) will be a means of reducing the amount of sodium hypochlorite injected daily at the IJS and upstream interceptors of the SRWTP.

A pipeline is already running north in the NST project to convey nitrate-rich effluent to the Primary Effluent Pump Station and to the City Interceptor (within SRWTP Property and covered by the EchoWater project FEIR). The SSE pipeline extension will connect from this line and extend north to the LNWI.

The design, permitting, and construction timeline of SPA recycled water pipeline created an opportunity to incorporate the SSE pipeline design and construction as well. This will allow nitrified effluent injection in the LNWI pipelines for odor control on an accelerated time scale and consolidate construction impacts and improve constraints on subsequent construction occurring at the SRWTP for the EchoWater Project.

The SPA and SSE pipelines will be installed with similar techniques and materials under one construction contract.

3.1.2 Minor Modifications to Recycled Water Main near Delta Shores

In addition, the modification the Project also include a slight adjustment to the Project alignment within the area of the Delta Shores. Originally, the recycled water main (SPA pipeline) started at the WRF and progressed approximately one mile north-northwesterly through Regional San property to the intersection of the Future 24th Street extension and Cosumnes River Boulevard. In the vicinity of the intersection of 24th Street and Cosumnes River Boulevard, the recycled water main would have followed 24th Street north approximately four miles to its terminus at the SPA Cogeneration Plant.

The SPA pipeline alignment now progresses approximately ¾ of a mile north-northwesterly through the Regional San property, makes a slight turn to the west, then travels north approximately ¼ of a mile to the future 24th Street extension near Consumnes River Boulevard. The recycled water main (SPA pipeline) would then follow 24th Street north just over four miles to its terminus at the SPA Cogeneration Plan. The SSE pipeline follows the same route, but turns right at Consumnes River Boulevard and would terminate at its connection to the Sacramento Force Main.

3.2 Project Location

As with the original Project description, both the SPA and SSE pipelines are located near the SRWTP (Figure 1-1 and 1-2) and will require tunneling under the Morrison and Laguna Creek levees near the SRWTP via horizontal directional drilling (HDD) (Figure 1-3).

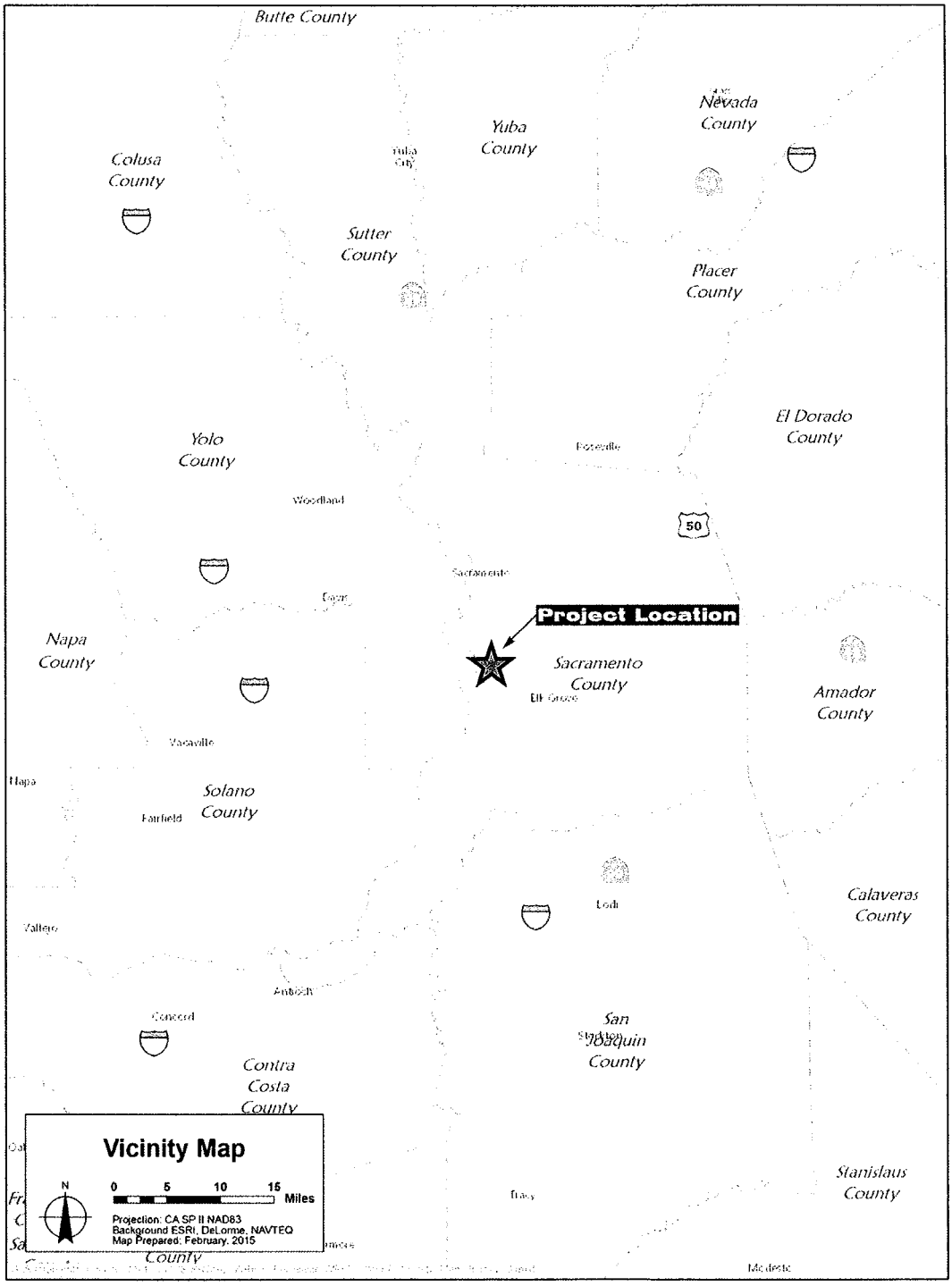


Figure 1-1. Project Vicinity Map

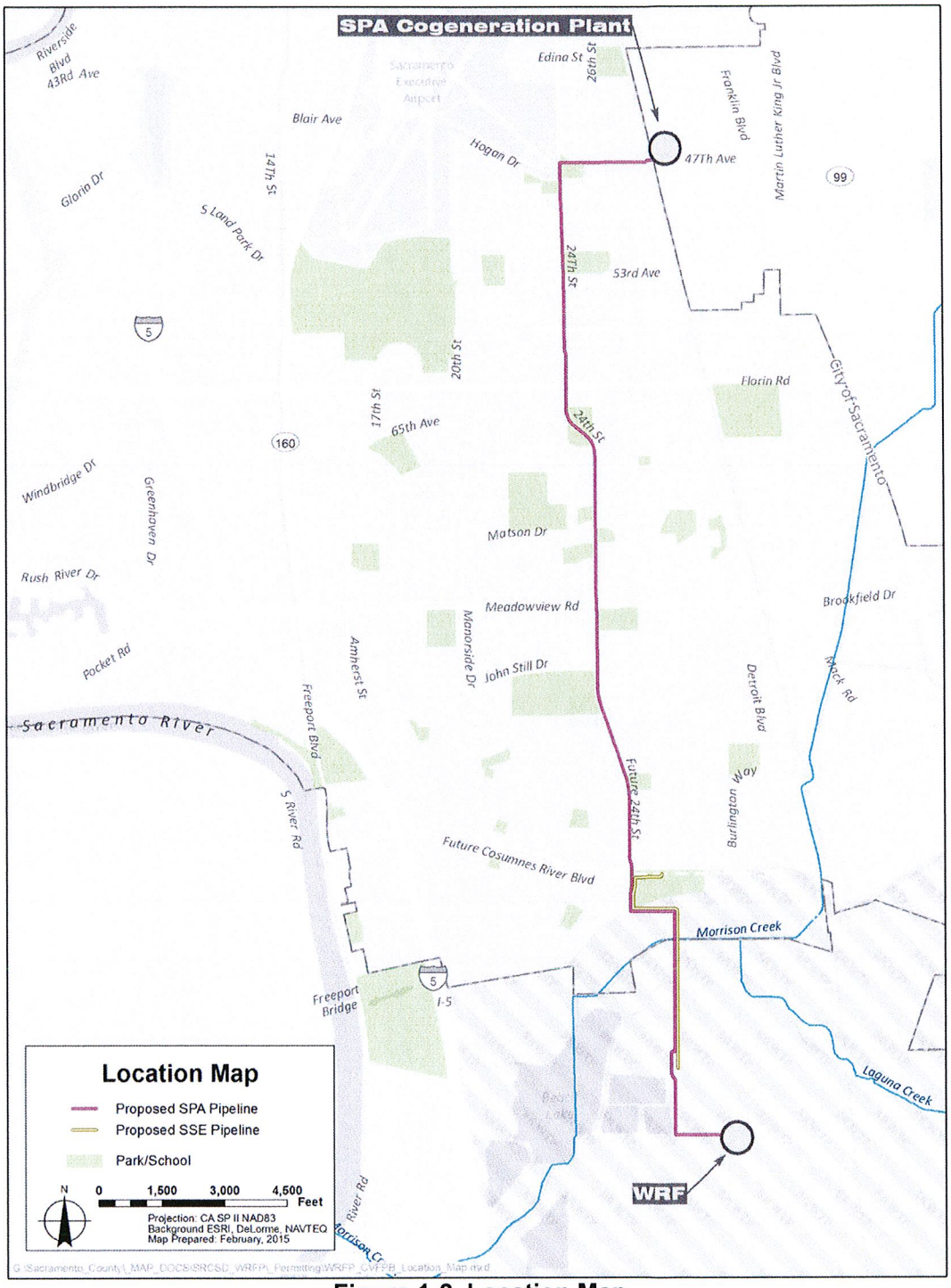


Figure 1-2. Location Map

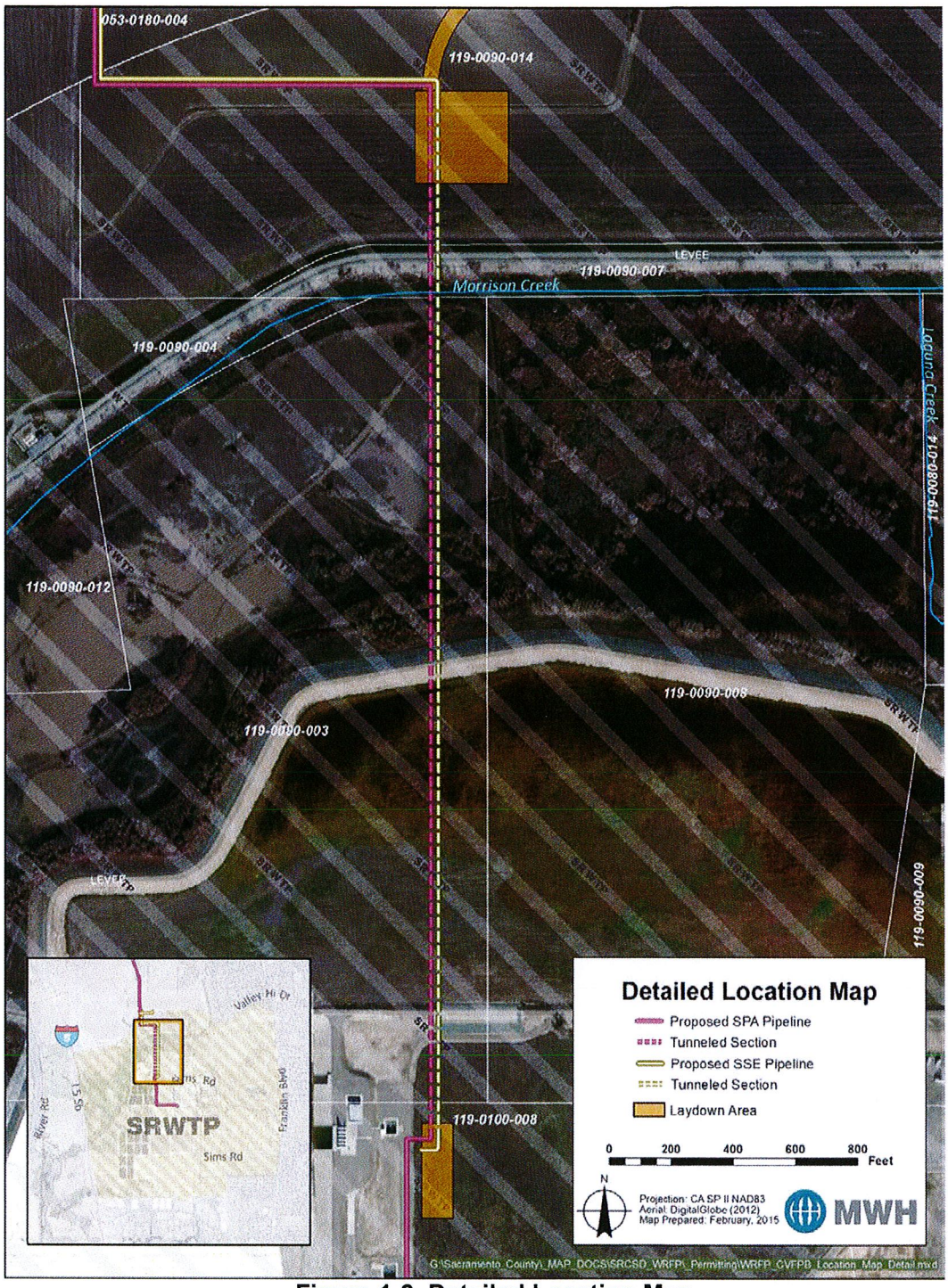


Figure 1-3. Detailed Location Map

The recycled water main alignment North from Future Consumnes Boulevard (along 24th street) and the lateral alignments have not changed from the Draft EIR Project description. See figures 1-4 and 1-5. Also, the laydown areas have not changed from the Draft EIR Project description. See figure 1-6.

