

**STATE WATER RESOURCES CONTROL BOARD**



**LOCKE WATER WORKS COMPANY WATER LINE  
INTERTIE PROJECT**

**SRF# 3400138-001C  
SCH #**

**Initial Study and  
Mitigated Negative Declaration**



**NORTHGATE ENVIRONMENTAL MANAGEMENT, INC.**

**STATE WATER RESOURCES CONTROL BOARD**

**LOCKE WATER WORKS COMPANY WATER LINE  
INTERTIE PROJECT**

**Initial Study and  
Mitigated Negative Declaration**

**Prepared for:  
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## **CHAPTER 1. INTRODUCTION**

The State Water Resources Control Board (State Water Board) has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) to provide the public, responsible agencies, and trustee agencies with information about the potential environmental effects of construction and operation of the proposed Locke Water Works Company, Locke Water Line Intertie Project (Proposed Project). The Proposed Project and its location are described in depth in Chapter 2. This document was prepared in accordance with the requirements of the California Environmental Quality Act (CEQA) of 1970 (as amended) and the CEQA Guidelines (14 California Code of Regulations [CCR] § 15000 et seq.).

### **Intent and Scope of this Document**

This IS/MND has been prepared in accordance with CEQA, under which the Proposed Project is evaluated at a project level (CEQA Guidelines § 15378). The State Water Board, as the Lead Agency under CEQA, will consider the Proposed Project's potential environmental impacts when considering whether to approve the Proposed Project. This IS/MND is an informational document to be used in the planning and decision-making process for the Proposed Project and does not recommend approval or denial of the Proposed Project. The site plans for the Proposed Project included in this IS/MND are conceptual. The State Water Board anticipates that the final design for the Proposed Project would include some modifications to these conceptual plans, and the environmental analysis has been developed with conservative assumptions to accommodate some level of modification. This IS/MND describes the Proposed Project; its environmental setting, including existing conditions and regulatory setting, as necessary; and the potential environmental impacts of the Proposed Project on or with regard to the topics on the CEQA Initial Study checklist, in Chapter 3.

### **Public Involvement Process**

Public disclosure and dialogue are priorities under CEQA. CEQA Guidelines §15073 and §15105(b) require that the lead agency designate a period during the IS/MND process when the public and other agencies can provide comments on the potential impacts of the Proposed Project. Accordingly, the State Water Board is now circulating this document for a 30-day public and agency review period.

All comments received before 5:00 p.m. from the date identified for closure of the public comment period in the Notice of Intent will be considered by the State Water Board during its deliberations on whether to approve the Proposed Project. To provide input on this project, please send comments to the following contact:

Gabriel Edwards  
SWRCB, Division of Financial Assistance  
Environmental Review Unit  
1001 I Street, 16th Floor  
Sacramento, CA, 95814  
Gabriel.Edwards@Waterboards.ca.gov

## Organization of this Document

This IS/MND contains the following components:

Chapter 1, *Introduction*, provides a brief description of the intent and scope of this IS/MND, the public involvement process under CEQA, and the organization of and terminology used in this IS/MND.

Chapter 2, *Project Description*, describes the Proposed Project, including its objectives, the project site where the Proposed Project would be constructed, the construction approach and activities, operation-related activities, and related permits and approvals.

Chapter 3, *Environmental Checklist*, presents the environmental checklist used to assess the Proposed Project's potential environmental effects, which is based on the model provided in Appendix G of the CEQA Guidelines. This chapter also includes a brief environmental setting description for each resource topic and identifies the Proposed Project's anticipated environmental impacts, as well as any mitigation measures that would be required to reduce potentially significant impacts to a less than-significant level.

Chapter 4, *References*, provides a bibliography of printed references, websites, and personal communications used in preparing this IS/MND.

### Appendices

Appendix A. *Biological Assessment*

Appendix B. *Cultural Resources Report (Confidential)*

Appendix C. *Mitigation Monitoring and Reporting Program*

## **CHAPTER 2. PROJECT DESCRIPTION**

### **1. Background and Need for the Project**

The Locke Water Works Company is a small non-profit community water system serving the unincorporated community of Locke in Sacramento County, California (see Figure 1, Project Location). Locke Water Works Company owns and operates the potable water system. The current water system consists of a single groundwater well, 5,000-gallon hydro-pneumatic peak-hour storage and pressure-regulating tank, and distribution system serving approximately 120 residents. Presently there are 20 residential service connections and 26 commercial/industrial service connections for a total of 46 services.

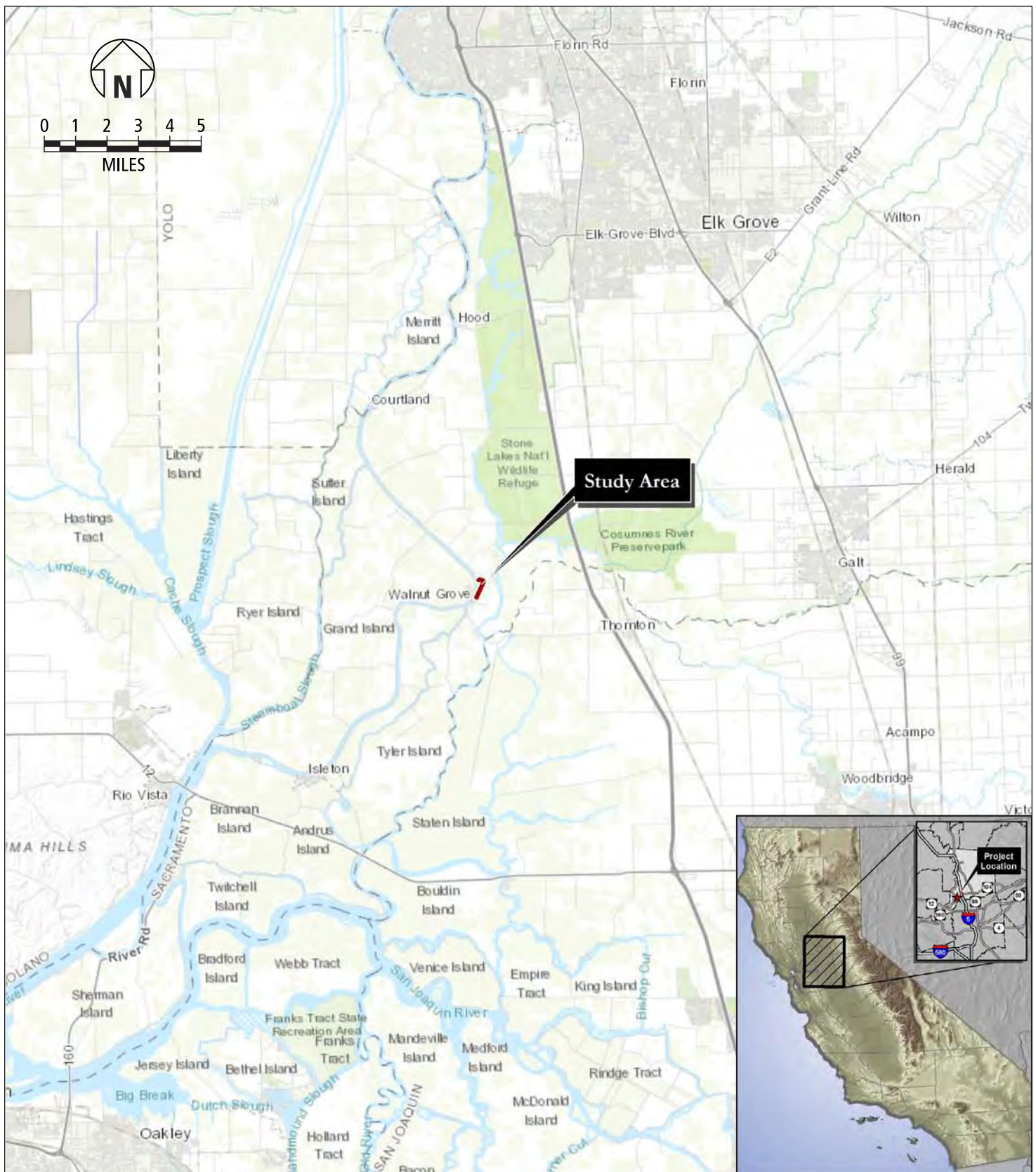
The sole water supply well for the Locke Water Works Company drinking water system produces water with an average arsenic concentration of 32 parts per billion (ppb) – over three times the state and federal Safe Drinking Water Maximum Contaminant Level (MCL) of 10 ppb. Nearby public water sources were identified to explore the possibility of water source replacement or blending to lower the concentration of arsenic in Locke Water Works Company water to acceptable levels. The wells in close proximity to Locke Water Works Company also shared the intermittent problem of arsenic levels that exceeded the current MCL of 10 ppb. Sacramento County Water Agency (SCWA) water in the Walnut Grove area reports post treatment arsenic levels to be 0.004 ppb, well below the current MCL. The alternative of connecting to the closest public water system in east Walnut Grove was considered.

Through a series of evaluations and studies, it was determined that the most economical and practical source of potable water is from the SCWA in Walnut Grove. The SCWA is interested and able to provide Locke Water Works Company a 4-inch wholesale connection on their Lot 40 facility in Walnut Grove. This connection would be metered with a 2-inch meter, and appropriate water pressure would be maintained by a new pump station.

### **2. Project Purpose and Objectives**

The existing Locke Water Works Company water supply well has been found to contain high levels of arsenic. The purpose of the Proposed Project is to provide an alternate supply of potable water to the citizens of Locke that meets the federal Safe Drinking Water Act requirements and state drinking water standards for arsenic. After analysis of potential options, it was determined that an intertie pipeline between existing SCWA water supplies in Walnut Grove and the existing Locke Water Works Company wellhead pipe in Locke would best achieve this objective.





**Figure 1**  
Regional Vicinity Map

### **3. Project Location and Setting**

The Proposed Project is located in Locke and Walnut Grove, CA and east of the Sacramento River in Sacramento County (See Figure 1). The area is low-lying, with small communities surrounded by large agricultural tracts and river channels and sloughs. Land uses in the area are a mix of residential, commercial, agricultural, and open space.

### **4. Proposed Project Characteristics**

The Proposed Project involves the construction of a new transmission pipeline from the Locke community to the Walnut Grove community. Specifically, the Proposed Project includes: 4-inch pipeline; a backflow prevention device; gate valves; and a 2-inch water meter. The pipeline would be approximately 4,150 feet in length and be placed a minimum of 3-feet below the ground surface (See Figure 2). For the purposes of habitat analysis, a 20-foot buffer was established around the pipeline alignment, resulting in a 5.41-acre study area.

The Proposed Project entails extending a 4-inch water transmission pipeline from the SCWA (Walnut Grove area) to a connection point in the Locke Water Works Company water distribution system. The existing Locke Water Works Company distribution system would continue to be used. The old well would be disconnected from the potable water system, but would still be available to agricultural users. Locke Water Works Company water usage would be metered near the SCWA connection point. A meter vault would be installed near the SCWA connection point to allow for meter reading by SCWA personnel. A gate valve would be installed on the transmission pipeline near the Locke Water Works Company connection point. The pipeline would be hung across the Delta Cross Channel using the existing nonoperational former Southern Pacific railroad bridge. This old railroad bridge is understood to be privately owned by Daniel Wilson and/or under US Bureau of Reclamation jurisdiction;

In summary, the Proposed Project would consist of:

- Trenching and installation of approximately 0.78 mile (~4,150 feet) of a new 4-inch water main from Walnut Grove to Locke via primarily the old railroad right-of-way. The 4-inch transmission pipeline would essentially parallel (with proper separation) the existing small-diameter sewer pipeline connection from Locke to Walnut Grove constructed a few years ago.
- Above-ground features associated with the interconnection pipeline, consisting of a backflow-prevention device composed of 4-inch ductile iron piping and resilient wedge gate valves, extending approximately 5-feet or less above a concrete slab.
- A 2-inch master meter located near the SCWA connection point, including vault and backflow devices; and,
- A tie-in valve and pump station at the Locke Water Works Company connection point.





### Legend

— Pipeline Alignment

Data sources: VNLC, 2018-2019 | NGE, 2019 | ESRI/Digital Globe, 2017 (photo) | GIS/Cartography, 2019



**Figure 2**  
Proposed Alignment

Source: Coleman Engineering

## 5.1 Construction

### Site Preparation and Earthwork

Site preparation would include clearing and grubbing, grading, import and placement of fill, and compaction.

Clearing and grubbing of a 10-15 ft. wide construction corridor would be conducted with standard excavators, bulldozers, and hand labor. All demolished material and debris from the site preparation or trenching phases (up to 250 cubic yards) would be disposed of off-site at an appropriate location selected by the construction contractor. For the purposes of this analysis, the disposal site is assumed to be located within 1 hour of travel time from the Proposed Project site. To the extent feasible, excavated soil may be reused onsite. Fill material would be placed with an excavator and compacted with a vibrator attachment.

There may be some tree removal, on the north end of the alignment, between the railroad and the Locke connection point. There may also be some tree removal just south of the bridge. At both locations, the contractor will be encouraged to minimize or avoid tree removal by using smaller trenching equipment.

### Pipeline and Appurtenant Features

The Proposed Project involves the construction of a new transmission pipeline from the Walnut Grove community to the Locke community. Specifically, the Proposed Project includes: 4-inch pipeline; a backflow prevention device; a vault containing gate valves; and a 2-inch water meter. The pipeline would be approximately 4,150 feet in length and be placed a minimum of 3 feet below the ground surface (up to 4 feet of excavation).

In summary, construction of the Proposed Project would consist of:

- Trenching of approximately 0.78 mile (4,150 feet) for placement of a new 4-inch water main from Walnut Grove to Locke primarily via the old railroad right-of-way. The 4-inch transmission pipeline would essentially parallel (with proper separation) the existing small diameter sewer pipeline connection from Locke to Walnut Grove, which was constructed a few years ago.
- Directional horizontal drilling where the pipeline would be inserted below an existing culvert at a drainage channel at the northern portion of the project alignment.
- Above-ground features associated with the interconnection pipeline, consisting of a backflow prevention device composed of 4-inch ductile iron piping and resilient wedge gate valves, extending approximately 5-feet or less above a concrete slab.
- A 2-inch master meter located near the SCWA connection point, including vault and backflow devices;
- A 15-foot by 15-foot pre-mounted package pump station located adjacent to the restrooms in the public parking lot on the north side of Locke.

- A tie-in valve at the Locke Water Works Company connection point;
- Certain disturbed areas that originally supported vegetation would be hydro-seeded with an appropriate seed mix or otherwise revegetated.

The Proposed Project's approximately 4,150-foot-long water supply pipeline would be installed within established permanent easements. The general process for pipeline installation involves digging a trench, installing the pipe, and backfilling the trench ("cut and cover"). It is anticipated that the minimum depth for the water pipelines would be 3 feet and the maximum depth would be 4 feet. The trench would be about 5 feet in depth. The approximate width of the trench may be 2.5 to 3 feet, with the width of the construction area 10 to 15 feet, or smaller to avoid tree and brush removal where feasible. During construction, trenches would be temporarily closed at the end of each workday by installing fences to restrict access. Pipeline trenching would occur over a 5- to 10-day period. Although the pipeline crossing of the channel would be hung from the bridge, a small amount of excavation (less than 10 cubic yards) would occur below the top of bank, in the channel.

Soil excavated from the trench would be stockpiled alongside the trench within a temporary construction easement for later reuse in backfilling the trench. Native soil would be reused for backfill to the greatest extent possible; however, native soil may not have the properties necessary for compaction and stability. If not reusable, the soil would be hauled off-site for disposal at an appropriate disposal site. Once the pipeline is installed, trenches would then be backfilled and compacted.

Where the pipeline crosses an existing drainage channel near the alignment's northern end, a contractor will excavate 2-feet of soil on either side of a 12-inch diameter drain pipe that conducts drainage water under a trail. The contractor will insert temporary supports beneath the pipe, and then tunnel by hand beneath the drain and install the new water main; then backfill with class 2AB at 95% relative compaction. The top soil would then be replaced with native backfill.

#### Pump Station

A 15-foot by 15-foot pre-mounted package pump station would be constructed on a bare area adjacent to the restrooms in the public parking lot on the north side of Locke. The pump station would include a small (approximately 10 horsepower) diesel generator, which would be housed in the pump station building. No trees would be removed for the pump station.

#### Connections

The connection point at SCWA would be via a buried concrete meter vault. The vault is anticipated to be 3 by 4 feet wide and 4-feet deep. The connection point at Locke would require a little larger excavation area to expose the existing pipe and have ample room to make the inter-connection.

#### Staging Areas

Staging areas would be needed to store pipe, construction equipment, and other construction-related material. Staging areas are located at the southern end of the site, at

the central portion of the site, and near the parking lot at the site's northern terminus. Each area is approximately 0.1 acre in size, and all areas consist of ruderal habitat.

### Site Restoration

Site restoration would generally involve overall clean up, grading, and installing erosion controls, as necessary. Revegetation would be conducted as necessary for erosion control and compliance with the Sacramento County Tree Protection Ordinance. Disturbed areas that originally supported vegetation would be hydro-seeded with an appropriate seed mix or otherwise revegetated.

### Easements

Permanent easements would be acquired for the 4-inch transmission line providing the Locke Water Works Company indefinite legal access for appropriate operation and maintenance. Permanent easements would be 10-feet wide. Temporary construction easements also would be obtained to allow for the constructability of the pipeline. Temporary construction easements may be 25 by 35-feet wide. Specific easements would be obtained from:

- Sacramento County Water Agency
- Daniel Wilson (private property owner, and bridge owner)
- State of California Parks
- Locke Management Association

### Construction Equipment and Workers

The main pieces of equipment that may be used are as follows:

- track-mounted excavator (1) or backhoe (1)
- end dump truck (1)
- flat-bed delivery truck (as necessary for pipe, valves, vaults, etc.)
- concrete truck (likely not needed if pre-cast vaults, etc. are used)
- compactor (used with the excavator/backhoe above, no separate equipment anticipated)
- front-end loader (1)
- water truck (1)

Four to 8 construction workers could be utilized at any given time during construction.

### Construction Fencing, and Tree and Residential Fencing Protection

The construction area at the SCWA connection point would be fenced for safety and security purposes. Trees adjacent to the Proposed Project alignment that are proposed for preservation would be temporarily marked or fenced to avoid damage from construction activities.

The pipeline interconnection, including the backflow prevention device, and the Proposed Project construction area would be located outside of any existing residential fencing and properties and would not require the removal or alteration of existing residential fences.



### Construction Schedule

Construction of the Proposed Project is anticipated to last for approximately twelve weeks, between June and September 2021, dependent on a funding agreement for construction being executed on schedule. Given that a Lake and Streambed Alteration Agreement (LSAA) is anticipated to be required from the California Department of Fish and Wildlife (CDFW), it is anticipated that construction activities on the banks of the Delta Cross Channel and under the drainage channel in the northern portion of the Proposed Project site would be restricted to the dry season (June 1-October 15).

Construction activities would generally occur Monday through Friday between 7:00 a.m. and 6:00 p.m. After-hours work and work on Saturdays, Sundays, and state holidays may be permitted at the discretion of Locke Water Works Company.

## **5.2 Proposed Project Operations**

Operation of the Proposed Project would primarily involve the inspection and maintenance of the pipeline, backflow prevention device, and valves. Maintenance and operation of the finished project is expected to be very minimal. Locke Water Works Company would have ownership of the new pipeline and all appurtenances except for the meter. SCWA would own and read the Proposed Project's new meter monthly as part of their regular meter reading schedule and would not require additional workers or vehicle trips.

The operation and maintenance of the potable water system is anticipated to be less complicated than the current system, due to the removal of the existing well from the system.

## **5.3 Best Management Practices**

Proposed Project construction would include a range of environmental commitments, otherwise known as best management practices (BMPs), to avoid adverse effects on people and the environment. BMPs are developed to address anticipated effects from various construction activities and would be implemented pre-construction, during construction, and post-construction, as specified in Table 1.

**Table 1. Best Management Practices to be Implemented for the Proposed Project**

<b>Number</b>	<b>Title</b>	<b>BMP Description</b>
BMP-1	Best Management Practices for Construction Air Quality	The contractor will use construction equipment that minimizes air emissions to the extent feasible. Acceptable options for reducing emissions include the use of late-model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available.

BMP-2	Best Management Practices for Construction Emissions, Including Fugitive Dust Emissions	<p>Implementation of construction BMPs to limit construction emissions, particularly fugitive dust emissions, as follows:</p> <ul style="list-style-type: none"> <li>• All exposed areas of bare soil should be watered twice per day to minimize fugitive dust emissions.</li> <li>• All haul trucks transporting soil, sand, or other loose material off-site should be covered or maintain at least two feet of free board space. Any haul trucks traveling along freeways or major roadways should be covered.</li> <li>• All visible mud or dirt track-out onto adjacent public roads should be removed using wet power-vacuum street sweepers at least once per day. The use of dry power sweeping should be prohibited.</li> <li>• All vehicle speeds on unpaved roads should be limited to 15 miles per hour (mph).</li> <li>• Idling times should be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13 CCR § 2485). Clear signage regarding this requirement should be provided for construction workers at all access points.</li> <li>• All construction equipment should be maintained and properly tuned in accordance with manufacturer's specifications. All equipment should be checked by a certified visible emissions evaluator and determined to be running in proper condition before it is operated.</li> </ul> <p>The Proposed Project would implement these measures as required.</p>
BMP-3	Best Management Practices for Sediment Control	<p>Site specific BMPs to control sediments during construction activities, which may include but not be limited to:</p>



		<ul style="list-style-type: none"> <li>• Install, implement, and maintain BMPs consistent with the California Storm Water Quality Association Best Management Practice Handbook (California Storm Water Quality Association [CASQA] 2015) or equivalent to minimize the discharge of pollutants.</li> <li>• Implement practices to reduce erosion of exposed soil, including stabilization of soil stockpiles, watering for dust control, establishment of perimeter silt fences, and/or placement of fiber rolls.</li> <li>• Minimize soil disturbance area.</li> <li>• Implement other practices to maintain water quality, including use of silt fences, stabilized construction entrances, and storm-drain inlet protection.</li> <li>• Where feasible, limit construction to dry periods.</li> <li>• Possibly revegetate disturbed areas.</li> </ul> <p>BMPs will be regularly monitored for effectiveness using appropriate methods (visual observation, sampling) at appropriate intervals (e.g., daily or weekly) and corrected immediately if determined to not be effective.</p>
BMP-4	Best Management Practices for Hazardous Materials	<p>Site-specific hazardous materials BMPs during construction activities, which may include but not be limited to:</p> <ul style="list-style-type: none"> <li>• Develop (before initiation of construction activities) and implement (during construction and operational activities) a spill prevention and emergency response plan to handle potential spills of fuel or other pollutants.</li> <li>• Install, implement, and maintain BMPs consistent with the California Storm Water Quality Association Best Management Practice Handbook (CASQA 2015) or equivalent to minimize the discharge of pollutants to the MS4s, consistent with the requirements of the construction site</li> </ul>

		<p>stormwater and hazardous materials control requirements of the County of Sacramento, in compliance with Central Valley RWQCB Order No. R5-2015-0023, NPDES No. CAS082597.</p> <ul style="list-style-type: none"> <li>• Implement practices to minimize the contact of construction materials, equipment, and maintenance supplies with stormwater.</li> <li>• Limit fueling and other activities involving hazardous materials to designated areas only; provide drip pans under equipment and conduct daily checks of vehicle condition.</li> <li>• Require the proper disposal of trash and any other construction-related waste.</li> <li>• Ensure, through the enforcement of contractual obligations, that all contractors transport, store, handle, and dispose of construction-related hazardous materials consistent with relevant regulations and guidelines, including those recommended and enforced by Caltrans; the Central Valley RWQCB; the applicable county department; and the applicable local fire department. Recommendations may include minimizing the amount of hazardous materials/waste stored on-site at any one time, transporting, and storing materials in appropriate and approved containers, maintaining required clearances, and handling materials using the applicable federal, state, and/or local regulatory agency protocols. In addition, all precautions required by the County of Sacramento pursuant to the Central Valley RWQCB Order No. R5-2015- 0023, NPDES No. CAS082597, if applicable, will be taken to ensure that no hazardous materials enter any storm drainages.</li> </ul> <p>BMPs will be regularly monitored for effectiveness using appropriate methods (visual observation, sampling) at appropriate intervals (e.g., daily or weekly) and corrected immediately if determined to not be effective.</p>
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BMP-5	Best Management Practices for Biological Resources	<p>Site specific BMPs to control sediments during construction activities, which may include but not be limited to:</p> <ul style="list-style-type: none"> <li>• Install, implement, and maintain BMPs consistent with the California Storm Water</li> <li>• Quality Association Best Management Practice Handbook (California Storm Water Quality Association [CASQA] 2015) or equivalent to minimize the discharge of pollutants;</li> <li>• Implement practices to reduce erosion of exposed soil, including stabilization of soil stockpiles, watering for dust control, establishment of perimeter silt fences, and/or placement of fiber rolls;</li> <li>• Minimize soil disturbance area;</li> <li>• Implement other practices to maintain water quality, including use of silt fences, stabilized construction entrances, and storm-drain inlet protection;</li> <li>• Where feasible, limit construction to dry periods; and</li> <li>• Revegetate disturbed areas.</li> </ul> <p>BMPs will be regularly monitored for effectiveness using appropriate methods (visual observation, sampling) at appropriate intervals (e.g., daily or weekly) and corrected immediately if determined to not be effective.</p>
BMP-6	Best Management Practices for Biological Resources	<p>The following BMPs will be incorporated into the Proposed Project construction documents:</p> <ul style="list-style-type: none"> <li>○ Provide enclosures and noise mufflers for stationary equipment, shrouding or shielding for impact tools, and barriers around particularly noisy activity areas on the site.</li> </ul>

		<ul style="list-style-type: none"> <li>○ Use quietest type of construction equipment whenever possible, particularly air compressors.</li> <li>○ Provide sound-control devices on equipment no less effective than those provided by the manufacturer.</li> <li>○ Locate stationary equipment, material stockpiles, and vehicle staging areas as far as practicable from sensitive receptors.</li> <li>○ Prohibit unnecessary idling of internal combustion engines.</li> <li>○ Require applicable construction-related vehicles and equipment to use designated truck routes when entering/leaving the site.</li> <li>○ Designate a noise (and vibration) disturbance coordinator at the Lead Agency who shall be responsible for responding to complaints about noise (and vibration) during construction. The telephone number of the noise disturbance coordinator shall be conspicuously posted at the construction site. Copies of the Proposed Project purpose, description and construction schedule shall also be distributed to the residences in Locke and Walnut Grove.</li> <li>○ Prohibit Proposed Project construction activity between the hours of eight p.m. and six a.m. on weekdays; on Friday commencing at eight p.m. through and including seven a.m. on Saturday; on 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.</li> </ul>
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## CHAPTER 3. ENVIRONMENTAL CHECKLIST

### A. Summary of Project Information

1. Project Title: Locke Water Works Company Water Line Intertie Project

2. Lead Agency Name and Address:

State Water Resources Control Board  
1001 I Street, 16th Floor  
Sacramento, California 95814

3. Contact Person, Email, and Phone Number:

Gabriel Edwards  
(916) 449-5990  
Gabriel.Edwards@waterboards.ca.gov

4. Project Location:

The Proposed Project is located in the towns of Locke and Walnut Grove, in unincorporated western Sacramento County (see Figure 1). It would extend northward from a vacant parcel just north of Center Ave. between Winnie and Grove Streets, across the Delta Cross Channel, across state Parks land, and into the town of Locke.

5. Property Owner(s):

Various

6. General Plan Designation: Low-Density Residential, Agricultural Cropland<sup>1</sup>

7. Zoning: SPA, Special Planning Area; A-1-A, Limited Agricultural; AG-20, Agricultural, 20 Acres; O, Recreation; DW, Delta Waterways<sup>2</sup>

8. See Chapter 2, Project Description.

9. Surrounding Land Uses and Setting

The Proposed Project alignment would run from a SCWA owned open parcel in an urban part of the town of Walnut Grove, through residential and industrial areas, across a railroad bridge over the Delta Cross Channel, then along a California State Parks levee-top trail, through open space, to its connection with the existing system in the town of Locke. With the exception of the pump station, a small above-ground vault in the SCWA

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<sup>1</sup> *Sacramento County 2030 General Plan Land Use Map, Adopted November 9, 2011*

<sup>2</sup> *Sacramento County Online Map, Zoning Overlay; accessed February 6, 2017*

parcel, and the pipe that would be hung from the existing bridge, the Proposed Project would be subsurface. Nearby uses include residential, commercial, industrial, agricultural, and open space uses.

#### 10. Other Public Agencies whose Approval or Input May Be Needed

- California Regional Water Quality Control Board #5 (SWPPP, NOI for Water Quality Order No. 2004-004 DWQ)
- Sacramento County Environmental Management Department
- Sacramento County Water Agency (approval of connection/service to Locke Water Works Company)
- State of California Department of Parks and Recreation (Right of Entry permit)
- US Fish and Wildlife Service (Section 7 Consultation with USFWS - informal consultation anticipated)
- California Department of Fish and Wildlife (Streambed Alteration Agreement [Section 1602], Notice of Intent)

## B. Environmental Factors Potentially Affected:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact,” as indicated by the checklist on the following pages.