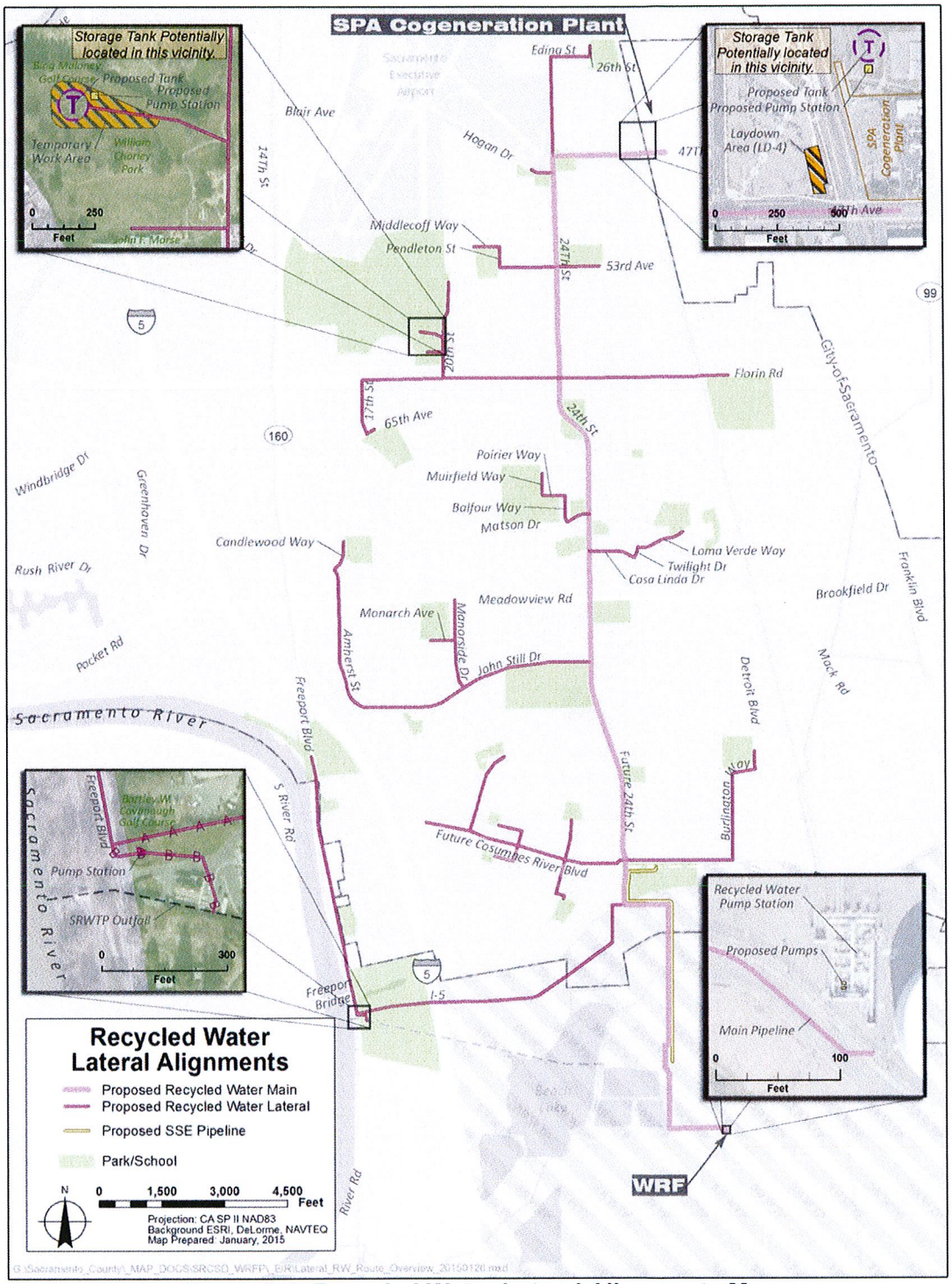


Figure 1-4. Recycled Water Lateral Alignments Map

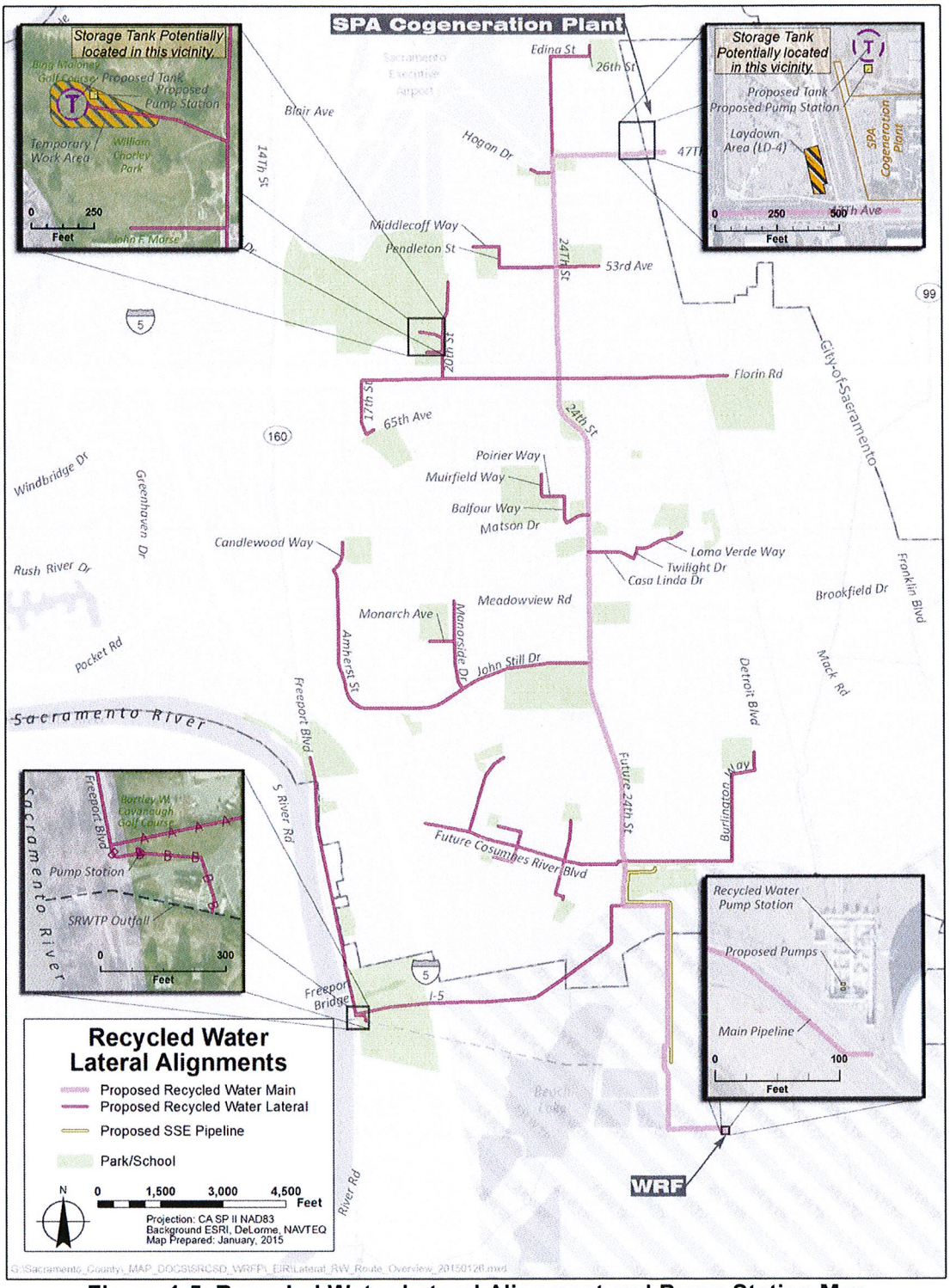


Figure 1-5. Recycled Water Lateral Alignment and Pump Station Map

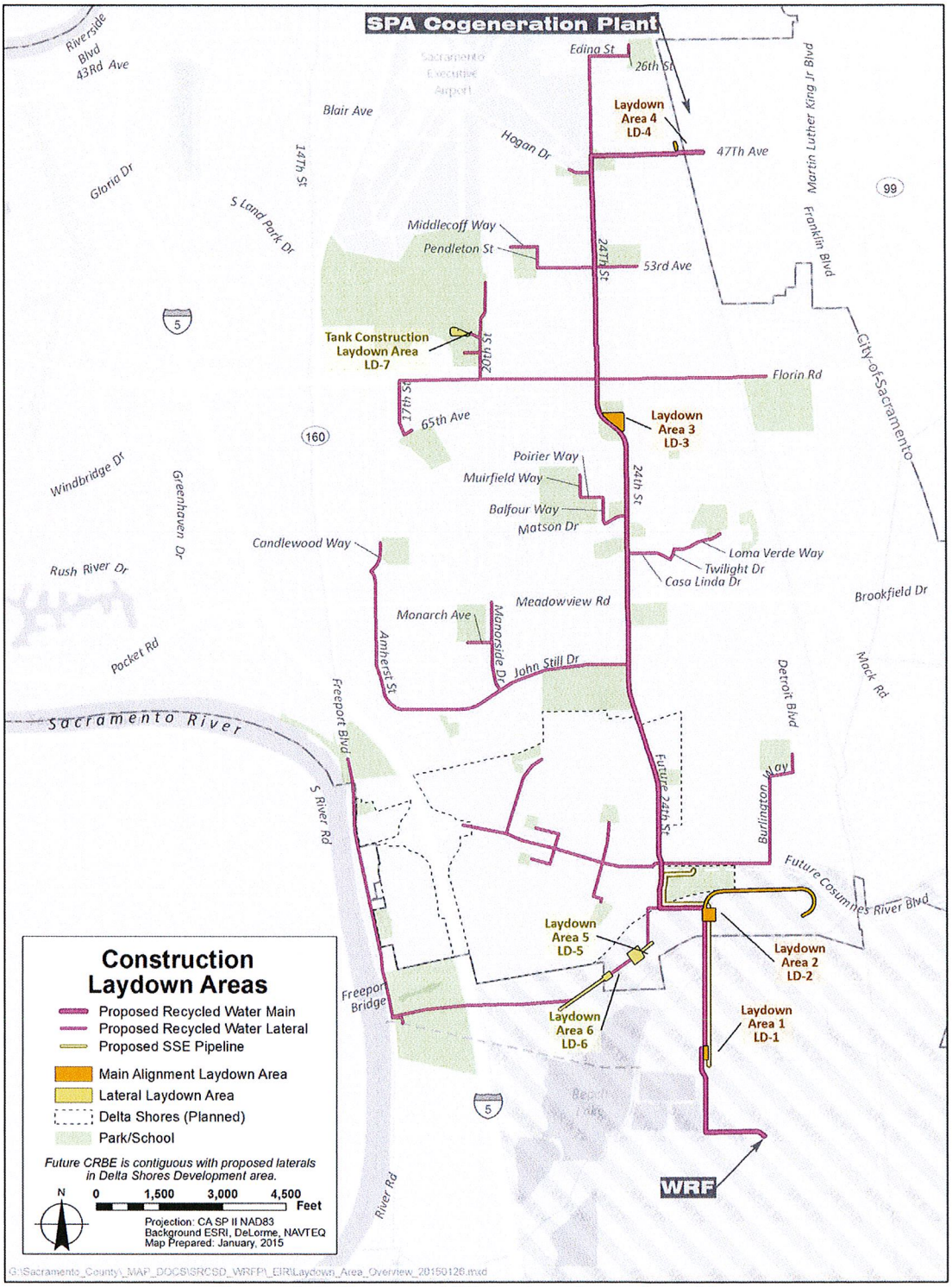


Figure 1-6. Recycled Water Laydown Area Map

3.3 Construction Characteristics

The construction characteristics for the SPA and SSE pipelines are the similar as described in the Draft EIR. The construction of the pipelines would involve site preparation, installment of the pipelines, and testing/start-up. Construction of the pipelines would involve earthwork to remove pavement, place bedding, install the pipelines, backfill, re-grade land to present contour, and repave. Construction would occur within existing right-of-ways, when available. For construction on private parcels, temporary easements would be obtained before construction.

Discussed below are only the construction characteristics for the SPA and SSE pipelines from the WRF to the terminus of the SSE pipeline. All other construction characteristics are the same as described in the Draft EIR.

Three types of construction methods, open-cut, jack and bore, and HDD, would be used during the construction of the recycled water main and SSE pipeline. For a detailed description the HDD, open-cut and jack and bore methods, see Chapter 2 "Project Description" of Draft EIR.

Open cut and/or jack and bore construction would be used for the SPA and SSE pipelines from the WRF until just North of the SWRTP, then again along the Future 24th Street extension. For the open cut portion of the alignment, the SPA and SSE pipelines would be placed side-by-side (parallel) in a common trench with a 4-foot offset until the jack and bore portion of the pipelines reach Consumnes River Blvd. The SSE pipeline would then follow the existing Regional San easement for the LNWI – Sacramento Force Main until an 8-inch tie-in is made to a valve box and the dual manholes at the Sacramento Force Main. It is assumed the trench for the collated SPA and SSE pipelines would be approximately 10-feet wide (vs. 5-feet wide as stated in the Draft EIR) and 15-feet deep (same depth as in the Draft EIR). The SPA pipeline would then follow 24th street north as described Chapter 2 "Project Description" of Draft EIR.

HDD method of construction would be used across the wetlands and Morrison/Laguna creeks north of the SWRTP. The SPA and SSE pipelines would each require a separate HDD bore and the bores will be done one right after the other. A minimum 10-ft offset would be maintained between the two bores to account for vertical and horizontal variability of the HDD method and to avoid intersection between the first established bore, pipeline placement, and the second bore. The jacking and receiving shaft construction would be approximately 15-feet in width and 30-feet in depth (same size and depth as stated in the Draft EIR).

The SPA and SSE pipeline construction is estimated to begin early 2015. It is anticipated that the HDD construction schedule could take an additional two to three weeks due to the addition of the SSE pipeline. Pipeline installation is estimated to progress at a minimum rate of 120 feet per day for open-cut construction. Trenchless construction methods, when applied, are expected to progress at 40 feet per day.

This page left blank intentionally.

4.0 Environmental Checklist for Supplemental Environmental Review

4.1 Explanation of Checklist Evaluation Categories

As stated above, the Draft EIR for the Project, along with the Response to Comments on the Draft EIR Document, constituted the Final EIR for the Project. Therefore, when "Draft EIR" is used below, it is referencing the Draft EIR that was incorporated into the Final EIR (certified in 2014) for the Project.

The purpose of this checklist is to evaluate the categories in terms of any "changed condition" (i.e., changed circumstances, project changes, or new information of substantial importance) that may result in environmental impact significance conclusions different from those found in the Draft EIR. The row titles of the checklist include the full range of environmental topics, as presented in Appendix G of the State CEQA Guidelines. The column titles of the checklist have been modified from the Appendix G presentation to help answer the questions to be addressed pursuant to CEQA Section 21166 and State CEQA Guidelines Section 15162. A "no" answer does not necessarily mean that there are no potential impacts relative to the environmental category, but that there is no change in the condition or status of the impact since it was analyzed and addressed with mitigation measures in the Draft EIR. For instance, the environmental categories might be answered with a "no" in the checklist because the impacts associated with the proposed project were adequately addressed in the Draft EIR, and the environmental impact significance conclusions of the Draft EIR remain applicable. The purpose of each column of the checklist is described below.

4.1.1 Where Impact was Analyzed

This column provides a cross-reference to the pages of the Draft EIR where information and analysis may be found relative to the environmental issue listed under each topic.

4.1.2 Do Proposed Changes Involve New Significant Impacts?

The significance of the changes proposed to the project, as it is described in the Draft EIR is indicated in the columns to the right of the environmental issues.

4.1.3 Any New Circumstances Involving New or Substantially More Severe Significant Impacts?

Pursuant to Section 15162(a)(2) of the CEQA Guidelines, this column indicates whether there have been changes to the project site or the vicinity (circumstances under which the project is undertaken) that have occurred subsequent to the Draft EIR, which would result in the current project having new significant environmental impacts that were not considered in the prior environmental documents or having substantial increases in the severity of previously identified significant impacts.