<input type="checkbox"/> Aesthetics	<input type="checkbox"/> Agriculture / Forest Resources	<input type="checkbox"/> Air Quality
<input checked="" type="checkbox"/> Biological Resources	<input checked="" type="checkbox"/> Cultural Resources	<input type="checkbox"/> Energy
<input type="checkbox"/> Geology / Soils	<input type="checkbox"/> Greenhouse Gas Emissions	<input type="checkbox"/> Hazards & Hazardous Materials
<input type="checkbox"/> Hydrology / Water Quality	<input type="checkbox"/> Land Use / Planning	<input type="checkbox"/> Mineral Resources
<input type="checkbox"/> Noise	<input type="checkbox"/> Population / Housing	<input type="checkbox"/> Public Services
<input type="checkbox"/> Recreation	<input type="checkbox"/> Transportation	<input checked="" type="checkbox"/> Tribal Cultural Resources
<input type="checkbox"/> Utilities / Service Systems	<input type="checkbox"/> Wildfire	<input checked="" type="checkbox"/> Mandatory Findings of Significance

## C. Determination:

On the basis of this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project; nothing further is required.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Bridget Binning

\_\_\_\_\_  
Printed name

## D. Evaluation of Environmental Impacts

### Evaluation of Environmental Impacts:

The following checklist is formatted consistent with CEQA Guidelines, Appendix G. A “***no impact***” response indicates that the project would not result in an environmental impact in a particular area of interest, either because the resource is not present, or the project does not have the potential to cause an effect on the resource.

A “***less than significant***” response indicates that, while there may be potential for an environmental impact, the significance of the impact would not exceed established thresholds and/or that there are standard procedures or regulations in place that would apply to the project and hence no mitigation is required.

Responses that indicated that the impact of the project would be “***less than significant with mitigation***” mean that, although there is the potential for a significant impact, feasible mitigation measures would become conditions of approval for the project if it receives approval by the State Water Board.

A “***potentially significant impact***” response indicates that the impact would exceed established thresholds and that the impact could not be avoided by utilizing standard operating procedures and regulations, program requirements, or design features incorporated into the project or that additional analysis is required in an EIR.

Public comments on this Initial Study should focus on the accuracy and completeness of the analysis contained herein.



	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<b>I. AESTHETICS</b> – Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Background:

The Proposed Project corridor runs through a mix of residential, commercial, agricultural, and open space areas (see Figures 3 through 8). The northern portion of the alignment would be in a former railroad corridor, much of which is currently an unpaved path atop a levee. The Proposed Project area is flat, with a bridged slough bisecting the corridor. The surface features of the Proposed Project would be near a public parking lot, and in a SCWA lot that currently has a dead-end roadway and grassy area. This lot separates a residential area to the east from industrial areas to the west. It can be viewed from the rear of adjacent residences. There are limited views of the corridor from roadways in the area because it is lined with trees on both sides for much of the route. The northern end of the alignment is in a public parking lot and restroom area, with the pump station site visible from the parking lot. Much of the town of Locke has a historic aesthetic character, and is a listed National Historic Landmark, with buildings dating from the late 1800s. The proposed alignment would not enter the historic town center area.



Figure 3: View of Southern Portion of Project Alignment in Walnut Grove, Looking South



Figure 4: View of Project Alignment Adjacent to Existing Houses in Walnut Grove





Figure 5: View of Bridge Crossing the Delta Cross Channel



Figure 6: View of Project Alignment Looking North from Levee Road in Locke





Figure 7: View Northward of Project Alignment along State Parks Levee Trail



Figure 8: View of Project Alignment Looking East from State Parks Trail towards Locke



Figure 9: View of Proposed Pump Station Location

#### **Discussion:**

**a. Scenic Vista - *Less than Significant Impact*.** There are no scenic vistas in the Proposed Project area. In addition, most of the Proposed Project would be subsurface, and not visible in any local views. Above-ground valves, meter, and control facilities would be visible from four adjacent houses at the Walnut Grove connection. The approximately 15- by 15-foot pump station would be visible from the parking lot as a small structure between two other structures (see Figure 9). However, these small-scale facilities would not significantly alter the visual quality of the sites.

A few trees may be removed along the pipeline alignment. These trees are visible from the sides and back yards of a few houses along the alignment. One tree proposed for removal would be visible from the Locke parking lot. The removal of these trees would slightly alter the visual character of the alignment in these views, but the many remaining trees would maintain the area's visual character.

A portion of the pipeline would be hung from the former railroad bridge between Walnut Grove and Locke. The 4-inch diameter pipeline would be a minimal visual addition to the existing bridge, which includes existing conduits and pipelines. (See Figure 6, Existing Bridge). During construction, an approximately 15-foot wide corridor would be denuded and a smaller width would be excavated. Much of this corridor is already devoid of substantial



vegetation, as it is a former railroad line and current utility corridor. There may be some tree removal on the north end of the corridor, between the railroad and the Locke Water Works Company connection point. There may also be some tree removal just south of the bridge. At both locations, the contractor would be encouraged to minimize or avoid tree removal by using smaller trenching equipment. The alignment would be allowed to mostly revegetate naturally, with the exception of trees. Revegetation would be implemented as part of the project in any erosion-prone areas. Therefore, the Proposed Project's impact on scenic vistas and views would be ***less than significant***.

**b. Scenic Highway – *Less Than Significant Impact*.** The Sacramento County General Plan, Highways Element, Map 1 (September 18, 1974) designates River Road as a Scenic Corridor, and includes policies for protection of scenic resources along this corridor. Caltrans also has designated River Road (Highway 160) as a Scenic Highway<sup>3</sup>. The Proposed Project corridor is bordered by numerous mature trees, and there are numerous historic buildings in the town of Locke. As described in Item a), above, most of the Proposed Project would be subsurface, and the surface elements would be small scale and adjacent to other development. The surface elements (Walnut Grove connections, pipeline crossing on the bridge, and the pump station) would not be visible from the Scenic Corridor. Therefore, the Proposed Project would have a ***less than significant*** impact on scenic resources and highways.

**c. Visual Quality – *Less than Significant Impact*.** As described in Item a), above, impact of the Proposed Project on visual quality of the area would be ***less than significant***.

**d. Light and Glare – *No Impact*.** The Proposed Project would not include any lighting, or any elements that would be a source of substantial glare. Therefore, the Proposed Project would have ***no impact*** on light and glare.

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<sup>3</sup> [http://www.dot.ca.gov/hq/LandArch/16\\_livability/scenic\\_highways/route160.htm](http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/route160.htm)

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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## II. AGRICULTURE AND FOREST RESOURCES:

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. 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 on the California Resources Agency, to non-agricultural use?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zone Timberland Production (as defined by Government Code Section 51104(g))? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| d) Result in the loss of forest land or conversion of forest land to non-forest use?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 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?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

## Background:

The Proposed Project corridor runs through some areas designated for agricultural use in the Sacramento County General Plan Land Use Element. The northern portion of the alignment runs through an active orchard. Most of the remainder of the proposed alignment is not in agricultural use, and most of it was previously a railroad corridor. A small portion of the alignment is also within a State Park. The Proposed Project alignment is designated as “Urban and Built Up Land” in the State of California’s “Sacramento County Important Farmland Map, 2016” (California Farmland Mapping Program, California Important Farmland Finder, accessed June 25, 2019). A small area of the northern portion of the Proposed Project alignment is in agricultural use. No portion of the alignment is under a California Land Conservation (Williamson Act) contract. In addition, no forest resources exist on the site.

## Discussion:

**a, b. Farmland, Williamson Act – *Less than Significant Impact*.** The Proposed Project site is located in built-up areas of Locke and Walnut Grove, an existing bridge, and along a levee-top trail owned by the California State Department of Parks and Recreation. The Proposed Project would have minimal impact on conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program because only a small portion of the corridor would cross such designated lands (a portion of the alignment would skirt the edge of an orchard along the northern portion of the alignment), and no agricultural (orchard) trees would be removed. No portions of the site are under a Williamson Act Contract. Therefore, the Proposed Project would result in a ***less than significant impact*** on farmland, land zoned for agricultural use, and Williamson Act contracts.

**c, d. Forest Lands – *No Impact*.** The Proposed Project would not affect forest land or forest zoning because no such lands or zoning exist or are proposed on the site. Therefore, the project would result in ***no impact*** on forest lands or forest zoning.

**e. Conversion of Farmland – *No Impact*.** The Proposed Project would not involve changes in the existing environment that could result in conversion of Farmland to a non-agricultural use. In addition, no agricultural trees would need to be removed in the orchard portion of the Proposed Project alignment. Existing agricultural water supplies from the Locke Water Works Company well would continue to be available for those uses. The Proposed Project would result in ***no impact*** on conversion of Farmland to non-agricultural use.



### III. AIR QUALITY:

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### Background:

The Proposed Project site is in rural southwestern Sacramento County, which is part of the Sacramento Valley Air Basin. The mountains surrounding the Sacramento Valley create a barrier to airflow, which can trap air pollutants when meteorological conditions are right, particularly in the autumn and early winter when surface wind speeds are low and vertical mixing is inhibited by temperature inversions (i.e., colder air near the ground, capped by warmer air aloft, which limits the vertical dispersion of air pollutants). The major air pollutants of concern for their widespread adverse health effects include ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, and particulate matter. Two types of particulate matter are of concern as air pollutants: particulate matter less than 10 microns in diameter (PM<sub>10</sub>) and particulate matter less than 2.5 microns in diameter (PM<sub>2.5</sub>).

Except for ozone, PM<sub>10</sub>, and PM<sub>2.5</sub>, Sacramento County is in attainment for all state and federal ambient air quality standards. Sacramento County is designated a “severe” nonattainment area for the federal eight-hour ozone standard, a “serious” nonattainment area for the state one-hour ozone standard, and nonattainment for the state PM<sub>10</sub> and PM<sub>2.5</sub> standards.

The Sacramento Metropolitan Air Quality Management District (SMAQMD) and the California Air Resources Board (CARB) maintain a number of air quality monitoring stations, which continually measure the ambient concentrations of major air pollutants in Sacramento County. The closest such monitoring station to the Proposed Project site is in Elk Grove, about 12 miles to the northeast. Violations of both the ozone and particulate standards have been recorded at this monitoring station over the last three years, as shown in Table AQ-1.

**TABLE AQ-1: ELK GROVE AIR QUALITY MONITORING DATA SUMMARY**

POLLUTANT	AIR QUALITY STANDARD	MAXIMUM CONCENTRATIONS AND NUMBER OF DAYS STANDARDS EXCEEDED		
		2015	2016	2017
<b>Ozone</b>				
Maximum 8-hour concentration (ppm)		82	72	85
# Days 8-hour national/state standard exceeded	70 ppb	2	1	3
<b>Nitrogen Dioxide</b>				
Maximum 1-hour concentration (ppb)		29	27	34
# Days 8-hour national standard exceeded	100 ppb	0	0	0
<b>Suspended Fine Particulates (PM<sub>2.5</sub>)</b>				
Maximum 24-hour concentration (µg/m <sup>3</sup> )		36	31	45
# Days national 24-hour standard exceeded	35 µg/m <sup>3</sup>	na	na	na
<b>Notes:</b> µg/m <sup>3</sup> = micrograms per cubic meter    ppb = parts per billion. na = insufficient data to determine the value Source: CARB iADAM Air Quality Data Statistics <a href="https://www.arb.ca.gov/adam/">https://www.arb.ca.gov/adam/</a>				

There are many other chemical compounds that are commonly emitted into the air and are regulated as toxic air contaminants (TACs). In California, most the estimated carcinogenic/chronic health risk can be attributed to relatively few TACs, the most important being particulate matter from diesel-fueled engines (DPM, which is also a form of PM<sub>2.5</sub>). The CARB has identified DPM as being responsible for about 70 percent of the cumulative cancer risk from all airborne TAC exposures statewide.

This air quality analysis addressing the Initial Study air quality checklist items above was performed using the methodologies recommended in the SMAQMD's *Guide to Air Quality Assessment in Sacramento County (CEQA Guide)*. The air pollutants evaluated in this Initial

Study are: reactive organic compounds (ROG) and nitrogen dioxide (NO<sub>2</sub>) (both being precursors to ozone formation), inhalable particulates (PM<sub>10</sub>), and fine particulates (PM<sub>2.5</sub>).

According to the *CEQA Guide*, any project would have a significant potential for causing/contributing to a local air quality standard violation or making a cumulatively considerable contribution to a regional air quality problem if its criteria pollutant emissions would exceed any the following thresholds during construction or operation as presented in Table AQ-2.

**TABLE AQ-2: SIGNIFICANCE THRESHOLDS FOR AIR POLLUTANT EMISSIONS**

<b>Pollutant</b>	<b>Construction Daily/Annual Emissions (lbs./tons)</b>	<b>Operational Daily/Annual Emissions (lbs./tons)</b>
Reactive Organic Gases (ROG)	----/----	65/----
Oxides of Nitrogen (NO <sub>x</sub> )	85/----	65/----
Inhalable Particulate Matter (PM <sub>10</sub> )	80/14.6	80/14.6
Fine Inhalable Particulate Matter (PM <sub>2.5</sub> )	82/15.0	82/15.0

#### **Discussion:**

##### **a. Would the project conflict with or obstruct implementation of the applicable air quality plan – *Less than Significant Impact*.**

The regional air districts of the Sacramento ozone planning region (i.e., all of Sacramento and Yolo counties and portions of Placer, El Dorado, Solano, and Sutter counties) developed *the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* in 2013 to address how the region would attain the federal 8-hour ozone standard. The Sacramento PM<sub>2.5</sub> planning region (i.e., all of Sacramento County, the eastern portion of Yolo County, the western portions of El Dorado and Placer counties, and the northeast portion of Solano County) had been classified as nonattainment for the federal 24-hour PM<sub>2.5</sub> standard; the regional districts prepared the *PM<sub>2.5</sub> Maintenance Plan and Redesignation Request* in 2013 to address how the region had attained and would maintain the federal 24-hour PM<sub>2.5</sub> standard.

The regional air quality plans are based on regional air pollutant emission inventories and the effects of expected regional changes in population, transportation, housing, employment, etc. on future emissions. The Proposed Project would provide safe drinking water (i.e., having substantially lower arsenic concentrations) to the 120 residents of Locke via an 0.78-mile pipeline to an alternate water source in Walnut Grove. It would serve the existing population of Locke and would not substantially affect regional employment, transportation, housing or population that underlie the regional air quality plans. Also, compliance with SMAQMD CEQA significance thresholds is a test of consistency with plan

air quality control strategies and noninterference with the attainment of plan goals. As the analysis below demonstrates, the Proposed Project would have ***less than significant*** air quality impacts because it does not exceed any SMAQMD CEQA threshold.

**b. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment – *Less than Significant Impact*.**

Construction of the new water transmission pipeline is expected to be completed in 4-5 weeks by 2021. It would generate temporary emissions of air pollutants in equipment exhaust and fugitive dust from equipment and material movement. The *CEQA Guide* recommends quantification of construction-related exhaust emissions and comparison of those emissions to the CEQA significance thresholds. Thus, the CalEEMod (California Emissions Estimator Model, Version 2016.3.2) was used to quantify construction-related emissions of criteria pollutants.

Table AQ-3 provides the estimated short-term Proposed Project construction equipment, truck and worker vehicle commute emissions. The average daily/total annual construction period emissions were compared to the CEQA significance thresholds. Proposed Project construction-related emissions would be well below the CEQA significance thresholds.

**TABLE AQ-3: PROJECT CONSTRUCTION CRITERIA POLLUTANT EMISSIONS**  
(daily average/annual total)

Construction Period	ROG (lbs./ tons)	NOx (lbs./ tons)	PM <sub>10</sub> (Exhaust) (lbs./tons)	PM <sub>2.5</sub> (Exhaust) (lbs./tons)
Summer 2020	1.6/0.02	18.2/0.23	0.7/0.01	0.6/0.01
Significance Thresholds	----/----	85/----	80/14.6	82/15.0
Significant Impact?	No	No	No	No

After installation of the Proposed Project's water distribution system, the only new operational source of air pollutant emissions would be a small diesel-powered emergency generator (10 hp) to run a water pump. Under SMAQMD regulations, an emergency diesel-powered generator could be run only for test/maintenance purposes a maximum of 50 hours per year. Table AQ-4 provides the estimated Proposed Project net new operational emissions from testing of the generator. The daily (assuming a one-hour test duration) and total annual (assuming 50 hours of operation per year) emissions were compared to the CEQA significance thresholds. All operational emissions would be well below the thresholds.

**TABLE AQ-4: PROJECT OPERATIONAL CRITERIA POLLUTANT EMISSIONS**  
(daily average/annual total)

Operational Source	ROG (lbs./ tons)	NOx (lbs./ tons)	PM <sub>10</sub> (Exhaust) (lbs./tons)	PM <sub>2.5</sub> (Exhaust) (lbs./tons)
Emergency Diesel-Powered Generator (10 hp)	<0.1/ < 0.01	0.1/ < 0.01	< 0.1/ <0.01	<0.1/ <0.01
Significance Thresholds	----/----	85/----	80/14.6	82/15.0
Significant Impact?	No	No	No	No

Thus, the Proposed Project would not make cumulatively considerable contributions to the Sacramento planning region's problems with ozone or particulate matter. Cumulative emission impacts would be ***less than significant***.

**c. Would the project expose sensitive receptors to substantial pollutant concentrations – *Less than Significant Impact*.**

***Proposed Project Construction-Related Impacts***

***SMAQMD Basic Construction Emission Control Processes:*** The SMAQMD CEQA Guide requires several construction Emission Control Processes (ECPs) to control fugitive dust and the PM<sub>10</sub>/PM<sub>2.5</sub> it would contain. Thus, the following measures must be implemented by the Proposed Project construction contractor to assure that local sensitive receptors would not be exposed to substantial ambient concentrations of PM<sub>10</sub>/PM<sub>2.5</sub>:

- Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging 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 site. Any haul trucks that would be traveling along freeways or major roadways should be covered.
- Use wet power vacuum street sweepers to remove any visible track-out 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 should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.

The following practices describe exhaust emission control from diesel powered fleets working at a construction site. California regulations limit idling from both on-road and off-road diesel-powered equipment, which the CARB enforces.

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

The CARB's *In-Use Off-Road Diesel Vehicle Regulation* applies to off-road diesel engines greater than 25 horsepower (hp) used in construction equipment. As required by this regulation:

- All Project construction equipment shall be reported to CARB using the Diesel Off-Road Online Reporting System (DOORS) and each piece of equipment shall be labeled as to its emission potential as listed in DOORS.

Although not required by local or state regulation, many construction companies have equipment inspection and maintenance programs to ensure work and fuel efficiencies.

- 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.

### ***Project Operational Impacts***

Cancer risk is the lifetime probability of developing cancer from exposure to carcinogenic substances. Following health risk assessment (HRA) guidelines established by the State of California's Office of Environmental Health and Hazards Assessment (OEHHA), incremental cancer risks are estimated by applying established toxicity factors to modeled TAC concentrations. Adverse health impacts unrelated to cancer are measured using a hazard index (HI), which is defined as the ratio of a project's incremental TAC exposure concentration to a published reference exposure level (REL) as determined by OEHHA. If the HI is greater than 1.0, then the impact is considered to be significant.

Ambient diesel particulate matter produced by construction equipment could substantially affect sensitive receptors near the locus of construction activity if such emissions were strong enough and lasted long enough. However, the CEQA significance thresholds for TACs are based on assumptions of exposure duration of a year or longer (i.e., a year for chronic non-cancer health impacts, 70 years for cancer risk). Given that all Proposed Project phases (i.e., installation of the new water supply pipeline and its connection with the Locke Water Works Company distribution network) would be completed quickly and that most of the supply pipeline route would follow the Sacramento River bank outside of the urban areas of Locke and Walnut Grove, the TAC exposure period for any local residential receptors would be very short in comparison to the exposure times needed to threaten adverse health impacts. The locus of Proposed Project pipeline construction would move along the entire 4,150-foot length of the pipeline corridor over the 4-5 week construction period and so no single sensitive local receptor would be close to this active locus for more than a few days. Thus, Proposed Project-related TAC health risks would be substantially below the CEQA health-risk significance thresholds and TAC impacts for Proposed Project construction emissions would be ***less than significant***.

**e. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? – *Less than Significant Impact.***

The SMAQMD's Rule 402 (Nuisance) prohibits any person or source from emitting air contaminants that cause detriment, nuisance, or annoyance to a considerable number of persons or the public. Odiferous compounds can be generated from a variety of source types including construction activities that include a substantial number of diesel-fueled equipment and heavy-duty trucks.

The construction fleet required to lay the Proposed Project water pipeline would be relatively small (i.e., an excavator, a backhoe or front-loader, a dump truck and a water truck). This equipment would be operating for a relatively brief time (i.e., 4-5 weeks) and mostly in the less densely populated area between the towns of Locke and Walnut Grove. Thus, any perceptible odor impacts from construction equipment exhaust to the few local residents would be transitory, lasting no more than a few days at any particular receptor as the locus of construction activity moves along the pipeline corridor. Therefore, odor impacts associated with Proposed Project construction would be ***less than significant.***

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<b>IV. BIOLOGICAL RESOURCES:</b>				
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 Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Result in a conversion of Oak Woodlands that will have a significant effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



## Background:

A Draft Biological Assessment (BA) was prepared for the Proposed Project site by Northgate Environmental Management (May 2017). The draft BA included a reconnaissance-level field survey (conducted on February 6, 2017), and a literature and database review for the purpose of identifying sensitive plant and wildlife species, sensitive habitats, and biological constraints potentially occurring on the Proposed Project site. The draft BA is included as Appendix A, and as appropriate, information from the BA is incorporated into this section. A formal jurisdictional delineation of potential Waters of the U.S. was also conducted by Vollmar Natural Lands Consulting (VNLC) in April 2017, January 2019, and July 11, 2019 (with the two latter surveys conducted as a result of changes to the project footprint). While the BA addressed only federally listed plants and wildlife, the following discussion has been expanded to address other sensitive biological resources considered to have “special-status” under CEQA. For the purpose of this evaluation, special-status wildlife species include those taxa listed or proposed for listing as Threatened or Endangered under the federal or state Endangered Species Acts, state or federal candidates for listing, state Species of Special Concern, state Fully Protected Species, federal Birds of Conservation Concern, and other species included on the CDFW Special Animals List.<sup>4</sup>

The following discussion of the plant communities within and bordering the Proposed Project's disturbance areas is presented moving south to north along the proposed pipeline alignment, and for the purposes of this discussion, includes the following segments: (1) the pipeline alignment between Central Avenue in Walnut Grove and the Delta Cross Channel; (2) the pipeline crossing of the Delta Cross Channel; (3) the pipeline alignment north of the Delta Cross Channel and along the Delta Meadows River Park trail; and (4) the pipeline alignment west of the Delta Meadows River Park trail to its connection point in Locke.

### Between Central Avenue and the Delta Cross Channel

The southern end of the pipeline alignment starts at the fenced property adjacent to the north of Central Avenue. This property is in a highly-disturbed condition, with herbaceous vegetation consisting of non-native grasses such as wild oat (*Avena fatua*) and rip-gut brome (*Bromus diandrus*), as well as a variety of weedy plant species. Portions of this area are currently being used for dirt storage and there are bare dirt areas. There are scattered trees on the property, but due to access restrictions, the tree species were not identified.

Moving further to the north, the remainder of this portion of the pipeline alignment is unfenced. This area is also dominated by non-native and weedy herbaceous vegetation, such as wild oat, rip-gut brome, crane's-bill (*Geranium molle*), rose clover (*Trifolium hirtum*), stork's bill (*Erodium botrys*), bristly ox-tongue (*Helminthotheca echioides*), and bur clover

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<sup>4</sup> The CDFW maintains a Special Animals List. “Special Animals” is a general term that refers to all of the taxa the CNDDDB is interested in tracking, regardless of their legal or protection status. The CDFG considers the taxa on this list to be those of greatest conservation need.

(*Medicago polymorpha*). Mature trees occur throughout this area, including valley oak (*Quercus lobata*), coast live oak (*Quercus agrifolia*), and walnut (*Juglans hindsii*). The northern-most portion of the study area is dominated by a pear orchard.

Within this portion of the pipeline alignment, areas closer to the Delta Cross Channel are on fill soil and are at levee-level, while areas further to the south are low-lying and below levee-level. There are no streams, wetlands, or sensitive plant communities in this portion of the pipeline alignment. This portion of the Proposed Project site is considered of low-botanical value given its disturbed condition and the associated dominance of non-native herbaceous vegetation. Adjacent land uses include residential development and orchards.

### Delta Cross Channel

The north and south channel banks are both dominated by weedy species such as wild radish (*Raphanus raphanistrum*), mustard (*Brassica nigra*), fennel (*Foeniculum vulgare*), Italian thistle (*Carduus pycnocephalus*), bull mallow (*Malva nicaeensis*), Himalayan blackberry (*Rubus armeniacus*), wild oat, rip-gut brome, and bristly ox-tongue. There is no riparian or wetland vegetation on the channel banks in the vicinity of the bridge. There are also no ground squirrel burrows on the channel banks. Additionally, no emergent vegetation was noted in the channel. Under the bridge, there is a dense growth of an invasive aquatic plant (species not identified). Gravel parking areas border both sides of the channel.

The proposed pipeline would be hung from the existing nonoperational former Southern Pacific railroad bridge. This approach would prevent any direct impacts to aquatic and wetland habitats within the Delta Cross Channel, and all related activities would occur above the ordinary high-water mark. Disturbances to the Delta Cross Channel would be limited to the upper channel banks on the south and north sides of the channel, where the proposed pipeline would be daylighted to attach to the bridge.

### North of Delta Cross Channel Along Delta Meadows River Park Trail

North of the Delta Cross Channel, the proposed pipeline alignment follows the Delta Meadows River Park Trail, which is situated on the top of a levee. The trail itself is sparsely vegetated, but oaks, annual grasses, Himalayan blackberry and other weedy species border the trail.

### West of the Delta Meadows River Park Trail (to tie-in location)

Near the northern extent of the proposed pipeline alignment, the alignment turns west towards the historic district of Locke. The alignment then crosses a low-lying area that is below the elevation of the Delta Meadows River Park Trail. This area is within the historical floodplain of the Sacramento River and associated oxbows and tributary channels, and thus features soils characteristic of floodplains, consisting of fine silt and clay materials. However, the isolation from river floodwaters, along with the presence of drainage features, has resulted in upland habitat conditions. Wetlands are present within depressions adjacent to the Proposed Project site, but the site itself is essentially level and no such features are present.

## **a. Effect on Protected Species – *Less than Significant with Mitigation.***

### Special-Status Wildlife Species

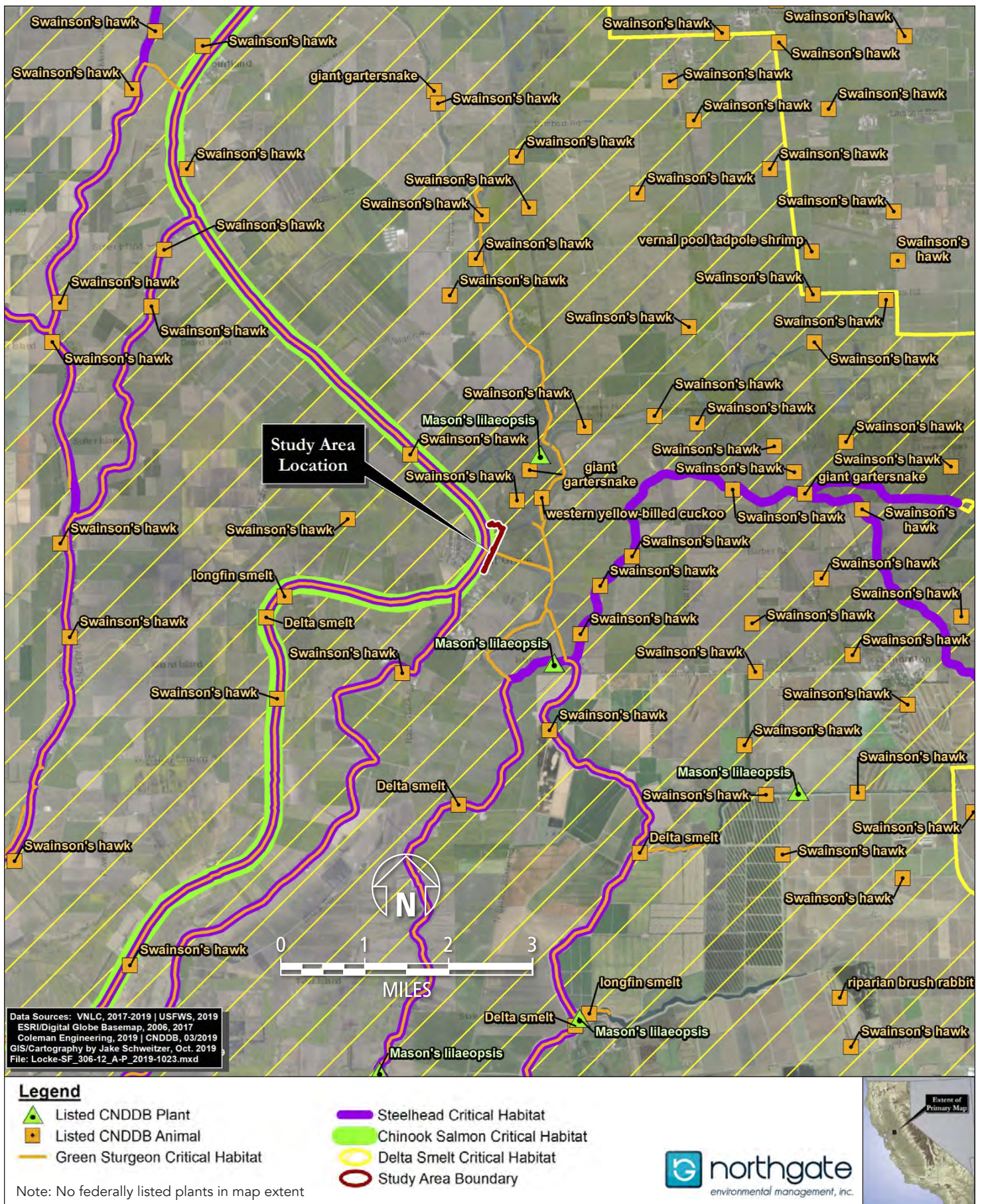
Figure 10 shows the special-status wildlife species documented in the surrounding area. These and other special-status wildlife species known from the Proposed Project region are identified in Table BIO-1, along with their regulatory status, habitat requirements, and an evaluation of their potential to occur on or near the Proposed Project site. Six special-status wildlife species (i.e., western pond turtle, Swainson's hawk, Cooper's hawk, white-tailed kite, pallid bat, and western bat) have a potential to occur within the Proposed Project's disturbance boundary or in nearby areas that could be impacted by construction-related noise; the potential of these species to be impacted by the Proposed Project is further discussed below. Giant garter snake has a low potential to occur due to marginal habitat conditions, but given its rarity and state- and federal-listing status, potential impacts to the species are also addressed below. For the reasons discussed in Table BIO-1, no other special-status wildlife species are expected to occur on the Proposed Project site or to be impacted by construction activities.