4.1.4 Any Substantially Important New Information Requiring New Analysis or Verification?

Pursuant to Section 15162(a)(3)(A-D) of the CEQA Guidelines, this column indicates whether new information of substantial importance which was not known and could not have been known with the exercise of reasonable diligence at the time the previous environmental documents were certified as complete is available, requiring an update to the analysis of the previous environmental documents to verify that the environmental conclusions and mitigation measures remain valid. If the new information shows that: (A) the project will have one or more significant effects not discussed in the prior environmental documents; or (B) that significant effects previously examined will be substantially more severe than shown in the prior environmental documents; or (C) that mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects or the project, but the project proponents decline to adopt the mitigation measure or alternative; or (D) that mitigation measures or alternatives which are considerably different from those analyzed in the prior environmental documents would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative, the question would be answered 'Yes' requiring the preparation of a subsequent EIR or supplement to the EIR. However, if the additional analysis completed as part of this Environmental Checklist Review finds that the conclusions of the prior environmental documents remain the same and no new significant impacts are identified, or identified significant environmental impacts are not found to be substantially more severe, the question would be answered 'No' and no additional EIR documentation (supplement to the EIR or subsequent EIR) would be required.

Notably, where the only basis for preparing a subsequent EIR or a supplement to an EIR is a new significant impact or a substantial increase in the severity of a previously identified impact, the need for the new EIR can be avoided if the project applicant agrees to one or more mitigation measures that can reduce the significant effect(s) at issue to less than significant levels. (See River Valley Preservation Project v. Metropolitan Transit Development Board (1995) 37 Cal.App.4th 154, 168.)

4.1.5 Mitigations Implemented or Address Impacts

This column indicates whether the 2014 EIR and adopted CEQA Findings provide mitigation measures to address effects in the related impact category. If "N/A" is indicated, this Environmental Checklist Review concludes that the impact does not occur with this project and, therefore, no mitigation measures are needed.

4.2 Discussion and Mitigation Sections

4.2.1 Discussion

A discussion of the elements of the checklist is provided under each environmental category to clarify the answers. The discussion provides information about the particular environmental issue, how the project relates to the issue, and the status of any mitigation that may be required or that has already been implemented.

4.2.2 Mitigation Measures

Applicable mitigation measures from the prior environmental review that would apply to the proposed addendum are listed under each environmental category. New mitigation measures are included, if needed.

4.2.3 Conclusions

A discussion of the conclusion relating to the need for additional environmental documentation is contained in each section.

4.2.4 Acronyms Used in Checklist Tables

Acronyms used in the Environmental Checklist tables and discussions include:

EIR	Environmental Impact Report
MM	mitigation measure
N/A	not applicable

Table 3-1. Aesthetics

Environmental Issue Area	Where Impact Was Analyzed in the EIR	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Any Substantially Important New Information Requiring New Analysis or Verification?	Do Prior Environmental Documents' Mitigations Address/Resolve Impacts?
1. Aesthetics. Would the Project:				
a Have a substantial adverse effect on a scenic vista?	Section 3.2 – Aesthetics, Issues or Potential Impacts Not Discussed Further (p. 3.2-18)	No	No	N/A
b Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	Section 3.2 – Aesthetics, Impact 3.2-1	No	No	N/A
c Substantially degrade the existing visual character or quality of the site and its surroundings?	Section 3.2 – Aesthetics, Issues or Potential Impacts Not Discussed Further (p. 3.2-18, 3.2-19) And Impact 3.2-2	No	No	N/A
d Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	Section 3.2 – Aesthetics, Impact 3.2-3	No	No	N/A

Key:
EIR = Environmental Impact Report

Discussion

No substantial change in the environmental and regulatory settings related to aesthetics and visual resources, described in Draft EIR Section 3.2, has occurred since certification of the Final EIR in 2014.

a. A scenic vista is generally considered a view of an area that has remarkable scenery or a natural feature or cultural resource that is indigenous to the area. The alignment of the SPA and SSE pipelines from the SRWTP to Cosumnes River Boulevard does not contain any scenic vistas. Installation of an additional underground pipelines would have no impact on a scenic vista; no mitigation is required; and the proposed SPA and SSE pipeline installation would not change the conclusion of the Draft EIR (Draft EIR page 3.2-18).

b. The Sacramento County General Plan designates all freeways within Sacramento County as Scenic Corridors, including I-5 in the vicinity of SRWTP. Scenic corridors extend 660 feet on each side of the right-of-way. In addition, SR 160 in the vicinity of the SPA alignment is an Officially Designated State Scenic Highway. SR 160 runs parallel to the east side of the Sacramento River and is located approximately 1 to 1.5 miles west of the SRWTP. However, as documented in the Draft EIR, views from I-5 or SR 160 to the proposed SPA and SSE pipelines from the SRWTP to Cosumnes River Boulevard are obscured by vegetation, fencing, and urban development. Therefore, the temporary construction activities and equipment would not be visible from scenic corridors or State-designated scenic highways. Furthermore, underground pipelines would not be visible from these highways. No impact would occur. No mitigation is required, and the modifications would not change the conclusion of the Draft EIR (Draft EIR Impact 3.2-1).

c. As with the approved SPA pipeline, the proposed SPA and SSE pipelines would be placed underground and would not be visible after construction. Consistent with Draft EIR pages 3.2-18 and 3.2-19, modification to install the SSE pipeline concurrently with a section of the SPA pipe would have no operational (long term) visual impact and would not conflict with policies to protect aesthetic and open space resources identified in the Bufferlands Master Plan nor with plans, policies, or regulations that have been adopted for the protection or enhancement of aesthetic or visual resources by the City of Sacramento or County of Sacramento.

   The quality of views of the alignment would be temporarily degraded by the presence of equipment, vehicles, pipes, and materials stored at laydown areas during construction. However, impacts to scenic resources would be minor and temporary. Although the HDD construction schedule could take an additional two to three weeks due to the addition of the SSE pipeline, HDD equipment would be removed after the drilling portion of the work is complete. The open cut trench would be common to both pipelines and would be filled and repaved and/or revegetated following construction. As determined in the Draft EIR, temporary disturbance of visual character would be **less than significant** and no mitigation

is required for this portion of pipeline alignment. The conclusion of the Draft EIR remains valid and the proposed modifications would not result in new or substantially more severe significant visual impacts (Draft EIR Impact 3.2-2).

d. Neither construction nor operation of the SSE pipeline would result in substantial changes to light and glare conditions. No night construction would occur for the collocated SPA and SSE pipelines (HDD or open trench construction) between the SRWTP and Cosumnes River Boulevard. No operational lighting would be required, as the pipelines would be underground. As determined in the Draft EIR, lighting impacts would be **less than significant** and no mitigation is required. The conclusion of the Draft EIR remains valid and the proposed modifications would not result in new or substantially more severe significant lighting impacts (Draft EIR 3.2-3).

Mitigation Measures No mitigation measures are required.

Conclusion

No substantial changes to the project or to the circumstances under which the project would be undertaken have occurred. No new information of substantial importance has arisen that would require new analysis or verification. Therefore, the conclusions of the Draft EIR remain valid and the proposed modifications to the Project would not result in new or substantially more severe significant impacts to visual quality and aesthetics.

Table 3-2. Agriculture and Forestry Resources

Environmental Issue Area	Where Impact Was Analyzed in the EIR	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Do Prior Environmental Documents' Mitigations Address/Resolve Impacts?
2. Agriculture and Forestry Resources. Would the project:				
a. 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?	Section 3.3 – Agricultural resources, Issues or Potential Impacts Not Discussed Further (p. 3.3-7)	No	No	N/A
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	Section 3.3 – Agricultural resources, Issues or Potential Impacts Not Discussed Further (p. 3.3-7)	No	No	N/A
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code	Chapter 1, Introduction, Section 1.6.1,	No	No	N/A

Environmental Issue Area	Where Impact Was Analyzed in the EIR	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Do Prior Environmental Documents' Mitigations Address/Resolve Impacts?
2. Agriculture and Forestry Resources. Would the project:				
section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	Effects Found Not to be Significant			
d. Result in the loss of forest land or conversion of forest land to non-forest land?	Chapter 1, Introduction, Section 1.6.1, Effects Found Not to be Significant	No	No	N/A
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	Section 3.3 – Agricultural Resources, Impact 3.3-1 (3.3-7)	No	No	N/A

Key:
EIR = Environmental Impact Report

Discussion

No substantial change in the environmental and regulatory settings related to agricultural and forestry resources, described in Draft EIR Section 3.3, has occurred since certification of the Final EIR in 2014.

a. b.

As with the approved SPA pipeline, the proposed SSE pipeline would not result in the permanent conversion of any Farmland to non-agricultural uses, because impacts associated with construction of the water recycled main and laterals will be temporary in nature. In addition, there are no Williamson Act contracts along the Project alignment (Draft EIR 3.3-7).

c. d.

As with the approved SPA pipeline, the proposed SSE pipeline is surrounded by the existing SRWTP (designated for Public/Utilities land uses in the Sacramento County General Plan) and existing or planned residential development, industrial development, and the Sacramento River. There are no lands along the proposed alignment that are zoned for forest land or timberlands, the alignment is not forested, and a portion of the alignment is surrounded by open space grassland

habitat and agricultural land uses (the Bufferlands area of the Regional San property) (Draft EIR 1-12).

e. As with the approved SPA pipeline, areas temporarily disturbed by construction of the proposed SSE pipeline would be restored upon completion of construction, and all pipelines would be underground. Operation of the proposed Project would have no effect on continued agricultural use of affected areas. Additionally, Regional San will coordinate with agricultural leaseholders and modify construction timing to ensure that the proposed alignment is constructed while fields are fallowed. As determined in the Draft EIR, lighting impacts would be **less than significant** and no mitigation is required (Draft EIR 3.3-7).

Mitigation Measures No mitigation measures are required.

Conclusion

No substantial changes to the project or to the circumstances under which the project would be undertaken have occurred. No new information of substantial importance has arisen that would require new analysis or verification. Therefore, the conclusions of the Draft EIR remain valid and the proposed modifications would not result in new or substantially more severe significant impacts to agricultural resources.

Table 3-3. Air Quality

Environmental Issue Area	Where Impact Was Analyzed in the EIR	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any Substantially Important New Information Requiring New Analysis or Verification?	Do Prior Environmental Documents' Mitigations Address/Resolve Impacts?
3. Air Quality. Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	Section 3.4 – Air Quality, Issues or Potential Impacts Not Discussed Further (pages 3.4-16 and 3.4-17), Impact 3.4-1 and Impact 3.4-2	No	No	Mitigation Measure 3.4-1
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	Section 3.4 – Air Quality, Issues or Potential Impacts Not Discussed Further (pages 3.4-16 and 3.4-17), Impact 3.4-1 and Impact 3.4-2	No	No	Mitigation Measure 3.4-1
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-	Section 3.4 – Air Quality, Issues or Potential Impacts	No	No	Mitigation Measure 3.4-1

Environmental Issue Area	Where Impact Was Analyzed in the EIR	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any Substantially Important New Information Requiring New Analysis or Verification?	Do Prior Environmental Documents' Mitigations Address/Resolve Impacts?
3. Air Quality. Would the project:				
attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	Not Discussed Further (pages 3.4-16 and 3.4-17), Impact 3.4-1 and Impact 3.4-2			
d. Expose sensitive receptors to substantial pollutant concentrations?	Section 3.4 – Air Quality, Impact 3.4-3	No	No	N/A
e. Create objectionable odors affecting a substantial number of people?	Section 3.4 – Air Quality, Impact 3.4-4	No	No	N/A

Key:
EIR = Environmental Impact Report

Discussion

No substantial change in the environmental and regulatory settings related to air quality, described in Draft EIR Section 3.4, has occurred since certification of the Final EIR in 2014.

a. b. c.

Carbon Monoxide Concentrations

The Project area is in attainment for National Ambient Air Quality Standard (NAAQS) and California Ambient Air Quality Standard (CAAQS) for carbon monoxide (CO), and no violation of CO standards has occurred for many years. Operation of the proposed SSE pipeline in addition to the SPA pipeline would not result in an increase in vehicle trips on the local roadway network, as maintenance would result in minimal (one or two) vehicle trips each year (Draft EIR pages 3.4-16 and 3.4-17). However, concurrent pipeline installation would increase the construction workforce and truck trips by an estimated 34 trips per day during the SSE pipeline installation, as documented in Appendix A. Even with this increase in construction-related trips, neither construction nor operation of the modified Project would contribute traffic congestion to an affected intersection that exceeds the recommended level of 31,600 vehicles per hour (SMAQMD 2013b). Therefore, consistent with the conclusion of the Draft EIR, modification of construction-generated traffic would not result in a contribution to a violation of an air quality standard for CO or contribute to nonattainment conditions. No mitigation is required for CO, and the modifications would not change the conclusion of the Draft EIR (Draft EIR pages 3.4-16 and 3.4-17).

Construction

The concurrent installation of the SSE pipeline with the SPA pipeline from the SRWTP to Cosumnes River Boulevard would generally involve the same construction methods and equipment as described in the Draft EIR. The timing of the HDD component would be sequential, possibly adding two to three weeks to the construction schedule, and the trench would be wider. Workforce and truck trips, which were estimated to be 124 trips during peak phases of Project construction, would increase by an estimated 34 trips per day during the SSE pipeline installation, as documented in Appendix A. The modifications would contribute to short-term construction-related emissions of criteria air pollutants and precursors (Draft EIR Impact 3.4-1). Overall construction-related activities were estimated to result in Project-generated emissions of reactive organic gasses (ROG), oxides of nitrogen (NO_X), respirable particulate matter with an aerodynamic diameter of 10 micrometers or less (PM_{10}) and respirable particulate matter with an aerodynamic diameter of 2.5 micrometers or less ($PM_{2.5}$, a subset of PM_{10}) from site preparation (e.g., excavation, clearing), trenching, off-road equipment, material and equipment delivery trips, worker commute trips, and other miscellaneous activities. As shown in Draft EIR Table 3.4-6, the recycled water main between SRWTP and the SPA Cogeneration Plan would result in maximum unmitigated daily emissions of approximately 7 lb/day of ROG, 63 lb/day of NO_X, 22 lb/day of PM_{10} (exhaust plus dust), and 12 lb/day of $PM_{2.5}$ (exhaust plus dust). As shown in Appendix A, the 34 daily trips associated with the modifications would result in approximately 0.3 lb/day of ROG, 10.6 lb/day of NO_X, 0.3 lb/day of PM_{10} (exhaust plus dust), and 0.2 lb/day of $PM_{2.5}$ (exhaust plus dust). Therefore, the Project with the SSE pipeline installation, would result in maximum unmitigated daily emissions of approximately 7.3 lb/day of ROG, 73.6 lb/day of NO_X, 22.3 lb/day of PM_{10} (exhaust plus dust), and 12.2 lb/day of $PM_{2.5}$ (exhaust plus dust). Even with the proposed modifications to install the SSE pipeline, the maximum construction day would not cause emissions of NO_X to exceed the Sacramento Metropolitan Air Quality Management District (SMAQMD)-recommended threshold of 85 lb/day. Unmitigated concentrations of PM_{10} for all construction activities would not be expected to exceed the CAAQS of 50 micrograms per cubic meter ($\mu g/m^3$) because of the limited area that would be disturbed on any given day; however, construction-related fugitive dust could nonetheless contribute to the existing nonattainment status of the SVAB for PM_{10} and $PM_{2.5}$. As identified in the Draft EIR, this impact would be potentially significant. As required by the adopted Mitigation Monitoring and Reporting Program (MMRP), Regional San will implement Mitigation Measure 3.4-1, which involves fugitive dust control measures during construction, as required by SMAQMD's Rule 403. Implementation of these measures would reduce the fugitive dust emissions to a **less-than-significant** level through dust suppression, limitation of off-road vehicle speeds, and restrictions during high-wind events. These measures would similarly apply to any minor addition of emissions associated with the SSE pipeline modifications. Therefore, the conclusion of the Draft EIR remains valid and the proposed modifications would not result in new

or substantially more severe significant impacts to air quality (Draft EIR Impact 3.4-1).

Operation

Operation of the SSE pipeline and the SPA pipeline would not result in long-term operational emissions of ROG, NO_X, PM_{10}, or $PM_{2.5}$ that exceed SMAQMD's thresholds of significance (65 lb/day for ROG and 65 lb/day for NO_X) or substantially contribute to an exceedance of the NAAQS or CAAQS. The modifications would not alter operations or maintenance, and would not increase operational emissions. This impact would be **less than significant**. No mitigation is required and the proposed modifications would not result in new or substantially more severe significant impacts to air quality (Draft EIR Impact 3.4-2).

d. Operation of the SSE pipeline would not result in any additional sources of toxic air contaminants (TAC). Further, the modifications would not result in the siting of sensitive receptors. Construction-related activities would result in temporary, short-term emissions of diesel PM from off-road, heavy-duty diesel equipment exhaust for site preparation, trenching, material hauling, and other miscellaneous activities. The concurrent installation of the SSE pipeline would contribute slightly but not measurably to construction diesel PM emissions (Draft EIR Impact 3.4-3). Overall Project emissions were found not to result in a substantial increase in health risk exposure at offsite sensitive receptors, nor increase cancer risk. As identified in the Draft EIR, this would be a **less-than-significant** impact. No mitigation is required and the proposed modifications would not result in new or substantially more severe significant impacts to air quality (Draft EIR Impact 3.4-3).

e. The SSE pipeline construction could contribute to short-term, construction-related odors. However, any construction-related odors would be temporary and limited to the immediate vicinity of the equipment. The pumping of treated effluent and recycled water in underground pipes would not create objectionable odors affecting a substantial number of people. This impact would be **less than significant**. No mitigation is required and the proposed modifications would not result in new or substantially more severe significant impacts to air quality (Draft EIR Impact 3.4-4).

Mitigation Measures In accordance with the adopted MMRP, the following mitigation measure would remain applicable if the proposed addendum is adopted.

- Mitigation Measure 3.4-1. Regional San shall implement fugitive dust control measures during construction, as required by SMAQMD's Rule 403.

Conclusion

No substantial changes to the project or to the circumstances under which the project would be undertaken have occurred. No new information of substantial importance has

arisen that would require new analysis or verification. Therefore, the conclusions of the Draft EIR remain valid and the proposed modifications to the Project would not result in new or substantially more severe significant impacts to air quality.

Table 3-4. Biological Resources

Environmental Issue Area	Where Impact Was Analyzed in the EIR	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Do Prior Environmental Documents' Mitigations Address/Resolve Impacts?
4. Biological Resources. Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Section 3.5 – Biological Resources, Effects Determination for Federally listed Species from Construction of the Recycled Water Main, Laterals and Associated Equipment Laydown Areas (pages 3.5-43 through 3.5-45), Impact 3.5-1, Impact 3.5-2 and, 3.5-3	No	No	Mitigation Measure 3.5-1, 3.5-2,and 3.5-3
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	Section 3.5 – Biological Resources, Issues or Potential Impacts Not Discussed Further (pages 3.5-43 through 3.5-45),	No	No	N/A
c. 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?	Section 3.5 – Biological Resources, Issues or Potential Impacts Not Discussed Further (pages 3.5-43 through 3.5-45),	No	No	N/A
d. Interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Section 3.5 – Biological Resources, Impact 3.5-1 and 3.5-2	No	No	Mitigation Measure 3.5-1, 3.5-2
e. Conflict with any local policies or ordinances protecting biological	Section 3.5 – Biological	No	No	Mitigation Measure 3.5-7

Environmental Issue Area	Where Impact Was Analyzed in the EIR	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Do Prior Environmental Documents' Mitigations Address/Resolve Impacts?
4. Biological Resources. Would the project:				
resources, such as a tree preservation policy or ordinance.	Resources, Impact 3.5-7			
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	Section 3.5 – Biological Resources, Issues or Potential Impacts Not Discussed Further (page 3.5-46)	No	No	N/A
g. Have the potential to cause a commercial and/or recreational fishery to drop below self-sustaining levels?	Section 3.5 – Biological Resources, , Issues or Potential Impacts Not Discussed Further (page 3.5-46)	No	No	N/A

Key:
EIR = Environmental Impact Report

Discussion

No substantial change in the environmental and regulatory settings related to biological resources, described in Draft EIR Section 3.5, has occurred since certification of the Final EIR in 2014.

a. d.

Potential habitat for federally listed species exists in Laguna Creek, Morrison Creek, and adjacent wetlands and riparian areas, but direct impacts to these areas from construction will be completely avoided by the HDD construction method. All other SPA and SSE pipeline construction areas will be more than 250 feet from these habitats (Draft EIR page 3.5-46). **No effect** is expected on the following species, because they do not utilize habitat in or near areas that would be disturbed by construction or operation of the SPA and SSE pipelines: Conservancy fairy shrimp, vernal pool fairy shrimp, valley elderberry longhorn beetle, vernal pool tadpole shrimp, green sturgeon, delta smelt, Central Valley steelhead, Central Valley spring-run chinook salmon, winter-run chinook salmon, Sacramento River, California tiger salamander, central population, California red-legged frog, and giant garter snake (Draft EIR 3.5-44).

Construction of the SPA and SSE pipelines could result in temporary disturbance of nesting habitat for special-status birds, including those protected under the Migratory Bird Treaty Act (MBTA). Trees and grasslands along and near the

proposed alignment could provide nesting habitat for a number of special-status avian species known to nest in the area, including great egret, great blue heron, American bittern, northern harrier, white-tailed kite, least bittern, loggerhead shrike, song sparrow, double-crested cormorant and other bird species, including those protected by the MBTA. These impacts are **potentially significant.** Potential nesting trees are found along the proposed alignment at the SRWTP and in the northeast portion of the Bufferlands and Delta Shores area north of the SRWTP. Construction activities associated with the proposed alignment could disturb nesting birds possibly resulting in nest abandonment, forced fledging and/or mortality. Some examples of project related activities that could cause nest abandonment or forced fledging are: demolition, large mobile construction equipment such as large bulldozers, and earth movers working directly under the nest trees for a significant amount of time. Nesting raptors and migratory nesting birds are protected under the MBTA and/or California Department of Fish and Game (CDFG) Code 3503, 3503.5, 3511 and 3513. SPA and SSE pipeline construction could result in the disturbance to protected nesting avian species potentially leading to nest abandonment and mortality (Draft EIR Impact 3.5-1).

Construction of the SPA and SSE pipelines could result in the disturbance of nesting habitat for Swainson's hawks. Potential nesting trees are found along the proposed alignment at the SRWTP and in the northeast portion of the Bufferlands and Delta Shores area north of the SRWTP. Construction activities associated with the proposed Project could disturb nesting birds possibly resulting in nest abandonment, forced fledging and/or mortality. Some examples of Project related activities that could cause nest abandonment or forced fledging are: demolition, large mobile construction equipment such as large bulldozers, and earth movers working directly under the nest trees for a significant amount of time. This impact would be considered **potentially significant** (Draft EIR Impact 3.5-2)

Implementation of Mitigation Measure 3.5-1(a) would require surveys for protected bird species to confirm the presence of active nests during the appropriate nesting season. If construction activities cannot be avoided during the nesting season, then implementation of Mitigation Measure 3.5-1(b) through (d) ensures that active nests are protected by instituting appropriate buffer zones and avoiding or minimizing loss or take of this species. Implementation of Mitigation Measures 3.5-1(a) through (d) would reduce the potential disturbance of nesting avian species to **less than significant.**

Implementation of Mitigation Measure 3.5-2(a) would require surveys for nesting Swainson's hawks to confirm the presence of active nests during the appropriate nesting season. If construction activities cannot be avoided during the nesting season, then implementation of Mitigation Measure 3.5-2(b) ensures that active nests are protected and the potential for nest abandonment is minimized by instituting appropriate buffer zones and avoiding or minimizing disturbance to any nesting birds reducing the impact to **less than significant.**

Construction of the SPA and SSE pipelines could result in the loss of active burrowing owl nest burrows. The CNDDB shows four recorded occurrences of burrowing owls along the SPA and SSE alignment. Burrowing owls are a State and Federal species of concern and; therefore, protected under Section 3503 of the CDFG Code and the MBTA. Ground squirrel burrows present in the irrigation ditches along the proposed alignment in agricultural areas north of the SRWTP are considered potential nesting habitat for burrowing owls. The loss of occupied ("[a] site should be assumed occupied if at least one burrowing owl has been observed occupying a burrow there within the last three years") burrowing owl nest or its occupants would be considered **potentially significant** (Impact 3.5-3).

Implementation of Mitigation Measure 3.5-3: burrowing owl (nesting). - Once implemented, Mitigation Measure 3.5-3 would reduce the above impact to **less than significant** through the avoidance of any active burrowing owl nests, the safe exclusion of burrowing owls from any burrows to be destroyed prior to construction of the SPA and SSE pipelines, and the purchase of additional burrowing habitat, if necessary.

Prior to the issuance of grading permits, the project applicant shall retain a qualified biologist to conduct a pre-construction burrowing owl survey. If no suitable burrows are found, no further mitigation is required. If suitable burrows are found, but no owls are found, all burrows shall be hand-excavated and collapsed prior to SPA and SSE pipeline construction. If nesting owls are found, no disturbance shall be allowed within 160-feet of the active nest burrow between February 1 and August 31. Outside the nesting season, and/or upon confirmation by the qualified biologist, and in consultation with California Department Fish and Wildlife (CDFW), that all young have fledged and left an active nest, burrowing owls present in the burrow shall be excluded from the burrow(s) by a qualified biologist through a passive relocation as outlined in the California Burrowing Owl Consortium's April 1993 Burrowing Owl Survey Protocol and Mitigation Guidelines (California Burrowing Owl Consortium 1993) and 2012 Staff Report on Burrowing Owl Mitigation (CDFG 2011). Once the burrows have been cleared, they must be hand-excavated and collapsed prior to SPA and SSE construction.

To offset the loss of foraging and burrow habitat along the SPA and SSE alignment, mitigation will be implemented as directed in CDFG (2012), which states that, "permanent habitat loss necessitates replacement with an equivalent or greater habitat area for breeding, foraging, wintering, dispersal, presence of burrows, burrow surrogates, presence of fossorial mammal dens, well drained soils, and abundant and available prey within close proximity to the burrow." The project proponent shall provide funding for long-term management and monitoring of the protected lands. The monitoring plan shall include success criteria, remedial measures, and an annual report to the Department. This mitigation could overlap with mitigation requirements for Swainson's hawk foraging habitat as deemed appropriate by CDFW.

If destruction of occupied burrows is unavoidable, the project applicant shall coordinate with CDFW to identify existing suitable burrows located on the protected lands site to be enhanced (enlarged or cleared of debris) or new burrows created (by installing artificial burrows) at a ratio of 2:1.

b. c.

Construction and operation of the SPA and SSE pipelines do not involve direct impacts to Morrison Creek, Laguna Creek, or other riparian or wetland areas, therefore no wetland permitting would be required. As detailed in Section 3.10, "Hydrology and Water Quality" in the Draft EIR, all impacts to Morrison Creek and Laguna Creek would be avoided by using the HDD method for tunneling approximately 30 feet underneath the creek channel and staging equipment and laydown areas at least 300 feet from the toe of the levee that encloses Morrison Creek. These measures avoid impacts to aquatic habitat during Project construction and operation (Draft EIR page 3.5-46).

e. Trees protected by the County and City General Plans may be removed or damaged during construction of the SPA and SSE pipelines. This impact would be potentially significant. HDD activities would be used in riparian areas where the highest potential for tree damage occurs. Where damage and removal of trees subject to County and City regulations cannot be avoided, mitigation measures will be implemented in accordance with the Sacramento County 2030 General Plan and the City of Sacramento Tree Preservation Ordinance. For projects in the unincorporated County, native tree impacts would be mitigated as outlined in General Plan policies CO-138, CO-139, and CO-140. Impacts to woodland habitat, such as a riparian or native oak, are mitigated on an acreage basis, as described in CO-140. Individual native tree impacts outside of the habitat areas are mitigated based on the tree's dbh per CO-139. Non-native tree impacts are mitigated using a canopy measurement based on 15-year shade cover values (CO-145), or, if onsite mitigation is not possible, by contributing to the Greenprint fund (CO-146).

Trees removed within the City of Sacramento would be mitigated according to the City of Sacramento Tree Preservation Ordinance, which specifies replacement planting of trees of at least 24 inch box size for impacts to trees greater than six inches in diameter, or replacement trees of a minimum of 15 gallon can size for impacts to trees less than six inches in diameter. Implementation of these mitigation measures would reduce impacts resulting from tree removal to **less than significant** (Draft EIR Impact 3.5-7).

f. The study area is within the proposed South Sacramento County Habitat Conservation Plan (SSCHCP) area and Regional San is participating in the development of the SSCHCP. The SSCHCP is currently being drafted by Sacramento County and is in the initial stages of environmental review; however, the plan has not been adopted. Since the SSCHCP is still being drafted, it would be premature to attempt to analyze the Project's consistency with the SSCHCP.

Also, because it is not an adopted plan, the Project's consistency is not required to be analyzed under CEQA. Therefore, an analysis of construction and operation of the SPA and SSE pipelines' consistency with the SSCHCP was not included in the EIR.

g. As detailed in Section 3.10, "Hydrology and Water Quality" of the Draft EIR, all impacts to Morrison Creek and Laguna Creek would be avoided by using the HDD method for tunneling approximately 30 feet underneath the creek channel and staging equipment and laydown areas at least 300 feet from the toe of the levee that encloses Morrison Creek. These measures avoid impacts to aquatic habitat during SPA and SSE pipeline construction and operation. Also, as detailed in Section 3.10, Hydrology and Water Quality, effects of the proposed SPA and SSE pipeline operation on background Sacramento River flows are negligible. The 0.1-0.2 percent change in flows would have a minimal effect to no effect on aquatic species near the Freeport outfall of the SRWTP (Draft EIR page 3.5-46).