**Western pond turtle** is a California Species of Special Concern. This turtle primarily inhabits aquatic habitats, including ponds, slow moving streams, lakes, marshes, and canals. The species frequently basks on logs or other objects out of the water. Western pond turtles also require upland oviposition (i.e., egg laying) sites in the vicinity (typically within 200 meters, but as far as 400 meters) of the aquatic site. Mating typically occurs in late April or early May and most oviposition occurs during May and June, although some individuals may deposit eggs as early as late April and as late as early August (Rathbun et al. 1993).

Western pond turtles may occur in the Delta Cross Channel and in the vicinity of the northern portion of the Proposed Project site, where perennial wetlands are close to the alignment. The Proposed Project does not include any construction activities within the Delta Cross Channel or in any other aquatic habitat. In addition, BMPs would be implemented as part of the Proposed Project to protect nearby Water features. However, western pond turtles could move into nearby construction areas and could also potentially nest in areas where Proposed Project activities would occur. Therefore, in the absence of avoidance measures, impacts to western pond turtle are potentially significant.

The implementation of the mitigation measures BIO-1, BIO-2, BIO-3, and BIO-4 (see below) would reduce potential impacts to western pond to less than significant.





**Figure 10**  
 Documented State and Federally Listed Species and Critical Habitat

Source: Coleman Engineering



**Table BIO-1: Listed Species Known from the Project Region**

Common Name	Status	General Habitat Description	Potential to Occur on Project Site
<i>Reptiles</i>			
Western pond turtle <i>Actinemys marmorata</i>	CSC	Aquatic habitats including ponds, streams, and irrigation ditches. Requires basking sites such as partially submerged logs, vegetation mats, or open mud banks	<b>Potential:</b> The Delta Cross Channel and areas nearby the northern low-lying habitat provide suitable habitat and the species is known from the Proposed Project area.
Giant garter snake <i>Thamnophis gigas</i>	FT ST	Inhabits agricultural wetlands and other waterways such as irrigation and drainage canals, sloughs, ponds, small lakes, low gradient streams, and adjacent uplands in the Central Valley. Require enough water to provide food and cover during the active season, which is early-spring through mid-fall.	<b>Potential (low):</b> Based on the CNDDDB, this species has been documented at a location in the vicinity of Snodgrass Slough, approximately 0.75 mile north of the Proposed Project site. Onsite habitat conditions are marginal for the species, but given the nearby occurrence and that Snodgrass Slough has a direct hydrologic connection to the Delta Cross Channel, this species is further discussed below.
<i>Amphibians</i>			
California tiger salamander <i>Ambystoma californiense</i>	FT ST	Needs underground refuges (e.g., ground squirrel burrows) and vernal pools or other long-lasting seasonal water sources for breeding.	<b>Not Expected:</b> The species is not known from this portion of the Bay/Delta Region and based on the CNDDDB, the closest documented occurrence of the species is 11 miles to the east. The Proposed Project area would be flooded in the absence of the levee system that contains the Sacramento River and the Delta Cross Channel, and therefore, historically the species would not have occurred in the area; this and the absence of nearby source CTS populations are expected to preclude the establishment of a CTS population.
California red-legged frog <i>Rana draytonii</i>	FT	In or near permanent or long-lasting sources of deep water.	<b>Not Expected:</b> The species has not been documented in the Proposed Project region. Based on the CNDDDB, the closest documented occurrence of the species is 24 miles to the southwest. While some potentially suitable habitat occurs (i.e., ponds and perennial wetlands), the species is not expected to occur in the Proposed Project area because it is not known to

Common Name	Status	General Habitat Description	Potential to Occur on Project Site
			occur in central or southern Sacramento County, or within 24 miles of the Proposed Project site.
<i>Crustaceans</i>			
Conservancy fairy shrimp <i>Branchinecta conservatio</i>	FE	Vernal pools and other seasonal pools with sparse vegetation.	<b>Not Expected:</b> The species has not been documented in the Proposed Project area; based on the CNDDDB, the closest documented occurrence of the species is 15 miles to the northwest. No vernal pools or other potentially suitable habitat are present.
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	FT	Vernal pools and other seasonal pools with sparse vegetation.	<b>Not Expected:</b> The species has not been documented in the Proposed Project area; based on the CNDDDB, the closest documented occurrence of the species is 8 miles to the north. No vernal pools or other potentially suitable habitat are present.
Vernal pool tadpole shrimp <i>Lepidurus packardii</i>	FE	Vernal pools and other seasonal pools with sparse vegetation.	<b>Not Expected:</b> Based on the CNDDDB, the closest documented occurrence of the species is approximately 5 miles to the north. No vernal pools or other potentially suitable habitat are present.
<i>Insects</i>			
San Bruno elfin butterfly <i>Callophrys mossii bayensis</i>	FE	Larval host plant is stonecrop ( <i>Sedum spathulifolium</i> ), a low growing succulent associated with rocky outcrops that occur at 274 to 328 m (900 to 1075 feet) elevation.	<b>Not Expected:</b> Species has not been documented in the Proposed Project region. Based on the CNDDDB, the closest documented occurrence of the species is 32 miles to the southwest. Suitable habitat (i.e., rock outcrops) for larval host plant not present.
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	FT	Occurs only in the Central Valley of California, in association with blue elderberry ( <i>Sambucus mexicana</i> ).	<b>Not Expected:</b> No elderberry shrubs observed in Proposed Project study area. Based on the CNDDDB, the closest documented occurrence of the species is 7 miles to the east.
Delta green beetle <i>Elaphrus viridis</i>	FT	Habitat preference not well understood. Some entomologists believe that the species prefers more open habitats in the	<b>Not Expected:</b> Not known to occur in Sacramento County - to date, species has only been found in the greater Jepson Prairie area in south-central Solano County; these locations are approximately 17 miles

Common Name	Status	General Habitat Description	Potential to Occur on Project Site
		grassland-playa pool matrix where the beetle is found, such as edges of pools, trails, roads and ditches. Adults may also occur in the surrounding grasslands.	west of the Proposed Project site. Suitable habitat not present given the absence of vernal pools.
<i>Fish</i>			
Green sturgeon	FT	Utilizes both freshwater and saltwater habitats; spawn in deep pools or "holes" in large, turbulent, freshwater river mainstems including the Sacramento and Feather Rivers (Moyle et al., 1992). Adults inhabit oceanic waters, bays, and estuaries when not spawning.	<b>Not Expected:</b> The species is known to occur in the Sacramento River and the portion of the river and Delta Cross Channel in the Proposed Project area is designated critical habitat for the species. The proposed pipeline would cross the Delta Cross Channel, which provides suitable habitat for the species. However, the pipeline crossing of the Delta Cross Channel would be via an existing bridge and no construction activities are proposed within aquatic habitat. Additionally, BMPs would be implemented as part of the Proposed Project to prevent erosion, sedimentation, or other potential incidental affects to waterways.
Delta smelt <i>Hypomesus transpacificus</i>	FT	Bays and estuaries.	<b>Not Expected:</b> The Proposed Project site is within designated critical habitat for this species and the proposed pipeline would cross the Delta Cross Channel, which provides suitable habitat for the species. However, the pipeline crossing of the Delta Cross Channel would be via an existing bridge and no construction activities are proposed within aquatic habitat. Additionally, BMPs would be implemented as part of the Proposed Project to prevent erosion, sedimentation, or other potential incidental affects to waterways.
Chinook salmon (Sacramento River Winter-run, Central Valley Spring-run)	FE/FT	Coastal waters, bays and their major tributaries.	<b>Not Expected:</b> The Proposed Project site is within designated critical habitat for this species and the proposed pipeline would cross the Delta Cross Channel, which provides suitable habitat for the species. However, the pipeline crossing of the Delta Cross Channel would be via an existing bridge and no construction activities are proposed within aquatic habitat.

Common Name	Status	General Habitat Description	Potential to Occur on Project Site
<i>Oncorhynchus tshawytscha</i>			Additionally, BMPs would be implemented as part of the Proposed Project to prevent erosion, sedimentation, or other potential incidental affects to waterways.
Steelhead <i>Oncorhynchus mykiss</i>	FT	Coastal waters, bays and their major tributaries.	<b>Not Expected:</b> The action area is within designated critical habitat for this species and the proposed pipeline would cross the Delta Cross Channel, which provides suitable habitat for the species. However, the pipeline crossing of the Delta Cross Channel would be via an existing bridge and no construction activities are proposed within aquatic habitat. Additionally, BMPs would be implemented as part of the proposed project to prevent erosion, sedimentation, or other potential incidental affects to waterways.
Longfin smelt <i>Spirinchus thaleichthys</i>	CSC	They spend their adult life in bays, estuaries, and nearshore coastal areas, and migrate into freshwater rivers to spawn.	<b>Not Expected:</b> Known to occur in the Sacramento River and could occur in the Delta Cross Channel. However, the pipeline crossing of the Delta Cross Channel would be via an existing bridge and no construction activities are proposed within aquatic habitat. Additionally, BMPs would be implemented as part of the Proposed Project to prevent erosion, sedimentation, or other potential incidental affects to waterways.
<b>Birds</b>			
Cooper's hawk <i>Accipiter cooperi</i>	-/SA	Mature forests, open woodland, riparian forest. Nests in coast live oak and other forest habitats.	<b>Potential:</b> Suitable nesting habitat present on and near the Proposed Project site.
Burrowing owl <i>Athene cunicularia</i>	BCC CSC	Forages and nests in grasslands and open scrub with small mammal burrows.	<b>Not Expected:</b> Very marginal habitat given that trees occur throughout most of the Proposed Project alignment; burrowing owls generally do not occur in areas with trees as the trees provides perches for predators.
Swainson's hawk <i>Buteo swainsoni</i>	ST	Riparian areas and scattered stands of trees near agricultural fields and grasslands for nesting sites. Forages	<b>Potential:</b> Species is known from the Proposed Project vicinity and suitable nesting habitat is present.



Common Name	Status	General Habitat Description	Potential to Occur on Project Site
		over open grasslands and agricultural lands.	
White-tailed kite <i>Elanus leucurus</i>	CFP	Usually nests in large bushes or trees, often in isolated stand, surrounded by open foraging habitat.	<b>Potential:</b> Species is known from the Proposed Project region and suitable nesting habitat is present.
Song sparrow "Modesto" population <i>Melospiza melodia</i>	CSC	Generally associated with emergent freshwater marshes dominated by tules ( <i>Scirpus</i> spp.) and cattails ( <i>Typha</i> spp.) as well as riparian willow ( <i>Salix</i> spp.) thickets. These Song Sparrows also nest in riparian forests of Valley Oak with a sufficient understory of blackberry, along vegetated irrigation canals and levees, and in recently planted Valley Oak restoration sites (DiGaudio and Geupel 1998, PRBO unpubl. data).	<b>Not Expected:</b> Though wetlands are present in the vicinity of the Proposed Project site, no such habitats are present within the site.
California Ridgway rail (formerly California clapper rail) <i>Rallus longirostris oboletus</i>	FE SE	Restricted to salt marshes and tidal sloughs. Usually associated with heavy growth of pickleweed.	<b>Not Expected:</b> The species has not been documented in the Proposed Project region; based on the CNDDDB, the closest documented occurrence of the species is 25 miles to the west. Suitable habitat is not present in or near the Proposed Project site given the absence of saltmarsh habitat.
<b>Mammals</b>			
Pallid bat <i>Antrozous pallidus</i>	CSC	Variety of habitats, but most common in open dry lands with rocky areas for roosting. Prefers rocky outcrops, cliffs, and crevices with access to open habitat for foraging.	<b>Potential:</b> Trees on Proposed Project site provide potentially suitable roost sites.

Common Name	Status	General Habitat Description	Potential to Occur on Project Site
Western red bat <i>Lasiurus blossevillii</i>	SA	Roosts primarily in trees, often in edge habitats adjacent to streams, fields, or urban areas. Preferred roost sites are protected from above, open below, and located above dark ground cover.	<b>Potential:</b> Trees on Proposed Project site provide potentially suitable roost sites.

**Status Codes:** Federal Endangered (FE); Federal Threatened (FT); State Endangered (SE); State Threatened (ST); California Species of Special Concern (CSC); California Fully Protected (CFP); CDFW Special Animals List (SA)

**Giant garter snake** is a state and federally Threatened species. The giant garter snake is one of the largest garter snakes, with females reaching an average length of about 34 inches in the San Joaquin Valley (USFWS 2016). The giant garter snake is endemic to the wetlands of the Sacramento and San Joaquin Valleys of California and now inhabits the remaining high-quality fragmented wetlands that include marshes, ponds, small lakes, low-gradient streams with silt substrates, and managed waterways (USFWS 2015). The loss of wetland ecosystems and suitable habitat has also resulted in the giant garter snake using highly modified and degraded habitats including irrigation ditches, drainage canals, rice fields, and their adjacent uplands (USFWS 2015).

Giant garter snakes require enough water to provide food and cover during the active season, which is early-spring through mid-fall (March through November). The presence of emergent and bankside vegetation that provides cover from predators and may serve in thermoregulation is considered an important habitat component, as well as the absence of large predatory fish (USFWS 2015). Wetland plants such as cattails and bulrushes are used for cover and foraging (USFWS 2016), and grassy banks and openings in vegetation are used for sunning.

Higher-elevation uplands for cover and refuge from flood waters are required during the snake's inactive season in the winter. Giant garter snakes are dormant during the winter so they inhabit small mammal burrows and other soil crevices above flood elevations during this inactive period (USFWS 2016). The snakes typically select burrows with sunny exposure along south and west facing slopes. Around October 1, they start looking for winter retreats. By November 1, they are in winter retreats and mostly stay there until spring. Some may bask in the sun or move short distances on warmer days. Between April 1 and May 1, they emerge and start hunting for food.

Giant garter snakes feed primarily on small fish, tadpoles, and frogs. Giant garter snakes are typically absent from larger rivers because of the lack of suitable habitat and emergent vegetative cover, and from wetlands with sand, gravel, or rock substrates (USFWS 2016). The major rivers have been highly channelized, removing oxbows and backwater areas that probably at one time provided suitable habitat (USFWS 2016). While not always the case,

riparian woodlands typically do not provide suitable habitat because of excessive shade, lack of basking sites, and absence of prey populations (USFWS 2016).

In summary, giant garter snakes are associated with aquatic habitats characterized by the following features: (1) sufficient water during the snake's active season (typically early spring through mid-fall) to supply cover and food such as small fish and amphibians; (2) emergent, herbaceous wetland vegetation, such as cattails and bulrushes, accompanied by vegetated banks to provide basking and foraging habitat and escape cover during the active season; (3) upland habitat (e.g., bankside burrows, holes, and crevices) to provide short-term refuge areas during the active season; and (4) high ground or upland habitat above the annual high water mark to provide cover and refuge from flood waters during the dormant winter period (Hansen and Brode 1980; Hansen 1998).

As shown in Figure 10, this species has been documented in the vicinity of Snodgrass Slough, approximately 0.75 mile north of the Proposed Project site (CNDDDB Occurrence #247). The CNDDDB states that an unknown number of snakes were observed at this location in 1992. There are other occurrences of the species reported from Snodgrass Slough from during the period of 1986-1987 (CNDDDB Occurrence #132); these occurrences are approximately 5 miles north of the Proposed Project site. The CNDDDB does not contain any other documented occurrences of the species from within 5 miles of the Proposed Project site. Critical habitat for giant garter snake has not been designated.

Based on the CNDDDB, giant garter snake has not been documented in the Delta Cross Channel or elsewhere on the Proposed Project site. The Delta Cross Channel has a direct hydrologic connection to Snodgrass Slough, which would theoretically allow for individual giant garter snakes to move into the Delta Cross Channel. However, habitat conditions for giant garter snake within the Delta Cross Channel are marginal because it is channelized and lacks oxbows and backwater areas, likely supports large predatory fish, and emergent marsh vegetation (e.g., cattails, tules) is not present. Additionally, in the Proposed Project vicinity, the channel does not have grassy banks with openings in vegetation that could be used for sunning or for winter habitat; in the immediate project area, the banks of the Delta Cross channel contain a dense growth ruderal plant species and no ground squirrel burrows were observed. Outside of the Proposed Project's disturbance area, much of the channel banks support trees, and riparian woodlands typically do not provide suitable habitat for giant garter snake because of excessive shade, lack of basking sites, and absence of prey populations (USFWS 2016), as well as that forested areas provide habitat for predators of giant garter snake (e.g., raccoons, raptors). Given the absence of suitable habitat in the Delta Cross Channel, it is unlikely that giant garter snake would move into the Delta Cross Channel from Snodgrass Slough or from any other location.<sup>5</sup>

The wetlands adjacent to northern portions of the proposed pipeline alignment also provide marginal habitat for giant garter snake, but there are no wetlands within the site itself. In addition, the general area is wooded (including riparian tree species) and riparian woodlands

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<sup>5</sup> This conclusion was confirmed during a phone conversation between Josh Phillips (Northgate Senior Biologist) and Brian Hansen (USFWS Section 7 Fish and Wildlife Biologist) on May 3, 2017.

typically do not provide suitable habitat for giant garter snake because of excessive shade, lack of basking sites, and absence of prey populations (USFWS 2016), as well as that forested areas provide habitat for predators of giant garter snake (e.g., raccoons, raptors). Given the above, there is no habitat for this species on the Proposed Project site, and adjacent wetland habitats provide only marginal habitat that is unlikely to support giant garter snake.<sup>6</sup>

For the reasons discussed above, it is unlikely that giant garter snake would occur in the Delta Cross Channel or in low-lying former floodplain habitat near the northern end of the pipeline alignment. Additionally, the Proposed Project would not include any construction activities within the Delta Cross Channel or within the low-lying area. Construction activities including excavation for the water pipeline on the upper channel banks (above the ordinary high-water mark) would occur near the Delta Cross Channel, and in adjacent upland areas. However, since giant garter snake is unlikely to occur in the Delta Cross Channel, it would also be unlikely to occupy adjacent upland habitats. Similarly, excavation for the water pipeline would occur within the low-lying area (below the existing drainage channel), but giant garter snake is unlikely to occur in this habitat. However, given the rarity of giant garter snake, conservatively, in the absence of avoidance measures, impacts to this species are potentially significant.

The implementation of the mitigation measures BIO-1, BIO-3, BIO-4, and BIO-5 (see below) would reduce potential impacts to giant garter snake to a less than significant level.

**Swainson's hawk** is a state-listed Threatened species and a federally listed Bird of Conservation Concern. This species nests in western North America from March to July and migrates to South America for the winter starting in August. The species generally nests in riparian areas or in large isolated trees adjacent to or within easy flying distance to agricultural areas providing suitable foraging habitat. Valley oaks (*Quercus lobata*), Fremont's cottonwood (*Populus fremontii*), willows (*Salix* spp.), sycamores (*Platanus* spp.), and walnuts (*Juglans* spp.) are the preferred nest trees for Swainson's hawk (Bloom 1980, Estep 1989). The California Department of Fish and Wildlife (CDFG 1994), has identified the following vegetation types/agricultural crops as foraging habitat for Swainson's hawk: alfalfa; fallow fields; beet, tomato, and other low-growing row or field crops; dry-land and irrigated pasture, rice land (when not flooded); and cereal grain crops (including corn after harvest). Given the importance of available foraging habitat for successful nesting, the CDFW has developed policies to protect suitable Swainson's hawk foraging habitat within a 10-mile radius of an active nest (i.e., a nest used during one or more of the last five years).

There are numerous documented nesting occurrences of Swainson's hawks in the area surrounding the Proposed Project (Figure BIO-1). The closest documented Swainson's hawk nesting occurrence is from approximately 0.4 miles northeast of the Proposed Project site (CNDDDB Occurrence #1827), but suitable nesting habitat occurs on and bordering the Proposed Project site. The Proposed Project would require the removal of trees that could

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<sup>6</sup> This conclusion was confirmed during a phone conversation between Josh Phillips (Northgate Senior Biologist) and Brian Hansen (USFWS Section 7 Fish and Wildlife Biologist) on May 3, 2017.

be used by nesting Swainson's hawks. In addition, construction-related noise could disturb nesting should an active Swainson's hawk nest occur near the Proposed Project site. Therefore, in the absence of avoidance measures, impacts to nesting Swainson's hawks are potentially significant.

Habitat impacts would be temporary because the proposed water pipeline would be installed in a trench that would be backfilled. Additionally, the Proposed Project site does not provide expected foraging habitat as the species prefers agricultural land and open grasslands. Therefore, potential impacts to Swainson's hawk foraging habitat would be less than significant.

The implementation of mitigation measure BIO-6 (see below) would reduce potential impacts to nesting Swainson's hawks to a less than significant level.

**White-tailed kite** is a California Fully Protected Species. This species typically nests in trees, often in isolated stands, surrounded by open foraging habitat. Nests are built on top of oaks, willows, or other dense, broad-leaved deciduous trees within partially cleared or cultivated fields, grasslands, marsh, riparian, woodland, and savanna habitats. The Proposed Project would require the removal of trees that could be used by nesting white-tailed kite. In addition, construction-related noise could disturb nesting should an active white-tailed kite nest occur near the Proposed Project site. Therefore, in the absence of avoidance measures, impacts to nesting white-tailed kite are potentially significant.

Implementation of mitigation measure BIO-7 (see below) would reduce potential impacts to nesting white-tailed kites to a less than significant level.

**Cooper's hawk** is included on the Special Animals List maintained by the CDFW and, on this basis, could be considered to be of special-status under CEQA. This species was previously a California Species of Special Concern, but its sensitivity status has been downgraded to being a "Watch List" species. Breeding pairs generally select nest sites within dense stands of live oak woodland, riparian habitats, or other wooded areas, but the species is known to occasionally nest in residential areas. The Proposed Project would require the removal of trees that could be used by nesting Cooper's hawk. In addition, construction-related noise could disturb nesting should an active Cooper's hawk nest occur near the Proposed Project site. Therefore, in the absence of avoidance measures, impacts to nesting Cooper's hawks are potentially significant.

The implementation of the mitigation measures BIO-7 (see below) would reduce potential impacts to nesting Cooper's hawks to a less than significant level.

**Pallid Bat** is a California Species of Special Concern and **western red bat** is included on the CDFW Special Animals List. The Proposed Project would require the removal of trees. All the trees to be removed provide potential roosting habitat for foliage roosting bat species such as western red bat. Should any of the larger trees to be removed contain deep crevices or cavities, they could provide potential habitat for communal cavity roosting species such as pallid bat. A final tree removal plan has not yet been prepared, and therefore, it is assumed

that the Proposed Project would require the removal of trees that could be used for roosting by western red bat, pallid bat, and other bat species known from the area. Therefore, in the absence of avoidance measures, the proposed removal of trees could result in harm to roosting bats.

The implementation of mitigation measure BIO-8 (below) would reduce potential impacts to roosting pallid bat, western red bat, and other roosting bats to a less than significant level.

### Special-Status Plant Species

As shown in Figure 9, the following special-status plant species have been documented in the Proposed Project vicinity:

**Suisun marsh aster** (*Aster chilensis* var. *lentus*) has a CNPS Rare Plant Rank of 1B.2. This perennial herb is associated with marsh and swamps (brackish and freshwater). Based on the CNDDDB (Occurrence #126), approximately 30 Suisun marsh aster plants were mapped along the base of the south channel bank of the Delta Cross Channel in 2000; this location is approximately 120 feet east of where the proposed pipeline would be attached to the bridge. One Suisun marsh aster plant was also reported along the base of the north channel bank of the Delta Cross Channel in 2009; this location is approximately 1,500 feet east of where the proposed pipeline would be attached to the bridge.

The Proposed Project would require excavation on the upper banks of the Delta Cross Channel to daylight the proposed pipeline so that it can be attached to the existing bridge. However, the identified Suisun marsh aster locations are well outside (greater than 120 feet) of the portions of the channel banks that would be affected by the Proposed Project. Additionally, the soil excavation would occur above the ordinary high-water mark in an area dominated by weedy, upland associated species such as wild radish, fennel, wild oats, Italian thistle, hare barley, and cutleaf geranium; this area is outside of the marsh habitat type associated with Suisun marsh aster. Therefore, given that the habitat type associated with Suisun marsh aster (i.e., marsh habitat) would not be disturbed, that the only portion of the Delta Cross Channel to be disturbed is a weedy area along the upper banks, and because the proposed disturbance area is outside of mapped locations of Suisun marsh aster, impacts to Suisun marsh aster would be less than significant.

**Bristly sedge** (*Carex comosa*) has a CNPS Rare Plant Rank of 2.B.1. This perennial herb is associated with coastal prairie, marshes and swamps (lake margins), and valley and foothill grasslands. Based on the CNDDDB, this species has been documented in several locations in Snodgrass Slough, but it has not been documented along the Delta Cross Channel or in the Proposed Project site. The Proposed Project has been designed to avoid wetland and aquatic habitats, and construction activities would only occur in weedy upland habitats dominated by non-native plant species. Additionally, much of the construction area is underlain by fill soils. The upland and disturbed/weedy condition of the construction footprint does not provide habitat conditions associated with bristly sedge. Therefore, impacts to this species would be less than significant.

**Woolly rose-mallow** (*Hibiscus lasiocarpus* var. *occidentalis*) has a CNPS Rare Plant Rank of 1.B.2. This emergent perennial herb is associated with marshes and swamps, often in riprap on sides of levees. Based on the CNDDDB, this species has been documented along the Sacramento River, but it has not been documented along the Delta Cross Channel or in the Proposed Project site. The Proposed Project has been designed to avoid wetland and aquatic habitats, and construction activities would only occur in weedy upland habitats dominated by non-native plant species. Additionally, no riprap would be impacted and much of the construction area is underlain by fill soils. The upland and disturbed/weedy condition of the construction footprint does not provide habitat conditions associated with woolly rose-mallow. Therefore, impacts to this species would be less than significant.

**Delta tule pea** (*Lathyrus jepsonii* var. *jepsonii*) has a CNPS Rare Plant Rank of 1.B.2. This perennial herb is associated with marshes and swamps (freshwater and brackish). Based on the CNDDDB, this species has been documented at several locations in Snodgrass Slough and other locations in the surrounding area, but it has not been documented along the Delta Cross Channel or in the Proposed Project site. The Proposed Project has been designed to avoid wetland and aquatic habitats, and construction activities would only occur in weedy upland habitats dominated by non-native plant species. The upland and disturbed/weedy condition of the construction footprint does not provide habitat conditions associated with Delta tule pea. Therefore, impacts to this species would be less than significant.

**Delta mudwort** (*Limosella australis*) has a CNPS Rare Plant Rank of 2B.1. This perennial herb is associated with mud banks in marsh, swamps, and riparian scrub habitats. Based on the CNDDDB, this species has been documented in Snodgrass Slough and other locations in the surrounding area, but it has not been documented along the Delta Cross Channel or in the Proposed Project site. The Proposed Project has been designed to avoid wetland and aquatic habitats, and construction activities would only occur in weedy upland habitats dominated by non-native plant species. Additionally, mud banks (which are associated with the species) would not be impacted and much of the construction area is underlain by fill soils. The upland and disturbed/weedy condition of the construction footprint does not provide habitat conditions associated with Delta mudwort. Therefore, impacts to this species would be less than significant.