Mitigation Measures The following mitigation measures were referenced in the Draft EIR analysis would remain applicable if the proposed addendum is adopted.

- Mitigation Measure 3.5-1: Regional San shall implement measures to protect Special-status birds, including those protected under the MBTA.
- Mitigation Measure 3.5-2: Regional San shall implement measures to protect Swainson's hawk (nesting).
- Mitigation Measure 3.5-3: Regional San shall implement measures to protect burrowing owl (nesting).
- Mitigation Measure 3.5-7: Regional San shall implement measures to protect trees covered under City and County ordinances and implement mitigation as detailed in mitigation Measure 3.5-7, where appropriate.

Conclusion

No substantial changes to the project or to the circumstances under which the project would be undertaken have occurred. No new information of substantial importance has arisen that would require new analysis or verification. Therefore, the conclusions of the Draft EIR remain valid and the proposed modifications would not result in new or substantially more severe significant impacts to biological resources.

Table 3-5. Cultural Resources

Environmental Issue Area	Where Impact Was Analyzed in the EIR	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Do Prior Environmental Documents' Mitigations Address/Resolve Impacts?
5. Cultural Resources. Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	Section 3.6 – Cultural Resources, Impacts 3.6-1 and 3.6-2	No	No	Mitigation Measure 3.6-2
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	Section 3.6 – Cultural Resources, Impacts 3.6-1 and 3.6-2	No	No	Mitigation Measure 3.6-2
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Section 3.6 – Cultural Resources, Impact 3.6-4	No	No	Mitigation Measure 3.6-4
d. Disturb any human remains, including those interred outside the formal cemeteries?	Section 3.6 – Cultural Resources, Impact 3.6-3	No	No	Mitigation Measure 3.6-3

Key:
EIR = Environmental Impact Report

Discussion

No substantial change in the environmental and regulatory settings related to cultural resources, described in Draft EIR Section 3.6, has occurred since certification of the Final EIR in 2014.

a. b.

No evaluated or documented significant cultural resources have been identified within the alignment of the collocated SPA and SSE pipelines. Two locally significant cultural resources have been identified immediately adjacent to the Project alignment: segments of the WPRR (P-34-0491) and Morrison Creek Levee (P-34-1363). However, only the Morrison Creek Levee is immediately adjacent to the collocated SPA and SSE pipeline alignment. As was proposed for the SPA pipeline, HDD trenchless crossing 30 feet below the Morrison and Laguna Creek levees is proposed for the SSE pipeline, which would preserve the integrity of the levee system consistent with the continuing program of maintenance and upgrades. Therefore, the proposed modifications would have **no impact** on the integrity of, or the National Register of Historical Places (NRHP) or California Register of Historical Resources (CRHR) eligibility status of, the

Morrison Creek Levee. No mitigation is required, and the proposed modifications would not result in new or substantially more severe significant impacts to documented cultural resources (Draft EIR Impact 3.6-1).

Increasing the size of the trench to accommodate the SSE pipeline would increase subsurface disturbances, which could potentially destroy or damage as-yet undiscovered prehistoric or historic cultural resources. Newly discovered cultural resources could be eligible for listing in the NRHP, CRHR, or Sacramento Register or be unique archaeological resources and could be adversely affected during Project construction. The modifications would contribute to this potentially significant impact. As required by the adopted MMRP, Mitigation Measure 3.6-2 will be implemented to ensure that any undocumented cultural resources or inadvertent discoveries of cultural resources during construction or ground-disturbing activities would be properly recorded and the historical significance of the resources documented. Therefore, potentially significant impacts resulting from inadvertent damage or destruction of unknown cultural resources during construction would be reduced to **less than significant**. These measures would similarly apply to the ground disturbing activities associated with the modifications. Therefore, the conclusion of the Draft EIR remains valid and the proposed modifications would not result in new or substantially more severe impacts to undiscovered prehistoric or historic cultural resources (Draft EIR Impact 3.6-2).

c. Due to the known presence of paleontological resources in the region, construction activities in the Riverbank Formation geologic unit have the potential to disturb or destroy newly discovered paleontological resources. The modifications would contribute to this potentially significant impact. As required by the adopted MMRP, Mitigation Measure 3.6-4 will be implemented to ensure that any inadvertent discoveries of paleontological resources during construction or ground-disturbing activities are properly documented and salvaged. Therefore, potentially significant impacts resulting from inadvertent damage or destruction of unknown paleontological resources would be reduced to **less-than-significant** levels. These measures would similarly apply to the ground disturbing activities associated with the modifications. Therefore, the conclusion of the Draft EIR remains valid and the proposed modifications would not result in new or substantially more severe impacts to paleontological resources (Draft EIR Impact 3.6-4).

d. Although there is a low potential for human remains to be discovered during ground disturbance, construction activities could potentially uncover or disturb unanticipated discoveries of human remains, including those interred outside of formal cemeteries. The modifications would contribute to this potentially significant impact. As required by the adopted MMRP, Mitigation Measure 3.6-3 will be implemented to ensure that any undocumented or inadvertent discoveries of human remains during construction or ground-disturbing activities would be properly mitigated in accordance with the laws of the State of California. Therefore, potentially significant impacts resulting from inadvertent disturbance

of undocumented human remains during construction would be reduced to **less-than-significant** levels. These measures would similarly apply to the ground disturbing activities associated with the modifications. Therefore, the conclusion of the Draft EIR remains valid and the proposed modifications would not result in new or substantially more severe impacts to undocumented human remains (Draft EIR 3.6-3).

Mitigation Measures In accordance with the adopted MMRP, the following mitigation measures would remain applicable if the proposed addendum is adopted.

- Mitigation Measure 3.6-2: Implement inadvertent discovery measures for the protection of cultural resources.
- Mitigation Measure 3.6-3: Implement inadvertent discovery measures for the protection of human remains.
- Mitigation Measure 3.6-4: Implement inadvertent discovery measures for the protection of paleontological resources.

Conclusion

No substantial changes to the project or to the circumstances under which the project would be undertaken have occurred. No new information of substantial importance has arisen that would require new analysis or verification. Therefore, the conclusions of the Draft EIR remain valid and the proposed modifications would not result in new or substantially more severe significant impacts to cultural resources.

Table 3-6. Geology and Soils

Environmental Issue Area	Where Impact Was Analyzed in the EIR	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Do Prior Environmental Documents' Mitigations Address/Resolve Impacts?
6. Geology and Soils. Would the project:				
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. ii. Strong seismic ground shaking?	Section 3.7 – Geology and Soils, Impacts 3.7-1	No	No	N/A

Environmental Issue Area	Where Impact Was Analyzed in the EIR	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Do Prior Environmental Documents' Mitigations Address/Resolve Impacts?
6. Geology and Soils. Would the project:				
iii. Seismic-related ground failure, including liquefaction? iv. Landslides?				
b. Result in substantial soil erosion or the loss of topsoil?	Section 3.7 – Geology and Soils, Impact 3.7-3	No	No	N/A
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in: on-or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	Section 3.7 – Geology and Soils, Impact 3.7-4	No	No	N/A
d. Be located on expansive soil, as defined in Table 18- 1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	Section 3.7 – Geology and Soils, Impact 3.7-2	No	No	N/A
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	Section 3.7 – Geology and Soils, Issues or Potential Impacts Not Discussed Further (p. 3.7-10)	No	No	N/A

Key:
EIR = Environmental Impact Report

Discussion

No substantial change in the environmental and regulatory settings related to geology and soils, described in Draft EIR Section 3.7, has occurred since certification of the Final EIR in 2014.

a. As with the approved SPA pipeline, the proposed SSE pipeline is not located within an Alquist-Priolo Earthquake Fault Zone and is not underlain by known active faults (Jennings and Bryant 2010). As shown in Figure 3.7-1 of the Draft EIR, the Project alignment is located relatively distant from any major fault system of California. The alignment is located between 37 and 59 miles from the active Concord, Green Valley, Greenville, Hayward, and Cordelia faults (see Figure 3.7-1). Risks associated with surface rupture along the project alignment are, therefore, very low. As with the approved SPA pipeline, the proposed SSE pipeline and associated facilities would be constructed in compliance with accepted engineering practices and CBC requirements to resist the anticipated potential ground shaking hazard. With adherence to these standards, the Project

would not expose people or structures to greater risk of adverse effects associated with ground shaking. Therefore, seismic hazards would be minimized to acceptable levels.

The Project would be designed, engineered, and constructed in conformance with standard engineering practices and CBC requirements. Therefore, potential structural damage and associated hazards to people during a seismic event would be minimized, and this impact would be **less than significant.**

b. As with the approved SPA pipeline, the soils along the proposed SSE pipeline alignment have a low erosion potential (erodibility) and, therefore, would not likely be subject to substantial increases in wind and/or water erosion. However, standard construction practices, such as compliance with BMPs included within a SWPPP (as described in Section 3.10, "Hydrology and Water Quality"), would minimize wind and/or water erosion. Therefore, this impact would be **less than significant**.

c. Deep trench backfills (i.e. deeper than about 10 feet) may undergo some settlement following construction even with proper construction techniques. This condition is especially prevalent when newly place backfill materials become saturated. However, as with the approved SPA pipeline, the proposed SSE pipeline would backfill only trenches 8 feet or less in depth. These backfilled trenches would have minimal potential for post-construction settling. Construction of portions of the proposed Project that occur at greater depths will be with trenchless methods, HDD, or pipe jacking, which would occur at depth of approximately 30-40 feet. Subsidence is not expected to affect construction activities at this depth. The topography and soils along the Project alignment are not prone to on- or offsite landslides, lateral spreading, liquefaction, or collapse, and the Project would not change this condition. This impact would be **less than significant**.

d. As with the approved SPA pipeline, the proposed SSE pipeline is underlain by multiple soil types with high shrink-swell potential (NRCS 1993). The shrinking and swelling of expansive soils as a result of moisture changes can damage building foundations, underground utilities, and other subsurface facilities if these facilities are not designed and constructed to resist the changing soil conditions. As with the approved SPA pipeline, the proposed SSE pipeline (storage tank and booster pump stations), would be designed, engineered, and constructed in conformance with standard engineering practices and CBC requirements to minimize potential damage from expansive soils to the Project alignment and facilities. This impact would be **less than significant**.

e. As with the approved SPA pipeline, the proposed SSE pipeline does not involve the construction or use of septic tanks or other alternative waste disposal systems, therefore there are no risks associated with the Project regarding construction in soils that cannot support use of these facilities and **no impact** would occur.

Mitigation Measures No mitigation measures are required.

Conclusion

No substantial changes to the project or to the circumstances under which the project would be undertaken have occurred. No new information of substantial importance has arisen that would require new analysis or verification. Therefore, the conclusions of the Draft EIR remain valid and the proposed modifications would not result in new or substantially more severe significant impacts to geology and soil resources.

Table 3-7. Greenhouse Gas Emissions

Environmental Issue Area	Where Impact Was Analyzed in the EIR.	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any Substantially Important New Information Requiring New Analysis or Verification?	Do Prior Environmental Documents' Mitigations Address/Resolve Impacts?
7. Greenhouse Gas Emissions. Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Section 3.8 – Climate Change, Impacts 3.8-1 and 3.8-2	No	No	N/A
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Section 3.8 – Climate Change, Impacts 3.8-1 and 3.8-2	No	No	N/A

Key:
EIR = Environmental Impact Report

Discussion

No substantial change in the environmental and regulatory settings related to GHGs, described in Draft EIR Section 3.8, has occurred since certification of the Final EIR in 2014.

a. b.

Greenhouse gas emissions would be generated during project construction and operation (Draft EIR Impact 3.8-1). As with the air quality discussion, the modifications to concurrently install the SSE pipeline would be minor and would not measurably change greenhouse gas emissions. Even in a worst-case scenario of overlapping construction and operational emissions occurring in a single year, which would result in an increase of 664 MT CO2e/year, the proposed modifications would contribute to, but would not significantly change the incremental increase in GHG emissions, and would not result in exceedance of the 10,000 MT CO2e/year threshold. This impact is **less than significant**. No mitigation is required and the proposed modifications would not result in new or substantially more severe impacts to GHG emissions (Draft EIR Impact 3.8-1).

Climate change is expected to result in a variety of effects in the Project area including changes to timing and intensity of precipitation events resulting in increased flood risk and impacts associated with increased storm water runoff. Climate change could also result in increased temperatures, leading to increased wildland fire and elevated sea levels. However, the Project is not located in an area prone to wildland fire and is located far enough away from the California coast, Delta, and San Francisco Bay and at a high enough elevation above sea level such that projected sea level rise would not affect the Project location. Furthermore, the proposed modifications would not significantly alter the Project alignment. The modifications would not alter this **less-than-significant** impact. No mitigation is required and the conclusion of the Draft EIR remains valid (Draft EIR Impact 3.8-2).

Mitigation Measures No mitigation measures are required.

Conclusion

No substantial changes to the project or to the circumstances under which the project would be undertaken have occurred. No new information of substantial importance has arisen that would require new analysis or verification. Therefore, the conclusions of the Draft EIR remain valid and the proposed modifications would not result in new or substantially more severe significant impacts to GHGs and climate change.

Table 3-8. Hazards and Hazardous Materials

Environmental Issue Area	Where Impact Was Analyzed in the EIR	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Do Prior Environmental Documents' Mitigations Address/Resolve Impacts?
8. Hazards and Hazardous Materials. Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Section 3.9 – Hazard and Hazardous Materials, Issues or Potential Impacts Not Discussed Further (p. 3.9-14)	No	No	N/A
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	Section 3.9 – Hazard and Hazardous Materials, Impacts 3.9-1	No	No	Mitigation Measure 3.9-1
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste	Section 3.9 – Hazard and Hazardous Materials, Issues	No	No	N/A

Environmental Issue Area	Where Impact Was Analyzed in the EIR	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Do Prior Environmental Documents' Mitigations Address/Resolve Impacts?
8. Hazards and Hazardous Materials. Would the project:				
within one-quarter mile of an existing or proposed school?	or Potential Impacts Not Discussed Further (p. 3.9-14)			
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	Section 3.9 – Hazard and Hazardous Materials, Impacts 3.9-1	No	No	Mitigation Measure 3.9-1
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	Section 3.9 – Hazard and Hazardous Materials, Issues or Potential Impacts Not Discussed Further (p. 3.9-14)	No	No	N/A
f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working on the project area?	Section 3.9 – Hazard and Hazardous Materials, Issues or Potential Impacts Not Discussed Further (p. 3.9-14)	No	No	N/A
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Section 3.9 – Hazard and Hazardous Materials, Issues or Potential Impacts Not Discussed Further (p. 3.9-15)	No	No	N/A
h. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	Section 3.9 – Hazard and Hazardous Materials, Issues or Potential Impacts Not Discussed Further (p. 3.9-15)	No	No	N/A

Key:
EIR = Environmental Impact Report

Discussion

No substantial change in the environmental and regulatory settings related to hazards and hazardous materials, described in Draft EIR Section 3.9, has occurred since certification of the Final EIR in 2014.

a. c. e. f. g. h.