**Sanford's arrowhead** (*Sagittaria sanfordii*) has a CNPS Rare Plant Rank of 1.B.2. This emergent perennial herb is associated with marshes and swamps. Based on the CNDDDB, this species has been documented along the Sacramento River and in Snodgrass Slough, but it has not been documented along the Delta Cross Channel or in the Proposed Project site. The Proposed Project has been designed to avoid wetland and aquatic habitats, and construction activities would only occur in weedy upland habitats dominated by non-native plant species. Additionally, much of the construction area is underlain by fill soils. The upland and disturbed/weedy condition of the construction footprint does not provide habitat conditions associated with Sanford's arrowhead. Therefore, impacts to this species would be less than significant.

**Side-flowering skullcap** (*Scutellaria lateriflora*) has a CNPS Rare Plant Rank of 2.B.2. This perennial herb is associated with meadows and seeps (mesic) and marshes and swamps.

Based on the CNDDDB, this species has been documented in Snodgrass Slough, but it has not been documented along the Delta Cross Channel or in the Proposed Project site. The Proposed Project has been designed to avoid wetland and aquatic habitats, and construction activities would only occur in weedy upland habitats dominated by non-native plant species. Additionally, much of the construction area is underlain by fill soils. The upland and disturbed/weedy condition of the construction footprint does not provide habitat conditions associated with side-flowering skullcap. Therefore, impacts to this species would be less than significant.

### **Mitigation Measures**

- BIO-1: Before any construction activities begin on the Proposed Project, a qualified biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of the western pond turtle and giant garter snake and their habitat, the measures that are being implemented to conserve the species as they relate to the Proposed Project, measures to take if these species are observed, and the boundaries within which the Proposed Project may be accomplished. The training session shall also include a discussion of the importance of avoiding any incidental disturbance to the Delta Cross Channel and the drainage channel and nearby wetland habitats, and an overview of the BMPs to be implemented to protect aquatic habitats near the construction area.
- BIO-2: A qualified biologist shall be onsite during initial ground disturbance within 200 feet of the Delta Cross Channel and the northern portion of the Proposed Project site (where perennial wetlands are nearby). The biologist shall be familiar with and able to identify all turtle species that occur in the Proposed Project area. A clearance survey shall be conducted immediately before ground disturbance. If a western pond turtle is found, the species may be moved to an appropriate location outside of the construction area by a biologist in possession of Scientific Collecting Permit or other required authorizations for CDFW. If a pond turtle nest is identified, the nest shall be avoided while active, unless disturbance/relocation is authorized by CDFW.
- BIO-3: Workers shall cover open trenches within 200 feet of the Delta Cross Channel, or design the trenches with escape ramps that can be used during non-working hours. Alternatively, or in addition, open trenches can be fenced in a manner that would prevent western pond turtle and giant garter snake from entering the trench. The construction contractor shall inspect open trenches prior to filling, and contact a qualified biologist to remove or release any trapped wildlife found in the trenches.
- BIO-4: During Proposed Project activities, all trash that may attract predators shall be properly contained, removed from the work site and disposed of regularly. Following construction, all trash and construction debris shall be removed from work areas.



- BIO-5: A qualified biologist shall be onsite during initial ground disturbance within 200 feet of the Delta Cross Channel and the northern portion of the Proposed Project site. The biologist shall be familiar with and able to identify all snake species that occur in the Proposed Project area. A clearance survey will be conducted immediately before ground disturbance. If a giant garter snake is encountered during the clearance survey or during monitoring, construction activities shall be halted and the snake shall be provided with the opportunity to leave the construction area on its own. If relocation of a giant garter snake is necessary, the USFWS shall be contacted for guidance. Any observations of giant garter snake shall be immediately reported to the USFWS.
- BIO-6: If construction activities commence anytime during the Swainson's hawk nesting period (March-July), focused surveys for nesting Swainson's hawk shall be conducted in accordance with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee 2000). As required, the survey area shall include all areas containing suitable nesting habitat within 0.5 mile of the Proposed Project site, and if an active nest is identified, the California Department of Fish and Wildlife (CDFW) should be contacted to determine the required construction setback while the nest is active. In general, a minimum 600-foot setback is required to protect an active Swainson's hawk nest. The surveys shall commence no later than early- to mid-April and up to 6 individual surveys may be required.
- BIO-7: If construction activities commence anytime during the nesting/breeding season of native bird species potentially nesting near the site (typically February through August in the project region), a pre-construction survey for nesting birds shall be conducted by a qualified biologist within two weeks of the commencement of construction activities.

If active nests are found in areas that could be directly affected or are within 300 feet of construction and would be subject to prolonged construction-related noise, a no-disturbance buffer zone shall be created around active nests during the breeding season or until a qualified biologist determines that all young have fledged. The size of the buffer zones and types of construction activities restricted within them shall be determined by taking into account factors such as the following:

- Noise and human disturbance levels at the construction site at the time of the survey and the noise and disturbance expected during the construction activity;
- Distance and amount of vegetation or other screening between the construction site and the nest; and
- Sensitivity of individual nesting species and behaviors of the nesting birds.

BIO-8: Prior to any tree removal, a qualified bat biologist shall conduct a focused tree habitat assessment of all trees that would be removed or impacted by construction activities. Trees containing suitable potential bat roost habitat features would then be clearly marked or identified.

When possible, removal of trees identified as providing suitable roosting habitat shall be conducted during seasonal periods of bat activity, including:

- (1) Between March 1 and April 15, or after evening temperatures rise above 45 degrees Fahrenheit and/or no more than ½ inch of rainfall within 24 hours occurs; or
- (2) Between September 1 and about October 15, or before evening temperatures fall below 45 degrees Fahrenheit and/or more than ½ inch of rainfall within 24 hours occurs.

If it is determined that a colonial maternity roost is potentially present, the roost shall not be removed during the breeding season (April 15 to August 31) to the extent practicable. If a tree potentially containing a colonial maternity roost must be removed during the breeding season, then the following may be implemented:

- (1) Acoustic emergence surveys or other appropriate methods shall be conducted/implemented to further evaluate if the roost is an active maternity roost.
  - (A) If it is determined that the roost is not an active maternity roost, then the roost may be removed in accordance with the other requirements of this measure;
  - (B) If it is found that an active maternity roost of a colonial roosting species is present, the roost shall not be disturbed during the breeding season.

Potential colonial hibernation roosts shall only be removed during seasonal periods of bat activity. Potential non-colonial roosts that cannot be avoided shall be removed on warm days in late morning to afternoon when any bats present are likely to be warm and able to fly. Appropriate methods shall be used to minimize the potential of harm to bats during tree removal. Such methods may include using a two-step tree removal process. This method is conducted over two consecutive days, and works by creating noise and vibration by cutting non-habitat branches and limbs from habitat trees using chainsaws only (no excavators or other heavy machinery) on Day 1. The noise and vibration disturbance, together with the visible alteration of the tree, are very effective in causing bats that emerge nightly to feed, to not return to the roost that night. The remainder of the tree is removed on Day 2.

**b. Riparian or Other Habitats - *Less than Significant Impact.*** Wetlands, creeks, streams, and permanent and intermittent drainages are subject to the jurisdiction of the U.S. Army

Corps of Engineers (ACOE) under Section 404 of the Federal Clean Water Act (CWA). The California Department of Fish and Wildlife (CDFW) also generally has jurisdiction over creeks, streams, and drainages, together with other aquatic features that provide an existing fish and wildlife resource pursuant to Sections 1602-1603 of the California Fish and Game Code. Creeks and wetlands are also subject to regulation of the Regional Water Quality Control Board (RWQCB) under both the federal CWA and the State of California's Porter-Cologne Water Quality Control Act (California Water Code, Division 7).

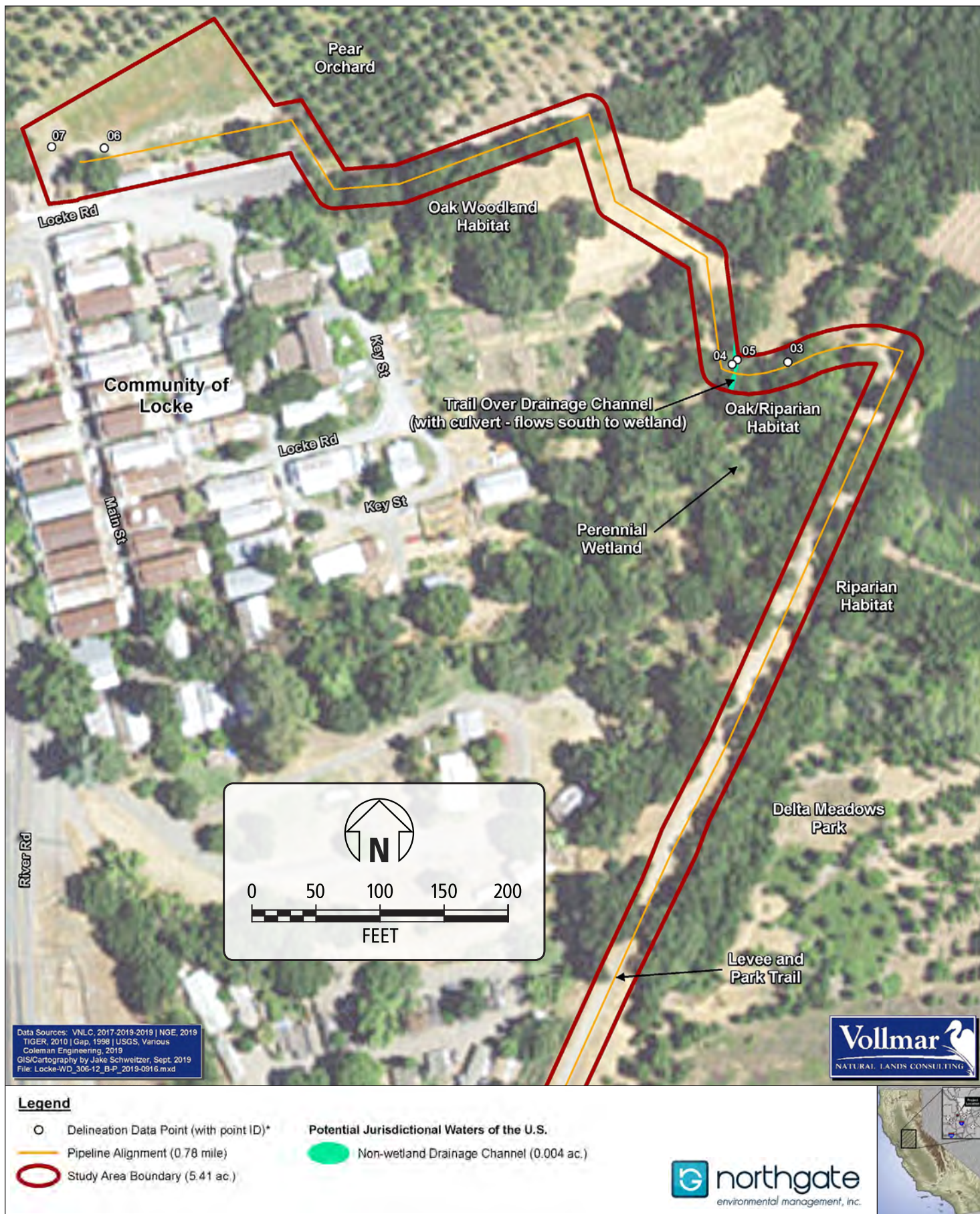
The Proposed Project would require excavation on the upper banks of the Delta Cross Channel to daylight the proposed pipeline so that it can be attached to the existing bridge; it is anticipated that approximately 4.2 cubic yards of soil would be excavated per side, or 8.4 cubic yards for the total crossing. The soil excavation would occur above the ordinary high-water mark, but below the top of bank; therefore, the work would require authorization from the CDFW and the RWQCB. There is no riparian vegetation in or near the proposed channel bank excavation area; vegetation in the area is dominated by herbaceous weedy species. The proposed entry and exit holes for the proposed horizontal directional drilling (HDD) would also be located outside of riparian habitat. All other proposed construction activities would also occur in upland areas dominated by non-native vegetation. Additionally, standard BMPs would be implemented (see Table 1, in Project Description) to protect the Delta Cross Channel and other nearby aquatic habitats from erosion and sedimentation during construction activities, and vegetated areas to be temporarily disturbed by construction would be hydroseeded with an appropriate seed mix or otherwise revegetated. Therefore, impacts to riparian and sensitive habitats would be ***less than significant***.

It should be noted that potential impacts to Waters of the US from HDD are addressed in Item C, below. The drainage channel may be subject to the jurisdiction of the ACOE and CDFW because it conducts water into perennial wetlands.

**c. Wetlands - Less than Significant with Mitigation.** Vollmar Natural Lands Consulting (VNLC) conducted a delineation of potential jurisdictional Waters of the United States for the project in April 2017, January 2019, and July 2019. The delineation identified a total of 0.126 acres of potential jurisdictional Waters of the United States within the approximately 5.41-acre study area; the locations of these features is shown in Figure 11.

At the Delta Cross Channel; the pipeline would be hung across the channel using the existing nonoperational former Southern Pacific railroad and standard BMPs would be implemented as part of the Proposed Project to protect the Delta Cross Channel during related construction activities. At the drainage channel, the pipeline would be emplaced below an existing culvert, such that the channel would not be directly impacted. Therefore, no impacts to jurisdictional Waters would occur.

It should be noted that the use of HDD would prevent fill from being deposited into a jurisdictional wetland, and consequently, a Section 404 permit from the ACOE and Section 401 Certification from the RWQCB is not expected to be required to cover this project component. However, since the project involves tunneling below a drainage channel, it is anticipated that a Streambed Alteration Agreement would be required from the CDFW. As



**Figure 11**  
 Potential Jurisdictional Waters of the United States

Source: Coleman Engineering



discussed above (B. Riparian and Sensitive Habitats), soil excavation on the banks of the Delta Cross Channel would occur above the ordinary high-water mark, but below the top of bank; therefore, the work would require authorization from the CDFW and the RWQCB.

### **Mitigation Measures**

BIO-9: Prior to the commencement of construction activities, the Proposed Project applicant shall obtain any required agreements/certifications/permits from the CDFW, RWQCB, and ACOE. The Proposed Project applicant shall implement all conditions of any required agreements/certifications/permits. At a minimum, and as expected to be required by the CDFW, the following measures shall be implemented:

- The Proposed Project applicant shall prepare a frac-out and spill containment contingency plan prior to construction activities under the drainage channel and the plan shall be approved by the CDFW. The plan shall outline measures to prevent the escape of drilling muds or other substances into the channel, as well as measures to be implemented in the event that an escape of drilling muds or other substances occurs.
- A qualified monitor shall be present while drilling beneath the drainage channel is occurring. The monitor shall look for signs of frac-out and shall have the authority to halt drilling and order the implementation of the approved frac-out and spill prevention plan in the event that an escape of drilling muds or other substances occurs.

**d. Wildlife Movement Corridors/Nursery Sites – *Less than Significant Impact.*** Wildlife corridors are described as pathways or habitat linkages that connect discrete areas of natural open space otherwise separated or fragmented by topography, changes in vegetation, and other natural or manmade obstacles such as urbanization. The proposed water pipe would be installed beneath the surface and vegetated areas to be temporarily disturbed by construction would be hydroseeded with an appropriate seed mix or otherwise revegetated. Therefore, the Proposed Project would not create a barrier or otherwise interfere with a wildlife movement corridor and related impacts would be ***less than significant***.

Potential impacts to nesting birds are addressed above (a. Effect on Special-Status Species). The use of the Sacramento River or Delta Cross Channel as a fish “nursery site” would not be affected by the Proposed Project; no construction activities are proposed within aquatic habitat and BMPs would be implemented as part of the Proposed Project to prevent erosion, sedimentation, or other potential incidental affects to waterways.

Insert Figure 10

**e. Local Policies/Ordinances - *Less than Significant with Mitigation.*** The Proposed Project would require some tree removal, including native oaks.

A Sacramento County tree permit is required to remove or prune any public tree and certain private trees. Public trees are those that occur on any County owned land (parks, building grounds, etc.) and/or within right-of-way areas. Sacramento County also requires a tree permit for the removal of any native oak tree. The Sacramento County General Plan Conservation Element (Section VII) includes policies that address tree replacement requirements. In the absence of obtaining a tree permit and complying with the relevant tree replacement policies, related impacts would be potentially significant.

**Policy CO-139** requires that 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** requires that projects involving native oak woodlands, oak savannah or mixed riparian areas, will ensure mitigation through various methods, with the most relevant methods being:

- Removal of native oaks shall be compensated with native oak species with a minimum of a one to one 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.

The required equivalent compensation of a minimum tree replacement value is as follows:

- One deepot seedling = 1 inch dbh
- One 15-gallon tree = 1 inch dbh
- One 24-inch box tree = 2 inch dbh
- One 36-inch box tree = 3 inch dbh

Based on a review of the Conservation Element of the Sacramento County General Plan, it is not expected that the Proposed Project could conflict with any other goals, objectives, or policies regarding biological resources.

## **Mitigation Measures**

BIO-10: Prior to the commencement of construction, the Proposed Project applicant shall prepare a tree removal and tree replacement plan. The plan shall identify all trees to be removed, including species, size (dbh), and health. For the replacement of trees, the plan shall demonstrate compliance with General Plan Policy CO-139 and Policy CO-140.

**f. Habitat Conservation Plan/Natural Communities Conservation Plan - *No Impact*.** The Proposed Project site is not part of or near an existing Habitat Conservation Plan or Natural Communities Conservation Plan or any other local, regional, or state habitat conservation plan. Therefore, the Proposed Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, ***no related impact*** would occur.

**g. Conversation of Oak Woodlands – *Less than Significant Impact*.** As described in item e., above, most of the Proposed Project alignment would run along an old railroad corridor. However, some oaks would be removed during construction. The loss of oaks would be small in number, and would not represent a significant impact to any oak woodlands. Tree replacement, as detailed in Item e, and mitigation measure BIO-10, would further minimize this impact. Therefore, this impact would be ***less than significant***.



## V. CULTURAL RESOURCES:

Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Background:

The Archaeological Research Center, California State University, Sacramento conducted a cultural resources study of the Proposed Project area including a records search at the North Central Information Center (NCIC) of the California Historical Resource Information System at California State University, Sacramento, a Native American Heritage Commission (NAHC) Sacred Lands File search, a pedestrian survey, and subsurface investigations. The records search indicates whether there are known cultural resources located within or near the Proposed Project area. The search included a query of the California Historical Resources Information System (CHRIS) for resources listed on or determined eligible for listing on the National Register of Historical Place (NRHP), the California Register of Historical Resources (CRHR), California State Historical Landmarks, California State Points of Historical Interest, and historic building surveys within or near the Proposed Project area.

The results of the records search indicated there have been four previous cultural resources surveys done in the past within all or portions of the Proposed Project footprint/area of potential effects (APE). Those studies identified two previously recorded historical resources/historic properties (the Locke Historic District and the Walnut Grove Branch Line Railroad) in the APE. The Locke Historic District (P-34-002357) is a National Historic Landmark and is listed on the National Register of Historic Places (NHRP) and the California Register of Historical Resources (CRHR) and the Walnut Grove Branch Line Railroad (P-34-01092) has also been determined eligible for both registers.

The Sacred Lands File search results returned negative results but Tribal outreach identified that Wilton Rancheria (Wilton) had concerns about impacts to buried archaeological sites. Wilton requested tribal monitors for all ground disturbing activities (see also "Tribal Cultural Resources" section below). Based on the information received from Wilton, the State Water Board elected to have subsurface testing done, monitored by a Wilton Rancheria tribal monitor, to assess the potential for impacts to cultural and tribal cultural resources. No

cultural resources including Native American sites or artifacts were identified in the Proposed Project footprint.

## **Discussion:**

**a, b, c. Historical and Archaeological Resources and Human Remains– *Less than Significant with Mitigation*.** The Locke Historic District (P-34-002357) is not expected to be impacted by the Proposed Project. The pipeline tie-in to the town will not cross any of the contributing elements of the district. The line will be buried and the ground restored to its previous condition. The Walnut Grove Branch Line Railroad (P-34-001092) originally ran along an elevated berm. The tracks were previously removed from the portion of the berm in the project area and the berm itself was removed south of Mahler Road in Walnut Grove. Therefore, the only impacts to this resource will from trenching within the berm; however, the grade will be restored to its previous condition once the work is completed.

Archaeological survey and subsurface testing did not identify archaeological artifacts or sites. Significant archaeological resources are unlikely to be present in the Proposed Project area, however, the following mitigation measures will ensure that any potential impacts would be reduced to less than significant levels.

## **Mitigation Measures**

- CUL-1: Before any construction activities begin on the Proposed Project, a qualified archaeologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a discussion of the ability to stop work if artifacts, bones, or other potential archaeological indicators are found, and a description with some examples or photographs of the kinds of artifacts or features that could be encountered during construction. The training shall also cover the confidential nature of archaeological site locations and the laws and penalties protecting burials and archaeological sites.
- CUL-2: If a potentially significant archaeological resource is discovered that could be impacted by an activity, the applicant will cease work in the vicinity of the find and immediately notify the State Water Board, Division of Financial Assistance and implement the following measures.
- Determine if avoidance or preservation in place is feasible. Consistent with State CEQA Guidelines Section 15126.4(b)(3), avoidance or preservation may be accomplished through creating exclusion zones, developing procedures and guidelines for maintenance activities in archaeologically sensitive areas, planning construction to avoid the resource; or capping and covering the resource.
  - If avoidance or preservation in place is not feasible and the resource is a tribal cultural resource, the lead agency will consult with interested Tribes to determine appropriate mitigation alternatives that will both mitigate the archaeological value and the Tribal cultural value of the site.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<b>VI. ENERGY:</b>				
Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### **Discussion**

**a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation – *Less than Significant Impact*.** The Proposed Project would not result in wasteful, inefficient, or unnecessary consumption of energy, given its purpose to provide a reliable potable water supply to the town of Locke. There would be minimal new energy requirements by the renovated water system after Proposed Project additions (mostly associated with the pump station). Therefore, this impact would be ***less than significant***.

**b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency – *Less than Significant Impact*.** The Proposed Project water system would be installed in accordance with California’s CALGreen construction codes, which emphasize energy efficiency as one of the major goals for building and infrastructure improvements to support the State’s growing population and economy. Therefore, this impact would be ***less than significant***.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<b>VII. GEOLOGY AND SOILS:</b>				
Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to California Geologic Survey Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

disposal systems where sewers are not available for the disposal of waste water?

- f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? ☐ ☐ ☐ ☒

## Background:

### ***Geology***

The Proposed Project site lies in the Great Valley geomorphic province, which is characterized by a relatively flat alluvial plain made up of deep sediment deposits. The Proposed Project area is underlain by Holocene flood plain deposits laid down by the Sacramento river, and human-deposited fill materials (for levees, railroad grades, etc.).

### ***Seismicity***

The Proposed Project area is subject to seismic shaking from the Dunnigan Hills, Midland, Concord-Green Valley, Vaca, Calaveras, Hayward, and San Andreas faults, and other smaller active or potentially active faults in the region. There are no faults running through or near (within 10 miles of) the Proposed Project site. The California Division of Mines and Geology has mapped the western portion of Sacramento County is in a moderate ground-shaking zone. (County of Sacramento General Plan Safety Element Background Amended November 9, 2011, Figure II-5). The site is mapped as in a medium to low liquefaction and levee collapse hazard zone (Sacramento County Local Hazard Mitigation Plan Update September 2011, Figure 4.30).

### ***Soils***

Soils in the Sacramento Valley are developed almost entirely from river and lake basin deposits on various geomorphic surfaces. Valley land soils are found in central Sacramento County. These soils are alluvial in nature and are highly valued for irrigated crops.

### ***Paleontology***

The Proposed Project site is located in Holocene-aged sediments and recent human-made earthen structures. Holocene sediments are recent, less than 11,000 years old, and are not considered to contain important paleontological resources. The railroad berm is of relatively recent construction and would not be expected to contain paleontological resources.

## Discussion:

**a. i, ii, iii. Fault Rupture, Ground Shaking, Ground Failure - *Less than Significant Impact*.** The Proposed Project area is subject to moderate ground shaking and medium-to-low liquefaction hazard zone. No fault rupture is likely at the site. Any seismically induced

damage to the proposed pipeline due to seismic shaking and localized liquefaction would be repaired as needed. These impacts would be ***less than significant***.

**a. iv. Landslides – No Impact.** The Proposed Project site is located on nearly level topography in a flat valley plain. No landslides are possible in this area. The Proposed Project will have ***no impact***.

**b. Soil Erosion - Less than Significant Impact.** Soil erosion hazards could occur during construction, especially during trenching and prior to replacement of soils into the trench and revegetation. Soil exposed by grading activities could be subject to erosion if exposed to heavy rain. The Proposed Project applicant would be required to create and implement an erosion control plan prior to the start of grading activities, as described in BMP-3 in the Project Description. Soil erosion and/or loss of topsoil during construction and grading activities would be ***less than significant***.

**c. Unstable Soil - Less than Significant Impact.** The site is not known to be underlain by unstable soils. The pipeline would not result in, or be subject to, differential settlement or other soil instabilities. Therefore, this impact would be ***less than significant***.

**d. Expansive Soil - Less than Significant Impact.** No survey of soils on the site has been conducted. However, site soils would be tested for expansion potential before replacement as trench backfill. Any unsuitable soils would, as part of the Proposed Project, either be treated to limit expansion potential or not be used, and would be replaced by suitable imported fills. Therefore, this impact would be ***less than significant***.

**e. Inadequate Soils for Disposal - No Impact.** The Proposed Project would not include the installation of septic tanks or alternative wastewater disposal systems, and would therefore have ***no impact*** on soils related to septic tanks or alternative wastewater disposal systems.

**f. Destroy a Unique Paleontological Feature - No Impact.** Proposed Project activities would not extend beyond the Holocene geologic units and into older sediments. Thus, there is no possibility of the presence of paleontological resources. The Proposed Project would have ***no impact***.

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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## VIII. GREENHOUSE GAS EMISSIONS:

Would the project:

- |  |                          |                          |                                     |                          |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?      | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

### Background

Gases that trap heat in the atmosphere are referred to as greenhouse gases (GHGs) because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse does. The accumulation of GHGs has been implicated as the driving force for global climate change. The primary GHGs are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O), ozone, and water vapor.

While the presence of the primary GHGs in the atmosphere are naturally occurring, CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O are also emitted from human activities, accelerating the rate at which these compounds occur within earth's atmosphere. Emissions of CO<sub>2</sub> are largely by-products of fossil fuel combustion, whereas methane results from off-gassing associated with agricultural practices and landfills. Other GHGs include hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, and are generated in certain industrial processes. Greenhouse gases are typically reported in units of "carbon dioxide-equivalents" (CO<sub>2</sub>e).<sup>7</sup>

There is international scientific consensus that human-caused increases in GHGs have and will continue to contribute to global warming. Potential global warming impacts in California may include, but are not limited to, loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years. Secondary effects are likely to include a global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity (California Climate Change Portal, accessed September, 2015.)

California Air Resources Board (CARB) estimated that in 2011 California produced 448 million gross metric tons of CO<sub>2</sub>e, or about 535 million U.S. tons CARB found that transportation is the source of 37.6 percent of the state's GHG emissions, followed by

<sup>7</sup> Because of the differential heat absorption potential of various GHGs, GHG emissions are frequently measured in "carbon dioxide-equivalents," which present a weighted average based on each gas's heat absorption (or "global warming") potential.



industrial sources at 20.8 percent and electricity generation (both in-state and out-of-state) at 19.3 percent. Commercial and residential fuel use (primarily for heating) accounted for 10.1 percent of GHG emissions.

### ***Regulatory Setting***

*Assembly Bill 32* (AB 32) required the CARB to lower GHG emissions to 1990 levels by 2020 - a 25 percent reduction statewide, with mandatory caps for significant emissions sources. AB 32 directed CARB to develop discrete early actions to reduce GHG while also preparing a scoping plan (i.e., the Climate Change Scoping Plan) in order to identify how best to reach the 2020 goal.

Motivated by AB 32, the CARB estimated statewide GHG emissions in 2020 under business-as-usual (BAU) conditions (i.e., a scenario where no GHG reduction measures are taken) and identified a 28.5 percent reduction in GHG from year 2020 BAU levels as necessary to achieve the targets of AB 32. CARB has since updated the BAU forecast to reflect conditions in light of the 2008 economic downturn and measures not previously considered in the Scoping Plan baseline inventory. The revised forecast shows that a 21.6 percent GHG reduction from 2020 BAU would be necessary.

Statewide strategies to reduce GHG emissions include the Low Carbon Fuel Standard (LCFS), the California Appliance Energy Efficiency regulations, the California Renewable Energy Portfolio standard, changes in the motor vehicle corporate average fuel economy (CAFE) standards, and other early action measures that would ensure the state is on target to achieve the GHG emissions reduction goals of AB 32.