Construction activities would involve the use of hazardous materials such as fuels, lubricants, paints, solvents, gasoline, asphalt, and oil. The use and storage of these materials could potentially expose and adversely affect workers, the public, or the environment as a result of improper handling or use; accident; environmentally unsound disposal methods; or fire, explosion, or other emergencies, resulting in adverse health effects. All allowable uses would be subject to compliance with Federal, State, and local hazardous materials regulations, and would be monitored by the State (e.g., Cal/OSHA and DTSC), County, and the District. Therefore, it is anticipated that the routine use of these materials handled in accordance with these laws and regulations would not create any impacts to the public or the environment (Draft EIR page 3.9-14).

The SSE pipeline and modified SPA main pipeline alignment would not occur on school grounds. Therefore, **no impact** related to schools would occur (Draft EIR page 3.9-14).

The Borges-Clarksburg Airport, a small, unpaved (i.e., turf runway) private airstrip for primarily agricultural and limited recreational use, is located approximately 1.2 miles west of the existing Regional San property where recycled water main construction will commence from the existing WRF. The next closest airport is the Sacramento Executive Airport, which is located approximately 3.5 miles northwest of the Regional San property and approximately 2,000 feet away from the proposed recycled water laterals and above-ground storage tank to be constructed to service Chorley Park and Bing Maloney Gold Course. The SPA and SSE alignment is not located within any airport approach or departure safety zones, and no structures would be constructed that could result in a safety hazard. Therefore, no impact related to private airstrips or public airports would occur (Draft EIR page 3.9-14).

The proposed project will not involve demolition or tie-ins to existing building more than 50 years old on the Regional San property which may contain asbestos or lead-based paint, therefore no impacts related to release of these hazardous materials would occur (Draft EIR page 3.9-14).

The proposed project is located on Regional San property or previously developed City of Sacramento lands, therefore there are no wildland fire risks associated with the project and no impact would occur (Draft EIR page 3.9-14).

The Sacramento County Flood Emergency Evacuation Plan identifies evacuation areas and evacuation routes in the vicinity of the proposed alignment. These are

located to the north of Morrison Creek, and along and to the west of I-5, and including I-5 (City and County of Sacramento 2005). The Project will not generate traffic (except during construction; see Section 3.13, "Traffic and Transportation"), such that nearby evacuation routes would be affected. Therefore, Project construction is not expected to interfere with evacuation plans, and no impact would occur (Draft EIR page 3.9-15).

b. d.

Prior to 1998, several historic USTs were located on Regional San property and used for storage of fuels. SWRCB's GeoTracker database indicates that a LUST was reported within the project area in February 1986; cleanup of the LUST was completed in 1986, and the case has since been closed. Other non-leaking USTs remained onsite until they were eventually removed in 1998, and replaced by ASTs (SWRCB 2013a). Today, ASTs are used onsite for the storage of gasoline and diesel. Additionally, the results of the environmental records search indicate that several other documented hazardous materials ("Cortese list") sites or other areas of existing hazardous materials contamination exist as Closed, Inactive or currently permitted USTs within 50 feet of the proposed SPA or SSE piplelines .

As noted previously, soils contaminated with hydrocarbons were recently identified on Regional San property. Identified soils are planned for removal and disposal at an appropriate landfill. Other potentially contaminated soils may exist on the Regional San that have not been identified; these soils could be encountered during construction. SPA and SSE pipeline alignment soil is not known to be contaminated, and neither the off-haul nor the stockpile scenario would be expected to result in impacts related to public health and safety.

Exposure to hazardous materials is not expected during the course of construction, because known contaminated sites will be avoided. However, previously unknown subsurface contaminants may exist, and construction activities could potentially result in the disturbance of such contaminants. These actions could result in the exposure of project construction workers or members of the public to hazardous materials. This impact would be **potentially significant** (Draft EIR Impact 3.9-1).

Mitigation Measures The following mitigation measures were referenced in the Draft EIR analysis and would remain valid if the proposed addendum is adopted.

- Mitigation Measure 3.9-1: Remediate contaminated soils discovered during construction

Conclusion

No substantial changes to the project or to the circumstances under which the project would be undertaken have occurred. No new information of substantial importance has arisen that would require new analysis or verification. Therefore, the conclusions of the

Draft EIR remain valid and the proposed modifications would not result in any new or substantially more severe significant impacts related to hazards or hazardous materials.

Table 3-9. Hydrology and Water Quality

Environmental Issue Area	Where Impact Was Analyzed in the EIR	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Do Prior Environmental Documents Mitigations Address/Resolve Impacts?
9. Hydrology and Water Quality. Would the Project:				
a. Violate any water quality standards or waste discharge requirements?	Section 3.10 – Hydrology and Water Quality, Issues or Potential Impacts Not Discussed Further (p. 3.10-22)	No	No	N/A
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted?	Section 3.10 – Hydrology and Water Quality, Issues or Potential Impacts Not Discussed Further (p. 3.10-22)	No	No	N/A
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	Section 3.10 – Hydrology and Water Quality, Impacts 3.10-1, 3.10-2	No	No	Mitigation Measure 3.10-2
d. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	Section 3.10 – Hydrology and Water Quality, Impacts 3.10-2	No	No	Mitigation Measure 3.10-2
e. Otherwise substantially degrade water quality?	Section 3.10 – Hydrology and Water Quality, Impacts 3.10-4	No	No	N/A
f. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	Section 3.10 – Hydrology and Water Quality, Issues or Potential Impacts Not Discussed Further (p. 3.10-22)	No	No	N/A

Table 3-9. Hydrology and Water Quality (contd.)

Environmental Issue Area	Where Impact Was Analyzed in the EIR	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Do Prior Environmental Documents Mitigations Address/Resolve Impacts?
9. Hydrology and Water Quality. Would the Project:				
g. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	Section 3.10 – Hydrology and Water Quality, Issues or Potential Impacts Not Discussed Further (p. 3.10-22)	No	No	N/A
h. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	Section 3.10 – Hydrology and Water Quality, Impacts 3.10-3	No	No	N/A
i. Inundation by seiche, tsunami, or mudflow?	Section 3.10 – Hydrology and Water Quality, Issues or Potential Impacts Not Discussed Further (p. 3.10-22)	No	No	N/A

Key:
EIR = Environmental Impact Report

Discussion

No substantial change in the environmental and regulatory settings related to hydrology and water quality, described in Draft EIR Section 3.10, has occurred since certification of the Final EIR in 2014.

a. e.

Operation of the SPA and SSE pipelines is not expected to require changes to Regional San's NPDES permit terms. However, because rated flows from the WRF were originally intended for delivery south to the Phase 2 recycled water area in Elk Grove, and a portion of the Phase 2 flow will go to the SPA Cogeneration Plant via the proposed Project, Regional San intends to file a change in point of use petition with the State Water Board along with release of the Water Recycling Pipeline Project Public Draft EIR. This issue is not further discussed in the EIR (Draft EIR page 3.10-22).

Operation of the collocated SPA and SSE pipelines will not have any effects to stormwater quality, as the WRF, recycled water main, laterals and lateral structures will act as a closed system, to convey recycled water to users and no discharges to surface waters will occur during Project operation.

During operation, the collocated SPA and SSE pipelines will rely entirely on the existing WRF for supply and thus will not have any impacts to groundwater resources (Draft EIR page 3.10-22).

b. d.

Stormwater runoff from construction-related activities could cause temporary water quality degradation in nearby waterways within the Morrison Creek watershed and to the Sacramento River. Construction of the proposed Project would involve grading and excavation, trenching, backfilling, hauling, compaction, soil disposal activities, the use and on-site storage of chemicals (petroleum and other potentially polluting substances), and construction material delivery. Construction of storage tanks and booster pump stations may also involve paving, lighting, drainage, reinforced concrete/steel structures. These activities have the potential to cause or increase soil erosion and could accidentally discharge waste petroleum products or other construction-related substances containing metals that could enter waterways in runoff. This impact would be potentially significant. Approximately 60 percent of the Project alignment is within consolidated Pleistocene alluvial fan deposits of sand, silt and clay, and is above groundwater levels. However, approximately 40 percent of the Project alignment is within mostly unconsolidated flood basin sediments with potential groundwater/perched water conditions that may require dewatering during construction activities. Discharge of dewatered groundwater could exceed physical, chemical, and thermal standards. The potential impact for temporary construction-related discharges to degrade water quality in receiving waters would to be **potentially significant** (Draft EIR Impact 3.10-2).

As required by the adopted MMRP, Mitigation Measure 3.10-2 will be implemented to ensure that potential temporary construction-related water quality effects will not result in discharges of sufficient frequency, magnitude, and geographic extent to result in a substantial degradation of water quality in receiving waters. Therefore, potentially significant impacts resulting from water quality degradation during construction would be reduced to **less than significant**. Therefore, the conclusion of the Draft EIR remains valid and the proposed modifications would not result in new or substantially more severe impacts to water quality.

f. g.

Construction and operation of the collocated SPA and SSE pipelines will not result in construction of housing or other structures within a 100-year flood hazard area (Draft EIR page 3.10-22).

h. Inundation of the proposed SPA and SSE pipeline alignment by seiche, tsunami, or mudflow is not a possibility due to the Project location in an inland, urbanized area (Draft EIR page 3.10-22).

Mitigation Measures The following mitigation measures were referenced in the Draft EIR analysis and would remain valid if the addendum is approved.

- Mitigation Measure 3.10-2: Implement construction erosion control and water quality BMPs.

Conclusion

No substantial changes to the project or to the circumstances under which the project would be undertaken have occurred. No new information of substantial importance has arisen that would require new analysis or verification. Therefore, the conclusions of the Draft EIR remain valid and the proposed modifications would not result in any new significant impacts related to hydrology and water quality.

Table 3-10. Land Use and Planning

Environmental Issue Area	Where Impact Was Analyzed in the EIR	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Do Prior Environmental Documents Mitigations Address/Resolve Impacts?
10. Land Use and Planning. Would the project:				
a. Physically divide an established community?	Chapter 1, Introduction, Section 1.6.1, Effects Found Not to be Significant	No	No	N/A
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	Chapter 1, Introduction, Section 1.6.1, Effects Found Not to be Significant	No	No	N/A
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	Chapter 1, Introduction, Section 1.6.1, Effects Found Not to be Significant	No	No	N/A

Key:
EIR = Environmental Impact Report

Discussion

No substantial change in the environmental and regulatory settings related to land use, described in Draft EIR Section 1.6 has occurred since certification of the Final EIR in 2014.

a. b. c.

The proposed installation and operation of the SPA or SSE pipeline would not involve changes to existing land uses along the Project alignment and the Project would not conflict with Sacramento County General Plan or City of Sacramento General Plan policies. The proposed Project would support and be consistent with State and regional recycled water regulations and initiatives including the following, as described in Section 1.1, "Setting": California Senate Bill X7 and the resulting 20 by 2020 Plan; State Water Board's 2009 Recycled Water Policy; California Water Code, Chapter 7, Article 7 (encourages the increased use of recycled water); the Water Forum Agreement; and the 2013 Sacramento Integrated Regional Water Management Plan. Therefore, no significant land use or planning effects would occur.

Mitigation Measures No mitigation measures are required.

Conclusion

No substantial changes to the project or to the circumstances under which the project would be undertaken have occurred. No new information of substantial importance has arisen that would require new analysis or verification. Therefore, the conclusions of the Draft EIR remain valid and the proposed modifications would not result in any new significant impacts related to land use and planning.

Table 3-11. Mineral Resources

Environmental Issue Area	Where Impact Was Analyzed in the EIR	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Do Prior Environmental Documents Mitigations Address/Resolve Impacts?
11. Mineral Resources. Would the Project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	Chapter 1, Introduction, Section 1.6.1, Effects Found Not to be Significant	No	No	N/A
b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	Chapter 1, Introduction, Section 1.6.1, Effects Found Not to be Significant	No	No	N/A

Key:
EIR = Environmental Impact Report

Discussion

No substantial change in the environmental and regulatory settings related to mineral resources has occurred since certification of the Final EIR in 2014.

a. b.

According to the Sacramento County General Plan Conservation Element, no significant mineral deposits have been identified along the Project alignment. Additionally, the project is not located within an Aggregate Resource Area as identified by the Sacramento County General Plan Land Use Diagram (Sacramento County 2011). Therefore, no impacts to mineral resources would occur and this issue was not discussed further in the Draft EIR.

Mitigation Measures No mitigation measures are required.

Conclusion

No substantial changes to the project or to the circumstances under which the project would be undertaken have occurred. No new information of substantial importance has arisen that would require new analysis or verification. Therefore, the conclusions of the Draft EIR remain valid and the proposed modifications would not result in any new significant impacts related to mineral resources.

Table 3-12. Noise

Environmental Issue Area	Where Impact Was Analyzed in the EIR.	Any New Circumstances Involving New or Substantially More Severe Significant Impacts?	Any Substantially Important New Information Requiring New Analysis or Verification?	Do Prior Environmental Documents' Mitigations Address/Resolve Impacts?
12. Noise. Would the project result in:				
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Section 3.11, Noise, Impact 3.11-1	No	No	N/A
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	Section 3.11, Noise, Impact 3.11-2	No	No	N/A
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	Section 3.11, Noise, Issues or Potential Impacts not Discussed Further (page 3.11-17)	No	No	N/A
d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	Section 3.11, Noise, Impact 3.11-1	No	No	N/A

Table 3-12. Noise (contd.)

Environmental Issue Area	Where Impact Was Analyzed in the EIR.	Any New Circumstances Involving New or Substantially More Severe Significant Impacts?	Any Substantially Important New Information Requiring New Analysis or Verification?	Do Prior Environmental Documents' Mitigations Address/Resolve Impacts?
12. Noise. Would the project result in:				
e. For a project located within an airport land use plan or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	Section 3.11, Noise, Issues or Potential Impacts not Discussed Further (page 3.11-18)	No	No	N/A
f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	Section 3.11, Noise, Issues or Potential Impacts not Discussed Further (page 3.11-18)	No	No	N/A

Key:
EIR = Environmental Impact Report

Discussion

No substantial change in the environmental and regulatory settings related to noise, described in Draft EIR Section 3.11, has occurred since certification of the Final EIR in 2014.

a. b.

Although the construction equipment and activities to concurrently install the SSE pipeline would be substantially similar to those for the SPA pipeline alone, the collocated pipelines would require some additional equipment and truck trips (an estimated 34 additional trips per day), and the construction timeframe could possibly be two to three weeks longer. The proposed modifications would contribute to, but would not significantly change, the Project's short-term construction-related noise impacts. The SSE pipeline would not require any nighttime construction and would not involve work at the intersections of 24th Street and Florin Road and 24th Street and Meadowview Road. Therefore, the proposed modifications would not contribute to the Project's significant and unavoidable ambient noise levels during nighttime construction at these locations. Rather, construction-related activities would occur during the exempt daytime hours. As such, the SSE modifications would be **less than significant** and no mitigation is required. The proposed modifications would not result in new or substantially more severe significant noise impacts (Draft EIR Impact 3.11-1).

b. Construction and operational activities would not result in vibration levels that exceed the Caltrans recommended level of 0.2 in/sec PPV at the nearest sensitive land use (for prevention of structural damage of normal buildings) or the FTA maximum acceptable level of 80 VdB (for prevention of human disturbance or annoyance). The proposed SSE pipeline would be installed within same impact area of the SPA pipeline and would use the same construction methods. Therefore, this impact would remain **less than significant**. No mitigation is required and the proposed modifications would not result in new or substantially more severe vibration impacts (Draft EIR Impact 3.11-2).

c. Consistent with Draft EIR page 3.11-17, neither operation of the Project nor operation of the additional SSE pipeline would result in any new employees. Therefore, there would be no substantial new long-term vehicle trips or traffic-related noise. **No impact** would occur and the modifications would not change the conclusion of the Draft EIR.

The SSE modifications do not include any new stationary noise sources, such as pump stations, and would not contribute to any Project-generated stationary source noise levels, which were determined to be **less than significant**. No mitigation is required and the modifications would not result in new or substantially more severe operational noise impacts (Draft EIR Impact 3.11-3).

e, f. The SSE pipeline alignment is located within two miles of an active, private airstrip and a public use airport. The Borges-Clarksburg Airport, a small, unpaved (i.e., turf runway) private airstrip for primarily agricultural and limited recreational uses, is located approximately 1.2 miles west of the SRWTP, immediately west of the Sacramento River. The Sacramento Executive Airport is the closest public airport and is located adjacent to the alignment of the recycled water main, as it extends north along 24th Street. Neither the Project nor the proposed modifications would involve facilities that introduce new sensitive receptors or result in the development of new structures that would alter flight patterns associated with either of the two airfields. Therefore, the modifications would not result in noise impacts related to the exposure of people residing or working in the project area to excessive aircraft-related noise levels (page 3.11-18). **No impact** would occur and conclusions of the Draft EIR remain valid.

Mitigation Measures No mitigation measures are required.

Conclusion

No new circumstances have occurred nor has any substantially important new information been found requiring new analysis or verification. Therefore, the conclusions of the Draft EIR remain valid and the proposed modifications would not result in any new or substantially more severe significant impacts related to noise.

Table 3-13. Population and Housing

Environmental Issue Area	Where Impact Was Analyzed in the EIR	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Do Prior Environmental Documents Mitigations Address/Resolve Impacts?
13. Population and Housing. Would the Project:				
a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	Chapter 1, Introduction, Section 1.6.1, Effects Found Not to be Significant	No	No	N/A
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	Chapter 1, Introduction, Section 1.6.1, Effects Found Not to be Significant	No	No	N/A
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	Chapter 1, Introduction, Section 1.6.1, Effects Found Not to be Significant	No	No	N/A

Key:
EIR = Environmental Impact Report

Discussion

No substantial change in the environmental and regulatory settings related to population and housing, described in Draft EIR Chapter 1, Section 1.6.1, has occurred since certification of the Final EIR in 2014.

a, b, c. There are no residences within or adjacent to the alignment of the collocated SSE and SPA pipelines. The alignment is located on SRWTP lands and then parallel to the future 24th Street extension and future Cosumnes River Boulevard within the Delta Shores development, where a park/school is proposed. Therefore, no housing would be displaced. In addition, neither the SPA Project nor the SSE pipeline would require any additional permanent employees to operate the pipelines. Approximately 30 construction workers would be temporarily employed during construction; this estimate would not change substantially with installation of the SSE pipeline. As described in Chapter 1 of the Draft EIR, the Sacramento region supports a robust construction workforce that also has the ability to grow in numbers while reducing local unemployment. As a result, workers would not relocate to the area because the proposed modifications, creating a demand for housing. Therefore, **no impacts** to population, employment, or housing would occur, and the modifications would not change the conclusion of the Draft EIR (Draft EIR page 1-13).

Mitigation Measures No mitigation measures are required.

Conclusion

No substantial changes to the project or to the circumstances under which the project would be undertaken have occurred. No new information of substantial importance has arisen that would require new analysis or verification. Therefore, the conclusions of the Draft EIR remain valid and the proposed modifications would not result in any new significant impacts related to impacts to population and housing.

Table 3-14. Public Services

Environmental Issue Area	Where Impact Was Analyzed in the EIR	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Do Prior Environmental Documents' Mitigations Address/Resolve Impacts?
14. Public Services				
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times or other performance objectives for any the public services:				
i. Fire protection?	Chapter 1, Introduction, Section 1.6.1, Effects Found Not to be Significant	No	No	N/A
ii. Police protection?	Chapter 1, Introduction, Section 1.6.1, Effects Found Not to be Significant	No	No	N/A
iii. Schools?	Chapter 1, Introduction, Section 1.6.1, Effects Found Not to be Significant	No	No	N/A
iv. Parks?	Chapter 1, Introduction, Section 1.6.1, Effects Found Not to be Significant	No	No	N/A

Table 3-14. Public Services (contd.)

Environmental Issue Area	Where Impact Was Analyzed in the EIR	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Do Prior Environmental Documents' Mitigations Address/Resolve Impacts?
14. Public Services				
v. Other public facilities?	Chapter 1, Introduction, Section 1.6.1, Effects Found Not to be Significant	No	No	N/A

Key:
EIR = Environmental Impact Report

Discussion

No substantial change in the environmental and regulatory settings related to public services, described in Draft EIR Section Chapter 1, Section 1.6.1, has occurred since certification of the Final EIR in 2014.

a. The proposed SSE pipeline installation, like the SPA Project, would not involve construction of housing or any increase in permanent personnel at the SRWTP or SPA Cogeneration Plant. In addition, based on existing workforce and unemployment rates in the Sacramento region, the need for temporary construction workers would be served by existing local residents. Therefore, the proposed modifications would not generate any increase in demand for schools, parks, or other public services or facilities. Furthermore, operation of the pipelines, which would be collocated beneath roadways or publicly owned land, would not result in a change to any land uses in the Project alignment and would not increase demand for public services. Therefore, **no impact** to public services would occur and the modifications would not change the conclusions of the Draft EIR (Draft EIR pages 1-13 and 1-14).

Mitigation Measures No mitigation measures are required.

Conclusion

No substantial changes to the project or to the circumstances under which the project would be undertaken have occurred. No new information of substantial importance has arisen that would require new analysis or verification. Therefore, the conclusions of the Draft EIR remain valid and the proposed modifications would not result in any new significant impacts related to public services.

Table 3-15. Recreation

Environmental Issue Area	Where Impact Was Analyzed in the EIR	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Do Prior Environmental Documents' Mitigations Address/Resolve Impacts?
15. Recreation.				
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	Chapter 1, Introduction, Section 1.6.1, Effects Found Not to be Significant	No	No	N/A
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	Chapter 1, Introduction, Section 1.6.1, Effects Found Not to be Significant	No	No	N/A

Key:
EIR = Environmental Impact Report

Discussion

See Section 3-14 iv, Public Services, Parks, above.

No substantial changes to the project or to the circumstances under which the project would be undertaken have occurred. No new information of substantial importance has arisen that would require new analysis or verification. Therefore, the conclusions of the Draft EIR remain valid and proposed modifications would not result in any new significant impacts related to recreation facilities.

Table 3-16. Transportation and Traffic

Environmental Issue Area	Where Impact Was Analyzed the EIR	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Do Prior Environmental Documents Mitigations Address/Resolve Impacts?
16. Transportation/Traffic. Would the project:				
a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	Section 3.13, Transportation and Traffic, Impact 3.13-1	No	No	Mitigation Measure 3.13-1
b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	Section 3.13, Transportation and Traffic, Impact 3.13-1	No	No	Mitigation Measure 3.13-1
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	Section 3.13, Transportation and Traffic, Issues or Potential Impacts Not Discussed Further, page 3.13-11	No	No	N/A
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	Section 3.13, Transportation and Traffic, Impact 3.13-1	No	No	N/A
e. Result in inadequate emergency access?	Section 3.13, Transportation and Traffic, Impact 3.13-2	No	No	Mitigation Measure 3.13-1
f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	Section 3.13, Transportation and Traffic, Impact 3.13-3	No	No	Mitigation Measure 3.13-1

Key:
EIR = Environmental Impact Report

Discussion

No substantial change in the environmental and regulatory settings related to transportation and traffic, described in Draft EIR Section 3.13, has occurred since certification of the Final EIR in 2014.

a. b. d. e. f.

As described on Draft EIR page 3.13-11, neither the Project, nor installing the SPA or SSE pipeline would require new employees and would therefore not result in new long-term vehicle trips; maintenance would result in minimal vehicle trips, estimated at once or twice a year; and there would be no changes to a design feature of a roadway. Therefore, the modifications would have **no impact** to long-term transportation or traffic. The conclusions of the Draft EIR remain valid and the proposed modifications would not result in any new or substantially more severe significant impacts to long-term traffic and transportation.

The majority of SSE construction can be accomplished within the effort identified for the SPA pipeline. However, the additional pipes and materials would add truck trips and would extend the time period for construction by approximately two to three weeks. As shown in Appendix A, the SSE pipeline installation may result in an estimated increase of 34 daily trips. Although there would be no permanent changes to existing or planned transportation facilities, the modifications would add short-term construction traffic on roadways (Draft EIR 3.13-1), which could impede emergency access (Draft EIR Impact 3.13-2) and disrupt transit, pedestrian, and bicycle facilities (Draft EIR 3.13-3). However, as required by the adopted MMRP, Regional San will implement Mitigation Measure 3.16-1, which requires development and implementation of a site-specific construction Traffic Management Plan (TMP) that addresses the specific steps to be taken before, during, and after construction to minimize traffic impacts. The TMP will provide for maintenance of acceptable operating conditions on local roadway, emergency access, transit routes, and pedestrian and bicyclist safety during construction, thereby reducing construction traffic impacts to **less than significant**. This measure would similarly apply to the limited trips associated with the SSE pipeline modifications. Therefore, the conclusions of the Draft EIR remain valid and the proposed modifications would not result in any new or substantially more severe significant impacts to traffic and transportation (Draft EIR Impacts 3.13-1, 3.13-2, and 3.13-3).

c. Although the Project alignment is within two miles of the Sacramento Executive Airport, the temporary construction activities and operation of the SSE pipeline in addition to the SPA pipeline would not result in a change in air traffic patterns or a change in safety risks. Therefore, the modifications would have **no impact** on airport operations and the conclusion of the Draft EIR remain valid (Draft EIR page 3.13-11).

Mitigation Measures In accordance with the adopted MMRP, the following mitigation measure would remain applicable if the proposed addendum is adopted.

- Mitigation Measure 3.13-1: Implement construction traffic management plan.

Conclusion

No substantial changes to the project or to the circumstances under which the project would be undertaken have occurred. No new information of substantial importance has arisen that would require new analysis or verification. Therefore, the conclusions of the Draft EIR remain valid and the proposed modifications would not result in any new or substantially more severe significant impacts related to transportation and traffic.

Table 3-17. Utilities and Service Systems

Environmental Issue Area	Where Impact Was Analyzed in the EIR	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Do Prior Environmental Documents Mitigations Address/Resolve Impacts?
17. Utilities and Service Systems. Would the Project:				
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	Chapter 1, Introduction, Section 1.6.1, Effects Found Not to be Significant	No	No	N/A
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	Chapter 1, Introduction, Section 1.6.1, Effects Found Not to be Significant	No	No	N/A
c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	Chapter 1, Introduction, Section 1.6.1, Effects Found Not to be Significant	No	No	N/A
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	Chapter 1, Introduction, Section 1.6.1, Effects Found Not to be Significant	No	No	N/A
e. Meet required recycled water reclamation criteria, or result in demand that would exceed available recycled water supply?	Chapter 1, Introduction, Section 1.6.1, Effects Found Not to be Significant	No	No	N/A

Table 3-17. Utilities and Service Systems (contd.)

Environmental Issue Area	Where Impact Was Analyzed in the EIR	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Do Prior Environmental Documents Mitigations Address/Resolve Impacts?
17. Utilities and Service Systems. Would the Project:				
f. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	Chapter 1, Introduction, Section 1.6.1, Effects Found Not to be Significant	No	No	N/A
g. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	Chapter 1, Introduction, Section 1.6.1, Effects Found Not to be Significant	No	No	N/A
h. Comply with federal, state, and local statutes and regulations related to solid waste?	Chapter 1, Introduction, Section 1.6.1, Effects Found Not to be Significant	No	No	N/A
i. Create demand for natural gas, electricity, telephone, and other utility services that cannot be met.	Chapter 1, Introduction, Section 1.6.1, Effects Found Not to be Significant	No	No	N/A

Key:
EIR = Environmental Impact Report

Discussion

No substantial change in the environmental and regulatory settings related to utilities, described in Draft EIR Section 1.6, has occurred since certification of the Final EIR in 2014.

a. b. c. d. e. f. g. h. i.

Installation and operation of the SPA or SSE pipelines would not involve development of new residential, commercial, or industrial areas that would result in a substantial increase in the demand for utility services or facilities. Construction and operation of the recycled water pipeline would not involve an increase in wastewater treatment capacity at the SRWTP, but would result in the conservation of potable water by replacing the use of potable water at the SPA Cogeneration Plant with recycled water. The Project would increase the availability of recycled water, and as a consequence, decrease demand for potable water for the SPA Cogeneration Plant and for landscape irrigation at parks and schools. The availability of additional potable water as a result of the Project and

the potential for such water to serve growth in the region is discussed in Chapter 5.0 "Other CEQA Requirements.

Because the Project would not involve demolition that would result in substantial construction waste, nor result in development of land uses that would generate substantial amounts of municipal solid waste, it would not have an adverse effect on landfill capacity and would not conflict with Federal, State or local statutes and regulations related to solid waste. The Project would require installation of additional pumps that would consume electrical energy; however, usage would not be substantial, would be readily accommodated without the need for additional electrical generation or transmission facilities, and would offset energy used to secure potable water, which is currently used at the plant.

Installation of the SPA and SSE pipelines within existing roadways would involve implementation of standard coordination procedures with utility providers that have existing underground and overhead infrastructure (water, sewer, natural gas, and electrical). As such, Regional San would ensure that utility services are not disturbed by Project construction activities.

No additional demand for utilities and services would result from the Project and coordination with utility providers would occur to avoid disruption of services. Therefore, no impacts to utilities would occur.

Mitigation Measures No mitigation measures are required

Conclusion

No substantial changes to the project or to the circumstances under which the project would be undertaken have occurred. No new information of substantial importance has arisen that would require new analysis or verification. Therefore, the conclusions of the Draft EIR remain valid and the proposed modifications would not result in any new significant impacts related to utilities.

Table 3-18. Mandatory Findings of Significance

Environmental Issue Area	Where Impact Was Analyzed in the EIR	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Do Prior Environmental Documents' Mitigations Address/Resolve Impacts?
18. Mandatory Findings of Significance.				
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of an endangered, rare or threatened species or eliminate important examples of the major periods of California history or prehistory?	Statement of Overriding Considerations	No	No	No
b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when view in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	Chapter 5, Other CEQA Requirements, Section 5.2, Cumulative Impacts	No	No	Yes
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	Statement of Overriding Considerations	No	No	No

Key:
EIR = Environmental Impact Report

Discussion

No substantial changes to the Mandatory Findings of Significance have occurred since certification of the Final EIR in 2014.

a. c.