In an effort to make further progress in attaining the longer-range GHG emissions reductions required by AB 32, Governor Brown identified an additional goal (i.e., reducing GHG emissions to 40% below 1990 levels by 2030) to be attained by implementing several key climate change strategy “pillars:” (1) reducing present petroleum use in cars and trucks by up to 50 percent; (2) increasing from one-third to 50 percent the share of California’s electricity derived from renewable sources; (3) doubling the energy efficiency savings achieved at existing buildings and making heating fuels cleaner; (4) reducing the release of methane, black carbon, and other short-lived GHGs; (5) managing farm and rangelands, forests and wetlands to more efficiently store carbon; and (6) periodically updating the State's climate adaptation strategy.

The SMAQMD CEQA Guide specifies 1100 metric tons of CO<sub>2</sub>e per year as significance thresholds for both construction and operational GHG emissions from land use projects, which is also considered the definition of a cumulatively considerable contribution to the global GHG burden and, therefore, of a significant cumulative impact. The CEQA Guide methodology and thresholds of significance have been used in this Initial Study’s analysis of potential GHG impacts associated with the Proposed Project.

**a. Generate greenhouse gas emissions – *Less than Significant Impact.***

The CalEEMod (California Emissions Estimator Model, Version 2016.3.2) model was used to quantify GHG emissions associated with Proposed Project construction activities. The Proposed Project's estimated construction GHG emissions are 40.2 metric tons of CO<sub>2</sub>e, which is well below the SMAQMD's 1,100 metric tons of CO<sub>2</sub>e/year construction emissions threshold. The Proposed Project's net new GHG operational emissions (only from emergency diesel-powered generator testing) would be 0.2 metric tons per year at most, also below the SMAQMD threshold. The Proposed Project would have a ***less than significant impact.***

**b. Conflict with an applicable plan – *Less than Significant Impact.***

By providing a replacement water source for the 120 residents of Locke, the Proposed Project would not conflict with the goals of AB 32 or any other State climate change prevention or adaptation strategies. Thus, the Proposed Project would not conflict with applicable plans, policies, and regulations adopted for the purpose of reducing GHG emissions and, thus, would have a ***less than significant impact.***

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<b>IX. HAZARDS AND HAZARDOUS MATERIALS:</b>				
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Background:

Portions of the Proposed Project corridor have historically been used as a utility corridor and railroad line, and some soils contamination may be present.

## Discussion:

**a. Hazardous Materials Transport – *No Impact*.** The Proposed Project is a potable water pipeline and pump station, and would not involve the routine transport of hazardous materials. Minor amounts of hazardous materials (i.e., solvents and pipe welding supplies) would be transported to the site for use in construction (see Item b), below). Those materials would be transported in appropriate containers (typically original packaging) and ***no impact*** would occur.

**b. Hazardous Materials Accidental Release - *Less than Significant Impact*.** Proposed Project construction may involve the use of equipment, fuels, solvents, welding equipment, and other sources of potentially hazardous materials. BMP-4 in the Project Description, which is incorporated into the Proposed Project, includes measures to minimize the risk of release of hazardous materials, and contamination of soil or groundwater by any such releases. The potential impact of release of hazardous materials would be ***less than significant***.

**c. Hazardous Materials Emissions – *No Impact*.** The Proposed Project is a small water pipeline, which does not have the potential to emit any hazardous materials. The nearest school is the Walnut Grove Elementary School, about 1400 feet south of the southern end of the line. The Proposed Project would have ***no impact***.

**d. Hazardous Site List – *No Impact*.** The Proposed Project site is not on or near a hazardous materials site listed pursuant to Government Code Section 65962.5, commonly called the “Cortese List”, accessed February 9, 2017:  
([http://www.envirostor.dtsc.ca.gov/public/search.asp?CMD=search&ocieerp=False&HWP=False&business\\_name=&main\\_street\\_name=&city=locke&zip=95690&county=sacramento&case\\_number=&apn=&Search=Get+Report](http://www.envirostor.dtsc.ca.gov/public/search.asp?CMD=search&ocieerp=False&HWP=False&business_name=&main_street_name=&city=locke&zip=95690&county=sacramento&case_number=&apn=&Search=Get+Report)). The Proposed Project would have ***no impact***.

**e. Airport Hazards - *No Impact*.** The closest public use airport to the Proposed Project site is Franklin Field Airport, approximately 6 miles northeast of the Proposed Project site. The Proposed Project is a small water line and associated facilities, and would be mostly subsurface. The closest private airstrips to the Proposed Project site are Spezia Airport in Isleton, approximately 8 miles southwest of the Proposed Project site, and Flying B Ranch, a similar distance to the northeast. The Proposed Project is a small water line and associated facilities, and would be mostly subsurface. Therefore, it would not affect or be affected by airport uses and ***no impact*** would result.

**f. Emergency Response Plan - *No Impact*.** The Proposed Project is a small water pipeline that would not interfere with any roadways or other emergency access-ways. Therefore, ***no impact*** to emergency response would result.

**g. Wildland Fires - *No Impact*.** The Proposed Project site is located in an urban and agricultural area and is not intermixed or located adjacent to substantial areas of wildlands. The Proposed Project area is mapped as a Non-Very High Fire Severity Zone (Cal Fire Sacramento County Fire Hazard Severity Zone Map, July 30, 2008). The Proposed Project itself is a water line, which would have no potential adverse effect on wildfires. Therefore, the Proposed Project would not expose people or structures to significant risks associated with wildland fires, and ***no impact*** would result.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<b>X. HYDROLOGY AND WATER QUALITY:</b>				
Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through addition of impervious surfaces, in a manner which would:				
i) result in a substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Background:**

The site is located on nearly level land (the only topographic feature is the elevated

levee/former railroad bed) situated about 120 to over 200 feet inland from the Sacramento River. A portion of the corridor crosses the Delta Cross Channel (via the former railroad bridge), which connects Snodgrass Slough to the Sacramento River. The Delta Cross Channel flows are controlled by a control structure located just south of the former railroad bridge. The alignment is at approximately Mean Sea Level, and drains overland into the adjacent river and sloughs.

## **Discussion:**

**a, c i). Water Quality Effects and Erosion – *Less than Significant Impact.*** Construction of the Proposed Project, as well as grading and excavation activities, may result in temporary impacts to surface water quality. Proposed Project grading and construction activities could affect the water quality of storm water surface runoff. After construction, the corridor would mostly revegetate naturally (active revegetation may occur in high-erosion areas) and erosion potential would be similar to present.

To address the issue of changes in surface water quality as a result of development and construction activities, the federal government implemented the National Pollution Discharge Elimination System (NPDES). NPDES is an amendment of the federal Clean Water Act from 1987 that mandates that each population center obtain a permit to discharge stormwater. The limits vary by category of industry and are based on a level of treatment that uses the best available technology. Storm water that would be discharged from the site during construction activity would be subject to regulation under the NPDES program. The California State Water Resources Control Board is responsible for establishing water quality standards statewide, and designates the Central Valley Regional Water Quality Control Board (CVRWQCB) for regulation of discharges of wastes and runoff in this area.

The Proposed Project would disturb less than one acre of land and therefore would not be subject to the statewide Construction General Permit. However, it would be required to comply with County of Sacramento's Construction Site Stormwater Control Program, which the County implements in compliance with the Phase I MS4 permit (CVRWQCB 2015) issued to the County and other local jurisdictions. As part of its compliance with County of Sacramento requirements during the permitting process, Locke Water Works Company and/or its contractor would prepare and implement a stormwater pollution prevention plan (SWPPP) or equivalent plan and prevent any polluted dewatered groundwater from being discharged to surface waters or groundwater. Implementation of the BMPs described in Chapter 2, Project Description, would require the development and implementation of adequate erosion control, spill prevention, and other construction BMPs that would protect groundwater and surface water quality. This impact would be ***less than significant.***

**b. Groundwater Supplies – *Less than Significant Impact.*** The Proposed Project would eliminate the domestic use of the existing well, replacing that water with SCWA water drawn from river sources. This could potentially reduce the draft of local groundwater. Agricultural use of the existing well would remain unchanged. This impact would be ***less than significant.***



**c ii), iii), and iv). Drainage and Flood Flows - *Less than Significant Impact.*** As discussed below, construction of the Proposed Project would not alter site drainage or substantially increase impervious surfaces, and would not affect capacity of existing and planned drainage systems.

The project would create only a very small amount of new impervious surfaces (less than 200 sq. ft.), which would be associated with the new pumping plant. This would not measurably affect runoff that could contribute to flooding in the project area (c.ii). Additionally, this small amount of increased runoff would have no effect on any existing or planned storm drainage system (ciii). Therefore this impact would be ***less than significant***.

The southern portion of the Proposed Project site, in Walnut Grove, is not located within the 100-year flood zone, although flood hazards may occur due to levee failure or overtopping. Some of the northern areas of the site (in Locke) are within a mapped 100-year flood zone. However, the southern tip of Locke as well as the levee top, which constitute a portion of the proposed pipeline alignment are not within a mapped 100-year flood hazard zone (Federal Emergency Management Agency, Flood Insurance Rate Map, Sacramento County, California, Panel 0560H, August 16, 2012). The Proposed Project would consist of subsurface water pipelines, which not have the potential to impede or redirect flood waters (c.iv). There would be ***no impact***.

**d. Release of Pollutants in Flood Hazard, Tsunami, or Seiche zones - *Less Than Significant Impact.*** The Proposed Project site is well inland from coastal areas subject to tsunamis, and is not subject to that hazard. It is not adjacent to a large, enclosed body of water subject to seiche hazards. Although the site is in a flood zone, it would not release substantial pollution due to inundation (see discussion under Item a), above). Therefore, water quality impacts from inundation by seiche, tsunami, or flooding would be ***less than significant***.

**e. Water Quality or Groundwater Management Plan –** The Sacramento County water Agency has adopted a Groundwater Management Plan (October 26, 2004), however that plan does not apply to the Locke area. In addition, as discussed in items a and b, above, the Proposed Project would have minimal impact to water quality and groundwater. Therefore it would not have the potential to conflict with any applicable water quality or groundwater management plans. ***No impact*** would result.

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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## XI. LAND USE AND PLANNING:

Would the project:

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Physically divide an established community?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

### Background:

The Proposed Project alignment extends from a SCWA - owned open parcel in an urban part of Walnut Grove, through agricultural, residential, and industrial areas, across a railroad bridge over a tributary slough to the Sacramento River, then through open space, to its connection with the existing system. With the exception of the SCWA yard and the pump station at the north end of Locke, the Proposed Project would be subsurface. Nearby uses include residential, commercial, industrial, agricultural, and open space uses.

The Proposed Project alignment is designated Low-Density Residential and Agricultural Cropland in the Sacramento County General Plan<sup>8</sup>. Portions of the alignment are zoned SPA, Special Planning Area; A-1-A, Limited Agricultural; AG-20, Agricultural, 20 Acres; O, Recreation; and DW, Delta Waterways<sup>9</sup>

Major portions of the town of Locke, including the northern portion of the proposed pipeline corridor and the hookup location with the existing Locke Water Works Company distribution system, are within the Locke Special Planning Area<sup>10</sup> (SPA). This SPA recognizes the unique design and environment of Locke and promotes the retention of the viable commercial center in the Historical Preservation Area as well as preservation of the Chinese-American cultural aspects for the community. The SPA requires the review of projects measure against these unique standards in conjunction with the Locke Design Guidelines and Secretary of Interior Standards for the Treatment of Historic Properties. The area west of River Road in the Boathouse Commercial Area and areas south of the Historical Preservation Area are not subject to the Locke Design Guidelines, although rehabilitation and development activities must be sensitive to the cultural/historical nature of the area.

<sup>8</sup> Sacramento County 2030 General Plan Land Use Map, Adopted November 9, 2011

<sup>9</sup> Sacramento County Online Map, Zoning Overlay; accessed February 6, 2017

<sup>10</sup> Zoning Code of Sacramento County, Title V: Special Planning Areas and Neighborhood Preservation Areas, Chapter 4, Article 4, Locke Special Planning Area

## Discussion:

**a. Division of Community – *No Impact*.** The Proposed Project's surface features in Walnut Grove would be located on an existing vacant parcel separating residential and industrial areas. Similarly, the hookup in the town of Locke would be at existing water facilities. These small hookup facilities would not alter any community. The water pipeline would be subsurface in existing utility and former railroad easements, and also would have no potential to alter or divide any community. The provision of a safer water source would benefit the existing community. There would be ***no impact***.

**b. Plan Conflict – *No Impact*.** A water service line would be permitted under all of the zoning and General Plan designations along the alignment. The hookup in Locke would be a small feature and would not conflict with the Locke SPA policies or design guidelines. Therefore, the Proposed Project would have ***no impact*** with respect to consistency with plans and policies.

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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## XII. 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?                                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

### Background:

There are no known mineral resources on the site. The Open Space and Conservation Element of the Sacramento County General Plan (Figure 10) does not identify any mineral resources in the vicinity of the Proposed Project.

### Discussion:

**a, b. Mineral Resources - *No Impact*.** The site contains no known mineral resources. There would be ***no impact*** from the Proposed Project.

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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### XIII. NOISE:

Would the project result in:

- |   |                          |                          |                                     |                                     |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Generation of excessive ground-born vibration or ground-born noise levels?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

### Background:

#### Environmental Setting

Sound is created when vibrating objects produce pressure variations that move rapidly outward into the surrounding air. The more powerful the pressure variations, the louder the sound perceived by a listener. The decibel (dB) is the standard measure of loudness relative to the human threshold of perception. Noise is a sound or series of sounds that are intrusive, objectionable or disruptive to daily life. Many factors influence how a sound is perceived and whether it is considered disturbing to a listener; these include the physical characteristics of sound (e.g., loudness, pitch, duration, etc.) and other factors relating to the situation of the listener (e.g., the time of day when it occurs, the acuity of a listener's hearing, the activity of the listener during exposure, etc.). Environmental noise has many documented undesirable effects on human health and welfare, either psychological (e.g., annoyance and speech interference) or physiological (e.g., hearing impairment and sleep disturbance).

Major noise sources in Sacramento County include on-road motor vehicles, trains, aircraft, and industrial/commercial/agricultural activities. In the Proposed Project site vicinity, State Route 169 is the largest source of noise from motor vehicle traffic, but it is on the west bank of the Sacramento River across from the Proposed Project site. Traffic noise from River Road on the east bank is more influential in Locke and along the proposed water pipeline

corridor. Noise from commercial and agricultural sources within and around Locke and Walnut Grove are also influential, as is noise from power-boats operating on the Sacramento River.

### Regulatory Setting

The noise analysis applied the noise policies and standards identified in the Noise Element of the Sacramento County General Plan of 2005-2030 (amended November 2011) and in the Sacramento County Code.

The following noise control goals and policies of the Noise Element are relevant to assessing the potential for noise impacts from the Proposed Project.

- Goal 1: To protect the existing and future citizens of Sacramento County from the harmful effects of exposure to excessive noise. More specifically, to protect existing noise-sensitive land uses from new uses that would generate noise levels which are incompatible with those uses, and to discourage new noise-sensitive land uses from being developed near sources of high noise levels.
  - Policy NO-8: Noise associated with construction activities shall adhere to the County Code requirements. Specifically, Section 6.68.090(e) addresses construction noise within the County.

The Noise Element noise standards for residential areas are shown in Table NOISE-1, below.

**Table Noise-1: Sacramento County Residential Noise Standards**

Noise Source	Outdoor Areas				Indoor Areas	
	L <sub>dn</sub>				L <sub>dn</sub>	
<b>Traffic &amp; Railroad</b>	65 dBA				45 dBA	
	Daytime		Nighttime		Day & Night	
	L <sub>50</sub>	L <sub>max</sub>	L <sub>50</sub>	L <sub>max</sub>	L <sub>50</sub>	L <sub>max</sub>
<b>Non-Transportation</b>	55 dBA	75 dBA	50 dBA	70 dBA	35 dBA	55 dBA
Note: The <b>decibel (dB)</b> is the standard measure of a sound's loudness relative to the human threshold of perception. Decibels are said to be <b>A-weighted (dBA)</b> when corrections are made to a sound's frequency components during a measurement to reflect the known, varying sensitivity of the human ear to different frequencies. The <b>Equivalent Sound Level (L<sub>eq</sub>)</b> is a constant sound level that carries the same sound energy as the actual time-varying sound over the measurement period. The <b>Day-Night Average Sound Level (L<sub>dn</sub>)</b> is a 24-hour average, A-weighted L <sub>eq</sub> with a 10-decibel penalty added to sound levels occurring at night between 10:00 p.m. and 7:00 a.m. <b>Statistical Sound Levels</b> – L <sub>min</sub> , L <sub>50</sub> and L <sub>max</sub> – are the minimum sound level, the sound level exceeded 50 percent of the time and the maximum sound level, respectively.						

According to the Sacramento County Code (Chapter 6.68 Noise Control) construction activity shall be restricted as follows:

“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.”

## **Discussion:**

### **a. Generation of substantial temporary or permanent increase in noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies – *Less than Significant Impact.***

The residential uses in Locke/Walnut Grove and along the pipeline corridor between them are the prime noise-sensitive receptors that would be affected by the Proposed Project. The pipeline corridor and the receptors in/near it are not near any freeways, state highways, other high-volume roadways, major railway lines or airports (i.e., State Route 160 is on the west bank of the Sacramento River more than 500 feet west of the site; the I-5 freeway and the Union Pacific main north-south rail line are more than 2 miles east of the site; the County’s major airports are all more than 15 miles north and/or east of the site), therefore existing daily average noise levels at Locke’s/Walnut Grove’s residential receptors are very likely below County standards (i.e., 65 dBA Ldn exterior, 45 dBA Ldn interior).

Construction equipment/activity is widely recognized as a major incremental noise source and for its potential to cause substantial disturbance when a construction site is located near noise-sensitive receptors (e.g., residential areas, schools, hospitals/nursing homes, public parks, etc.). During Proposed Project pipeline construction, equipment would sometimes be operating within 50 feet of some of the existing homes in the pipeline corridor.

The Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM) was used to estimate the noise levels at the closest existing residential uses.<sup>11</sup> The outdoor noise level at these receptors would be about 78 dBA (workday average)) per RCNM estimate. This level is of concern because residential uses are noise-sensitive. Considering that the entire duration of Proposed Project construction would be 4-5 weeks, with maximum impact to any individual home a few days at most, temporary voluntary shifts by residents to less-affected outdoor spaces, or to indoor rooms not facing the construction activity, could be accommodated without substantial inconvenience to allow normal community activity to continue until Proposed Project construction is complete. With implementation of BMP-6 to reduce Proposed Project incremental construction noise impacts to the maximum feasible extent, construction noise impacts would be ***less than significant***.

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<sup>11</sup> All pieces of equipment operating at any one time during the construction of a particular project component will not have comparable noise impacts at any one place. The noise impact of the closest piece of equipment to a receptor is dominant and only a limited number of additional equipment can operate effectively in close proximity to the closest piece. The FTA recommends that construction noise impacts be estimated using a 2-3 piece working group of equipment characteristic of a particular project’s construction type or phase, which in this case was a backhoe, a front-end loader and a dump truck.

Operation of the new pipeline would not generate any substantial new incremental noise. The pipeline would be buried at least 3 feet below ground level and its valves/meters, extending above ground at the connection point with Locke Water Works Company's water distribution system would have no substantial noise emissions. Pump station noise would be minimized by its use of electric pumps and their enclosure within a building. The emergency diesel-powered generator to back-up the electric pumps would only require periodic testing for short periods (i.e., maximum one-hour daily tests for not more than 50 hours total per year). Thus, post-Project noise levels in the Locke/Walnut Grove residential areas would be within established standards and ***less than significant***.

**b. Generation of excessive vibration – *Less Than Significant Impact*.** The Sacramento County Noise Element does not include any recommended vibration assessment methodologies, impact standards or reduction strategies. Standards developed by the Federal Transit Administration (FTA) (2006) are most commonly applied to this sort of project and were used in assessing vibration impacts. According to the FTA, limiting vibration levels to 94 vibration decibels (VdB - the common measure of vibration magnitude - similar to dB for noise) or less would avoid structural damage to wood and masonry buildings (which are typical of residential structures in Locke), while limiting vibration levels to 80 VdB or less at residential locations would avoid significant annoyance to the occupants.

All construction equipment has the potential for causing structural damage and/or annoyance if the construction activity too often comes too close to vibration-sensitive receptors. Heavily loaded trucks or tracked earth-moving equipment, which would be a part of the Proposed Project construction fleet, could pose a damage/annoyance threat if they would regularly and often come within 25 feet of a vibration-sensitive receptor during construction. Most of the existing homes in the pipeline corridor are 50 feet or more from the route centerline. The potential for damage/annoyance would be further lessened by the relatively short duration of Proposed Project trenching/pipeline installation (i.e., about 4-5 weeks in total), with construction activity near any particular home lasting a few days at most. Thus, the Proposed Project's construction vibration impact severity on nearby sensitive receptors would be ***less than significant***.

**c. Airport Noise - *No Impact*.** The closest public use airport to the Proposed Project site is Franklin Field Airport, located about 6 miles northeast of the site. Noise from that airport would not be audible at the site, and the Proposed Project is not subject to noise impacts. There are no private airstrips in the site vicinity.

The Proposed Project site is more than 15 miles from any of Sacramento County's major commercial airports and outside any of their 60 dBA Ldn noise contours, which is the level considered the beginning for potential aircraft noise impacts on existing residential uses. Further, the Proposed Project pipeline is not a noise-sensitive use. Thus, there would be ***no impact*** associated with aircraft noise.

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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#### XIV. POPULATION AND HOUSING:

Would the project:

- |   |                          |                          |                                     |                                     |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

#### Background:

The Proposed Project would construct a water line and connection/pumping facilities, which would be consistent with the site's zoning and General Plan designations. No residences would be constructed as part of this Proposed Project. Water supply is not a limitation to growth in the Proposed Project area.

#### Discussion:

**a. Population Growth - *Less than Significant Impact*.** The Proposed Project would replace an existing water supply that has excessive levels of arsenic with a non-contaminated supply. As noted above, water supply is not a major factor limiting growth in Locke or Walnut Grove. Therefore, the Proposed Project's effect on growth inducement would be *less than significant*.

**b. Displace Housing or People – *No Impact*.** The Proposed Project alignment contains no housing, and the Proposed Project would not displace any housing or people. There would be *no impact*.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
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## XV. PUBLIC SERVICES:

Would the project:

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities? The construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

i) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Background:

**Fire Protection:** Fire protection services for the Proposed Project site are provided by Walnut Grove Fire Department, located at 14160 Grove Street in Walnut Grove, a few hundred feet south of the southern end of the pipeline alignment.

**Police Protection:** Police protection services for the Proposed Project site are provided by the Sacramento County Sherriff's Department, which has a station at Theater Street and Grove Street in a few hundred feet south of the southern end of the pipeline alignment in Walnut Grove

**Schools:** The public school closest to the Proposed Project site is Walnut Grove Elementary School, about 700 feet south of the southern end of the proposed pipeline alignment.

**Parks:** A portion of the alignment runs along a levee-top trail of the California Department of Parks and Recreation's Delta Meadows River Park. This park is closed and undeveloped, but public access to the trail and surrounding waterways is permitted.

### Discussion:

**a. i. Fire Protection. *Less than Significant Impact.*** No new fire protection services would be required as a result of the Proposed Project. Construction activities would take place on

a site in which the land cover is primarily bare ground and ruderal vegetation, with some trees (see Section 3.4, Biological Resources). Operation of power tools and equipment during Proposed Project construction could provide an ignition source and increase fire risk in the area. Storage of flammable materials (e.g., fuel) during Proposed Project construction could also increase fire risk. However, construction activities would follow the requirements for fire safety during construction contained in the California Fire Code that are applicable to outdoor areas. Adherence to the applicable requirements of the California Fire Code would ensure that potential fire risk during Proposed Project construction would be ***less than significant***. In the long term, the Proposed Project would bring improved fire flows to Locke, which would improve fire protection.

**a. ii. Police Protection – No Impact.** The Proposed Project would have no potential to increase demand on police protection services because it would not result in any new development and its construction would not bring substantial numbers of people to the area. There would be ***no impact***.

**a. iii. Schools - No Impact.** The Proposed Project would have no potential to increase demand on school services because it would not result in any new development and its construction would not bring substantial numbers of people to the area. There would be ***no impact***.

**a. iv. Parks - Less than Significant Impact.** Proposed Project construction would temporarily require closure of the Delta Meadows River Park levee trail for a period of a few weeks. Access would be restored once construction is completed. This temporary, short-term impact would be ***less than significant***.

**a. v. Other public facilities - No Impact.** The Proposed Project would not affect other public facilities by increasing demand beyond anticipated levels. It would improve water supplies available for domestic use. There would be ***no impact***.

## XVI. RECREATION:

Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Background:

A portion of the alignment runs along a levee-top trail of the California Department of Parks and Recreation's Delta Meadows River Park. Delta Meadows River Park (DMRP) is a state park property of California, USA, preserving an undeveloped piece of the Sacramento–San Joaquin River Delta. At present, it is officially closed to the public and has no visitor services. The park encompasses sloughs, wet meadows, and an island between the Sacramento and Mokelumne Rivers. It is located near the historic Chinese American town of Locke, 28 miles equidistant from Sacramento and Stockton. The 472-acre Park was established in 1985.

DMRP preserves a river delta much as it appeared 150 years ago, crowded with stands of oak, tule, walnut, willow, and cottonwood. Abundant wildlife includes black-tailed deer, beavers, river otters, muskrats, and wetland birds such as great blue herons, wood ducks, mallards, belted kingfishers, and cormorants.

DMRP is primarily accessible by boat and by land from Railroad Slough Levee, which can be accessed from the River Road between Walnut Grove and Locke, via a small gravel road just north-east of the cross channel.

A portion of the Proposed Project alignment would be within the Railroad Slough Levee.

### Discussion:

**a. Increase Park Usage - No Impact.** The Proposed Project is a water supply intertie intended to replace an existing inadequate water supply. The pipeline would not affect population or park use. There would be **no impact**.

**b. Impact of Project Recreational Facilities - *Less than Significant Impact.*** The Proposed Project construction would require temporary closure of several hundred feet of the Delta Meadows River Park Railroad Slough levee-top trail for a period of a few weeks. Access would be restored once construction is completed. No expansion of existing recreational facilities or new recreational facilities are included in the Proposed Project. The temporary, short-term impact to an undeveloped park would be ***less than significant.***



Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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## XVII. TRANSPORTATION:

Would the project:

- |  |                          |                          |                                     |                                     |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?         | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| d) Result in inadequate emergency access?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

### Background:

The Proposed Project alignment is accessed via River Road, which parallels the Sacramento River in this area. The Locke portion of the alignment is accessed from River Road via Levee Road and Levee Street, as well as via other local roads in the town of Locke. The pump station site is accessed from Locke Road off of River Road.

### Discussion:

**a. Conflict with a plan, ordinance, or policy regarding the circulation system - *Less than Significant Impact*.** During construction, the Proposed Project would generate fewer than 10 daily vehicular trips, generated by Proposed Project construction workers and materials and equipment delivery trucks. The Proposed Project would not generate any additional traffic after construction. This level of additional trips would not materially affect traffic on River Road or any other local streets. It would have no effect on bicycle, transit, or pedestrian activities or facilities. Therefore, the impact would be ***less than significant***.

**b. Conflict with or Inconsistent with CEQA Guidelines 15064.3 – *Less than Significant Impact*.** This section of the CEQA Guidelines addresses vehicle miles traveled (VMT). The Proposed Project would result in a minimal, temporary increase in VMT during construction, and no long-term increase in VMT. Therefore, its impact would be ***less than significant***.

**d. Hazards - *No Impact*.** The Proposed Project would not create any hazards due to design features on the adjacent street system. As noted in Item a, above, a small number of truck trips would occur during construction, with no new trips after construction. Trucks regularly use River Road, with no major safety hazards in this area. There would be ***no impact***.

**e. Emergency Access - *No Impact*.** The Proposed Project construction or operation would not require any road or lane closures or otherwise impede emergency access. There would be ***no impact***.

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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## XVIII. TRIBAL CULTURAL RESOURCES:

Would the project:

- |     |   |                          |                                     |                          |                          |
|-----|---|--------------------------|-------------------------------------|--------------------------|--------------------------|
| a.  | Cause a substantial adverse change in the significance of a tribal cultural resource, as defined in Public Resources Code 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:  |                          |                                     |                          |                          |
| i)  | Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources code section 5020.1(k), or   | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ii) | A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

### Background:

Pursuant to PRC 21080.3.1, project notification letters and invitations to consult were sent by certified mail, return receipt on February 15, 2017 to two tribes who are traditionally and culturally affiliated with the Proposed Project area and who have requested project notifications from the State Water Board: the Wilton Rancheria (Wilton) and the United Auburn Indian Community of the Auburn Rancheria (UAIC). On March 17, 2017 Wilton Rancheria requested consultation with the State Board. The UAIC also requested consultation on March 27, 2017, after the 30-day period to respond under PRC 21080.3.1. However, the State Water Board did consult with the UAIC under Section 106 of the National

Historic Preservation Act. After an on-site meeting and discussion with Wilton and the State Board, the UAIC deferred consultation to the Wilton Rancheria.