No substantial changes to the Statement of Overriding Considerations has occurred since certification of the Final EIR in 2014.

b.

The cumulative context for the collocated SSE and SPA pipeline alignment is the same as that described for the SPA Project in Chapter 5 of the Draft EIR. Future conditions (i.e., the cumulative setting) were defined in the EIR by identifying development projects in the vicinity of the project site with a reasonable expectation of being built during the time frame of site development, and by considering the projections contained in the General Plans for Sacramento County, City of Sacramento, and the City of Elk Grove. The Draft 2014 EIR found that based on a review of the cumulative projects and their timing with respect to the Project, taken in total and combined with the nonattainment status of Sacramento County for PM_{10}, that these cumulative projects would result in a cumulatively significant construction-related air quality impact. As required by the adopted MMRP, Regional San will implement dust suppression measures (Mitigation Measure 3.4-1) necessary to reduce its impact to less than significant. However, Regional San does not have control over cumulative projects, and therefore it is not known if this impact can be further mitigated. Therefore, cumulative impacts related to PM_{10} were determined to be significant and unavoidable. The additional construction disturbance related to the proposed modifications would make a minor contribution to this **significant and unavoidable impact**.

Regional San will also implement a construction traffic management plan, as required by the adopted MMRP (Mitigation Measure 3.13-1), to reduce the Project's contribution to significant construction traffic impacts. However, because the magnitude, specific timing, and location of haul routes, construction, and operation of related projects cannot be known at this time, it is possible that—despite implementation of a traffic management plan—cumulative traffic and transportation result in substantial degradation of levels of service on area roadways, including those with already deficient levels of service. Therefore, the contribution to cumulative construction (temporary) traffic due to the proposed modifications would make a minor contribution to this cumulatively **significant and unavoidable impact**.

Less-than-significant cumulative effects were identified for aesthetics, agricultural resources, climate change, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, and recreation. Significant cumulative effects that could be mitigated at a project-level to less-than-significant levels such that the Project's contribution would not be cumulatively considerable were identified for air quality (for pollutants other than PM_{10}), aquatic and terrestrial biological resources, and noise (as the modifications would not contribute to nighttime construction activities). Because the work activities associated with the proposed modifications would be within the zones impacted by the SPA Project, the modifications would not result in new or substantially more severe significant cumulative environmental impacts, compared to the analysis presented in the Draft EIR.

Therefore, the conclusions of the Draft EIR remain valid, and the proposed modifications would not result in any new or substantially more severe significant cumulative impacts.

Conclusion

No substantial changes to the project or to the circumstances under which the project would be undertaken have occurred. No new information of substantial importance has arisen that would require new analysis or verification. Therefore, the conclusions of the Draft EIR remain valid and the proposed modifications would not result in any new or substantially more severe significant impacts.

This page left blank intentionally.

5.0 List of Preparers and Persons Consulted

Name	Qualifications	Background/ Expertise	Participation
Lead CEQA Agency: Regional San			
Primary Consultant: MWH			
Meredith Parkin, PMP, J.D.	B.S., Human Nutrition and Food Science, J.D., Law 19 years of experience	Environmental Compliance and Permitting	Project Management; Environmental Compliance
Erica Bishop	B.S., Geography; M.A., Water Resources 11 years of experience	Environmental Compliance, Hydrology, Watershed Science	Environmental Compliance, Agriculture, Recreation, Hazards and Hazardous Materials
Jill Chomycia, P.H. C.P.S.S	B.S., Geological Sciences; M.S., Soil Science; M.S., Hydrology 6 years of experience	Environmental Compliance	Environmental Compliance, Geology, Soils, and Seismicity; Water Quality; Groundwater
Cynthia Jones	B.S. Biology; M.S. Environmental Studies 17 years of experience	Biological Resources	Biological Resources
Michael Massaro, PMP P.E.	B.S., Civil Engineering; M.S. Environmental Engineering 14 years of experience	Water Recycling Planning and Facilities	Facilities Planning
Steve Irving	B.A., Philosophy 21 years of experience	Technical Mapping	GIS Specialist
Amy Lehman	20 years of experience	Document Production	Word Processing

Consultant: Ascent			
Sydney Coatsworth, AICP	M.A., Geography B.A., Earth Science 27 years of experience	Environmental Compliance	Project Management; Environmental Compliance

Suzanne Enslow	B.A., Environmental Studies 14 years of experience	Environmental Compliance	Environmental Compliance, Traffic/Transportation
Heather Phillips, AICP	M.S., Atmospheric Science B.S., Atmospheric Science 8 years of experience	Air Quality and Climate Change	Air Quality, Climate Change
Chris Mundhenk	B.A., Biology/Public Policy 14 years of experience	Environmental Compliance, Noise Modeling	Noise
Jessica Babcock	B.A., Environmental Studies 7 years of experience	Environmental Compliance	Environmental Justice
Melinda Rivasplata	B.A., Environmental Biology 30 years of experience	Environmental Compliance	Aesthetics
Gayiety Lane	16 years of experience	Document Production	Word Processing

This page left blank intentionally.

6.0 References

California Burrowing Owl Consortium. 1993. Burrowing Owl Survey Protocol and Mitigation Guidelines. April.

California Department of Fish and Game. 2011. Staff Report on Burrowing Owl Mitigation. Available on-line at: http://www.dfg.ca.gov/wildlife/nongame/survey_monitor.html

Sacramento County. 2011 (November). *Sacramento County General Plan of 2005–2030.* Sacramento, California. Adopted December 15, 1993; amended November 9, 2011. Available: http://www.per.saccounty.net/LandUseRegulationDocuments/Pages/GeneralPlanUpdate.aspx. Accessed October 2013.

Sacramento County Regional Sanitation District. 2014. Sacramento Regional County Sanitation District/Sacramento Power Authority/City of Sacramento Water Recycling Pipeline Project Final EIR.

Sacramento Metropolitan Air Quality Management District. 2013a. Air Quality Standards Attainment Status. Last modified December 23, 2013. Accessed December 31, 2013. Available: http://www.airquality.org/aqdata/attainmentstat.shtml

State Water Resources Control Board. 1996. Application WW-28-Sacramento River Tributary to Sacramento San Joaquin Delta in Sacramento County, Sacramento Regional Sanitation District petition for change.

This page left blank intentionally.

Addendum to the Final Environmental Impact Report

Appendix A
Sacramento Regional County Sanitation District/Sacramento Power Authority/City of Sacramento Water Recycling Pipeline Project

REGIONALSAN

TAKING THE WASTE OUT OF WATER

Sacramento Regional County Sanitation District

MWH

ASCENT ENVIRONMENTAL

State Clearinghouse Number: 2013122046
Date: March 11, 2014

PREPARED BY:
Sacramento Regional County Sanitation District
Regional San
10060 Goethe Road
Sacramento, CA 95827

WITH ASSISTANCE BY:

MWH Americas, Inc.

Ascent Environmental

Estimated Emissions from Additional Haul Truck Trips for Pipeline Co-Location

Truck Activity	value	units	source
Number of additional one-way truck trips per day	34	trips/day	projec description
trip length	15	miles/trip	default trip length in SMAQMD's RoadConstructionEmissionsModelVer7_1_5_1
additional truck VMT	510	VMT/day	calculation

	ROG	NOx	PM10 exhaust	PM10 Tire Wear	PM10 Break Wear	PM2.5 exhaust	PM2.5 Tire Wear	PM2.5 Break Wear	CO2	CH4	units	source
Emission Rates	0.2456	9.4052	0.1266	0.036	0.0617	0.1165	0.009	0.0265	1694.674	0.0114	g/mile	default emission rates in SMAQMD's RoadConstructionEmissionsModelVer7_1_5_1
Daily emissions	0.3	10.6	0.1	0.0	0.1	0.1	0.01	0.03	1,905	0.01	lb/day	calculation, and mass conversion

	ROG	NOx	PM	PM2.5	units	source
Summary of Daily Emissions by Pollutant	0.3	10.6	0.3	0.2	lb/day	summarization

	value	units	source
mass conversion rate	453.5924	g/lb	http://www.onlineconversion.com/weight_common.htm

Sources

1 Sacramento Air Quality Management District. 2013. Roadway Construction Emission Model, Version 7.1.5.1. Available at http://www.airquality.org/ceqa/index.shtml. Accessed February 18, 2015.

SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT

RESOLUTION NO. SR-2781

RESOLUTION FILING ADDENDUM TO CERTIFIED ENVIRONMENTAL IMPACT REPORT FOR THE SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT/SACRAMENTO POWER AUTHORITY/CITY OF SACRAMENTO WATER RECYCLING PIPELINE PROJECT (CONTROL NO. 2013122046)

WHEREAS, on November 12, 2014, the Sacramento Regional County Sanitation District (Regional San) approved the Regional San/Sacramento Power Authority/City of Sacramento Water Recycling Pipeline Project (SPA Project), certified a comprehensive Environmental Impact Report (EIR) for the same, approved the Statement of Findings Overriding Considerations, and adopted the Mitigation Monitoring Reporting Program, in accordance with requirements of the California Environmental Quality Act (CEQA); and

WHEREAS, Regional San is now proposing to incorporate into the SPA Project a Sidestream Effluent (SSE) pipeline whereby nitrate-rich effluent from the Nitrifying Sidestream Treatment (NST) process will be delivered to and injected at interceptor sewer locations upstream of the Sacramento Regional Wastewater Treatment Plant (SRWTP) as a means of odor control, and that said SSE pipeline be installed adjacent and parallel to the SPA Project transmission pipeline, under the SRWTP Emergency Storage Basins and under Morrison and Laguna creeks to the Lower Northwest Interceptor (LNWI) sewer forcemains located north of SRWTP; and

WHEREAS, the Regional San has thoroughly evaluated whether the minor modifications to the SPA Project would result in new significant or more severe significant impacts compared with the certified EIR, and the analysis concluded that the minor project modifications would not result in either such effects, and that no subsequent or supplemental EIR is required, and further that an addendum is the appropriate environmental document to satisfy CEQA.

NOW, THEREFORE, BE IT RESOLVED AND ORDERED that the Board of Directors of the SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT, a county sanitation district pursuant to and operating under the authority of the County Sanitation District Act, commencing at Health and Safety Code section 4700, after considering the information in the SPA Project EIR Addendum, make the following findings:

1. The minor modifications to the SPA Project identified in the Addendum will not result in any new or more significant environmental impacts beyond those described in the certified SPA Project EIR; and

2. The SPA Project modifications are within the scope of the certified EIR and no subsequent or supplemental EIR is required; and

3. The EIR Addendum reflects Regional San's independent judgment and analysis; and

4. The EIR Addendum shall be filed with the SPA Project EIR; and

5. Regional San shall file a Notice of Declaration with the Sacramento County Clerk and the Governor's Office of Planning and Research.

ON A MOTION by Director **Hume**, and seconded by Director **Kristoff**, the foregoing resolution was passed and adopted by the Board of Directors of the Sacramento Regional County Sanitation District, State of California, this 8th day of April, 2015, by the following vote, to wit:

AYES:	Directors,	Bruins, Carr, Harris, Hume, Jennings, Kennedy, Kristoff, Ly, MacGlashan, McGarvey, Morin, Nottoli, Peters, Serna, Villegas
NOES:	Directors,	None
ABSENT:	Directors,	Hansen, One Vacancy
ABSTAIN:	Directors,	None

Joanne Bruins

Chair of the Board of Directors
Sacramento Regional County Sanitation District,
a county sanitation district pursuant to and operating under the authority of the County Sanitation District Act, commencing at Health and Safety Code section 4700

(SEAL)

In accordance with Section 25103 of the Government Code of the State of California a copy of the document has been delivered to the Chairman on 4-8-15

By Renae White
Deputy Clerk, Board of Directors

ATTEST: Cynthia Lee

Clerk of the Board of Supervisors of Sacramento County, California, and ex-officio Secretary of the Board of Directors of the Sacramento Regional County Sanitation District

FILED
BOARD OF DIRECTORS
APR 08 2015
BY Cynthia Lee
CLERK OF THE BOARD

Notice of Determination

Appendix D

To:
☒ Office of Planning and Research

U.S. Mail:
P.O. Box 3044
Sacramento, CA 95812-3044

Street Address:
1400 Tenth St., Rm 113
Sacramento, CA 95814

From: Sacramento Regional
Public Agency: County Sanitation District
Address: 10060 Goethe Road
Sacramento CA 95827
Contact: José Ramírez
Phone: 916-876-6059

Lead Agency (if different from above):
Address:
Contact:
Phone:

SUBJECT: Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

State Clearinghouse Number (if submitted to State Clearinghouse): 2013122046

Project Title: Sacramento Regional County Sanitation District/ Sacramento Power Authority/City of Sacramento Water Recycling Project (EIR Addendum)

Project Applicant: Sacramento Regional County Sanitation District

Project Location (include county): City and County of Sacramento

Project Description:
The project would convey recycled water from the Regional San WRF and future advanced wastewater treatment plant at the SRWTP to the SPA Cogeneration plant and other future customers. The alignment contains recycled water mains, laterals, and equipment lay-down areas. The addendum adds a parallel pipeline from the SRWTP to Cosumnes River Boulevard that would convey nitrified secondary treated effluent to the Regional San interceptor for odor control.

This is to advise that the Sacramento Regional County Sanitation District (☒ Lead Agency or ☐ Responsible Agency) has approved the above

described project on 04/08/2015 (date) and has made the following determinations regarding the above described project.

1. The project [☒ will ☐ will not] have a significant effect on the environment.
2. ☒ An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
   ☐ A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures [☒ were ☐ were not] made a condition of the approval of the project.
4. A mitigation reporting or monitoring plan [☒ was ☐ was not] adopted for this project.
5. A statement of Overriding Considerations [☒ was ☐ was not] adopted for this project.
6. Findings [☒ were ☐ were not] made pursuant to the provisions of CEQA.

ENDORSED
SACRAMENTO COUNTY
APR 16 2015
DONNA ALFRED, CLERK/RECORDER
BY _____ DEPUTY

This is to certify that the final EIR with comments and responses and record of project approval, or the negative Declaration, is available to the General Public at:
10060 Goethe Road, Sacramento CA and www.regionalsan.com

Signature (Public Agency): Christoph Dobson Title: Director of Policy and Planning

Date: 4-9-15 Date Received for filing at OPR:

Authority cited: Sections 21083, Public Resources Code.
Reference Section 21000-21174, Public Resources Code.

Revised 2011

REC'T # 0008591156
April 16, 2015 —— 9:35:16 AM

Sacramento County Recorder
Donna Allred, Clerk/Recorder

REQD BY CLERKS	$26.00
Total fee	$26.00
Amount Tendered...	$26.00
Change	$0.00

ARR.26/1/0