In addition to the tribes contacted pursuant to PRC 21080.3.1, notification letters were also sent to other tribes indicated by the NAHC to be affiliated with the Proposed Project area. Letters were sent to the Buena Vista Rancheria of Me-Wuk Indians, the Lone Band of Miwok Indians, the Mooretown Rancheria of Maidu Indians, the Nashville-El Dorado Miwok, the Tsi Askim Maidu, and the Shingle Springs Band of Miwok. The Shingle Springs Band of Miwok requested consultation, but later deferred to the Wilton Rancheria. None of the tribes identified tribal cultural resources in the Proposed Project footprint.

#### **Discussion:**

**a. i, ii. Tribal Cultural Resources – *Less than Significant with Mitigation.*** Based on the sensitivity of the area for buried archaeological sites, Wilton Rancheria requested tribal monitors to be present for ground disturbing activities and recommended that limited subsurface testing be used to determine if buried archaeological sites were present. Testing was done with a Wilton tribal monitor present and no archaeological materials were found. No impacts are expected to tribal cultural resources because no tribal cultural resources, including buried archaeological sites, have been identified in the Proposed Project area. However, if unanticipated tribal cultural resources are found during Proposed Project construction, it could potentially cause a significant impact. To reduce potential impacts to tribal cultural resources discovered during Proposed Project construction to less than significant levels, Mitigation Measures CUL-1 and CUL-2 shall be implemented (See Cultural Resources, Section V.).

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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## XIX. UTILITIES AND SERVICE SYSTEMS

Would the project:

- |  |                          |                          |                                     |                                     |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

### Background:

The Proposed Project would serve an area already served by existing public services. A portion of the pipeline alignment would generally follow an easement already in use for a sanitary sewer alignment, but would be separated from the sewer pipe by a minimum of 10 feet.

## Discussion:

**a. Expanded or relocated water, wastewater, or storm drain facility – *Less than Significant Impact.*** The Proposed Project is a water intertie and pumping plant. As such, it could be considered to be an expanded relocated water facility, however it would not require further water supply improvements beyond those proposed as part of the Proposed Project. Therefore, its impact to those facilities would be ***less than significant.***

The Proposed Project would not result in any new sewage generation. The Proposed Project would reduce the amount of arsenic in both the water supply to, and wastewater from Locke, thereby reducing impacts on wastewater treatment. Portable toilets would be used to provide restroom facilities for Proposed Project workers during the construction period. Proposed Project construction would not affect the existing sanitary sewer line, and the water line would be separated from that sewer line by a minimum of 10 feet. No new wastewater treatment facilities or expansion of existing facilities would be required as a result of the Proposed Project.

The Proposed Project would not increase impervious surfaces, increase runoff in the area, or alter any existing stormwater facilities. Therefore, it would have ***no impact*** to stormwater facilities. The Proposed Project would also not require additional electric power, natural gas, or telecommunications facilities.

**b. Water Supplies – *Less than Significant Impact.*** The Proposed Project would consume small amounts of water for dust control during construction. After construction, the Proposed Project would replace existing well water domestic supplies with SCWA supplies. The Locke area would consume about 20 acre-feet/year (AFY) of SCWA's total 2015 demand of over 29,000 AFY, or less than 0.001% of SCWA's annual demand. According to its Draft 2015 Urban Water Management Plan<sup>12</sup>, SCWA had about 83,000 AFY of available water as of 2015.

Therefore, the Proposed Project's use of SCWA water would be a minute portion of existing SCWA demand and total demand would be far lower than the available supply, which would be a ***less than significant*** impact.

**c. Wastewater Service – *No Impact.*** Please see response to item a, above. The Proposed Project would not generate any wastewater or affect any wastewater treatment facility.

**d. Solid waste generation – *Less than Significant Impact.*** The Proposed Project would generate small amounts of construction wastes and, possibly, small quantities of soil (less than 100 cubic yards) would be removed from the site by the Proposed Project contractor. This would not substantially affect landfill capacity in the area. The Proposed Project would generate no wastes after completion of construction. Therefore, this impact would be ***less than significant.***

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<sup>12</sup> Sacramento County Water Agency, 2015 Draft Urban Water Management Plan, May 2016, prepared by Brown and Caldwell.

**e. Solid Waste Statutes and Regulations – *No Impact*.** As described in item d, above, the Proposed Project would generate small quantities of solid waste during construction only. Most excavated soils would be reused as backfill. Any contaminated soils encountered would be tested and disposed of at an appropriate facility. Therefore, the Proposed Project would have ***no impact*** on solid waste regulations.



## XX. WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Discussion:

**a-d. Wildfire Risk, Exposure, Response, and Infrastructure – No Impact.** The Proposed Project site is located in an urban and agricultural area and is not intermixed or located adjacent to substantial areas of wildlands. The Proposed Project area is mapped as a Non-Very High Fire Severity Zone (Cal Fire Sacramento County Fire Hazard Severity Zone Map, July 30, 2008). The Proposed Project itself is a water line and pump station, which would have no potential adverse effect on wildfires or wildfire risk, and would improve fire-fighting capabilities in Locke. Emergency response and evacuation routes would be required to remain open under BMP-7. No additional infrastructure would be required for wildfire control. Therefore, the Proposed Project would not expose people or structures to significant risks associated with wildland fires, and **no impact** would result.

## XXI. MANDATORY FINDINGS OF SIGNIFICANCE:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially 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 a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Discussion:

**a. *Less than Significant with Mitigation.*** As discussed in the Biology Section of this document, with the incorporation of mitigation measures, the Proposed Project would not have the potential to degrade the quality of the environment, substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal. Similarly, the Proposed Project's potential impacts to cultural resources would be mitigated to a less-than-significant level. Mitigation measures have been included to reduce the impacts to biological resources and unidentified cultural resources to a ***less than significant*** level.

**b. *Less Than Significant Impact.*** Cumulative impacts of the Proposed Project and other planned, approved, or reasonably foreseeable projects have been assessed in this Initial Study. The SCWA is considering placement of a water tank on a portion of their Walnut

Grove site that is proposed for the connection of the Proposed Project pipeline to SCWA's existing water supply pipeline. This project has not yet been formally proposed or approved. The Proposed Project's construction impacts would not overlap any future impacts of construction of the tank because the two projects' construction schedules would not overlap. A review of the Sacramento County Planning Department's Planning Projects Viewer identified no planned projects that could have overlapping impacts with those of the Proposed Project<sup>13</sup>.

**c. *Less than Significant.*** As discussed in Section VIII. Hazards and Hazardous Materials, the Proposed Project would follow all laws and regulations involving the use and transport of hazardous materials and would not cause potential health risks to the public. The Proposed Project's reduction in arsenic in the drinking water would reduce existing health risks to the served population.

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<sup>13</sup> <https://planningdocuments.saccounty.net>, accessed October 24, 2017.

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## Appendix A: Biological Resources Assessment



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# **Biological Assessment**

## **Locke Water System Intertie Project**

### **Technical Assistance Work Plan 5128**

## **Sacramento County, California**

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***Prepared For:***

**California State Water Resources Control board  
Under Technical Assistance Contract with University Enterprises, Inc.  
California State University, Sacramento**

***Prepared By:***

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**January, 2020**

***Project No. 1350.01***



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**Biological Assessment**  
**Locke Water System Intertie Project**  
**Technical Assistance Work Plan 5128**  
**Sacramento County, California**

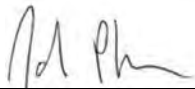
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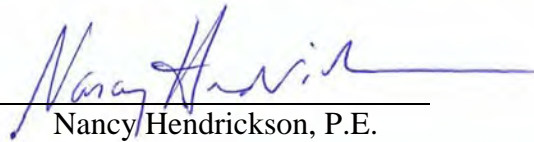
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## APPENDIX

- A. USWFS Species List



## 1.0 INTRODUCTION

The purpose of this Biological Assessment (BA) is to review the proposed Locke Water System Interconnection Project in sufficient detail to determine to what extent the proposed action may affect any federally listed Threatened or Endangered species or their designated critical habitat, or species proposed to be federally listed. In addition, the following information is provided to comply with statutory requirements to use the best scientific and commercial information available when assessing the risks posed to listed and/or proposed species and designated and/or proposed critical habitat by proposed federal actions. This BA is prepared in accordance with legal requirements set forth under regulations implementing Section 7 of the Endangered Species Act (50 CFR 402; 16 U.S.C. 1536 (c)).

### 1.1 Federally Listed Species Potentially Affected

An official USFWS species list was obtained on March 20, 2017. In addition, NMFS species lists were reviewed to determine other federally-listed fish species which may occur in the area. The following federally-listed species are known to occur in the project region in association with the habitat types occurring in the Action Area:

- Giant garter snake (*Thamnophis gigas*), Threatened;
- Delta smelt (*Hypomesus transpacificus*), Threatened;
- Chinook salmon (*Oncorhynchus tshawytscha*), Sacramento River Winter-run – Endangered; Central Valley Spring run – Threatened;
- Steelhead (*Oncorhynchus mykiss*), Threatened; and
- Green Sturgeon (*Acipenser medirostris*), Threatened.

The proposed project does not include any construction activities in aquatic habitat and BMPs incorporated into the project would prevent potential incidental adverse effects to nearby waterways. Therefore, the proposed project would have “no effect” on delta smelt, chinook salmon, steelhead, and green sturgeon. Giant garter snake is known from the greater project area but construction activities would not occur in areas expected to be used by the species due to marginal habitat conditions. Additionally, general avoidance measures would be implemented during construction (e.g., biological resources awareness training, biological monitoring). Therefore, giant garter snake is “not likely to be adversely affected” by the proposed action. Federally listed species known from the project region, but for which suitable habitat does not occur in the action area, and therefore would not be effected by the proposed action, are discussed Section 5.0.



## **1.2 Critical Habitat**

Designated critical habitat for delta smelt, steelhead, chinook salmon (Sacramento River Winter-run and Central Valley Spring-run), and green sturgeon occurs in the action area. The location of designated critical habitat units relative to the action area are shown later in this report (see Figure 3).

## **1.3 Consultation to Date**

Mr. Phillips (Northgate Senior Biologist) spoke by phone with Brian Hansen (USFWS Section 7 Fish and Wildlife Biologist) on May 3 and 4, 2017. The general project, and a map overlaid on aerial photography showing the project alignment, general surrounding habitat types, and the nearest documented occurrence of giant garter snake, were discussed. The focus of the conversation was the appropriate “effects determination” for giant garter snake. Agreement was reached that the appropriate effects determination for giant garter snake was “not likely to adversely affect”; the justification for this conclusion is provided in Section 5.0.



## **2.0 DESCRIPTION OF THE ACTION**

### **2.1 Project Location**

The project is located in Locke and Walnut Grove, Sacramento County, California (Figure 1). The proposed pipeline alignment is east of the Sacramento River and will extend from Center Avenue in Walnut Grove to a little over 1,700 feet due north of the Delta Cross Channel in Locke (Figure 2). The pipeline would be hung across the Delta Cross Channel using the existing nonoperational former Southern Pacific railroad bridge. The project area is low-lying, with small communities surrounded by large agricultural tracts and river channels and sloughs. Land uses in the area are a mix of residential, commercial, agricultural, and open space.

### **2.2 Project Need**

The existing Locke water supply well has been found to contain high levels of arsenic. The purpose of this project is to provide an alternate supply of potable water to the citizens of Locke that meets the federal Safe Drinking Water Act requirements and state drinking water standards for arsenic. After analysis of potential options, it was determined that an intertie pipeline between existing Sacramento County Water Agency water supplies in Walnut Grove and the existing Locke Water Works distribution pipe in Locke would best achieve this objective.

### **2.3 Description of Proposed Action**

The proposed project involves the construction of a new transmission pipeline from the Walnut Grove community to the Locke community. Specifically, the project includes: 4-inch pipeline; a backflow prevention device; and a vault containing gate valves; and a 2-inch water meter. The pipeline would be approximately 4,150 feet in length and be placed a minimum of 3 feet below the ground surface. For the purposes of habitat analysis, a 20-foot buffer was established around the pipeline alignment, resulting in a 5.41-acre study area. The proposed project entails extending a 4-inch water transmission pipeline from the Sacramento County Water Agency (SCWA) (Walnut Grove area) to a connection point in the Locke water distribution system. The existing Locke distribution system would continue to be used. The existing well would be disconnected from the potable water system, but would still be available to agricultural users. Locke water usage would be metered near the SCWA connection point. A meter vault would be installed near the SCWA connection point to allow for meter reading by SCWA personnel. A gate valve would be installed on the transmission pipeline near the Locke connection point. The pipeline would be hung across the Delta Cross Channel using the existing nonoperational former Southern Pacific railroad bridge. This old railroad bridge is understood to be privately owned by Daniel Wilson and/or under US Bureau of Reclamation jurisdiction.



In summary, the project would consist of:

- Trenching and installation of approximately 0.78 mile (~4,150 feet) for placement of a new 4-inch water main from Walnut Grove to Locke primarily via the old railroad right-of-way;
- A 4-inch transmission pipeline that would essentially parallel (with proper separation) the existing small diameter sewer pipeline connection from Locke to Walnut Grove constructed a few years ago;
- Above-ground features associated with the interconnection pipeline, consisting of a backflow prevention device composed of 4-inch ductile iron piping and resilient wedge gate valves, extending approximately 5-feet or less above a concrete slab;
- A 2-inch master meter located near the SCWA connection point, including vault and backflow devices;
- A tie-in valve and pump station at the Locke Water Works Company connection point;
- Where the pipeline crosses an existing drainage channel near the northern end, a contractor will excavate 2-feet of soil on either side of a 12-inch diameter drain pipe that conducts drainage water under a trail. The contractor will insert temporary supports beneath the pipe, and then tunnel by hand beneath the drain and install the new water main; then backfill with class 2AB at 95% relative compaction. The top soil would then be replaced with native backfill.
- Disturbed areas that originally supported vegetation would be hydroseeded with an appropriate seed mix or otherwise revegetated.

## **2.4 Site Preparation and Earthwork**

Site preparation would include clearing and grubbing, grading, import and placement of fill, and compaction. Clearing and grubbing of a 10-15 ft. wide construction corridor would be conducted with standard excavators, bulldozers, and hand labor. A standard drilling rig and a backhoe to create the entry/exit pits would be used during the proposed horizontal directional drilling in the northern portion of the project site. All demolished material and debris from the site preparation or trenching phases would be disposed of off-site at an appropriate location selected by the construction contractor.

The 4-inch pipeline is expected to be buried at least 3-feet beneath the surface until it day-lights out the channel embankment of the Delta Cross Channel and proceeds to be attached to the bridge. Excavation on the channel banks is anticipated to be approximately 4.2 cubic yards per side, or 8.4 cubic yards for the total crossing.





To the extent feasible, excavated soil may be reused onsite. Fill material would be placed with an excavator and compacted with a vibrator attachment. Disturbed areas that originally supported vegetation would be hydroseeded with an appropriate seed mix or otherwise revegetated.

There may be some tree removal, on the north end of the alignment, between the railroad and the Locke connection point. There may also be some tree removal just south of the bridge. At both locations, the contractor will be encouraged to minimize or avoid tree removal by using smaller trenching equipment.

## **2.5 Pipelines**

The proposed project's water supply pipeline would be installed within established permanent easements. The general process for pipeline installation involves digging a trench, installing the pipe, and backfilling the trench ("cut and cover"). It is anticipated that the minimum depth for the water pipelines would be 36 inches and the maximum depth would be 4 feet. The approximate width of the trench may be 2.5 to 3 feet with the width of the construction area 10-15 feet wide, or smaller to avoid tree and brush removal. During construction, trenches would be temporarily closed at the end of each workday by installing fences to restrict access.

Soil excavated from the trench would be stockpiled alongside the trench within a temporary construction easement for later reuse in backfilling the trench. Native soil would be reused for backfill to the greatest extent possible; however, native soil may not have the properties necessary for compaction and stability. If not reusable, the soil would be hauled off-site for disposal at an appropriate disposal site. Once the pipeline is installed, trenches would then be backfilled and compacted.

Where the pipeline crosses an existing drainage channel near the alignment's northern end, a contractor will excavate 2-feet of soil on either side of a 12-inch diameter drain pipe that conducts drainage water under a trail.

## **2.6 Staging Areas**

Staging areas would be needed to store pipe, construction equipment, and other construction-related material. Staging areas may be established at the SCWA Lot 40 property site (near the connection point) in Walnut Grove and/or near the connection point in Locke, both within established construction easements.



## **2.7 Site Restoration**

The final step in the installation process is to restore the ground surface. Site restoration would generally involve overall clean up, grading, and installing erosion controls, as necessary. Disturbed areas that originally supported vegetation would be hydroseeded with an appropriate seed mix or otherwise revegetated.

## **2.8 Construction Schedule**

Construction of the Proposed Project is anticipated to last for approximately twelve weeks, between June and September 2021, dependent on a funding agreement for construction being executed on schedule. Given that a Lake and Streambed Alteration Agreement (LSAA) is anticipated to be required from the California Department of Fish and Wildlife (CDFW), it is anticipated that construction activities on the banks of the Delta Cross Channel and under the drainage channel in the northern portion of the Proposed Project site would be restricted to the dry season (June 1-October 15).

## **2.9 Best Management Practices**

Site specific BMPs to control sediments during construction activities, which may include but not be limited to:

- Install, implement, and maintain BMPs consistent with the California Storm Water Quality Association Best Management Practice Handbook (California Storm Water Quality Association [CASQA] 2015) or equivalent to minimize the discharge of pollutants;
- Implement practices to reduce erosion of exposed soil, including stabilization of soil stockpiles, watering for dust control, establishment of perimeter silt fences, and/or placement of fiber rolls;
- Minimize soil disturbance area;
- Implement other practices to maintain water quality, including use of silt fences, stabilized construction entrances, and storm-drain inlet protection;
- Where feasible, limit construction to dry periods; and
- Revegetate disturbed areas.

BMPs will be regularly monitored for effectiveness using appropriate methods (visual observation, sampling) at appropriate intervals (e.g., daily or weekly) and corrected immediately if determined to not be effective.



### 3.0 ACTION AREA

For this project, the action area is the project's disturbance footprint (including staging areas) and surrounding areas that would be subjected to temporary construction-related noise. Given the types of equipment to be used and existing noise levels at the site, it is assumed that construction activities would result in a substantial temporary increase in noise levels within 700 feet of the construction and staging areas. The action area is shown in Figure 2. As shown, the action area includes commercial and residential areas, the Delta Cross Channel, Sacramento River, agricultural land, and undeveloped areas.

The proposed project does not include any construction activities in the Delta Cross Channel or other aquatic habitats. As discussed above, Best Management Practices (BMPs) would be implemented to prevent erosion and sedimentation into the Delta Cross Channel and other water bodies. For these reasons, the action area is restricted to the area shown in Figure 2.



## **4.0 ENVIRONMENTAL BASELINE CONDITIONS**

### **4.1 Methods**

#### ***4.1.1 Preliminary Review***

Existing spatial information depicting the action area and its physical characteristics were compiled and reviewed prior to the field survey. This information included publicly available digital ortho-rectified aerial photography and topographical quadrangle maps. In addition, a review of the California Natural Diversity Database (CNDDB) was conducted to identify federally listed species known to occur in the project region and their locations relative to the construction area. A USFWS species list for the project was also obtained on August 27, 2019 (Appendix A).

#### ***4.1.2 Field Survey***

On February 6, 2017, Josh Phillips, Principal Biologist of Pacific Biology, conducted a reconnaissance-level field survey. The survey included walking the proposed pipe alignment and adjacent areas. The biological resources within the construction footprint and greater action area were characterized and the potential occurrence of federally listed species was evaluated based on the suitability of habitat, known range and life history requirements. Notes were recorded on general habitat conditions, including vegetation composition and condition, and dominant plant taxa were identified. Employing the same methods, a separate survey was conducted July 11, 2019 throughout the study area (including new portions) by Jake Schweitzer, Senior Ecologist with Vollmar Natural Lands Consulting (VNLC).

A formal jurisdictional delineation of potential Waters of the U.S. was conducted by VNLC in April 2017, as well as January and July of 2019. The survey methods followed the routine wetland determination method developed and approved by the U.S. Army Corps of Engineers (USACE) for the Arid West Region.

### **4.2 Plant Communities and Biological Conditions**

The discussion of the plant communities within and bordering the project's disturbance areas is presented moving south to north along the proposed pipeline alignment, and includes the following segments: (1) the pipeline alignment between Central Avenue in Walnut Grove and the Delta Cross Channel; (2) the pipeline crossing of the Delta Cross Channel; (3) the alignment north of the Delta Cross Channel and along the Delta Meadows River Park trail; and (4) the alignment west of the Delta Meadows River Park trail to its connection point in Locke.



#### ***4.2.1 Between Central Avenue and the Delta Cross Channel***

The southern end of the pipeline alignment starts at the fenced property adjacent to the north of Central Avenue. This property is in a highly-disturbed condition, with herbaceous vegetation consisting of non-native grasses such as wild oat (*Avena fatua*) and rip-gut brome (*Bromus diandrus*), as well as a variety of weedy plant species. Portions of this area are currently being used for dirt storage and there are bare dirt areas. There are scattered trees on the property, most of which are planted.

**Photo 1: Fenced Property Adjacent to Central Avenue**



Moving further to the north, the remainder of this portion of the pipeline alignment is unfenced. This area is also dominated by non-native and weedy herbaceous vegetation, such as wild oat, rip-gut brome, crane's-bill (*Geranium molle*), rose clover (*Trifolium hirtum*), stork's bill (*Erodium botrys*), bristly ox-tongue (*Helminthotheca echioides*), and bur clover (*Medicago*





*polymorpha*). Mature trees occur throughout this area, including valley oak (*Quercus lobata*), coast live oak (*Quercus agrifolia*), holly oak (*Q. ilex*), and cottonwood (*Populus* sp.).

**Photo 2: Representative View**



Within this portion of the pipeline alignment, areas closer to the Delta Cross Channel are on fill soil and are at levee-level, while areas further to the south are low-lying and below levee-level. There are no streams, wetlands, or sensitive plant communities in this portion of the pipeline alignment. This portion of the project site is considered of low-botanical value given its disturbed condition and the associated dominance of non-native herbaceous vegetation. As visible in Figure 2, adjacent land uses include residential development and orchards.



#### 4.2.2 Delta Cross Channel

The proposed pipeline would be hung from the existing nonoperational former Southern Pacific railroad bridge. This approach would prevent any direct impacts to aquatic and wetland habitats within the Delta Cross Channel, and all related activities would occur above the ordinary high water mark. Disturbances to the Delta Cross Channel would be limited to the upper creek banks on the south and north sides of the channel, where the proposed pipeline would be daylighted to attach to the bridge.

The north and south channel banks are both dominated by weedy species such as wild radish (*Raphanus raphanistrum*), mustard (*Brassica nigra*), fennel (*Foeniculum vulgare*), Italian thistle (*Carduus pycnocephalus*), bull mallow (*Malva nicaeensis*), Himalayan blackberry (*Rubus armeniacus*), wild oat, rip-gut brome, and bristly ox-tongue. There is no riparian or wetland vegetation on the creek banks in the vicinity of the bridge. There are also no ground squirrel burrows on the channel banks. Additionally, no emergent vegetation was noted in the channel. Under the bridge, there is a dense growth of an invasive aquatic plant (species not identified). Gravel parking areas border both sides of the channel.

**Photo 3: View of Creek Banks and Invasive Aquatic Vegetation**





#### ***4.2.3 North of Delta Cross Channel along Delta Meadows River Park Trail***

North of the Delta Cross Channel, the proposed pipeline alignment follows the Delta Meadows River Park Trail, which is situated on the top of a levee. The trail itself is sparsely vegetated, but oaks, annual grasses, Himalayan blackberry and other weedy species border the trail.

**Photo 4: View of Proposed Alignment Along Trail**



#### ***4.2.4 West of the Delta Meadows River Park Trail (to tie-in location)***

Near the northern extent of the study area, the alignment turns west towards the historic district of Locke. The alignment crosses a low-lying area that is below the elevation of the Delta Meadows River Park Trail, and portions of which are just above the water table. In addition, the hydrology of the area may be augmented by the large pear orchards that surround portions of the study area and that presumably drain toward lower elevations. The high water table and potentially the irrigation runoff support riparian tree species. In lower depressions near (but not within) the study area, seasonal and perennial wetlands are present. All of the low-lying areas in the vicinity of the study area are isolated by the levee to the east (also within the study area), and by the Sacramento River levee and River Road to the west. An attempt was made during the delineation surveys to identify a direct connection to either of the major waterways (Sacramento River and Snodgrass Slough), but no such connection was observed. Riparian vegetation is





common in this northern portion of the site. Dominant plants observed in the area include both hydrophytic species and upland species adapted to fine-textured soils. Tree species include primarily valley oak and coast live oak. The understory consists of scattered shrubs in the form of poison oak (*Toxicodendron diversilobum*) and blackberry (*Rubus ursinus* and *R. armeniacus*). The herb layer consists of wild oats (*Avena* spp.), creeping wild rye (*Elymus triticoides*), bristly ox-tongue, field hedge parsley (*Torilis arvensis*), and Bermuda grass (*Cynodon dactylon*). Aside from the Delta Cross Channel, the only potentially jurisdictional feature within the study area is located in the northern low-lying area, in the form of an un-vegetated drainage channel the concentrates water from the surrounding area into wetlands south of the project site.

**Photo 5: Non-Wetland Drainage Channel and Adjacent Riparian Vegetation**



**Photo 6: Ruderal Grassland at Terminus of Alignment**



## 5.0 FEDERALLY LISTED SPECIES IN THE PROJECT VICINITY

A species list for the project was obtained from the Service on August 27, 2019 (Appendix A). The potential for all the species included on the list to be affected by the proposed action was evaluated. The following federally listed species could occur in the action area based on the presence of potential habitat and documented occurrences in the project region: giant garter snake, delta smelt, chinook salmon, steelhead, and green sturgeon. Table 1 summarizes the reasons these species could occur, as well as the reasons why the other species included on the species list obtained from the Service are not expected to occur in areas affected by the proposed action. Figure 3 shows the location of federally listed species documented in the project region relative to the action area.

**Table 1: Federally Listed Species Known from the Project Region**

Common Name	Status	General Habitat Description	Potential to Occur on Project Site
<b>Reptiles</b>			
Giant garter snake <i>Thamnophis gigas</i>	FT ST	Inhabits agricultural wetlands and other waterways such as irrigation and drainage canals, sloughs, ponds, small lakes, low gradient streams, and adjacent uplands in the Central Valley. Require enough water to provide food and cover during the active season, which is early-spring through mid-fall.	<b>Potential (low):</b> Based on the CNDDDB, this species has been documented at a location in the vicinity of Snodgrass Slough, approximately 0.75 mile north of the project site. Onsite habitat conditions are marginal for the species, but given the nearby occurrence and that Snodgrass Slough has a direct hydrologic connection to the Delta Cross Channel, this species is further discussed in Section 6.0.
<b>Amphibians</b>			
California tiger salamander <i>Ambystoma californiense</i>	FT ST	Needs underground refuges (e.g., ground squirrel burrows) and vernal pools or other long-lasting seasonal water sources for breeding.	<b>Not Expected:</b> The species is not known from this portion of the Bay/Delta Region and based on the CNDDDB, the closest documented occurrence of the species is 11 miles to the east. The action area would be flooded in the absence of the levee system that contains the Sacramento River and the Delta Cross Channel, and therefore, historically the species would not have occurred in the area; this and the absence of nearby source CTS populations are expected to preclude the establishment of a CTS population.



Common Name	Status	General Habitat Description	Potential to Occur on Project Site
California red-legged frog <i>Rana draytonii</i>	FT	In or near permanent or long-lasting sources of deep water.	<b>Not Expected:</b> The species has not been documented in the project region. Based on the CNDDDB, the closest documented occurrence of the species is 24 miles to the southwest. While some potentially suitable habitat occurs near the site (i.e., ponds and perennial wetlands), the species is not expected to occur in the project area because it is not known to occur in central or southern Sacramento County, or within 24 miles of the project site.
<b>Crustaceans</b>			
Conservancy fairy shrimp <i>Branchinecta conservatio</i>	FE	Vernal pools and other seasonal pools with sparse vegetation.	<b>Not Expected:</b> The species has not been documented in the project area; based on the CNDDDB, the closest documented occurrence of the species is 15 miles to the northwest. No vernal pools or other potentially suitable habitat are present.
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	FT	Vernal pools and other seasonal pools with sparse vegetation.	<b>Not Expected:</b> The species has not been documented in the project area; based on the CNDDDB, the closest documented occurrence of the species is 8 miles to the north. No vernal pools or other potentially suitable habitat are present.
Vernal pool tadpole shrimp <i>Lepidurus packardii</i>	FE	Vernal pools and other seasonal pools with sparse vegetation.	<b>Not Expected:</b> Based on the CNDDDB, the closest documented occurrence of the species is approximately 5 miles to the north. No vernal pools or other potentially suitable habitat are present.
<b>Insects</b>			
San Bruno elfin butterfly <i>Callophrys mossii bayensis</i>	FE	Larval host plant is stonecrop ( <i>Sedum spathulifolium</i> ), a low growing succulent associated with rocky outcrops that occur at 274 to 328 m (900 to 1075 feet) elevation.	<b>Not Expected:</b> Species has not been documented in the project region. Based on the CNDDDB, the closest documented occurrence of the species is 32 miles to the southwest. Suitable habitat (i.e., rock outcrops) for larval host plant not present.
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	FT	Occurs only in the Central Valley of California, in association with blue elderberry ( <i>Sambucus mexicana</i> ).	<b>Not Expected:</b> No elderberry shrubs observed in project study area. Based on the CNDDDB, the closest documented occurrence of the species is 7 miles to the east.
Delta green beetle <i>Elaphrus viridis</i>	FT	Vernal pool grasslands at sparsely vegetated margins of large vernal/playa pools.	<b>Not Expected:</b> Not known to occur in Sacramento County - to date, species has only been found in the greater Jepson Prairie area in south-central Solano County; these locations are approximately 17 miles west of the action area. Suitable habitat not present given the absence of vernal pools.



Common Name	Status	General Habitat Description	Potential to Occur on Project Site
<b>Fish</b>			
Green sturgeon	FT	Utilizes both freshwater and saltwater habitats; spawn in deep pools or "holes" in large, turbulent, freshwater river mainstems including the Sacramento and Feather Rivers (Moyle et al., 1992). Adults inhabit oceanic waters, bays, and estuaries when not spawning.	<b>Potential:</b> The species is known to occur in the Sacramento River and the portion of the river and Delta Cross Channel in the action area is designated critical habitat for the species. The project site is within designated critical habitat for this species and the proposed pipeline would cross the Delta Cross Channel, which provides suitable habitat for the species. However, the pipeline crossing of the Delta Cross Channel would be via an existing bridge and no construction activities are proposed within aquatic habitat.
Delta smelt <i>Hypomesus transpacificus</i>	FT	Bays and estuaries.	<b>Potential:</b> The project site is within designated critical habitat for this species and the proposed pipeline would cross the Delta Cross Channel, which provides suitable habitat for the species. However, the pipeline crossing of the Delta Cross Channel would be via an existing bridge and no construction activities are proposed within aquatic habitat.
Chinook salmon (Sacramento River Winter-run, Central Valley Spring-run) <i>Oncorhynchus tshawytscha</i>	FE/FT	Coastal waters, bays and their major tributaries.	<b>Potential:</b> The project site is within designated critical habitat for this species and the proposed pipeline would cross the Delta Cross Channel, which provides suitable habitat for the species. However, the pipeline crossing of the Delta Cross Channel would be via an existing bridge and no construction activities are proposed within aquatic habitat.
Steelhead <i>Oncorhynchus mykiss</i>	FT	Coastal waters, bays and their major tributaries.	<b>Potential:</b> The action area is within designated critical habitat for this species and the proposed pipeline would cross the Delta Cross Channel, which provides suitable habitat for the species. However, the pipeline crossing of the Delta Cross Channel would be via an existing bridge and no construction activities are proposed within aquatic habitat.
<b>Birds</b>			
California Ridgway rail (formerly California clapper rail) <i>Rallus longirostris oboletus</i>	FE SE	Restricted to salt marshes and tidal sloughs. Usually associated with heavy growth of pickleweed.	<b>Not Expected:</b> The species has not been documented in the project region; based on the CNDDDB, the closest documented occurrence of the species is 25 miles to the west. Suitable habitat is not present in action area given the absence of saltmarsh habitat.



Common Name	Status	General Habitat Description	Potential to Occur on Project Site
<b>Plants</b>			
Large-flowered fiddleneck <i>Amsinckia grandiflora</i>	FE	Grasslands on steep slopes. Populations have historically been located in Contra Costa, Alameda, and San Joaquin Counties. The CNDDDB reports four occurrences of large-flowered fiddleneck that are presumed to still exist, however more recent reports indicate that only two occurrences may still persist.	<b>Not Expected:</b> Not known to occur in Sacramento County and suitable habitat (i.e., steep grassland slopes) not present.

Status: Federal Endangered (FE); Federal Threatened (FT); State Endangered (SE); State Threatened (ST)



## 6.0 EFFECTS OF THE ACTION FEDERALLY LISTED SPECIES

As previously discussed, the following federally listed species are known from the project region and are associated with the general habitat types that occur in the action area: giant garter snake, delta smelt, chinook salmon, steelhead, and green sturgeon. A discussion of the potential occurrence of these species in the action area, an evaluation of potential direct, indirect, and cumulative impacts to these species, and proposed avoidance measures, is provided below.

### 6.1 Giant Garter Snake

Giant garter snake (*Thamnophis gigas*) is a state and federally Threatened species. The giant garter snake is one of the largest garter snakes, with females reaching an average length of about 34 inches in the San Joaquin Valley (USFWS 2016). The giant garter snake is endemic to the wetlands of the Sacramento and San Joaquin Valleys of California and now inhabits the remaining high-quality fragmented wetlands that include marshes, ponds, small lakes, low-gradient streams with silt substrates, and managed waterways (USFWS 2015). The loss of wetland ecosystems and suitable habitat has also resulted in the giant garter snake using highly modified and degraded habitats including irrigation ditches, drainage canals, rice fields, and their adjacent uplands (USFWS 2015).

Giant garter snakes require enough water to provide food and cover during the active season, which is early-spring through mid-fall (March through November). The presence of emergent and bankside vegetation that provides cover from predators and may serve in thermoregulation is considered an important habitat component, as well as the absence of large predatory fish (USFWS 2015). Wetland plants such as cattails and bulrushes are used for cover and foraging (USFWS 2016), and grassy banks and openings in vegetation are used for sunning.

Higher elevation uplands for cover and refuge from flood waters are required during the snake's inactive season in the winter. Giant garter snakes are dormant during the winter so they inhabit small mammal burrows and other soil crevices above flood elevations during this inactive period (USFWS 2016). The snakes typically select burrows with sunny exposure along south and west facing slopes. Around October 1, they start looking for winter retreats. By November 1, they are in winter retreats and mostly stay there until spring. Some may bask in the sun or move short distances on warmer days. Between April 1 and May 1, they emerge and start hunting for food.

Giant garter snakes feed primarily on small fish, tadpoles, and frogs. Giant garter snakes are typically absent from larger rivers because of the lack of suitable habitat and emergent vegetative cover, and from wetlands with sand, gravel, or rock substrates (USFWS 2016). The major rivers have been highly channelized, removing oxbows and backwater areas that probably at one time





provided suitable habitat (USFWS 2016). While not always the case, riparian woodlands typically do not provide suitable habitat because of excessive shade, lack of basking sites, and absence of prey populations (USFWS 2016).

In summary, giant garter snakes are associated with aquatic habitats characterized by the following features: (1) sufficient water during the snake's active season (typically early spring through mid-fall) to supply cover and food such as small fish and amphibians; (2) emergent, herbaceous wetland vegetation, such as cattails and bulrushes, accompanied by vegetated banks to provide basking and foraging habitat and escape cover during the active season; (3) upland habitat (e.g., bankside burrows, holes, and crevices) to provide short-term refuge areas during the active season; and (4) high ground or upland habitat above the annual high water mark to provide cover and refuge from flood waters during the dormant winter period (Hansen and Brode 1980; Hansen 1998).

#### ***6.1.1 Status in Surrounding Project Vicinity***

The action area is located in the Delta Basin Recovery Unit for giant garter snake (USFWS 2015). As shown in Figure 3, this species has been documented in the vicinity of Snodgrass Slough, approximately 0.75 mile north of the project site (CNDDDB Occurrence #247). The CNDDDB states that an unknown number of snakes were observed at this location in 1992. There are other occurrences of the species reported from Snodgrass Slough from during the period of 1986-1987 (CNDDDB Occurrence #132); these occurrences are approximately 5 miles north of the action area. The CNDDDB does not contain any other documented occurrences of the species from within 5 miles of the action area. Critical habitat for giant garter snake has not been designated.

#### ***6.1.2 Status in Action Area***

Based on the CNDDDB, giant garter snake has not been documented in the Delta Cross Channel or elsewhere in the action area. The Delta Cross Channel has a direct hydrologic connection to Snodgrass Slough (Figure 4), which would theoretically allow for individual giant garter snakes to move into the Delta Cross Channel. However, habitat conditions for giant garter snake within the Delta Cross Channel are very marginal because it is channelized and lacks oxbows and backwater areas, likely supports large predatory fish, and emergent marsh vegetation (e.g., cattails, tules) is not present. Additionally, the channel does not have grassy banks with openings in vegetation that could be used for sunning or for winter habitat; in the immediate project area, the banks of the Delta Cross channel contain a dense growth ruderal plant species and no ground squirrel burrows were observed. Outside of the project's disturbance area, much of the channel banks support trees, and riparian woodlands typically do not provide suitable



habitat for giant garter snake because of excessive shade, lack of basking sites, and absence of prey populations (USFWS 2016), as well as that forested areas provide habitat for predators of giant garter snake (e.g., racoons, raptors). Given the absence of suitable habitat in the Delta Cross Channel, it is unlikely that giant garter snake would move into the Delta Cross Channel from Snodgrass Slough or from any other location.<sup>1</sup>

Emergent wetlands are present in the vicinity of the northern edge of the study area, within the low-lying area between the two primary levees. The area is wooded (including riparian tree species) and riparian woodlands typically do not provide suitable habitat for giant garter snake because of excessive shade, lack of basking sites, and absence of prey populations (USFWS 2016), as well as that forested areas provide habitat for predators of giant garter snake (e.g., racoons, raptors). It is expected that racoons and potentially cats and dogs forage in the area. Further, while the presence of some emergent vegetation and willows indicate that the wetlands contain long-lasting water, it is expected that the wetted area will substantially diminish in size throughout the dry season which would further increase the risk of predation to giant garter snakes. Given the above, and the fact that there are no wetlands within the study area itself, it is unlikely that giant garter snake would move into the study area from Snodgrass Slough or any other location.<sup>2</sup>

### **6.1.3 Direct Impacts**

For the reasons discussed above, it is not expected that giant garter snake would occur in the Delta Cross Channel or within wetlands adjacent to the northern end of the pipeline alignment. Additionally, the proposed project does not include any construction activities within the Delta Cross Channel or anywhere else in the study area. Construction activities would occur near the Delta Cross Channel, including excavation for the water pipeline on the upper creek banks (above the ordinary high water mark) and in adjacent upland areas. However, since giant garter snake is not expected to occur in the Delta Cross Channel, it would also not be expected to occupy adjacent upland habitats. It is also not expected to occur within the northern portion of the study area, where wetlands are absent. Further, as discussed below, general avoidance measures would be implemented, including biological resources awareness training for all construction personnel, having a qualified biological monitor onsite during construction activities within 200 feet of aquatic habitat, and covering open trenches or providing escape ramps in the open trenches, within 200 feet of aquatic habitat during non-working hours.

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<sup>1</sup> This conclusion was confirmed during a phone conversation between Mr. Phillips (Northgate Senior Biologist) and Brian Hansen (USFWS Section 7 Fish and Wildlife Biologist) on May 3, 2017.

<sup>2</sup> This conclusion was confirmed during a phone conversation between Mr. Phillips (Northgate Senior Biologist) and Brian Hansen (USFWS Section 7 Fish and Wildlife Biologist) on May 3, 2017.





Therefore, the proposed project is not expected to result in harm to individual giant garter snakes or to the species' habitat.

#### ***6.1.4 Indirect Impacts***

No indirect impacts are anticipated.

#### ***6.1.5 Proposed Giant Garter Snake Avoidance Measures***

BIO-1A: Before any construction activities begin on the project, a qualified biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of the giant garter snake and its habitat, the measures that are being implemented to conserve the species as they relate to the project, measures to take if a snake is observed, and the boundaries within which the project may be accomplished. The training session will also include a discussion of the importance of avoiding any incidental disturbance to the Delta Cross Channel or adjacent sensitive habitats, and an overview of the BMPs to be implemented to protect aquatic habitats near the construction area.

BIO-1B: A qualified biologist will be onsite during initial ground disturbance within 200 feet of the Delta Cross Channel and the drainage channel in the northern portion of the project site. The biologist will be familiar with and able to identify all snake species that occur in the project area. A clearance survey will be conducted immediately before ground disturbance. If a giant garter snake is encountered during the clearance survey or during monitoring, construction activities will be halted and the snake will be provided with the opportunity to leave the construction area on its own. If relocation of a giant garter snake is necessary, the USFWS will be contacted for guidance. Any observations of giant garter snake will be immediately reported to the USFWS.

BIO-1C: Workers will cover open trenches within 200 feet of the Delta Cross Channel and the drainage channel in the northern portion of the action area, or design the trenches with escape ramps that can be used during non-working hours. Alternatively, or in addition, open trenches can be fenced in a manner that would prevent giant garter snake from entering the trench. The construction contractor will inspect open trenches prior to filling, and contact a qualified biologist to remove or release any trapped wildlife found in the trenches.

BIO-1D: During project activities, all trash that may attract predators shall be properly contained, removed from the work site and disposed of regularly. Following construction, all trash and construction debris shall be removed from work areas.



### **6.1.6 Conclusion - Effects of Action on Giant Garter Snake**

The proposed action is not likely to adversely affect giant garter snake. This conclusion is based on that the Delta Cross Channel and wetlands adjacent to the project site provide very marginal habitat conditions and it is not expected that giant garter snake would move into these areas from Snodgrass Slough or from any other location. As giant garter snake would not be expected to occupy the aquatic habitats near the construction footprint, the species would also not be expected to occur in the construction footprint, which only includes upland areas. Further, general avoidance measures would be implemented, including biological resources awareness training for all construction personnel, having a qualified biological monitor onsite during construction activities within 200 feet of aquatic habitat, and covering open trenches or providing escape ramps in the open trenches, within 200 feet of aquatic habitat during non-working hours.

## **6.2 Delta Smelt**

Delta Smelt (*Hypomesus transpacificus*) is a state and federally listed threatened species. Delta smelt are endemic to the upper San Francisco Estuary, principally the Delta and Suisun Bay. Delta smelt are euryhaline fish that typically rear in shallow (less than 3 meters), open waters of the estuary.

### **6.2.1 Status in Surrounding Project Vicinity**

Delta smelt are known to occur and project region.

### **6.2.2 Status in Action Area**

The action area is located in designated critical habitat for delta smelt and the species may occur in the Delta Cross Channel and the nearby Sacramento River.

### **6.2.3 Direct Impacts**

The proposed project does not include any construction activities within aquatic habitats. The proposed pipeline would be hung from the existing nonoperational former Southern Pacific railroad bridge. This approach would prevent any direct impacts to aquatic and wetland habitats within the Delta Cross Channel, and all related activities would occur above the ordinary high water mark. Disturbances to the Delta Cross Channel would be limited to the upper creek banks on the south and north sides of the channel, where the proposed pipeline would be daylighted to attach to the bridge. The implementation of the BMPs incorporated into the project would prevent potential adverse effects (e.g., erosion, sedimentation, spills) to nearby waterways during



construction, including the Delta Cross Channel. Given the above, habitat used by delta smelt would not be directly or indirectly disturbed and individual fish would not be harmed.

#### **6.2.4 Indirect Impacts**

No indirect impacts are anticipated.

#### **6.2.5 Proposed Delta Smelt Avoidance Measures**

No additional measures required. See Section 2.0 for BMPs incorporated into the project.

#### **6.2.6 Conclusion - Effects of Action on Delta Smelt**

The proposed action would have no effect on delta smelt. This conclusion is based on the fact that no construction activities would occur in the Delta Cross Channel or in any aquatic habitat, and that the BMPs incorporated into the project would prevent indirect impacts from occurring during construction to nearby waterways, including the Delta Cross Channel.

### **6.3 Steelhead**

Steelhead (*Oncorhynchus mykiss*), California Central Valley, is a federally Threatened species. Steelhead are the anadromous form of *O. mykiss*. *O. mykiss* have a highly flexible life history and may follow a variety of life-history patterns including freshwater residents (non-migratory) at one extreme and individuals that migrate to the open ocean (anadromous) at another extreme. Intermediate life-history patterns include fish that migrate within the stream (potamodromous), fish that migrate only as far as estuarine habitat, and fish that migrate to near-shore ocean areas. California winter steelhead enter coastal streams during December-March, and summer steelhead seem to enter streams as flows taper off in spring and spawn the following winter (Moyle 2002). The female digs a redd (or nest) in the coarse gravel of the tail of a pool or in a riffle. After spawning, spent steelhead often move gradually downstream and occupy pools for periods of time during the downstream migration (Moyle 2002). Juveniles may occupy riffles, runs, and pools.

#### **6.3.1 Status in Surrounding Project Vicinity**

Steelhead are known to occur and project region.

#### **6.3.2 Status in Action Area**

The action area is partially located in designated critical habitat for the species (Figure 3). The species is expected to occur in the Delta Cross Channel and the nearby Sacramento River.



### **6.3.3 Direct Impacts**

The proposed project does not include any construction activities within aquatic habitats. The proposed pipeline would be hung from the existing nonoperational former Southern Pacific railroad bridge. This approach would prevent any direct impacts to aquatic and wetland habitats within the Delta Cross Channel, and all related activities would occur above the ordinary high water mark. Disturbances to the Delta Cross Channel would be limited to the upper creek banks on the south and north sides of the channel, where the proposed pipeline would be daylighted to attach to the bridge. The implementation of the BMPs incorporated into the project would prevent potential adverse effects (e.g., erosion, sedimentation, spills) to nearby waterways during construction, including the Delta Cross Channel. Given the above, habitat used by steelhead would not be directly or indirectly disturbed and individual fish would not be harmed.

### **6.3.4 Indirect Impacts**

No indirect impacts are anticipated.

### **6.3.5 Proposed Steelhead Avoidance Measures**

No additional measures required. See Section 2.0 for BMPs incorporated into the project.

### **6.3.6 Conclusion - Effects of Action on Steelhead**

The proposed action would have no effect on steelhead. This conclusion is based on the fact that no construction activities would occur in the Delta Cross Channel or in any aquatic habitat, and that the BMPs incorporated into the project would prevent indirect impacts from occurring during construction to nearby waterways, including the Delta Cross Channel.

## **6.4 Chinook Salmon**

Chinook salmon (*Oncorhynchus tshawytscha*) is a federally Threatened species. Adults chinook salmon migrate from a marine environment into the freshwater streams and rivers of their birth to mate, and they spawn only once and then die. Juvenile Chinook may spend from 3 months to 2 years in freshwater before migrating to estuarine areas as smolts and then into the ocean to feed and mature. Chinook salmon remain at sea for 1 to 6 years (more commonly 2 to 4 years), with the exception of a small proportion of yearling males (called jack salmon) which mature in freshwater or return after 2 or 3 months in salt water. There are different seasonal (i.e., spring, summer, fall, late-fall or winter) "runs" in the migration of Chinook salmon from the ocean to freshwater, even within a single river system. These runs have been identified on the basis of when adult Chinook salmon enter freshwater to begin their spawning migration. However,



distinct runs also differ in the degree of maturation at the time of river entry, the temperature and flow characteristics of their spawning site, and their actual time of spawning.

Adult female Chinook will prepare a redd (or nest) in a stream area with suitable gravel type composition, water depth and velocity. After laying eggs in a redd, adult Chinook will guard the redd from just a few days to nearly a month before dying. Chinook salmon eggs will hatch, depending upon water temperatures, 3 to 5 months after deposition. Eggs are deposited at a time to ensure that young salmon fry emerge during the following spring when the river or estuary productivity is sufficient for juvenile survival and growth. Juveniles then migrate back to marine environments.

#### ***6.4.1 Status in Surrounding Project Vicinity***

Chinook salmon are known to occur and project region and the project area is within the range of the Central Valley spring run, winter run ESU, and fall and late fall run ESU.

#### ***6.4.2 Status in Action Area***

The action area is located in designated chinook salmon critical habitat and the species is expected to occur in the Delta Cross Channel and the nearby Sacramento River.

#### ***6.4.3 Direct Impacts***

The proposed project does not include any construction activities within aquatic habitats. The proposed pipeline would be hung from the existing nonoperational former Southern Pacific railroad bridge. This approach would prevent any direct impacts to aquatic and wetland habitats within the Delta Cross Channel, and all related activities would occur above the ordinary high water mark. Disturbances to the Delta Cross Channel would be limited to the upper creek banks on the south and north sides of the channel, where the proposed pipeline would be daylighted to attach to the bridge. The implementation of the BMPs incorporated into the project would prevent potential adverse effects (e.g., erosion, sedimentation, spills) to nearby waterways during construction, including the Delta Cross Channel. Given the above, habitat used by chinook salmon would not be directly or indirectly disturbed and individual fish would not be harmed.

#### ***6.4.4 Indirect Impacts***

No indirect impacts are anticipated.

#### ***6.4.5 Proposed Chinook Salmon Avoidance Measures***

No additional measures required. See Section 2.0 for BMPs incorporated into the project.



#### ***6.4.6 Conclusion - Effects of Action on Chinook Salmon***

The proposed action would have no effect on chinook salmon. This conclusion is based on the fact that no construction activities would occur in the Delta Cross Channel or in any aquatic habitat, and that the BMPs incorporated into the project would prevent indirect impacts from occurring during construction to nearby waterways, including the Delta Cross Channel.

### **6.5 Green Sturgeon**

Green Sturgeon (*Acipenser medirostris*) is a federally Threatened species. The species utilizes both freshwater and saltwater habitats. Green sturgeon spawn in deep pools or "holes" in large, turbulent, freshwater river mainstems including the Sacramento and Feather Rivers (Moyle et al., 1992). Adults inhabit oceanic waters, bays, and estuaries when not spawning. Green sturgeons make non-spawning movements into coastal lagoons and bays in the late summer to fall. Green sturgeons are believed to spend the majority of their lives in nearshore oceanic waters, bays, and estuaries.

#### ***6.5.1 Status in Surrounding Project Vicinity***

Green sturgeon are known to occur in project area and to spawn in the Sacramento River.

#### ***6.5.2 Status in Action Area***

Portions of the action area, including the Delta Cross Channel and the Sacramento River, are within designated critical habitat for green sturgeon.

#### ***6.5.3 Direct Impacts***

The proposed project does not include any construction activities within aquatic habitats. The proposed pipeline would be hung from the existing nonoperational former Southern Pacific railroad bridge. This approach would prevent any direct impacts to aquatic and wetland habitats within the Delta Cross Channel, and all related activities would occur above the ordinary high water mark. Disturbances to the Delta Cross Channel would be limited to the upper creek banks on the south and north sides of the channel, where the proposed pipeline would be daylighted to attach to the bridge. The implementation of the BMPs incorporated into the project would prevent potential adverse effects (e.g., erosion, sedimentation, spills) to nearby waterways during construction, including the Delta Cross Channel. Given the above, habitat used by green sturgeon would not be directly or indirectly disturbed and individual fish would not be harmed.



#### ***6.5.4 Indirect Impacts***

No indirect impacts are anticipated.

#### ***6.5.5 Proposed Green Sturgeon Avoidance Measures***

No additional measures required. See Section 2.0 for BMPs incorporated into the project.

#### ***6.5.6 Conclusion - Effects of Action on Green Sturgeon***

The proposed action would have no effect on green sturgeon. This conclusion is based on the fact that no construction activities would occur in the Delta Cross Channel or in any aquatic habitat, and that the BMPs incorporated into the project would prevent indirect impacts from occurring during construction to nearby waterways, including the Delta Cross Channel.



## **7.0 CUMULATIVE EFFECTS**

The project applicant is not aware of any other similar projects currently proposed in the project area. Additionally, the proposed action would not disturb aquatic or wetland habitat, and all habitat disturbance would be temporary (i.e., the pipeline trench would be filled and revegetated). Therefore, the cumulative effects of the project on federally listed species and their associated habitats would not be substantial.





## 8.0 CONCLUSIONS

The proposed action is not likely to adversely affect giant garter snake. This conclusion is based on the observation that the Delta Cross Channel and the nearby low-lying area provide very marginal habitat conditions and it is not expected that giant garter snake would move into these areas from Snodgrass Slough or from any other location. As giant garter snake would not be expected to occupy the aquatic habitats near the construction footprint, the species would also not be expected to occur in the construction footprint, which only includes upland areas. Further, general avoidance measures would be implemented, including biological resources awareness training for all construction personnel, having a qualified biological monitor onsite during construction activities within 200 feet of aquatic habitat, and covering open trenches or providing escape ramps in the open trenches, within 200 feet of aquatic habitat during non-working hours.

The proposed action would have no effect on delta smelt, steelhead, chinook salmon, or green sturgeon. This conclusion is based on the fact that no construction activities would occur in the Delta Cross Channel or in any aquatic habitat, and that the BMPs incorporated into the project would prevent indirect impacts from occurring during construction to nearby waterways, including the Delta Cross Channel. Similarly, as no disturbance would occur to the Delta Cross Channel or other aquatic habitat, there would also be no effect on designated critical habitat for these species.



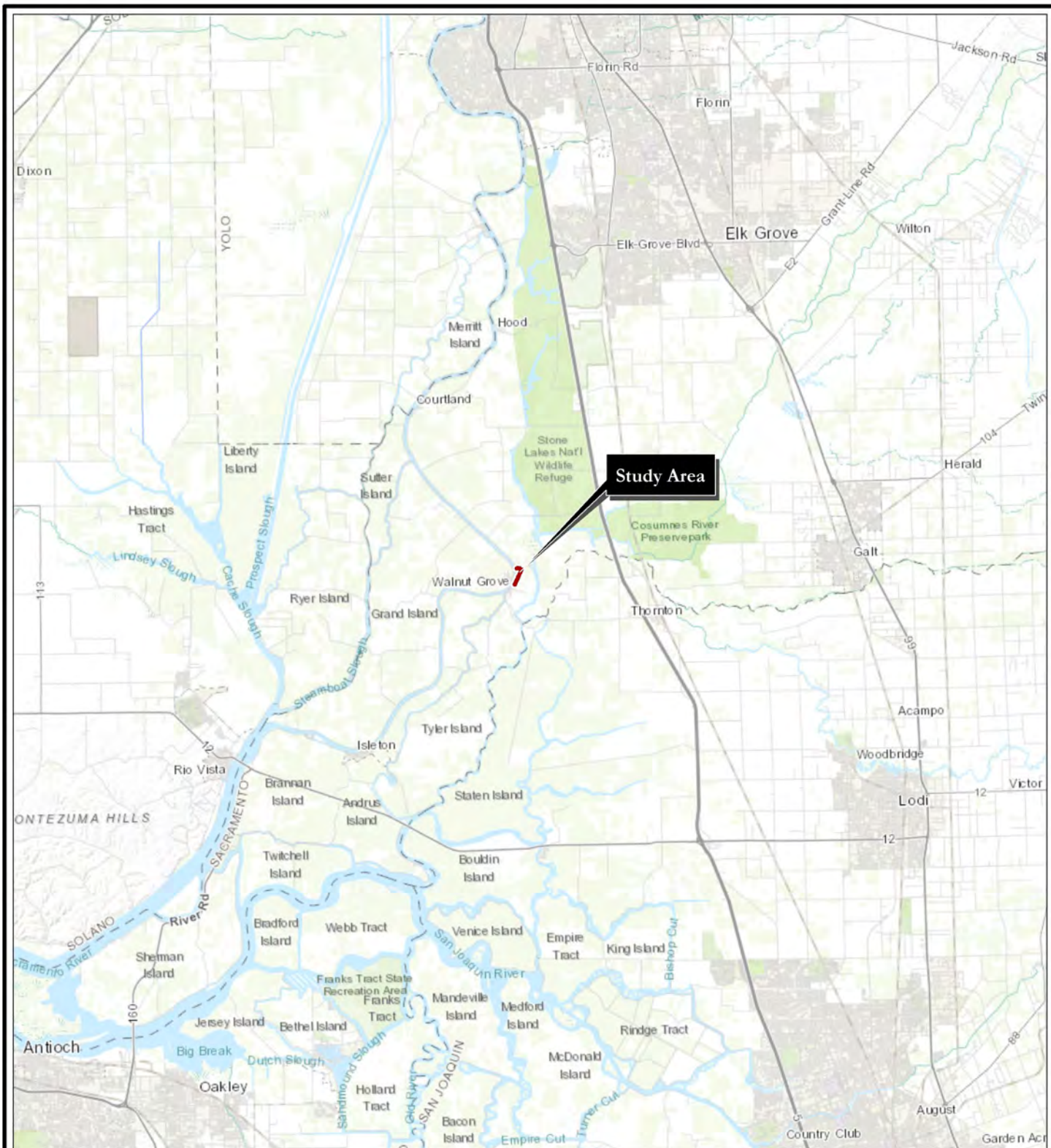
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## FIGURES



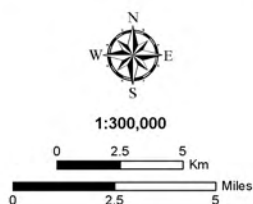


**FIGURE 1**  
**Regional Vicinity Map**  
 Locke Water Pipeline Replacement Project  
 Walnut Grove, Sacramento County, California

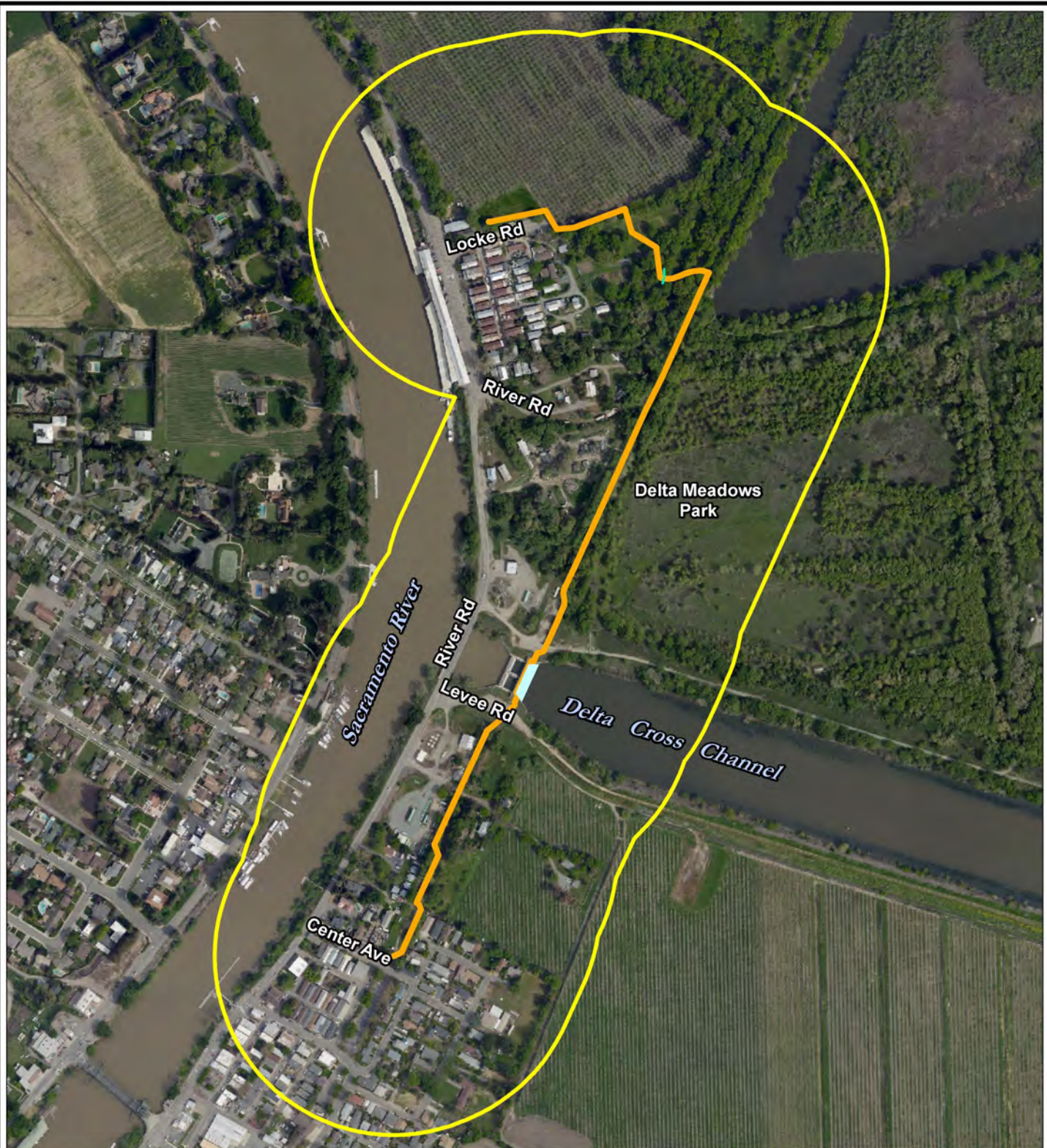
**Legend**

 Study Area Boundary

Data Sources: VNL, 2017-2019 | NGE, 2019  
 ESRI Basemap, 2006  
 Coleman Engineering, 2019  
 GIS/ Cartography by Jake Schweitzer, Sept. 2019  
 File: Locke-Vicinity\_306-12\_A-P\_2019-0916.mxd







### Legend

— Pipeline Alignment

○ Action Area

### Potential Jurisdictional Waters of the U.S.

— Delta Cross Channel (0.122 ac.)\*

— Non-wetland Drainage Channel (0.004 ac.)\*

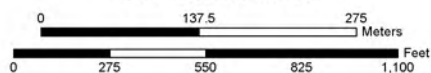
\* Both features are potential other Waters of the United States

Data Sources: VNL, 2017-2019 | NGE, 2019  
 ESRI/Digital Globe, 2017 (photo)  
 Coleman Engineering, 2019  
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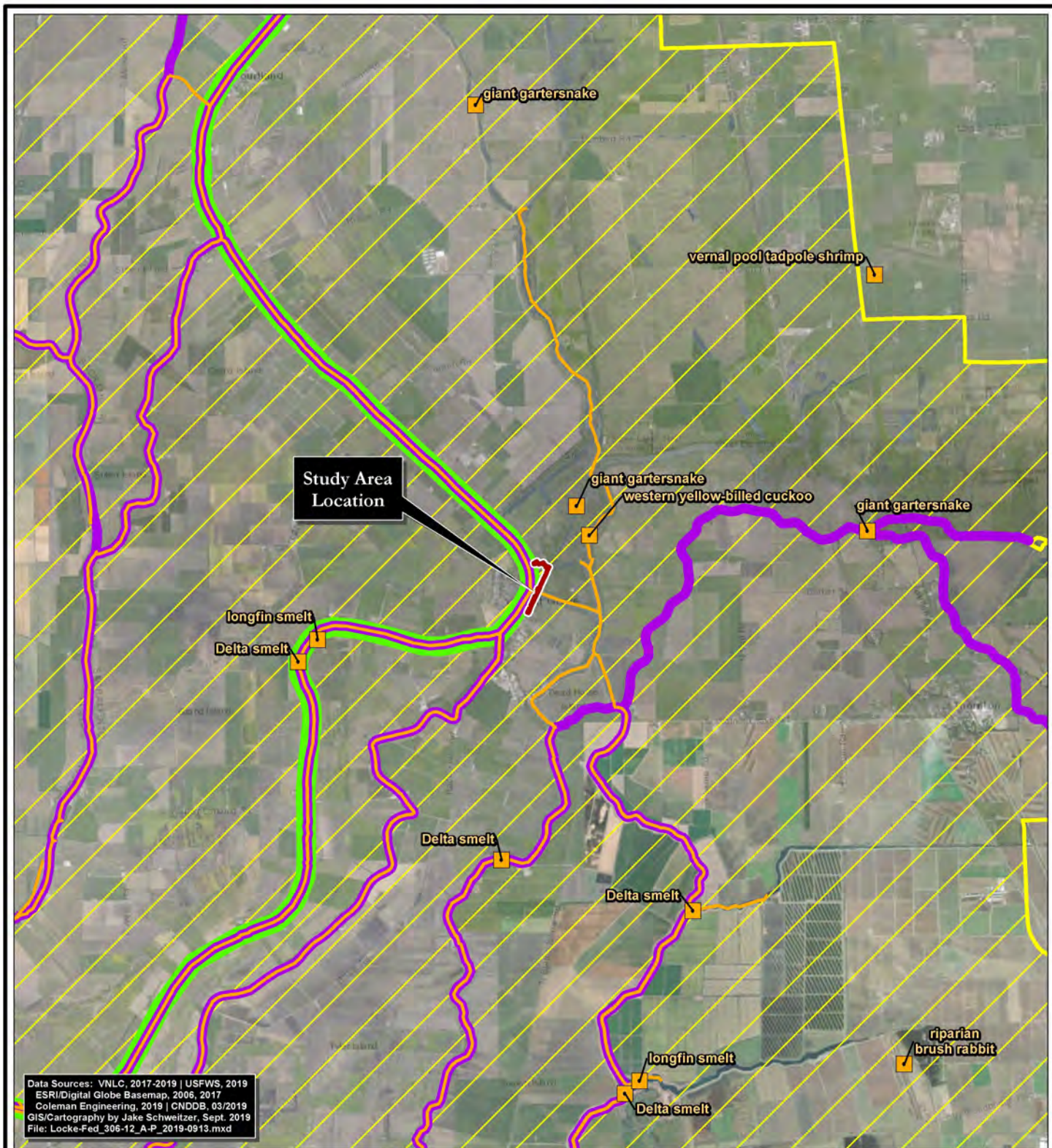
**FIGURE 2**  
**Proposed Alignment and Action Area**  
 Locke Water Pipeline Replacement Project  
 Walnut Grove, Sacramento County, California



1:6,600  
 (1 in. = 550 ft. at letter size)







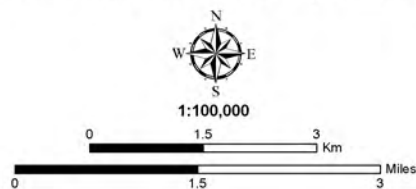
**FIGURE 3**  
**Documented Federally Listed Species**  
**and Critical Habitat**

Locke Water Pipeline Replacement Project  
 Walnut Grove, Sacramento County, California

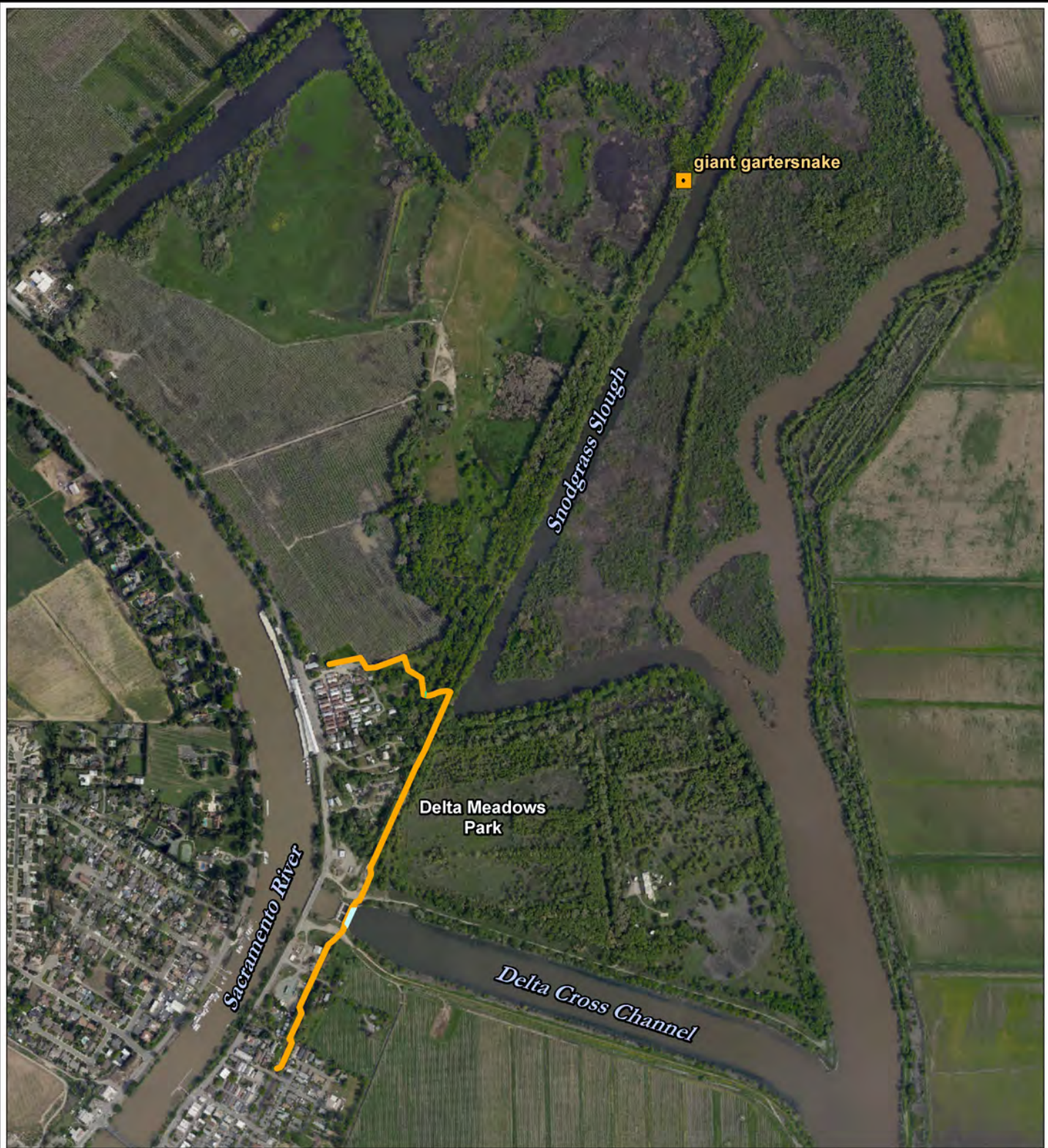
**Legend**

- Federally Listed CNDDDB Animal
- Green Sturgeon Critical Habitat
- Steelhead Critical Habitat
- Chinook Salmon Critical Habitat
- Delta Smelt Critical Habitat
- Study Area Boundary

Note: No federally listed plants in map extent







### Legend

- Giant Gartersnake Occurrence
- Pipeline Alignment
- Potential Jurisdictional Waters of the U.S.**
- Delta Cross Channel (0.122 ac.)\*
- Non-wetland Drainage Channel (0.003 ac.)\*

\* Both features are potential other Waters of the United States

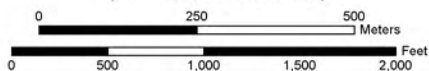
Data Sources: VNL, 2017-2019 | NGE, 2017  
 ESRI/Digital Globe, 2017 (photo)  
 Coleman Engineering, 2019 | CNDDB, 02/2019  
 GIS/Cartography by Jake Schweitzer, Sept. 2019  
 File: Locke-GGS\_306-12\_A-P\_2019-0916.mxd

**FIGURE 4**  
**Giant Gartersnake Occurrence**  
**Snodgrass Slough Location**

Locke Water Pipeline Replacement Project  
 Walnut Grove, Sacramento County, California



1:12,000  
 (1 in. = 1,000 ft. at letter size)



**APPENDIX A**  
**USFWS SPECIES LIST**





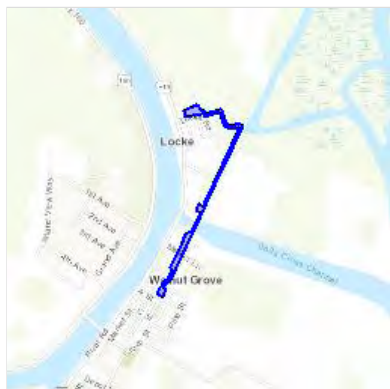
# IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

## Location

Sacramento County, California



## Local office

San Francisco Bay-Delta Fish And Wildlife

☎ (916) 930-5603

📅 (916) 930-5654

650 Capitol Mall  
Suite 8-300  
Sacramento, CA 95814

[http://kim\\_squires@fws.gov](mailto:kim_squires@fws.gov)

# Endangered species

**This resource list is for informational purposes only and does not constitute an analysis of project level impacts.**

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species<sup>1</sup> and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries<sup>2</sup>).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

## Birds

NAME	STATUS
California Clapper Rail <i>Rallus longirostris obsoletus</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/4240">https://ecos.fws.gov/ecp/species/4240</a>	Endangered

## Reptiles

NAME	STATUS
Giant Garter Snake <i>Thamnophis gigas</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/4482">https://ecos.fws.gov/ecp/species/4482</a>	Threatened

## Amphibians

NAME	STATUS
------	--------

California Red-legged Frog *Rana draytonii* Threatened  
 There is **final** critical habitat for this species. Your location is outside the critical habitat.  
<https://ecos.fws.gov/ecp/species/2891>

California Tiger Salamander *Ambystoma californiense* Threatened  
 There is **final** critical habitat for this species. Your location is outside the critical habitat.  
<https://ecos.fws.gov/ecp/species/2076>

## Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is <b>final</b> critical habitat for this species. Your location overlaps the critical habitat. <a href="https://ecos.fws.gov/ecp/species/321">https://ecos.fws.gov/ecp/species/321</a>	Threatened

## Insects

NAME	STATUS
Delta Green Ground Beetle <i>Elaphrus viridis</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/2319">https://ecos.fws.gov/ecp/species/2319</a>	Threatened
San Bruno Elfin Butterfly <i>Callophrys mossii bayensis</i> There is <b>proposed</b> critical habitat for this species. The location of the critical habitat is not available. <a href="https://ecos.fws.gov/ecp/species/3394">https://ecos.fws.gov/ecp/species/3394</a>	Endangered
Valley Elderberry Longhorn Beetle <i>Desmocerus californicus dimorphus</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/7850">https://ecos.fws.gov/ecp/species/7850</a>	Threatened

## Crustaceans

NAME	STATUS
Conservancy Fairy Shrimp <i>Branchinecta conservatio</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/8246">https://ecos.fws.gov/ecp/species/8246</a>	Endangered
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/498">https://ecos.fws.gov/ecp/species/498</a>	Threatened
Vernal Pool Tadpole Shrimp <i>Lepidurus packardii</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/2246">https://ecos.fws.gov/ecp/species/2246</a>	Endangered

## Flowering Plants

NAME	STATUS
Large-flowered Fiddleneck <i>Amsinckia grandiflora</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/5558">https://ecos.fws.gov/ecp/species/5558</a>	Endangered

## Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

This location overlaps the critical habitat for the following species:

NAME	TYPE
Delta Smelt <i>Hypomesus transpacificus</i> <a href="https://ecos.fws.gov/ecp/species/321#crithab">https://ecos.fws.gov/ecp/species/321#crithab</a>	Final

## Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. <a href="https://ecos.fws.gov/ecp/species/1626">https://ecos.fws.gov/ecp/species/1626</a>	Breeds Jan 1 to Aug 31

<b>Black Rail</b> <i>Laterallus jamaicensis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/7717">https://ecos.fws.gov/ecp/species/7717</a>	Breeds Mar 1 to Sep 15
<b>Burrowing Owl</b> <i>Athene cunicularia</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <a href="https://ecos.fws.gov/ecp/species/9737">https://ecos.fws.gov/ecp/species/9737</a>	Breeds Mar 15 to Aug 31
<b>California Thrasher</b> <i>Toxostoma redivivum</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jan 1 to Jul 31
<b>Clark's Grebe</b> <i>Aechmophorus clarkii</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jan 1 to Dec 31
<b>Common Yellowthroat</b> <i>Geothlypis trichas sinuosa</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <a href="https://ecos.fws.gov/ecp/species/2084">https://ecos.fws.gov/ecp/species/2084</a>	Breeds May 20 to Jul 31
<b>Golden Eagle</b> <i>Aquila chrysaetos</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. <a href="https://ecos.fws.gov/ecp/species/1680">https://ecos.fws.gov/ecp/species/1680</a>	Breeds Jan 1 to Aug 31
<b>Lawrence's Goldfinch</b> <i>Carduelis lawrencei</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9464">https://ecos.fws.gov/ecp/species/9464</a>	Breeds Mar 20 to Sep 20
<b>Lewis's Woodpecker</b> <i>Melanerpes lewis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9408">https://ecos.fws.gov/ecp/species/9408</a>	Breeds Apr 20 to Sep 30
<b>Long-billed Curlew</b> <i>Numenius americanus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/5511">https://ecos.fws.gov/ecp/species/5511</a>	Breeds elsewhere
<b>Marbled Godwit</b> <i>Limosa fedoa</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9481">https://ecos.fws.gov/ecp/species/9481</a>	Breeds elsewhere
<b>Nuttall's Woodpecker</b> <i>Picoides nuttallii</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <a href="https://ecos.fws.gov/ecp/species/9410">https://ecos.fws.gov/ecp/species/9410</a>	Breeds Apr 1 to Jul 20
<b>Oak Titmouse</b> <i>Baeolophus inornatus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9656">https://ecos.fws.gov/ecp/species/9656</a>	Breeds Mar 15 to Jul 15

**Rufous Hummingbird** *Selasphorus rufus*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/8002>

**Short-billed Dowitcher** *Limnodromus griseus*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9480>

**Song Sparrow** *Melospiza melodia*

Breeds Feb 20 to Sep 5

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

**Spotted Towhee** *Pipilo maculatus clementae*

Breeds Apr 15 to Jul 20

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/4243>

**Tricolored Blackbird** *Agelaius tricolor*

Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/3910>

**Whimbrel** *Numenius phaeopus*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9483>

**Willet** *Tringa semipalmata*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

**Wrentit** *Chamaea fasciata*

Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

**Yellow-billed Magpie** *Pica nuttalli*

Breeds Apr 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9726>

## Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

### Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey

- events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
- To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is  $0.25/0.25 = 1$ ; at week 20 it is  $0.05/0.25 = 0.2$ .
  - The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

### Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

### Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

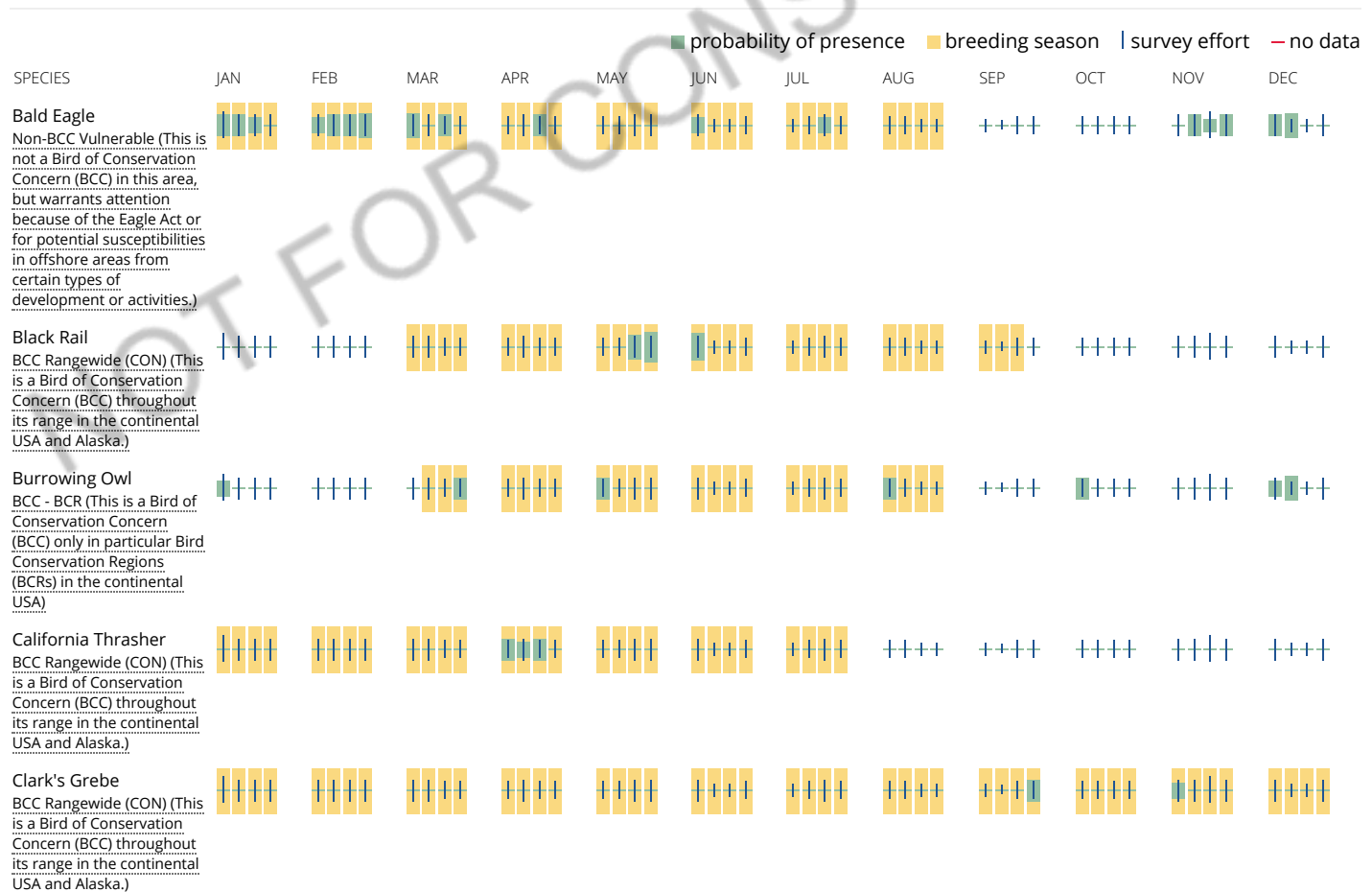
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

### No Data (—)

A week is marked as having no data if there were no survey events for that week.

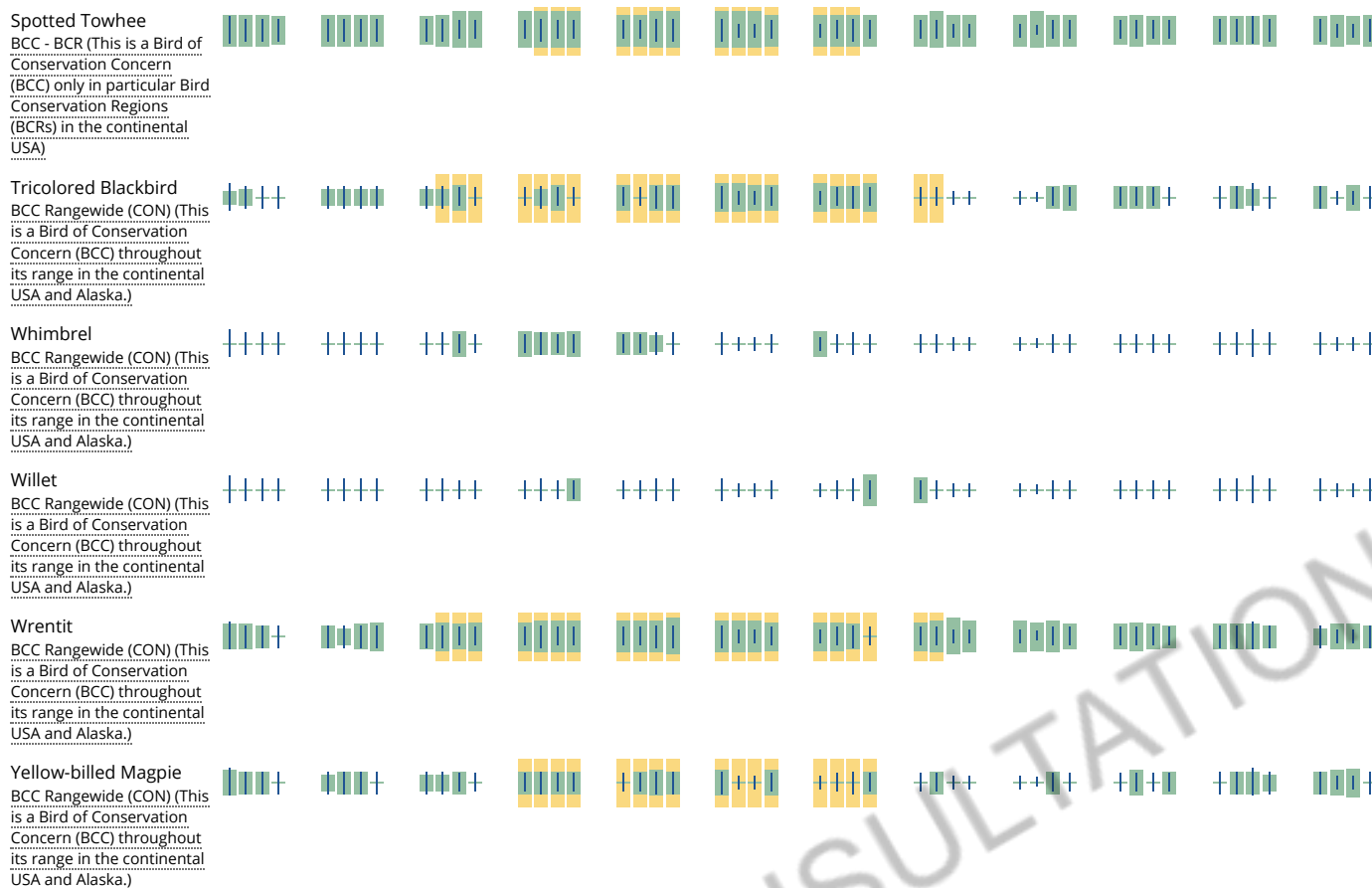
### Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Common Yellowthroat BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)												
Golden Eagle Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)												
Lawrence's Goldfinch BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
Lewis's Woodpecker BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
Long-billed Curlew BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
Marbled Godwit BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
Nuttall's Woodpecker BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)												
SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Oak Titmouse BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
Rufous Hummingbird BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
Short-billed Dowitcher BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
Song Sparrow BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)												



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if

that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

### What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

### Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

### What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

### Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

## Facilities

### National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

### Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

## Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

### FRESHWATER FORESTED/SHRUB WETLAND

[PFOCh](#)

[PFOC](#)

### OTHER

[Pf](#)

### RIVERINE

[R1UBV](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

### Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

### Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

### Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Appendix B: Cultural Resources Report (Confidential – on File at the State Water Board)

## Appendix C: Mitigation Monitoring and Reporting Program (to be added in Final IS/MND)